

The Islamic University–Gaza
Deanship of Research and Graduate
Faculty of Engineering/ Civil Eng.
Construction Projects Management



الجامعة الإسلامية بغزة
عمادة البحث العلمي والدراسات العليا
كلية الهندسة/الهندسة المدنية
ماجستير إدارة المشروعات الهندسية

A Framework for the Community Participation in Post-conflict Housing Reconstruction Projects: A Case of Gaza Strip

إعداد إطار منطقي للمشاركة المجتمعية في مشاريع إعادة إعمار
البيوت ما بعد حدوث النزاعات: حالة دراسية قطاع غزة

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**A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Civil Engineering/
Construction Projects Management**

November 2018

إقرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

A Framework for Community Participation in Post-conflict Housing Reconstruction Projects: A Case of Gaza Strip

إعداد إطار منطقي للمشاركة المجتمعية في مشاريع إعادة إعمار البيوت ما بعد حدوث النزاعات: حالة دراسية قطاع غزة

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A Framework for Community Participation in Post-conflict Housing Reconstruction Projects: A Case of Gaza Strip

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واللجنة إذ تمنحه هذه الدرجة فإنها توصيه بتقوى الله تعالى ولزوم طاعته وأن يسخر علمه في خدمة دينه ووطنه.

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الرقم العام للنسخة 3106936 اللغة E

التاريخ: 20/8/2018

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رقم جامعي: 20162523 قسم: الهندسة المدنية كلية: الهندسة

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اسامه

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Abstract

Purpose: Post-conflict housing reconstruction projects are considered very complex and complicated projects due to the variety of environment, community culture and political situation in the affected area. Involving the community in the reconstruction projects to address their needs is essential to ensure the success in the reconstruction projects. Therefore, the community based method is one the best reconstruction approaches to adequately representation of the community in the reconstruction projects. The study aimed to explore the main barriers and to determine which critical success factors which are most influential in the community-based method of post-conflict housing reconstruction projects in Gaza Strip. Moreover, to develop a logical framework for the community based method of housing reconstruction projects.

Design/methodology/approach: The quantitative approach was adopted; a structure questionnaire is used to collect the data from a representative purposive sample. 100 questionnaires were distributed to engineers who worked in the previous post conflict housing reconstruction projects overall Gaza Strip. The collected data were analyzed with SPSS software version 22 to identify the mean scores, standard deviations, relative importance, and effect index and factor analysis.

Findings: Ranking results revealed that the housing reconstruction faces many internal and external barriers which hinder the effective community based method. It is found that the lack of government support, the lack of community capacity and the lack of transparency are the main forms of the internal barriers, while the external barriers are the budget restrictions and donors requirements. The results also indicated that, the transparency and accountability, effective communication among stakeholders and developing the community education play a crucial role in the success of the community based method in housing reconstruction projects.

The factor analysis results mostly emphasized the ranking method results for instance the lack of the government regulations, lack of gender participation and lack of information about the reconstruction projects are considered the highest three barriers components. Additionally, the gender participation, effective communication, and coordination are the most influential component in the success of the community based method. Base on the barriers and success factors findings; a logical framework is developed as a planning tool to help the decision maker to consider community capacity development activities in the conflict recovery plans.

Originality/ value: The logical framework of the community based method of post conflict housing reconstruction projects is considered the first and unique study in this field in Gaza Strip. The framework provides the main steps and verification method to ensure the effective community participation in housing reconstruction projects. The findings would guide the decision maker in selection of the appropriate reconstruction method of housing reconstruction projects.

الملخص

الغرض من الدراسة: تعد مشاريع إعادة إعمار البيوت ما بعد النزاعات معقدة ومتداخلة جدا بسبب الاختلاف في البيئات واختلاف ثقافات المجتمع الواحد وبسبب الأوضاع السياسية. إن إشراك المجتمع المحلي في مشاريع إعادة الإعمار لتحديد احتياجات المجتمع يعد ضروريا جدا لضمان نجاح مشاريع إعادة الإعمار. لذلك يعد نهج إشراك المجتمع المحلي في مشاريع إعادة الإعمار من أفضل طرق إعادة الإعمار لضمان تمثيل كافي للمجتمع في هذه المشاريع. هدفت هذه الدراسة لتحديد أهم المعوقات وعوامل النجاح الأكثر تأثيرا في نهج إشراك المجتمع المحلي في مشاريع إعادة إعمار البيوت المدمرة في قطاع غزة. وعلاوة على ذلك تهدف الدراسة لبناء إطار منطقي للمشاركة المجتمعية في مشاريع إعادة الإعمار.

منهجية البحث: تم اعتماد منهج بحث كمي بحيث تم استخدام استبانة لجمع المعلومات من عينة محددة وممتثلة. تم توزيع 100 استبانة على بعض الموظفين من المهندسين الذين سبق لهم العمل في مشاريع إعادة إعمار البيوت المدمرة في قطاع غزة. تم تحليل البيانات التي تم جمعها باستخدام برنامج (SPSS22) باستخدام مجموعة من الوسائل الإحصائية و التي تشمل: متوسط الدرجات، والانحرافات المعيارية، ومؤشر الأهمية النسبية، ومؤشر التأثير والتحليل العاملي.

نتائج الدراسة: أشارت نتائج الدراسة إلى أن مشاريع إعادة البيوت المدمرة في قطاع غزة تواجه العديد من المعوقات الداخلية والخارجية و التي تعيق نهج مشاركة المجتمع المحلي بشكل فعال. لقد وجد أن قلة الدعم الحكومي ، نقص كفاءة المجتمع، وقلة النزاهة هي أهم المعوقات الداخلية، بينما تعد قيود الميزانية وطلبات الممولين هي أبرز المعوقات الخارجية. و أشارت نتائج الدراسة أيضا أن المساواة والنزاهة والتواصل الفعال بين أطراف المشروع وتطوير تعليم المجتمع تلعب دورا بارزا في نجاح نهج مشاركة المجتمع المحلي في مشاريع إعادة إعمار البيوت المدمرة.

نتائج التحليل العاملي أكدت معظم نتائج تحليل متوسط الدرجات حيث وجد أن نقص القوانين الحكومية ونقص مشاركة المرأة ونقص المعلومات حول مشاريع إعادة الإعمار هي أبرز معوقات نهج مشاركة المجتمع في مشاريع إعادة الإعمار. بالإضافة إلى ذلك أشارت النتائج أن مشاركة المرأة والاتصال والتنسيق الفعال بين أطراف المجتمع هي أبرز مكونات نجاح المشاركة المجتمعية. بناءا على نتائج عوامل معوقات ونجاح نهج مشاركة المجتمع المحلي تم بناء إطار منطقي كأداة تخطيط في يد صناع القرار لأخذ بعين الاعتبار نشاطات مشاركة المجتمع المحلي في خطط الاستعادة من الصراعات.

قيمة الدراسة : يعد هذا الإطار المنطقي لمشاركة المجتمع المحلي في مشاريع إعادة إعمار البيوت المدمرة الأول والوحيد من نوعه في هذا المجال في قطاع غزة. يقدم الإطار المنطقي خطوات عملية ووسائل تحقق لضمان مشاركة مجتمعية فعالة في مشاريع إعادة الإعمار. يساعد هذا الإطار المنطقي صناع القرار في اختيار نهج إعادة الإعمار المناسب في مشاريع إعادة البيوت المدمرة.

وَمَا أُوتِيتُمْ مِّنَ الْعِلْمِ إِلَّا قَلِيلًا (85)

سورة الإسراء

Dedication

To my father and mother,

To my wife and daughter

To my brother and Sisters

Acknowledgment

I am appreciative to Allah for giving me ability and provide me the needed support which was necessary to accomplish my thesis “Al-hamdulillah”.

I would like to express my thankful and appreciation to my supervisor Prof. Adnan Enshassi who allocated a fix time from his valuable time every week to support and advise me. As well as for his patience, valuable guidance and encouragement which enable me to save the time and effort during my master life study.

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List of Abbreviations

CBDM	Community Based Disaster Management
CPHRP	Community-based Post-disaster Housing Reconstruction Projects
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
NGOs	Non-Governmental Organizations
UNDP	United Nations Development Programme
UNRWA	The United Nations Relief and Works Agency for Palestine Refugees

Chapter 1

Introduction

Chapter 1

Introduction

This chapter provides general overview to the thesis structure; it includes the background and the context of the thesis topic in the targeted area. In addition, this chapter presents the problem statement which is inspired from the crucial situation of the Gaza Strip, the aim, objectives, key research questions, and the hypotheses. The research limitations, the thesis structure and the research contribution to the knowledge are stated in this chapter as well.

1.1. Background and Context

Disasters are unusual events occur on a specific area leaving a destructive effect on the geographical features of this area (Patel and Hastak, 2013). Shaluf (2007a) defined the disaster: a serious disruption occurring over a relatively short time and affect the functionality (human, material, economic and environment) of the community. The origin of the disaster word is Greek and mean bad star (NU Siriwardena, Haigh, and Ingirige, 2007). The world has faced many disasters throughout ancient times due to natural causes for example (Earthquakes–Floods–Tsunami) or man-made for instance the conflicts (Harding, 2007). There are some terminology repeated in the disaster field like hazard, risk, and harm. This hazard definition is a potential source of harm physical injury or damage to health (Gilbert, 2016). UNISDR (2009) mentioned the types of hazards are: biological, chemical, physical and psychosocial. While the risk is defined as the chance or probability that a person is harmed if exposed to a hazard (Chiou, Chen, Liu, Huang, and Chang, 2015).

Most of the disaster impact cannot be predictable and measurable precisely as well as it is out of human control (Mimaki, Takeuchi, and Shaw, 2009). The implications and consequences of disaster include all life aspects; many people may be killed, injured, or displaced during short or long period. The ordinary functions of life system in the impacted area may be crippled, as well as the infrastructure (Electricity, water, and the internet networks) may be deteriorated (Mannakkara and Wilkinson, 2015). It would be very difficult for governments and organizations to

oppose the disaster impact solely, consequently all stakeholders should participate to mitigate the disasters implications (Sadiqi, Trigunarsyah, and Coffey, 2017).

Reconstruction of the housing units is considered the extremely top priority of organizations and government during the conflict recovery stage to return back the displaced people to their homes (Patel and Hastak, 2013). The community play a significant role in the successes of the emergency interventions during the post-disaster stage, since their participation will facilitate the challenges in the recovery projects (Ostadtaghizadeh, Ardalan, Paton, Khankeh, and Jabbari, 2016). The community is considered the powerful tool in the decision making process, it uses to alleviate the disaster risks (Arielle Tozier and Marie-Ange, 2015). Identifying the effected community groups who are eligible to participate in the reconstruction projects will mitigate the post-disaster effects (Sadiqi, Trigunarsyah, and Coffey, 2015). This study focuses on the man-made disaster and aims to develop a framework for community participation in post-conflict housing reconstruction projects in Gaza Strip, which can make the participatory process of the community more valuable during the planning stages.

1.2. Problem Statement

The annual number of natural disaster events globally started with 338 disasters in year 2000 and end by 330 disasters in year 2018; while the number of man-made disaster in 2017 is 118 events (Alexander, 2017). Gaza Strip is considered the most crowded area around the world (Total Area: 360 square kilometer, 5,000 individual per Km²), it is located in the Middle East and bordering the Mediterranean Sea. Figure (1.1) shows the Gaza Strip map (UNRWA, 2018) which explains the Gaza Strip location and governorates. Approximately 70 per cent of Gaza Strip people are refugees; 1.3 million out of 2.0 million. Since 2000, the beginning of and so far, Gaza Strip has suffered from dramatic escalation in violence, three successive and destructive conflicts were imposed over Gaza Strip in 2008, 2012 and 2014, these hostilities works have a significant effect on the housing units either totally destroyed or partially damaged (UNRWA, 2017b). During the last conflict which started on the 8th of July till the cease-fire on the 26th of August 2014, About 2,251 Palestinians people were killed, 11,231 Palestinians people were injured, and over 142,000

The variety of fund sources and implementing agencies of the reconstruction projects moreover the absence of governmental regulations which govern the stakeholders role and authorities are considered the main reasons behind the failure in some of the reconstruction projects (UNDP, 2016). In addition, Barakat, Elkahlout, and Jacoby (2004) stated that, the lack of community engagement in the planning phase affected negatively in the housing reconstruction projects in Gaza Strip.

1.3. Research Justifications

The community participation is considered the success key of the post-disaster housing reconstruction projects (Dias, Keraminiyage, and DeSilva, 2016; Istijono, Ophiyandri, Chairisna, and Tadzki, 2016). Community involvement in housing reconstruction projects will achieve the beneficiaries expectations and needs (Sadiqi, Coffey, and Trigunarsyah, 2013). Negligence of community role in the post-disaster causes slow progress of reconstruction activities (Vallance, 2015). The good reconstruction recovery plans involve the local community participation activities (Samaddar, Okada, Choi, and Tatano, 2017). The community participation role is not limited to respond to disasters, it is extended to alleviate the impacts of expected disasters (Cretney, 2016). The proper understanding of the community participation concepts contributes to implement the reconstruction projects effectively (Darabi, Zafari, and Milani Nia, 2013).

The most common barriers of the housing reconstruction projects are: the lack of community capacity, lack of fund, lack of transparency and time limitation (Sadiqi *et al.*, 2015; Shafique, 2016). The disaster implications is depending on the nature of disaster, so that the risk management is very important to accomplish the reconstruction project activities (Al Dabbeek, 2011; Arielle Tozier and Marie-Ange, 2015). The conflicts duration and consequences have a negative impact on the government operation and management process (Seneviratne, Amaratunga, and Haigh, 2015). The variations in scale of disaster impact, the existence of local culture and wisdom, government capacity and funding availability increase its particularity. Thus, many researches have been conducted in many aspects of housing reconstruction projects to ensure that the stakeholders are satisfied about the projects outcomes. This research will prepare a framework for the community participation in

post conflict housing reconstruction projects in Gaza Strip, Palestine. This framework will be used as an effective tool in planning of the conflict construction recovery stage.

1.4. Aim and objectives

1.4.1. Research Aim

This research aims to develop a framework for community based method in post-conflict housing reconstruction projects in Gaza Strip. This framework can be utilized as an effective tool during the planning stage of the reconstruction projects.

1.4.2. Research objectives

The main objectives are:

- To explore the main barriers of the community-based method that may hinder the post-conflict housing reconstruction projects.
- To determine which critical success factors are most influential in the community based method in post conflict housing reconstruction projects.
- To investigate the main components of community participation framework in post conflict housing reconstruction projects.

1.5. Study delimitations

Knowledge: the study focuses on the community based method in the post conflict rehousing projects in Gaza Strip. It aims to develop a framework for the community participation through investigating the main barriers and the key success factors of the community participation in housing reconstruction projects. The framework will provide the strategic planners in Gaza Strip with a useful tool to specify the delimitations of the community role in reconstruction projects.

Approach and instrument: The quantitative research approaches were used in this study to achieve the thesis aim. A questionnaire was to investigate the significant of 54 barriers within 9 groups and 42 success factors within 7 groups in the community participation in Gaza Strip.

1.6. Research Hypotheses

- There is a significant difference between the respondents toward the barriers and success factors influencing in the community based method of housing reconstruction projects.
- There is a significant relationship between factors influencing the community participation in housing reconstruction projects in Gaza strip.

1.7. Research design

The researcher adopted the following steps to achieve the research aim:

- First step, the study problem was identified, the aim and objectives were set, and in addition the hypothesis and research questions were developed.
- Second step, many publications related to the public participation in post disaster reconstruction projects were reviewed which help to develop a comprehensive understanding of the research topic.
- Third step, Based on the literature review the research methodology were developed using qualitative and quantitative approaches. The questionnaire was validated and pre-tested to ensure that quality the data collect is good to accomplish the research objectives. After that, a pilot study was implemented followed the questionnaires were distributed, collected and analysed in Gaza Strip.
- Fourth step, the research methodology results were organized and presented in appropriate graphical representations and tables as well as it is compared with the literature review findings.
- Fifth step, the research findings were concluded and the recommendations were suggested in the last chapter of this study.

1.8. Thesis structure

The thesis is structured from the following chapters:

- **Chapter 1** Introduction: This chapter provides general introduction and background to the thesis topic. The problem statement, the study aim and objectives are identified in this chapter as well. The research questions and

hypotheses are clarified; in addition the thesis delimitation and the contribution to knowledge are mentioned in this chapter.

- **Chapter 2:** Literature review; this chapter summarizes the literature review of the community participation in post-conflict rehousing projects. It focuses on the barriers and critical success factors of community participation in reconstruction projects.
- **Chapter 3:** Methodology; the thesis methodology is identified in this chapter, which was developed based on the previous chapter understanding.
- **Chapter 4:** Results analysis; the research findings are presents in this chapter.
- **Chapter 5:** Results Discussion; the research findings are discussed in this chapter; the results of the research methodology are analysed and discusses in proper tables and figures.
- **Chapter 6:** Conclusion and Recommendations: This chapter concludes the thesis findings and shows the achieved objectives. In addition, the recommendations are stated in this chapter which may advise the future researchers to conduct new researches on related topics.
- **References and Annexes.**

Chapter 2

Literature Review

Chapter 2

Literature Review

This chapter presents the literature review which was conducted to establish the theoretical understanding of the main barriers and success factors of the community based method in housing reconstruction projects. The literatures include: academic research journals, conferences proceeding, dissertation/theses, reports and books.

2.1. Introduction to the barriers of the community based method

The extensive review of the literature review indicates that the lack of community participation is considered the main barrier of the housing reconstruction projects (Chandrasekhar, 2012; Pribadi, Kusumastuti, Sagala, and Wimbardana, 2014; Shaw, 2014). The internal challenges (Socio- economic, cultural, and political pressure) and the external challenges (Budget restrictions and donor requirements) that face the post-conflict environment are enormous (Seneviratne *et al.*, 2015; Seneviratne, Amaratunga, and Haigh, 2017). Many terminologies were used to identify the main factors which hinder the community based method in housing reconstruction projects like: “barriers” (Crawford, Langston, and Bajracharya, 2013; Haigh and Sutton, 2012; Sadiqi *et al.*, 2017), “limitations” (Ludin and Arbon, 2017; Pribadi *et al.*, 2014; Taufika, Amaratunga, and Keraminiyage, 2016) and challenges (Sadiqi , Coffey, and Trigunarsyah, 2011; Seneviratne *et al.*, 2015; Zhang, Yi, and Zhao, 2013). In this thesis the barriers terminology will be adopted to identify the main barriers that hinder the community based method in rehousing projects.

Negligence of the community needs and role in the housing reconstruction projects after the conflict may lead to total or partial failure in these projects (Bouraoui and Lizarralde, 2013; Taufika, Dilanthi, Chaminda, and Kaushal, 2013; Vallance, 2015). The failure factors of reconstruction projects and the community participation in the reconstruction projects are close enough, which mean the public engagement is the core of the reconstruction projects (Taufika *et al.*, 2013). For example, the budget shortage and time limitation are hindering the reconstruction projects and the community involvement in the reconstruction projects as well (Shafique and Warren, 2016). Sadiqi *et al.* (2017) revealed after the Cyclone Sidr in Bangladesh that the

government had strategies to implement the reconstruction projects without the community which led to negative impacts on the reconstruction projects.

2.2. Barriers groups of the community based method

Community involvement in rehousing projects after the conflict are subjected to many of external and internal challenges (Lizarralde and Massyn, 2008). The barriers of the community participation in the rehousing projects after conflicts are categorized according the nature of the conflict and the conflict area (Seneviratne *et al.*, 2017). Lizarralde and Massyn (2008) mentioned four main groups which may have negative effect on the community participation in low-cost housing projects: project budget and schedule, donors requirements, the capacity of the implementing partners and the safety and security conditions in the disaster area. Sadiqi *et al.* (2017) mentioned three main barriers groups that hinder community participation in rehousing projects after the disaster in Afghanistan. These groups are: people are unable to participate, the people are unwilling to participate and the people have limited opportunity to participate (Sadiqi *et al.*, 2017). Five sub groups were extracted from the previous main groups: the lack of community capacity, the government policies and practices, the lack of professional competence in Non-Governmental Organizations (NGOs), the lack of adequate security and the gender issues was the main barriers of the community participation in the housing reconstruction projects (Sadiqi *et al.*, 2017). Sadiqi *et al.* (2015) findings are compatible with Lizarralde and Massyn (2008) findings in two groups: the security situation and the capacity and competence of the implanting NGOs or parties.

Seneviratne *et al.* (2015) stated several factors that hinder the community participation in post conflict housing reconstruction in Sri Lanka, nevertheless they have grouped the factors into six major groups: the socio economic status, the attitudes of affected people, donor requirements, budget concerns, the government regulations, and land-related issues several barriers that obstacle the implementation of the community-based method in rehousing projects after the disaster in Indonesia. Taufika *et al.* (2016) have classified these factors into main two groups: issues related to the system of Community-based Post-disaster Housing Reconstruction Projects (CPHRP) and issues relates to the capacity of the stakeholders. The first

group includes: the time restriction to complete the housing reconstruction projects, long time needed to form the community organization and the rush in the participatory process can impede the true participation of beneficiaries (Taufika *et al.*, 2016). The second group which related to the capacity of the stake holders includes: the limited understanding of the stakeholders to the concepts of the community participation, and the lack of the government, local and international organization capacity (Taufika *et al.*, 2016). The government regulations and the stakeholders groups are mutual groups between Seneviratne *et al.* (2015) and Taufika *et al.* (2016) findings.

Yau, Tsai, and Nurma Yulita (2014) identified five groups which may hinder the community participation in housing reconstruction projects in Indonesia: illegal land possession, the housing units are located in dangerous area, the vague in accommodation strategies, the long distance between the temporary housing units of the beneficiaries and the original demolished housing unit, and the miserable condition of the new living environment. Chandrasekhar (2012) addressed four distinguished groups that may affect in the short and long term participation of the stakeholders in the disaster recovery. The short-term groups involve: the inability to identify the key stakeholders, deterioration of the community networks and the lack of the recovery policy. The long-term groups include: no continuous review of the recovery policies of the community participation, failure in developing a small group that represent the community, and the absence of trust between different stakeholders (Chandrasekhar, 2012).

Van Gennip (2005) identified four barriers groups of the post conflict reconstruction projects: the environment situation and security, the legal system in the effected country, the socioeconomic status of the people in the conflict area and the limited role of the community in developing the public participation regulations. Darabi *et al.* (2013) classified the barratries of the reconstruction projects into five groups: general obstacles, issues related to the implementing agencies, the government regulations, the community capacity and competences. McCreight (2010) classified the reasons behind the weak of disaster resilience in the housing reconstruction projects into five groups: the lack of personal and socio-psychological support, weak disaster preparedness of the local and international organizations and institutional,

the situation of the commercial services, the deterioration of the infrastructure, and the general security and public safety. Van Gennip (2005) and McCreight (2010) have agreed that, the negligence of socioeconomic needs of the community has a significant effect in the community based method in post disaster housing projects.

Seneviratne *et al.* (2017) classified the barriers of the housing reconstruction after the conflict into ten major groups: damage to houses, socio economic profile of people, financial availability, donor requirements, attitudes of affected people, beneficiaries' housing requirements, construction material shortage, infrastructure damage, facilities damage and responsiveness to conflicts. Ade Bilau and Witt (2016) mentioned many barriers groups which may have a negative impact in the community participation if it is not managed properly. These groups are: logistics and supplies system, the availability of the human resource, health and safety of the stakeholders, risk management regulations, financial management and the communication and coordination system. Ismail, Majid, Roosli, and Ab Samah (2014) referred the failure in the housing reconstruction projects into seven groups: problems in integration with community, financial problem, weak of assessment, lack of communication and coordination, lack of personal, problem in design, transportation problems and corruption.

To conclude, reviewing the previous studies of the barriers groups of the community based method in the housing reconstruction projects after the conflict shows that there are at least two groups are mutual among these studies. Based on the literature review findings, Nine major barriers groups will be adopted in this study as the following: lack of stakeholders capacity, lack of the government support, inflexible short deadlines, budget restrictions and donor requirements, neglecting of the community socio-economic and cultural needs, lack of NGOs competency, lack of the coordination between the stakeholders, lack of transparent reconstruction process and lack of women participation; these group are applicable on the study area Gaza Strip. Table (2.1) summarizes the main groups of the community based method barriers in post-conflict housing reconstruction projects.

Table (2. 1): Barriers groups of the community based method

Group	References
Lack of community capacity	(Arielle Tozier and Marie-Ange, 2015; Baroudi and Rapp, 2014; Chang-Richards, Rapp, Wilkinson, von Meding, and Haigh, 2017; Darabi <i>et al.</i> , 2013; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015; Seneviratne <i>et al.</i> , 2015, 2017; Shaw, 2014; Taufika <i>et al.</i> , 2016; Yau <i>et al.</i> , 2014; Zhang <i>et al.</i> , 2013)
Lack of the government support,	(Crawford <i>et al.</i> , 2013; Cretney, 2016; Darabi <i>et al.</i> , 2013; Drakaki and Tzionas, 2017; Earnest, 2015; Haigh and Sutton, 2012; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015, 2017; Seneviratne <i>et al.</i> , 2015; Shaw, 2014; Yau <i>et al.</i> , 2014; Zhang <i>et al.</i> , 2013)
Inflexible short deadlines,	(Chandrasekhar, 2012; Félix, Monteiro, Branco, Bologna, and Feio, 2015; Ganapati and Ganapati, 2008; Mukherji, Ganapati, and Rahill, 2014; Seneviratne <i>et al.</i> , 2015; Taufika <i>et al.</i> , 2016)
Budget restrictions and donor requirements,	(Ade Bilau and Witt, 2016; Arielle Tozier and Marie-Ange, 2015; Chang-Richards <i>et al.</i> , 2017; Earnest, 2015; Ganapati and Ganapati, 2008; Guttal, 2005; Ismail <i>et al.</i> , 2014; Karunasena and Rameezdeen, 2010; Lizarralde and Massyn, 2008; Ludin and Arbon, 2017; Seneviratne <i>et al.</i> , 2015; Van Gennip, 2005)
Neglecting of the community socio-economic and cultural needs	(Baroudi and Rapp, 2014; Cretney, 2016; Darabi <i>et al.</i> , 2013; Ganapati and Ganapati, 2008; Haigh, Hettige, Sakalasureya, Vickneswaran, and Weerasena, 2016; Karunasena and Rameezdeen, 2010; McCreight, 2010; Mukherji <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015, 2017; Seneviratne <i>et al.</i> , 2015, 2017; Vahanvati and Mulligan, 2017)
Lack of NGOs competency,	(Chandrasekhar, 2012; Ganapati and Ganapati, 2008; Haigh and Sutton, 2012; McCreight, 2010; Sadiqi <i>et al.</i> , 2015; Wilkinson, Rotimi, and Mannakarra, 2014; Zhang <i>et al.</i> , 2013)
Lack of the coordination between the stakeholders	(Ade Bilau and Witt, 2016; Haigh <i>et al.</i> , 2016; Ismail <i>et al.</i> , 2014; Karunasena and Rameezdeen, 2010; Lizarralde and Massyn, 2008; Ludin and Arbon, 2017; Sadiqi <i>et al.</i> , 2015, 2017; Seneviratne <i>et al.</i> , 2015, 2017; Van Gennip, 2005; Yau <i>et al.</i> , 2014)
Lack of transparent reconstruction process	(Earnest, 2015; Ismail <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015; Seneviratne <i>et al.</i> , 2017; Zaum and Cheng, 2009)

Table (2. 1): Barriers groups of the community based method

Group	References
Lack of gender participation	(Abdullah, Ibrahim, and King, 2010; Chandrasekhar, 2012; Ginige, Amaratunga, and Haigh, 2009; Handrahan, 2004; Sadiqi <i>et al.</i> , 2015; Smet, 2009; Sørensen, 1998)

2.3. The main barriers of the community based method

In this section; each barriers group which mentioned in section (2.2) will be discussed individually to extract the main barriers that hinder the community based method in housing reconstruction projects.

2.3.1. Lack of stakeholders capacity

Stakeholder capacity means the range of the knowledge and awareness and collaborative action that help to sustain long-term commitment of the community. The main stakeholders of the post conflict housing reconstruction projects are: the community, the government and the local and international NGOs (Chang-Richards *et al.*, 2017). The degree of influence for each stakeholders in the community participation vary according to the available resources and the understanding of the community participation concept (Seneviratne *et al.*, 2017; Shaw, 2014). The following paragraphs discuss the capacity nature of each stakeholders and the relationship between them.

Regarding the lack of the community capacity, Zhang *et al.* (2013) mentioned that, people did not know about plans of disaster prevention and reduction activities response and their personal role and function in these plans. Therefore, the self-help, and personnel capabilities of the community will be disappear and the projects risk will be increased (Zhang *et al.*, 2013). Sadiqi *et al.* (2015) considered the lack of community capacity as the major barriers of the community participation in housing reconstruction projects due to several reasons: the dependency culture of the community, lack of job opportunities, the absence of personal competences, and the lack of the community integrity. In addition, the low of education level, skills, and competences of the affected community had a significant negative impact on the community capacity (Karunasena and Rameezdeen, 2010; Sadiqi *et al.*, 2015). Yau

et al. (2014) endorsed that; the lack capacity of the construction industry may be impeded the progress in the reconstruction projects.

Darabi *et al.* (2013) mentioned seven major barriers that faced the community in post disaster housing reconstruction projects, these are: different people understanding of the principle of community participation, the autocratic idea from some stakeholders, lack of information about the reconstruction projects, insufficient community resources, no motivation to participate in the reconstruction projects, different interest of the stakeholders, levels of unrealistic expectations of the community participation and no clear assessment mechanism of the community needs. The lack of professional expertise in the community and stakeholders skills cause a notable problems to the community participation in housing reconstruction projects (Baroudi and Rapp, 2014; Pribadi *et al.*, 2014; Yau *et al.*, 2014). According to Al-Dabbeek (2008) there is a weak in engineers and professional capacity and the decision makers in post disaster reconstruction projects.

Regarding to the government capacity, Taufika *et al.* (2016) mentioned that the lack of government capacity and resources will have negative impact on the community participation in post-disaster housing reconstruction projects. Arielle Tozier and Marie-Ange (2015) indicated that the governments should improve the government capacities through new regulations to cope with disaster challenges and to increase the local engagement in the disaster prevention process. The government role is to facilitate the Community-based Post-disaster Housing Reconstruction Projects (CPHRP), which required high capacity of government to take the necessary action to facilitate the participation in post disaster housing reconstruction projects (Taufika *et al.*, 2016). Enshassi and Shakalaih (2016) stated that Gaza Strip system is unable to cope with disasters, and there is a lack of government experience in managing the disasters.

Regarding the NGOs capacity, NGOs play a significant role in funding the reconstruction projects. Sadiqi *et al.* (2015) found the lack of adequate capacity and experience of the NGOs staff in the reconstruction projects had a negative impact on the community participation in housing reconstruction projects. The vulnerably community expects that the NGOs have an extraordinary capacity to achieve their

needs within a recorded time, that lead to frustrated community if the reconstruction projects failed to meet their expectations (Seneviratne *et al.*, 2015). Darabi *et al.* (2013) mentioned many obstacles related to the NGOs capacity: lack of skilled staff, lack of the experience, fright from delay and the lack of trust between NGOs and communities. Barakat, Zyck, and Hunt (2009) there is a lack of Palestinian local organization capacity to cope with the disaster implications.

Enshassi and Shakalah (2016) recommend benefiting from the international organizations which have a good experience in disaster management to improve the stakeholders capacity in Palestine. Crawford *et al.* (2013) recommends that it is very necessary for project management level to understand the community resilience and improve their capabilities. Table (2.2) summarizes the main sub barriers (factors) that hinder the community participation in the post conflict housing reconstruction projects.

Table (2. 2): Main barriers within the stakeholder capacity group

Main barriers	References
Lack of the community knowledge about plans of disaster prevention and recovery	(Arielle Tozier and Marie-Ange, 2015; Darabi <i>et al.</i> , 2013; Zhang <i>et al.</i> , 2013)
Unclear role of the community function in the reconstruction recovery plans.	(Earnest, 2015; Ganapati and Ganapati, 2008; Seneviratne <i>et al.</i> , 2015; Zhang <i>et al.</i> , 2013)
Lack of the decision making skills of the stakeholders	(Darabi <i>et al.</i> , 2013; Sadiqi <i>et al.</i> , 2015; Seneviratne <i>et al.</i> , 2017; Tran, 2015)
Lack of the community integrity	(Al-Dabbeek, 2008; Darabi <i>et al.</i> , 2013; Pribadi <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015)
Low of education level, skills, and competences of the community	(Baroudi and Rapp, 2014; Darabi <i>et al.</i> , 2013; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015; Yau <i>et al.</i> , 2014)
Lack of stakeholders understanding about the principle of the community participation	(Chandrasekhar, 2012; Darabi <i>et al.</i> , 2013; Lizarralde and Massyn, 2008; Sadiqi "Wardak", Coffey, and Trigunarsyah, 2012)
Lack of the community resources	(Arielle Tozier and Marie-Ange, 2015; Darabi <i>et al.</i> , 2013; Zhang <i>et al.</i> , 2013)

2.3.2. Lack of the government support

The government is the direct and principle agency that should face the conflict implications and consequences of the conflicts (Darabi *et al.*, 2013). The responsibilities of the governments include: prepare disaster mitigation plans, establish disaster management units, and form the community groups to be ready for participation in housing reconstruction projects (Crawford *et al.*, 2013). Zhang *et al.* (2013) referred the difficulties in application the Community Based Disaster Management (CBDM) system mainly to the lack of governments support. If the governments did not provide the necessary guidelines for the risk mitigation process after the conflict, the community would not be able to participate effectively in post disaster housing reconstruction projects (Zhang *et al.*, 2013). Sadiqi *et al.* (2015) endorsed that the weak of the government policies and the lack of monitoring and control during the reconstruction projects may hinder the effective community participation in hosing reconstruction projects.

The lack of the long term recovery plans, lack of coordination between the agencies and associations which work in the reconstruction filed, lack of government staff capacity building for the conflict impact mitigating, and the lack of the government activities which encourage the community to participate in the reconstruction projects; may hindered the community engagement in the housing reconstruction projects (Drakaki and Tzionas, 2017; Karunasena and Rameezdeen, 2010). The government may not be able to manage several reconstruction projects in different areas and provide the skilled people with the required resources to execute their projects (Earnest, 2015), as a result there is a shortage in the official responses to conflicts (Haigh and Sutton, 2012).

Darabi *et al.* (2013) stated several factors related to the government role, which may affect negatively the community participation of post disaster housing reconstruction projects in Iran: the complexity of decision-making process, weak government policies of the disaster recovery, no strategic and long term planning, the lack of flexibility in the government structure, the integration between the government filed management and other organization, and political pressure. Pribadi *et al.* (2014) mentioned five barriers related to the governments roles in the community

participation in housing reconstruction projects: scatter planning and the lack of coordination between agencies, the lack of the government ability to manage several reconstruction projects at the same time, the lack of the government staff experience of the housing reconstruction projects, negligence of the socioeconomic requirements of the community, and the governments are unable to meet the community expectations from the reconstruction projects. Cretney (2016) mentioned that, the lack of the government social support for the stakeholders and the lack of trust between the vulnerably people and the government; led to prevent the community to express their ideas clearly in post disaster housing reconstruction projects.

Zhang *et al.* (2013) findings showed that, the Government of China has gradually adopted the community based disaster management system in housing reconstruction projects. Zhang *et al.* (2013) mentioned that, inadequate educational materials and technical support for the community hindered the disaster reconstruction recovery projects. It is not necessary to use hybrid technology in the community participation process of post disaster housing reconstruction projects, however the governments are required to identify the local socioeconomic situation and needs to enhance the participation process (Shaw, 2014).

The land ownership, tenure and regulations which imposed by governments are considered a sensitive problem in the community participation process in housing reconstruction projects (Sadiqi *et al.*, 2015; Yau *et al.*, 2014). Seneviratne *et al.* (2015) mentioned that conflicts lead to weaken the government role; therefore people face difficulties in resolving the land disputes and getting new permissions. The contradiction in the accommodation strategies related to the new residential units between the experts and communities and agencies lead to obstacle the progress in the reconstruction projects (Yau *et al.*, 2014). After the conflict the people moved to another safe location which is far from the conflict area, which increased the difficulties meet with the community council and on the targeted area (Sadiqi *et al.*, 2015). According to Enshassi and Shakalah (2016) the monitoring and evaluation system in Gaza Strip is not compatible with disaster mitigation activities. Al Dabbeek (2011) mentioned that the implementation policies of disaster risk management in Palestine should be improved to conform to disaster implications.

Taufika (2013) recommends that the government should provide the necessary facilitation (i.e. regulations) for the communities after the conflict in order to achieve the reconstruction projects objectives. Sadiqi *et al.* (2015) mentioned that the government policies should support the reconstruction projects to achieve the community satisfaction. Table (2.3) summarizes the main sub barriers of the lack of government support in housing reconstruction projects.

Table (2. 3): Main barriers within the lack of government support group.

Main barriers	References
The lack of government plans for the conflict recovery	(Crawford <i>et al.</i> , 2013; Darabi <i>et al.</i> , 2013; Drakaki and Tzionas, 2017; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014)
The absence of conflict management unit in government institutions	(Crawford <i>et al.</i> , 2013; Darabi <i>et al.</i> , 2013; Pribadi <i>et al.</i> , 2014)
The absence of the government role to form the community groups which will participate in the housing projects.	(Crawford <i>et al.</i> , 2013; Pribadi <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015)
The lack of risk mitigation process which provided from the governments	(Darabi <i>et al.</i> , 2013; Sadiqi <i>et al.</i> , 2015; Zhang <i>et al.</i> , 2013)
Weak of the government policies that support the community participation	(Cretney, 2016; Darabi <i>et al.</i> , 2013; Pribadi <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2015; Yau <i>et al.</i> , 2014; Zhang <i>et al.</i> , 2013)
Lack of monitoring and control of the housing reconstruction projects	(Darabi <i>et al.</i> , 2013; Dash, Mishra, and Mishra, 2013; Sadiqi <i>et al.</i> , 2015)
lack of coordination between the agencies and associations which works in the reconstruction filed	(Drakaki and Tzionas, 2017; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014)
lack of government staff capacity building for the disaster mitigating	(Drakaki and Tzionas, 2017; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014)
lack of the government activities which encourage the community to participate in the reconstruction projects	(Cretney, 2016; Drakaki and Tzionas, 2017; Enshassi and Shakalaih, 2016; Karunasena and Rameezdeen, 2010; Pribadi <i>et al.</i> , 2014; Shaw, 2014; Zhang <i>et al.</i> , 2013)

2.3.3. Inflexible short deadlines

The reconstruction projects are considered time consuming projects, it comprised from several phases: planning and design phase, tendering phase, construction phase

and closure phase (Pribadi *et al.*, 2014). Each reconstruction project is unique compared with the other projects (Tran, 2015). The filed works which related to establish the community groups is considered also time consuming activity usually it should be done parallel with the planning phase (Mukherji *et al.*, 2014). Many meetings with different stakeholders should be held to select the representative committees of the community (Taufika *et al.*, 2016). The committees will participate in the decision making process and to identify the community needs in post disaster reconstruction projects (Mukherji *et al.*, 2014; Taufika *et al.*, 2016). Chandrasekhar (2012) highlighted that the time restrictions has significant influence in the stakeholders intervention which may have negative implications on the governmental organization and NGOs activities to involve the community in the reconstruction projects. Ganapati and Ganapati (2008) mentioned that the donors especially the World Bank requires to complete the reconstruction projects activities rapidly, which mean that the effected communities will have a minor role in reconstruction projects.

The time needed to relocate the displaced people to their homes again is not short, sometimes it is extended to several years due to some barriers in the construction activities, so the community participation may be not effective (Félix *et al.*, 2015). Istijono *et al.* (2016) stated that the community based method may has some limitation due to the preconstruction projects may take long time to be completed. Barakat, Chard, and Jones (2005) mentioned that, the period between the war ended and start the reconstruction projects is a key consideration in planning and there 'standard length of time' for this period. Barakat *et al.* (2009) indicated the aid distribution in Gaza Strip took a long period of time after 2009 conflict due to the diary need people in Gaza. Table (2.4) summarized the main sub barriers of inflexible short deadlines in the reconstruction projects.

Table (2. 4): Main barriers within inflexible short deadlines group

Main barriers	References
Forming the community groups is time consuming activities	(Chandrasekhar, 2012; Mukherji <i>et al.</i> , 2014; Taufika <i>et al.</i> , 2016)
The time resections prevent the government, local and international organization to form the community groups	(Barakat <i>et al.</i> , 2005; Chandrasekhar, 2012; Istijono <i>et al.</i> , 2016; Mukherji <i>et al.</i> , 2014; Taufika <i>et al.</i> , 2016)

Table (2. 4): Main barriers within inflexible short deadlines group

Main barriers	References
The donor requirements to rush the projects activities lead to ignore the community role	(Ganapati and Ganapati, 2008; Tran, 2015)
The long duration of the reconstruction activities affect negatively on the community participation	(Félix <i>et al.</i> , 2015; Istijono <i>et al.</i> , 2016; Pribadi <i>et al.</i> , 2014).

2.3.4. Budget restrictions and donor requirements

Post conflict housing reconstruction projects is confronted by budget restriction and limitation, and it is financed by multilateral and bilateral grants and or loans (Ade Bilau and Witt, 2016; Guttal, 2005; Seneviratne *et al.*, 2015). The local governments could not bear the consequences of the conflict without assistant from external donors through grants or loan to facilitate the peace process (Seneviratne *et al.*, 2015). The lack of fund allocated for reconstruction recovery activities and for risk preparedness tend the governments to implement the projects with slight depends on the community (Arielle Tozier and Marie-Ange, 2015). Ganapati and Ganapati (2008) mentioned that, to implement the community based method in the reconstruction the project terms and budget should be flexible to involve the community in the reconstruction projects. The fund shortage in the post conflict reconstruction projects prevents the local organization to achieve the project objectives, and to cover the organization external commitments (Chandrasekhar, 2012). Ludin and Arbon (2017) highlighted in their case study in Australia, due to the fund shortage the Civil Defense Department could not provide the beneficiaries with the disaster risk reduction training courses, which affected negatively in the community participation.

The damage in houses after the disasters is massive, so that the donors interventions usually concentrated in housing aid only (Seneviratne *et al.*, 2015). Earnest (2015) endorsed that; the donors have their own reconstruction projects on the affected area, due to the lack of the government capacity to manage the reconstruction projects individually. Accordingly, the donors have a representative offices in the affected area which is responsible for the direct implementation of the reconstruction projects

(Earnest, 2015). Karunasena and Rameezdeen (2010) stated that in some countries the reconstruction projects are totally managed by the donor agency from the commencement to handing over the dwelling units to the beneficiaries. The donor agency support the local governments technically and financially but they still have full control on the reconstruction projects therefore the monitoring from the local authorities is negligible (Karunasena and Rameezdeen, 2010). Some donors have influence in choosing the method of the housing reconstruction, in other words they neglected the traditional housing construction procedures in the affected area (Chang-Richards *et al.*, 2017). In addition they control on the architectural details of the building and the number of beneficiaries (Chang-Richards *et al.*, 2017; Seneviratne *et al.*, 2015; Van Gennip, 2005).

Istijono *et al.* (2016) recommends that, to achieve the community satisfaction, the government should pay more attention and allocated a specific budget for the community participation activities. Taufika (2013) mentioned that the application of community based method in the housing reconstruction projects led to ensure the budget is allocated to the people who really need it. Barakat and Zyck (2011) stated that, the donors allocate specific budget to support the affected state government to enable the governments to implement the other activities which are associated to the reconstruction projects. Enshassi and Zaiter (2013) mentioned that, in Gaza Strip the donors have a control on the budget of the construction projects and also they provided technical support and guidance to beneficiaries to achieve the projects objectives. Table (2.5) shows the sub barriers of the budget restriction group of the community participation in post conflict housing projects.

Table (2. 5): Main barriers within budget restrictions and donor requirements group

Main barriers	References
The lack of fund allocated for reconstruction recovery activities and for risk preparedness tends the governments to implement the projects with slight depends on the community.	(Arielle Tozier and Marie-Ange, 2015).
The rigidity in the project terms and budget hinder the community participation.	(Enshassi and Zaiter, 2013; Ganapati and Ganapati, 2008)

Table (2. 5): Main barriers within budget restrictions and donor requirements group

Main barriers	References
The lack of budget prevent the governments to implement the community based activities (focus groups, workshops, filed visits,.... etc.)	(Barakat and Zyck, 2011; Ludin and Arbon, 2017)
The donors have a representative office in the affected area which avoid dealing with people directly	(Karunasena and Rameezdeen, 2010)
Some donors have influence in choosing the method of the housing reconstruction,	(Chang-Richards <i>et al.</i> , 2017; Enshassi and Zaiter, 2013; Karunasena and Rameezdeen, 2010).
The donors control on the architectural details of the building and the number of beneficiaries	(Chang-Richards <i>et al.</i> , 2017; Seneviratne <i>et al.</i> , 2015; Van Gennip, 2005)

2.3.5. Neglecting the socio- economic, cultural and political pressure

Neglecting the community social structure, desires and needs is common in the post conflict reconstruction projects, which led to waste in the reconstruction efforts and the projects budget (Karunasena and Rameezdeen, 2010). Sadiqi *et al.* (2015) mentioned that, the housing reconstruction projects in Afghanistan are not designed properly to fulfill the community socio-economic needs. Moreover Sadiqi *et al.* (2017) stated that the reconstruction projects are implemented through massive modifications by the beneficiaries to satisfy their needs. Baroudi and Rapp (2014) highlighted that the community environment and the nature of the stakeholders should be maintained and considered in the reconstruction projects. The cultural beneficiaries and the space requirements concerns, should be taken into account when preparing the plans of the reconstruction projects (Seneviratne *et al.*, 2017). The local governments should prepare a dissemination or manual of the community social and cultural needs with different languages to facilitate the interventions of the foreign organization (Cretney, 2016; Mukherji *et al.*, 2014; Sadiqi *et al.*, 2017; Vahanvati and Mulligan, 2017).

The political situation always keep the community away from the decision making, which causes inactive community and emphasis the non-participatory approach in housing reconstruction projects (Darabi *et al.*, 2013; Taufika, 2013). Darabi *et al.* (2013) mentioned that the conflicts and tensions between stakeholders, and lack of

confidence due to the political situation after the disaster may hinder the community participation in the reconstruction projects. Enshassi and Chatat (2012) highlighted that there are many difficulties in damage assessment after the war in Gaza Strip due to the bad psychological situation of the affected people.

The dwelling units should be designed with flexibility to any expansion in the future, as well as it should consider the economic situation of the targeted area (Sadiqi *et al.*, 2015). In addition, the community needs (social, economic, psychological and cultural) should be involved through all life cycle stages (Sadiqi *et al.*, 2015). Haigh *et al.* (2016) argued that there is a need to establish mechanisms for vulnerable groups (women and persons with disabilities) to evaluate their social and economic needs in the infrastructure projects. The cultural needs should be preserved in the reconstruction projects to avoid any potential delay in these projects (Ganapati and Ganapati, 2008; Seneviratne *et al.*, 2017). Table (2.6) summarizes the main sub-barriers of the lac

Table (2. 6): Main barriers within the neglecting the socio- economic, cultural and political pressure group

Main barriers	References
There is neglecting the community social structure, desires and needs is common in the post conflict reconstruction projects	(Karunasena and Rameezdeen, 2010; Sadiqi <i>et al.</i> , 2015)
The housing reconstruction projects are not designed properly to fulfill the community socio-economic needs.	(Sadiqi <i>et al.</i> , 2017)
The recovery plans did not response to pace requirements concerns of the community	(Seneviratne <i>et al.</i> , 2017)
There is no manual of the community social and cultural needs with different languages to facilitate the interventions of the foreign organization	(Cretney, 2016; Mukherji <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2017; Vahanvati and Mulligan, 2017).
The political situation always keep the community away from the decision making, which causes inactive community and emphasis the non-participatory approach	(Darabi <i>et al.</i> , 2013; Taufika, 2013).

Table (2. 6): Main barriers within the neglecting the socio- economic, cultural and political pressure group

Main barriers	References
The conflicts and tensions between stakeholders, and lack of confidence due to the political situation after the disaster may hinder the community participation in the reconstruction projects.	(Darabi <i>et al.</i> , 2013)
The physiological situation of the effected people hinder the community participation	(Enshassi and Chatat, 2012)

2.3.6. Lack of NGOs competency

The public participation in post disaster reconstruction projects is influenced by government and non-government institutions (Ganapati and Ganapati, 2008). The non-governmental organization (NGO) is defined by Zhang *et al.* (2013, p. 2227) as “a legally constituted organization created by natural or legal persons that operates independently from any governments”. Chandrasekhar (2012) indicated that the trust between the NGOs and the beneficiaries is necessary to implement the reconstruction projects smoothly. There is a variance between the NGOs and stakeholders objectives in reconstruction projects; the main objective for NGOs is to complete the projects on time, while for the beneficiaries to achieve their needs which is restricted by the time (Haigh and Sutton, 2012).

Sadiqi *et al.* (2017) stated that the lack of transparency, corruption, lack of technical knowledge, and hast in reconstruction are the reasons of the lack of NGOs competence in housing reconstruction projects. NGOs may not always have sufficient staff for large-scale reconstruction projects, so it tends to utilize the community capacity to monitor the construction progress by themselves (Sadiqi *et al.*, 2015). The complexity, diversity and wide range of the construction activities required adequate qualified staff in the NGOs to accomplish the project recovery objectives (Wilkinson *et al.*, 2014). Most of the NGOs are small institution and usually the NGOs staff are suffering from the work pressure (Wilkinson *et al.*, 2014). Enshassi and Shakalah (2016) observed that, there is a lack of the NGOs experience in documentation the activities of disaster risk reduction in Gaza Strip.

Enshassi and Shakalaih (2016) recommend providing the local organizations with the training course about the project management and vulnerability and capacity assessment to strengthen the capacity of local organizations in Palestine. As well as the community should contribute to enhance the local organization capacity in disaster recovery (Enshassi and Shakalaih, 2016). The external organization should activate the community role and participation in reconstruction projects (Enshassi and Shakalaih, 2016; Tad and Janardhanan, 2016). Table (2.7) summarizes the main sub barriers of the lack of NGOs competency group.

Table (2. 7): Main barriers within of the lack of NGOs competency group

Main barriers	References
There is a lack of trust between the NGOs and the stakeholders	Chandrasekhar (2012)
There is a variance between the NGOs and stakeholders objectives in reconstruction projects hinder the community participation	(Haigh and Sutton, 2012).
The lack of technical knowledge, in reconstruction projects effect negatively in the NGOs competence.	(Sadiqi <i>et al.</i> , 2017)
NGOs may not always have sufficient staff for large-scale reconstruction projects,	(Sadiqi <i>et al.</i> , 2015).
Most of the NGOs are small institution and usually the NGOs staff are suffering from the work pressure	(Sadiqi <i>et al.</i> , 2015; Wilkinson <i>et al.</i> , 2014)
There is a lack of the NGOs experience in documentation the activities of disaster risk reduction	(Enshassi and Shakalaih, 2016; Tad and Janardhanan, 2016).

2.3.7. Lack of the coordination between the stakeholders

The community is the core of the reconstruction projects in the conflict areas, the proper communication and transportation channels should be established to link the stakeholders with the reconstruction projects activities (Seneviratne *et al.*, 2015). The lack of the communions between the stakeholders and the implementing bodies lead to dissatisfaction and frustration of the beneficiaries about the project results (Karunasena and Rameezdeen, 2010; Sadiqi *et al.*, 2015). The physical infrastructure is essential to transport the resources and construction materials during the post

conflict reconstruction projects (Ludin and Arbon, 2017). The construction activities can be enhanced through preparing a good transportation plan that link the target area with the other county areas (Ade Bilau and Witt, 2016; Haigh *et al.*, 2016). Yau *et al.* (2014) stated the inconvenient physical transportation networks may obstacle the progress in construction activities.

The security in the affected area is very important for the damage assessment, community participation and implantation stage (Ade Bilau and Witt, 2016; Seneviratne *et al.*, 2017). Sadiqi *et al.* (2015) mentioned that, the partial peace, risk of kidnap or violence against NGOs and presence of the land mines and presence of unexploded ordinance hindered the effective community participation in housing reconstruction projects in Afghanistan. Failure in signing the peace agreements makes the conflict-affected areas very dangerous and impedes the communication with stakeholders, leading to the failure in reconstruction projects (Van Gennip, 2005; Yau *et al.*, 2014). Enshassi and Shakalaih (2016) found that, there is a lack of coordination between government level and the community in disaster risk reduction activities in Gaza Strip. Al-Dabbeek (2008) stated that there is a lack of coordination between the authorities levels in disaster management in Palestine. Seneviratne *et al.* (2015) recommends allocating enough funds for improving the security in conflict areas to facilitate the communication process with the stake holders. Enshassi and Shakalaih (2016) mentioned that the community in Gaza Strip should play a significant role in strengthening the community capacities and developing the public awareness in order to success the community construction projects. Table (2.8) summarizes the main sub barriers of lack of coordination between the stakeholders group.

Table (2. 8): Main barriers within of the lack of coordination between the stakeholders group

Main barriers	References
There is no proper communication channels should that link the stakeholders with the reconstruction projects activities	(Seneviratne <i>et al.</i> , 2015) (Karunasena and Rameezdeen, 2010; Sadiqi <i>et al.</i> , 2015)

Table (2. 8): Main barriers within of the lack of coordination between the stakeholders group

Main barriers	References
There is no proper transportation channels should that link the stakeholders with the reconstruction projects activities	(Seneviratne <i>et al.</i> , 2015) (Karunasena and Rameezdeen, 2010; Sadiqi <i>et al.</i> , 2015)
There is a lack of physical infrastructure which used to transport the materials and resources during and the post conflict reconstruction projects	(Ludin and Arbon, 2017) (Karunasena and Rameezdeen, 2010; Sadiqi <i>et al.</i> , 2015) Yau <i>et al.</i> (2014)
There is no transportation plan that link the targeted area with the other areas	(Ade Bilau and Witt, 2016; Haigh <i>et al.</i> , 2016)
There is a lack of security in the affected area	(Ade Bilau and Witt, 2016; Seneviratne <i>et al.</i> , 2017)
Failure in signing the peace agreements makes the conflict-affected areas very dangerous and impedes the communication with stakeholders	(Van Gennip, 2005; Yau <i>et al.</i> , 2014).

2.3.8. Lack of transparent reconstruction process

Zaum and Cheng (2009) mentioned that, the corruption is one of the major challenges that face the post-conflict recovery efforts. Corruption is existing in most of post-conflict reconstruction projects (Earnest, 2015; Seneviratne *et al.*, 2017; Zaum and Cheng, 2009). Sadiqi *et al.* (2015) stated several reasons of the lack of transparency in the reconstruction projects: vague process of expending the project budget, the lack of information about the government policy and plans, the ambiguous data about the reconstruction projects and the lack of project monitoring and controlling. The lack of transparency in funding affect negatively in the community participation and reputation of the community (Sadiqi *et al.*, 2015). Transparency and accountability are required in all aspects of housing reconstruction projects not only limited on the funding (Taufika *et al.*, 2013).

In addition, Taufika *et al.* (2013) mentioned some important aspects for the transparency in housing reconstruction projects: clearness in project objectives and details, validity indecision making processes, the process of funding disbursement and the project time frame. Failure to address the previous transparency aspects increase the stakeholders dissatisfaction, accordingly the transparency became the

top serious issue to ensure the success of CPHRP (Taufika *et al.*, 2013). Taufika *et al.* (2013) stated that the transparency and accountability increase the success chance of post disaster reconstruction projects and minimize the corruption. Table (2.9) summarizes the main sub barriers of lack of transparent reconstruction process group.

Table (2. 9): Main barriers of the lack of transparent reconstruction process group

Main barrier	References
Vague process of expending the project budget,	(Sadiqi <i>et al.</i> , 2015)
The lack of information about the government policy and plans, and controlling	(Sadiqi <i>et al.</i> , 2015; Taufika, 2013)
The ambiguous data about the reconstruction projects	(Earnest, 2015; Seneviratne <i>et al.</i> , 2017; Zaum and Cheng, 2009)
The lack of project monitoring and controlling process	(Sadiqi <i>et al.</i> , 2015)
Transparency and accountability are limited to the funding only.	(Taufika <i>et al.</i> , 2013)
The lack of transparency in decision making process	(Taufika <i>et al.</i> , 2013)

2.3.9. Lack of gender participation

The previous studies which discussed the gender issues as a barrier of the community participation in the reconstruction projects are limited. Sadiqi *et al.* (2015) mentioned that, women are suffering more than men from implication of disasters. In addition, there is enormous economic burden on the families which is led by women (Ginige *et al.*, 2009; Sadiqi *et al.*, 2015). The minor role of the women in managing the community resource and making the decisions in post disaster housing recovery projects; lead to reduce the women power in the community (Chandrasekhar, 2012). Sørensen (1998) stated that, the women role in reconstruction projects is superficial where the women did not participate in the meeting and workshops of the reconstruction projects. Abdullah *et al.* (2010) mentioned that, the absence of women role in the housing reconstruction projects in Sierra Leone is referred to the discriminatory laws in the country. Taufika (2013) mentioned that, the gender equality is basic principles of housing reconstruction projects, the women and other

vulnerable groups should participate in reconstruction projects in order to meet the stakeholders needs.

The influence of women participation in peace building-process is limited; usually the women are excluded from the peace building negotiations(Sørensen, 1998). As a result, women have a minor role in identifying the reconstruction priorities which are part of peace agreements (Sørensen, 1998). Ginige *et al.* (2009) indicated that, the women participation in the housing reconstruction project enhanced the disaster risk management and reduced the disaster implications. The women may use as a good tool for preventing the violence in post conflict reconstruction projects (Handrahan, 2004). In addition Handrahan (2004) mentioned that the gender identity, and norms should be included in post conflict reconstruction projects

Labadie (2008) recommends that, more attention should be given to the gender contribution to emphasis the disaster response and recovery. Sørensen (1998) recommends that, women should play a significant role in war recovery projects to emphasis the community social values and re-build the community culture. Taufika (2013) recommends that women should be part of the reconstruction projects in order to achieve the projects goals with high quality results accountability. Table (2.10) summarizes the main sub barriers of lack of gender participation group.

Table (2. 10): Main barrier within the gender participation.

Sub Barriers	References
The women struggled to still survived during the conflict	(Chandrasekhar, 2012; Sørensen, 1998)
The role of women role in reconstruction projects is superficial	(Sørensen, 1998; Taufika <i>et al.</i> , 2013)
Women are suffering more than men from the disaster implications	(Labadie, 2008; Sadiqi <i>et al.</i> , 2015)
Enormous economic burden on the families which is led by women	(Sadiqi <i>et al.</i> , 2015; Taufika <i>et al.</i> , 2013)
The minor role of the women in managing the community resource	(Chandrasekhar, 2012)
The discriminatory laws in the country.	(Abdullah <i>et al.</i> , 2010)
The influence of women participation in peace building-process is limited	(Sørensen, 1998; Taufika <i>et al.</i> , 2013)

2.4. Introduction to the success factors of the community based method

In the following sections, the most recent literature researches have been reviewed to identify the critical success groups of community based method in post conflict housing reconstruction projects. In addition, to determine which critical success factors are most influential in the community based method in post conflict housing reconstruction projects. The success of the housing reconstruction projects is considered the main feature of the success of the post disaster intervention (Seneviratne *et al.*, 2017). Sadiqi *et al.* (2013) stated that, the nature of the post-disaster housing reconstruction projects is complex and the inherent difficulties in these projects are enormous. In addition, the reconstruction projects are unique projects, with many challenges during the project stages , so that all stakeholders should participate effectively to response the projects challenges (Sadiqi *et al.*, 2013). The concepts of the community participation in post conflict reconstruction projects should be clear and well understood from all stakeholders to ensure the success of the reconstruction projects (Sadiqi *et al.*, 2015).

Taufika *et al.* (2013) pointed out that, identifying the success factors of the housing reconstruction projects is done through identifying the expected risk and challenges which may face these projects. The stakeholders of the post disaster housing reconstruction projects have expectation and judgment to the success of the projects; for instant the government consider the success is reallocating the people to their home, while the people consider the success is reconstructing their homes with a good quality (Nuwani Siriwardena and Haigh, 2011). The stakeholders should have a mutual criteria of the success in post disaster housing reconstruction projects and these criteria should be validated and updated through the project life cycle (Blaikie, Cannon, Davis, and Wisner, 2014).

The success in any project is measured through achieving the planned goal within the planned time, cost, and quality (Shafique, 2016). Samaddar *et al.* (2017) mentioned that, the all stakeholder viewpoints and values should be considered to ensure the success of the public participation in post disaster housing reconstruction projects. Ismail *et al.* (2014) stated that, the critical success factors (CSFs) in Post Disaster

Reconstruction (PDR) projects for INGOs should cover: the housing projects, internal development projects and management of housing PDR.

2.5. Success groups of the community based method

Shafique (2016) has identified three main groups that should be equally considered to ensure the success in the community based method in post disaster housing reconstruction projects. These groups are: social needs, economic situation and environment status groups. Taufika *et al.* (2013) mentioned 12 groups that have significant impact on the success of housing reconstruction projects. These groups are: transparency and accountability, the local government policy or strategy, an understanding of the community-based method, trust between stakeholders, implementing agencies capacity, ease of communication and coordination between all stakeholders, the funding availability, and successful beneficiary identification (Taufika *et al.*, 2013). Ahmed (2011) indicated that, the critical success groups for permanent housing reconstruction projects after the disaster in developing countries which include: budget availability, scale of the projects, political and economic situation, coordination and communication between stakeholders and the consultation with the local community. It should be noticed that there are mutual group between Ahmed, (2011) & Ophiyandri et al., (2013) & Shafique (2016) findings which are: social needs, economic situation.

Lin Moe and Pathranarakul (2006) mentioned the critical success groups of community based method in public project management after the natural disaster are: partnership and coordination between stakeholders, the internal regulation of the institution, local government support, good information system, the capacity of the implementing agencies, and effective identification of the stakeholders. The recommendation of Seneviratne *et al.* (2017) study showed that, to ensure the success in post disaster housing reconstruction projects the following groups should be considered: emphasis the transparency, education and training of the beneficiaries, monitoring and controlling of the project activities. Ismail *et al.* (2014) classified the critical success group of the post disaster reconstruction projects are: accountability and transparency, the local government policies and strategies, understanding the participation concepts, trust between stakeholders, funding availability, beneficiaries

identification and communication and coordination between stake holders. Ismail *et al.* (2014) have agreed with Lin Moe and Pathranarakul (2006) findings that communication and coordination between the stakeholders group are essential group; while Seneviratne *et al.* (2017) and Lin Moe and Pathranarakul (2006) considered that the community education and training is essential group in the community based method in housing reconstruction projects.

Samaddar *et al.* (2017) categorized the public participation in post disaster housing reconstruction projects into two main approaches: process-based and outcome-based approach; as well as they mentioned the critical success group for each approach. Process-based approach answer the questions (Who, How, When and What) about the process of participation: Who will be involved, when the time and resources are needed, how the good participation could be achieved, and to what are the tools needed to effective participation (Samaddar *et al.*, 2017). The outcome-based approach measure the result of the projects, and the success indications are related to stakeholders satisfaction (Samaddar *et al.*, 2017). The success in the post disaster housing reconstruction projects depends on answering the questions of process based approach in line with the stakeholder expectations from the projects. Samaddar *et al.* (2017) recognized many groups of success in housing reconstruction projects in process and outcome-based approaches; the main groups are: stakeholders identification, enhancing the community capacity, equality and justice, government facilitation, resource availability and trust, accountability and transparency.

Steinfort and Walker (2007) have categorized the success factors of the reconstruction projects after the disaster into 10 groups, the main groups are: clear identification of goal and aims of the project, well understanding of the stakeholders to the reconstruction interventions, the policies and strategies of local authorities, adequate communication and coordination between stakeholders, and culture of the community. Sadiqi *et al.* (2013) mentioned five main groups which may have a positive impact on the post disaster housing reconstruction projects, these groups are: community engagement and empowerment, effective communication between stakeholders, community culture and support from the local government. Mochizuki and Chang (2017) considered the local and government capacity, the leadership, and the funding availability are the critical groups for the success post disaster recovery

projects. Steinfors and Walker (2007), Sadiqi *et al.* (2013) and Mochizuki and Chang (2017) have agreed that the government support and capacity play a significant role in the success of the community based method in post disaster housing reconstruction projects.

Mannakkara and Wilkinson (2015) revealed two main categories for the success in social recovery in post disaster housing projects, these are: community support and community involvement. The first category includes the following groups: local government support for groups and individuals, community cohesion, and communication between stakeholders (Mannakkara and Wilkinson, 2015). The success groups for the second category are: transparency and involving the community in design stage. Ade Bilau and Witt (2016) mentioned that, to satisfy the community expectations from the post disaster housing reconstruction projects the following groups should be considered: socio-economic needs, the cultural needs of the community and the implementing capacity. Chandrasekhar (2012) identified four main groups that have significant impact on the stakeholder participation in post conflict housing reconstruction projects these groups are: trust, stakeholder power, urgency of taken the actions and legitimacy. Shakalaih (2016) mentioned that the critical groups of success for the post disaster reconstruction projects in Gaza Strip are: communication for construction projects, coordination between the stakeholders, capacity of the implementing agencies and transparency and accountability in reconstruction projects.

Reviewing the previous studies of the success groups of the community based method in post disaster housing reconstruction projects showed all references have at least one or two mutual success group. In this study the most common groups that mentioned in the recent publications have been grouped together in order to analyze and the success factors from these groups. The success factors groups are: effective communication among the stakeholders, community cultures and beliefs needs, the local government support, community education, training and awareness, women participation, transparency and accountability and sufficient funding availability which explained in Table (2.11).

Table (2. 11): the success groups of community based method

Success group	References
Effective communication among the stakeholders	(Ahmed, 2011; Ismail <i>et al.</i> , 2014; Lin Moe and Pathranarakul, 2006; Sadiqi <i>et al.</i> , 2013; Samaddar <i>et al.</i> , 2017; Shakalah, 2016; Steinfort and Walker, 2007; Taufika <i>et al.</i> , 2013)
Community cultures and beliefs needs	(Ahmed, 2011; Bilau, Witt, and Lill, 2015; Ismail <i>et al.</i> , 2014; Lin Moe and Pathranarakul, 2006; Mannakkara and Wilkinson, 2015; Sadiqi <i>et al.</i> , 2013; Shafique, 2016; Taufika <i>et al.</i> , 2013)
The local government support	(Ismail <i>et al.</i> , 2014; Lin Moe and Pathranarakul, 2006; Mannakkara and Wilkinson, 2015; Mochizuki and Chang, 2017; Sadiqi <i>et al.</i> , 2013; Seneviratne <i>et al.</i> , 2017; Steinfort and Walker, 2007; Taufika <i>et al.</i> , 2013)
Community education, training and awareness	(Seneviratne <i>et al.</i> , 2017; Taufika <i>et al.</i> , 2013)
Gender participation	(Barakat and Zyck, 2011; Chandrasekhar, 2012; Dias <i>et al.</i> , 2016; Samaddar <i>et al.</i> , 2017; Seneviratne <i>et al.</i> , 2017)
Transparency and accountability	(Ismail <i>et al.</i> , 2014; Mannakkara and Wilkinson, 2015; Samaddar <i>et al.</i> , 2017; Seneviratne <i>et al.</i> , 2017; Shakalah, 2016; Taufika <i>et al.</i> , 2013)
Sufficient funding availability	(Ahmed, 2011; Ismail <i>et al.</i> , 2014; Steinfort and Walker, 2007; Taufika <i>et al.</i> , 2013)

2.6. The main success factors of the community based method

In this section; each success group which mentioned in section (2.5) will be discussed individually to extract the main success factors of the community based method in housing reconstruction projects.

2.6.1. Effective communication among the stakeholders

The success of post disaster housing reconstruction projects depends on a smooth channel of communications between the community and the implementing agencies (Ismail *et al.*, 2014; Sadiqi *et al.*, 2013). Yi and Yang (2014) mentioned that, the coordination and communication between the stakeholders are essential to success in the housing reconstruction projects after the conflict. Taufika *et al.* (2013) considered the main challenge of the community based method in post disaster housing

reconstruction projects is to coordinate between the key implementing parties: the local and international NGOs and governments. The information system is necessary to help and support the local government in prioritizing the housing needs of the stake holders and to facilitate the works in housing projects (Sadiqi *et al.*, 2013). The coordination and communication between stakeholders suggested be effective in five levels: national, international, regional, organizational and project level; to achieved the projects objectives (Lin Moe and Pathranarakul, 2006).

Samaddar *et al.* (2017) stated that, the communication and coordination between stakeholders should be in all project life cycle stages; started from the problem identification, planning, implementation and project closing. The communication between stakeholders is very important to ensure the long term satisfaction of the project results as well as the cooperation between stakeholders help to achieve the success in community based method in post disaster housing reconstruction projects (Dias *et al.*, 2016). Karunasena and Rameezdeen (2010) mentioned that, at the project initiation stage the local authorities should coordinate with the key stakeholders introduce to a brief about the project information to facilitate the progress in housing reconstruction projects.

The coordination between the key project stakeholders in Palestine UN and local and international NGOs is highly encouraged (Al Dabbeek, 2011). Sadiqi *et al.* (2015) recommend that, the local authorities should develop a reliable and strong communication channels between stakeholders to ensure the success in post disaster housing reconstruction projects. The coordination between the stakeholders is needed in all project stage, the project team should form a coordination committee to communicate with the stakeholders in the planning and operational stages (Enshassi and Shakalah, 2016).

Table (2. 12): Main success factors within effective communication among stakeholder group

Success factor	References
Smooth channel of communications between the community and the implementing agencies	(Ismail <i>et al.</i> , 2014; Sadiqi <i>et al.</i> , 2013)

Table (2. 12): Main success factors within effective communication among stakeholder group

Success factor	References
Availability of accurate information system	(Enshassi and Shakalaih, 2016; Sadiqi <i>et al.</i> , 2013)
Availability of mutual language of communication between the stakeholders.	(Al Dabbeek, 2011; Ismail <i>et al.</i> , 2014; Yi and Yang, 2014)
Existing of the coordination committees between the key implementing parties: the local and international NGOs and governments.	(Al Dabbeek, 2011; Taufika <i>et al.</i> , 2013)
Accessibility of the coordination and communication between the five levels of the reconstruction projects: national, international, regional, organizational and project level	(Enshassi and Shakalaih, 2016; Lin Moe and Pathranarakul, 2006)
Obtainability the communication and coordination between stakeholders in all project life cycle stages	(Enshassi and Shakalaih, 2016; Samaddar <i>et al.</i> , 2017)

2.6.2. Community cultures and beliefs needs

The suitability of housing design is not limited to the physical characteristics of main building; it should include the cultural and social characteristics of the society (Dikmen and Elias-Ozkan, 2016). Sadiqi *et al.* (2013) mentioned that, establishing a good atmosphere for the post disaster housing reconstruction projects needs to consider the cultural and customs needs in the housing design; for instant in Afghanistan the housing design should consider the possibility of expansion to accommodate more family members. Ignoring the people needs and culture lead to failure in the post disaster housing reconstruction projects (Dikmen and Elias-Ozkan, 2016). Sadiqi *et al.* (2013) stressed that, considering the socio-cultural and economic needs of the stakeholders lead to expedite the works in housing reconstruction projects after the disaster and increase the opportunity of success of disaster recovery. The reconstruction strategies should consider the geography, society, polices and climate situations of the affected area (Taufika *et al.*, 2013).

Omidvar, Zafari, and Khakpour (2011) mentioned that, the cultural and domestic needs of the community needs should be obtained in the planning phase of the

community based method in post disaster housing reconstruction projects. The cultural and domestic needs include: local custom and traditions, the homes design requirements and family structure (Omidvar *et al.*, 2011). El-Masri and Kellett (2001) highlighted that, the community in Lebanon after the war has entirely control of housing reconstruction projects based on them cultural and social needs, they control the main components of the projects to server the vulnerability people. For instant, in Sir Lanka one of the implementing agencies constructed the bathrooms with half-heighted wall as well as these bathrooms are mutual between men and women which was not culturally acceptable (Mannakkara and Wilkinson, 2015). Considering the socio-economic and cultural needs in the housing reconstruction projects lead to achieve the community satisfaction (Dias *et al.*, 2016).

Seneviratne *et al.* (2017) recommended that, the location and the accessibility of the service facilities should be taken into consideration during the design stage, to reduce the bad implications of the social and cultural conditions related to housing reconstruction projects. The housing units should be compatible and consistent with the community culture needs to achieve the projects activities (Barakat *et al.*, 2004). Shakalah (2016) mentioned that, all strategies and implementing procedure that consider the culture needs are crucial in the success of the reconstruction projects.

Table (2. 13): Success factors within the community cultures and beliefs group

Success factor	Reference
Including the cultural and social characteristics of the society in the design stage	(Barakat <i>et al.</i> , 2004; Dikmen and Elias-Ozkan, 2016; Sadiqi <i>et al.</i> , 2013)
Considering the location and the accessibility of the service facilities in the design stage.	(Barakat <i>et al.</i> , 2004; Seneviratne <i>et al.</i> , 2017)
Considering the community customs in the reconstruction projects	(Dikmen and Elias-Ozkan, 2016; Sadiqi <i>et al.</i> , 2013; Seneviratne <i>et al.</i> , 2017)
Comprising the reconstruction strategies (the geography, society, polices and climate situations of the affected area) in the reconstruction projects	(Taufika <i>et al.</i> , 2013)

Table (2. 13): Success factors within the community cultures and beliefs group

Success factor	Reference
Considering the community habits, traditions and families structure in the planning phase of post disaster projects	(Barakat <i>et al.</i> , 2004; Omidvar <i>et al.</i> , 2011)
Enhancing the community capacities to identify the main cultural needs in the reconstruction projects	(Barakat <i>et al.</i> , 2004; El-Masri and Kellett, 2001)
Satisfying the community expectation through respecting the community restrictions	(Dias <i>et al.</i> , 2016).

2.6.3. The local government support

The government is the main responsible for reconstructing the beneficiaries houses and providing good houses for the affected stakeholders (Taufika *et al.*, 2013). The government support for the community based method in post disaster housing reconstruction projects is very essential to achieve the success in the disaster recovery interventions (Taufika *et al.*, 2013). Ismail *et al.* (2014) stated that, the government should manage the reconstruction projects team members, hold a periodic consultation with the stakeholders, developing supportive regulations that facilitate the reconstruction activities and clearly identify the scope of work for the reconstruction projects. In addition, one of the government tasks to provide the stakeholders the necessary skills needed to success in housing reconstruction projects, for instant, the decision making skills is vital to select between the reconstruction methods (Mannakkara and Wilkinson, 2015; Omidvar *et al.*, 2011).

Omidvar *et al.* (2011) mentioned that, the political issues should be taken into consideration in post disaster housing reconstruction projects, for instant the government should meet the community perceptions about the outcomes of projects without faring from the political situations. The government should prepare plans and the required regulations to organize the engagement process of the community in post disaster housing reconstruction projects (Lin Moe and Pathranarakul, 2006). Seneviratne *et al.* (2017) mentioned that empowering the government administration system help to success the community based method in post disaster housing reconstruction projects. The local authorities support to the stakeholders through a

new regulations and increasing the awareness of the affected people is essential to success the community participation in post conflict reconstruction projects (Al-Dabbeek, 2008).

Table (2. 14): Success factors within the local government support group

Success factor	References
Preparing a tool for management the reconstruction projects team members,	(Ismail <i>et al.</i> , 2014; Taufika <i>et al.</i> , 2013)
Holding a periodic meeting with the stakeholders to discuss the changes in the cultural needs	(Ismail <i>et al.</i> , 2014; Lin Moe and Pathranarakul, 2006)
Developing a supportive regulations which considering the community culture needs	(Al-Dabbeek, 2008; Ismail <i>et al.</i> , 2014; Seneviratne <i>et al.</i> , 2017)
Clearly identify the scope of work for the reconstruction projects	(Al-Dabbeek, 2008; Ismail <i>et al.</i> , 2014)
Providing the stakeholders with necessary skills needed to success in housing reconstruction projects,	(Mannakkara and Wilkinson, 2015; Omidvar <i>et al.</i> , 2011)
Alleviating the implications of the political situation in the affected area	(Omidvar <i>et al.</i> , 2011)
Empowering the government administration system to help stakeholder in the community based method	(Seneviratne <i>et al.</i> , 2017)

2.6.4. Community education, training and awareness

The community education is very important for understanding the community based method in housing reconstruction projects (Sadiqi *et al.*, 2015). Seneviratne *et al.* (2017) mentioned, that increasing the public awareness about the post disaster housing reconstruction project through education or training is very important to success in the disaster recovery intervention. Effective preparedness and increasing the community awareness of the community based method in post disaster housing reconstruction projects help to achieve the long term satisfaction of the reconstruction projects (Dias *et al.*, 2016; Thayaparan *et al.*, 2015). In addition, Thayaparan *et al.* (2015) stated that, the effective education and training awareness identified as the main requirement of the disaster management system. The public

awareness of the community based method in post disaster housing reconstruction projects increase the opportunities of immediate recovery and expedite the progress in the reconstruction projects (Sadiqi *et al.*, 2015).

The job training skills enhances to develop the community capacity, the educated stakeholders help the decision maker to take the appropriate decision (Seneviratne *et al.*, 2017). Seneviratne *et al.* (2017) stated that, there is a lack of job training for the effected stakeholders, which needed to enhance the public participation in post disaster housing reconstruction projects. Increasing the community awareness increase the available opportunities of success the community based method and it is very important for the immediate disaster recovery response (Sadiqi *et al.*, 2017). Shakalaih (2016) recommended that, the academic people should play a significant role in training the stakeholders to ensure the success in post disaster housing reconstruction projects. The community capacity building should include a professional training for the post disaster activities (Al Dabbeek, 2011).

Table (2. 15): Success factors within community education, training group

Success factor	References
Support the community education to understand the concept of the community based method in housing reconstruction projects	(Sadiqi <i>et al.</i> , 2015, 2017)
Developing a job training program to enhance to the community capacity	(Al Dabbeek, 2011; Seneviratne <i>et al.</i> , 2017)
Strengthening the decision making skills of the stakeholders to help the decision maker to take the appropriate decision	(Seneviratne <i>et al.</i> , 2017)
Increasing the public awareness about the post disaster housing reconstruction project through education or training programs	(Sadiqi <i>et al.</i> , 2017; Seneviratne <i>et al.</i> , 2017)
Effective preparedness of the community to achieve the long term satisfaction of the reconstruction projects	(Dias <i>et al.</i> , 2016; Thayaparan <i>et al.</i> , 2015)
Support the disaster management system in the country.	(Thayaparan <i>et al.</i> , 2015)

Table (2. 15): Success factors within community education, training group

Success factor	References
Encouraging the community to direct participation in the reconstruction projects	(Sadiqi <i>et al.</i> , 2015; Shakalaih, 2016)
Increasing the public awareness through a periodic meeting and media press.	(Sadiqi <i>et al.</i> , 2015)

2.6.5. Women participation

The women has a good capacity to participate in community based method in post conflict housing reconstruction projects which can contribute in the success of these projects (Barakat and Zyck, 2011). Seneviratne *et al.* (2017) indicated that the women have a different point of view from the other stakeholders which can promote the effective participation of the women in community based method in housing reconstruction projects. Usually women relay on their husbands or male relatives to present them ideas in housing reconstruction projects (Chandrasekhar, 2012) Dias *et al.* (2016) recommended in his case study of post tsunami in Sri Lanka that the women and young people especially, should consult and have a key role in post disaster housing reconstruction projects that would enhance the success opportunities of these projects. Barakat and Zyck (2011) mentioned that gender equity in post conflict housing reconstruction projects will minimize the difficulties that face the women in the community.

Table (2. 16): Success factors within women participation group

Success factor	References
Consulting the women and young people in post disaster housing reconstruction projects	(Dias <i>et al.</i> , 2016)
Developing the women capacity to participate in community based method	(Barakat and Zyck, 2011)
Respecting the women point view in community based method in housing reconstruction projects.	(Dias <i>et al.</i> , 2016; Seneviratne <i>et al.</i> , 2017)
Strengthening the women role in her family to participate in housing reconstruction projects	(Chandrasekhar, 2012)
Developing gender equity regulations in post conflict housing reconstruction projects	(Barakat and Zyck, 2011)

2.6.6. Transparency and accountability

The transparency and the accountability is the most critical success factor of community based post disaster housing reconstruction projects (Taufika *et al.*, 2013). Samaddar *et al.* (2017, p. 6) defined the transparency “participants are informed about and well aware of how, when, and why the various project decisions are made”. Taufika *et al.* (2016) considered the government should take a lead role to applying the transparency and accountability concepts in the community based method in housing reconstruction projects. In addition Taufika *et al.* (2016) showed that without transparency in reconstruction projects the community based method would fail. The transparency help to clearly identify the objectives and scope of work for post disaster housing reconstruction projects and then it participate in the success of implementing the projects as planned (Samaddar *et al.*, 2017).

Seneviratne *et al.* (2017) indicated that the media should play a significant role to enhance the transparency in the community based method in post conflict housing reconstruction projects. Establish an effective monitoring system for the post conflict housing projects can help to manage the construction projects and contribute in the project success (Seneviratne *et al.*, 2017). Mannakkara and Wilkinson (2015) mentioned that the government should maintain full transparency with the community through identifying the critical constraints such as the lack of fund, the time deadline, the available resources and potential risks for reallocating the affected people. The transparency and accountability lead to build the trust between stakeholders which is essential to complete the project activities smoothly (Chandrasekhar, 2012; Thayaparan *et al.*, 2015). Samaddar *et al.* (2017) highlighted that, the transparency in the reconstruction projects reduce the project cost by making the local resources are available to the suppliers. The transparency and accountability in housing reconstruction projects increase the trust between the stakeholder and meet the beneficiaries expectations (Barakat *et al.*, 2009). Al-Dabbeek (2008) mentioned that one of the main responsibilities of Ministry of Planning is to enhance the government regulation to support the accountability and transparency activities.

Table (2. 17): Success factors within transparency and accountability group

Success factor	References
Application of transparency concepts in the community based method in housing reconstruction projects	(Barakat <i>et al.</i> , 2009; Taufika <i>et al.</i> , 2016)
Holding a periodic field visit to the stakeholders to ensure that the transparency concept is applied	(Taufika <i>et al.</i> , 2016)
Clearly identifying the scope of work and the budget of the reconstruction projects	(Barakat <i>et al.</i> , 2009; Samaddar <i>et al.</i> , 2017)
Monitoring and the time schedule of the reconstruction projects	(Al-Dabbeek, 2008; Samaddar <i>et al.</i> , 2017).
Facilitate the local media agencies works to check the transparency in the reconstruction projects	(Seneviratne <i>et al.</i> , 2017)
Establishing an effective monitoring system for the post conflict housing projects	(Al-Dabbeek, 2008; Seneviratne <i>et al.</i> , 2017).
Identifying the critical constraints such as the lack of fund, the time deadline, the available resources and potential risks for the stakeholders.	(Mannakkara and Wilkinson, 2015)
Making a trust between stakeholders which is essential to complete the project activities smoothly	(Chandrasekhar, 2012; Thayaparan <i>et al.</i> , 2015)

2.6.7. Sufficient funding availability

The successful of a community-based approach in post disaster housing reconstruction projects depends mainly on resources availability and adequate budget for the projects (Samaddar *et al.*, 2017). The type of housing is depends on the how much fund is available for the project as well as the type of assistance which will provide to beneficiaries (Taufika *et al.*, 2013). Thayaparan *et al.* (2015) mentioned that, the stakeholders may have a choice to select the suitable reconstruction method based on the fund available in the projects and the international donor. The reconstruction priorities are prepared based on the available fund (Sadiqi *et al.*, 2013). The available fund help the decision maker to select the type of the community participation and the audit (Mannakkara and Wilkinson,

2015). (Al-Dabbeek, 2008)The government should allocate part of the general fund to emphasis the training activities.

Table (2. 18): Success factors within sufficient funding availability group

Success factor	References
Selecting the reconstruction approach based on the community needs not on the donor desires	(Taufika <i>et al.</i> , 2013)
Allocating sufficient fund for supporting the decision maker in the reconstruction projects	(Al-Dabbeek, 2008; Mannakkara and Wilkinson, 2015)
Allocating part of the donor contribution to support the community participation activities	(Thayaparan <i>et al.</i> , 2015)

2.7. Framework for the community based method in housing reconstruction projects

This section will discuss the previous studies related to developing the framework of the community participation in post conflict housing reconstruction projects. The definition, back ground, components of frameworks and steps to build framework will be exhibited in the following section.

2.7.1. Definition and background

Logical framework approach is defined as: a methodology for planning, managing and evaluating programmes and projects, involving stakeholder analysis, problem analysis, analysis of objectives, analysis of alternatives, preparation of the logical frame matrix, work plan and resource and cost schedule (Bilau *et al.*, 2015; Cretney, 2016). Shafique and Warren (2016) stated that stakeholder analysis involves the identification of all stakeholder groups likely to be affected (either positively or negatively) by the proposed intervention, the identification and analysis of their interests, problems, potentials, etc. Problem analysis is defined as the causal relationships and effects of the cause of the problem; once the causes of the problem is identified then it can be decomposed and easy to manage (Sadiqi *et al.*, 2017).

Arielle Tozier and Marie-Ange (2015) defined the analysis of objectives as methodological approach used to identify the objectives of an intervention by

describing a desirable situation in the future, once problems have been successfully addressed. It explores possible objectives in a systematic manner, illustrating the different levels of objectives and the means ends relationships between them and logically placed in a structure called a “problem tree” (Kim *et al.*, 2014). The problem tree is a problem-oriented hierarchical decomposition of the known problem to be addressed by the project in a systematic manner. It depicts all of the known cause and effect relationships around the problem (Kim *et al.*, 2014; Sadiqi *et al.*, 2017). An analysis of alternatives identifies which objectives should be addressed by the programme/project. It explores the opportunities and constraints that exist for each objective to select the most appropriate strategy for the intervention (Bilau *et al.*, 2015; Cretney, 2016).

The logical frame approach involves identifying strategic elements (activities, outputs, outcome and goal) and their causal relationships, indicators, and the assumptions that may influence success and failure (Bilau *et al.*, 2015; Sadiqi *et al.*, 2017). The conclusions of this analysis are then integrated into the intervention design. The logical framework which is famous by (logframe) is defined as: the matrix in which intervention logic or tasks, assumptions, indicators and sources of verification are presented (Arielle Tozier and Marie-Ange, 2015; Kim *et al.*, 2014). The logical framework is useful in the initial stages of planning as it forces users to think clearly about the logical relationships between different levels of objectives (Patel and Hastak, 2013).

The logical framework matrix (or it called logframe) is a table (usually one or two pages) which encompasses essential information about the important elements of the project in a logically consistent and simple form (Sadiqi *et al.*, 2017). It is also an effective tool for summarizing project related vital information and communicating it to the intended stakeholders (Kim *et al.*, 2014). The LF fits within the broader approach of results based management in which the logical framework is widely used for planning. The donor respondent would only refer to the LF in as far as it was part of the results based management system – it could not be isolated from the overall approach (Arielle Tozier and Marie-Ange, 2015; Sadiqi *et al.*, 2017).

2.7.2. Advantages of Logical Framework Matrix (LFM)

The following are some of the advantages of the LFA:

- It uses a participatory approach to establishing development problems and to find the logical solution through analysis the problems (Sadiqi *et al.*, 2017).
- It provides an excellent basis for methodical monitoring and analysis of the projects output (Bilau *et al.*, 2015; Cretney, 2016).
- It facilitates common understanding and better communication between project stakeholders (Arielle Tozier and Marie-Ange, 2015; Kim *et al.*, 2014).
- It is a flexible tool; the LFM ensures continuity of approach even when major changes to organization structure and to the project team members (Rotimi, Le Masurier, and Wilkinson, 2006; Sadiqi *et al.*, 2017).
- The LFA can be applied in a range of situations and to different types of aid activities (Sadiqi *et al.*, 2017).
- A well-designed LFM ensures that it can be used as a tool to enhance stakeholder participation by promoting agreement on project scope and activities (Patel and Hastak, 2013) .
- It is focused on responding to beneficiaries' needs rather than those of the project implementing organization (Sadiqi *et al.*, 2017).

2.7.3. Limitation of the Logical Frameworks

Although Logframe provides an appreciated set of tools for project designing and problem solving; it also has a number of limitations. There have been an arguments raised against the use of the Logical Frame, but despite these it remains the most common form of project planning. The main weaknesses points of logical frame are:

- The logframe approach assumes that the problems can be readily identified at the beginning of the planning process. This does not allow for an investigative style project that pursues learning from experience (Kim *et al.*, 2014).
- Beginning with the problem analysis often produces poor results because the initial negative focus pervades the rest of the logframe process. This often

results in limited vision of potential solutions (Arielle Tozier and Marie-Ange, 2015; Patel and Hastak, 2013).

- The logframe is often developed and used rigidly. This can stifle innovative thinking and adaptive management (Sadiqi *et al.*, 2017).
- There are four of logical frame recurrent failings: 'logic-less frames', where only an illusion of logic is provided; 'jamming' of too much into one diagram; 'lack-frames', which omit vital aspects of a project; and 'lock-frames', whereby program learning and adaptation are blocked (Kim *et al.*, 2014; Rotimi *et al.*, 2006).
- The Logical Frame required a high level of investment in training and support to ensure that people can use it (Bilau *et al.*, 2015).

2.7.4. Steps to build logical framework

The Logical Framework (LF) is a formal procedure for planning projects, and in some cases also providing the base for the monitoring and evaluation system (Patel and Hastak, 2013). The LF sets out a number of standard steps to be completed, which may include some form of participatory problem assessment and identification of aims and objectives, some form of risk assessment and so forth (Kim *et al.*, 2014). Rotimi *et al.* (2006) mentioned that, the output of the LF is used in the project planning phase to achieve the project goal and objectives.

Sadiqi *et al.* (2017) and Cretney (2016) stated that, building the framework is passed through three main steps: the first step is identifying the problem tree (causes and effect relationship), the second step is objective tree (Means - ends relationship), the final step is building the Logical Framework Matrix (Activity narrative).

These three steps should be passed through the below seven procedures as mentioned by Kim *et al.* (2014) and Rowlands (2003):

1. Participatory analyses—identify the groups affected by the project. The main groups are analysed with regard to main problems, interests, potentials, and linkages. A decision is taken on whose interests and what problems are to be given priority.

2. Problem analyses—identify a focal problem and establish cause/ effect relationships through the use of a ‘problem tree’.
3. Objective analyses—transformation of the ‘problem tree’ into an ‘objective tree’.
4. Alternative analyses—assess different options for the project. This assessment can be based on technical, financial, economic, institutional, social, and environmental feasibility.
5. Identify the main project elements—goal (long-term overall objective), purpose (operational objective), outputs (results that are guaranteed by the project), activities, and inputs.
6. Assumptions—describe conditions that must exist if the project is to succeed but which are outside the control of the project.
7. identify indicators—the performance standard to be reached in order to achieve the goal, purpose, and outputs

2.7.5. Logical frame matrix components

After the analysis of the three steps of building the logical framework, the next step is building the logical frame matrix. The Logical Framework Matrix (LFM) is used throughout implementation as a basic management tool, it is also help in the development of a monitoring and evaluation system (Patel and Hastak, 2013). The LFM consists of a matrix with four columns and four (or more) rows as explained in the below sections.

2.7.5.1. Logical frame columns

The four columns summarize the key elements of the projects plan as explained by Patel and Hastak (2013):

- The Activities - the relationship between the higher and lower level objectives which determines the structure of the intervention;
- The indicators - appropriate measures which monitor progress and evaluate the results of the intervention;

- The sources of verification - appropriate means to collect the relevant information; and
- The assumptions - external conditions outside the project management's direct control which are important to the success of the intervention.

The **indicator** can be considered as a quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention or to help assess the performance of a development actor (Kim *et al.*, 2014). It reveals progress (or lack thereof) towards objectives and measures what actually happens against what has been planned in terms of quantity, quality and timeliness (Bilau *et al.*, 2015).

Arielle Tozier and Marie-Ange (2015) indicated that, the **source of verification** which is the third column of the logframe and indicate where and in what form information on the achievement of the goal, the outcome(s) and the outputs can be found (described by the indicators). It should be included a summary details of the method of collection, who is responsible and how often the information should be collected and reported (Kim *et al.*, 2014). The **assumptions** are the factors which could affect the progress or success of the project, it determine the conditions under which the achievement of objectives becomes possible (Cretney, 2016).

2.7.5.2. Logical framework rows

The four rows of the logical framework matrix indicate the different levels of objectives for each element; the objectives describe the desired achievements:

- **Goal** (top level); the higher level objective to which a development intervention is intended to contribute. The goal explains why the project is important in terms of the longer-term benefits to final beneficiaries and the wider benefits to other groups. It also helps to show how the programme/project fits into the national/sector policies of the organization (Bilau *et al.*, 2015).
- **Outcome/objective**; the key objective of the intervention the likely or achieved short-term and medium-term effects of an intervention's outputs. It addresses the core problem(s), and be defined in terms of sustainable benefits for the target group(s). For larger/complex interventions there can be more

than one outcome (Sadiqi *et al.*, 2017). Sometimes the purpose is added before the objective to give more details about the project.

- **Outputs**; the tangible products (including capital goods and services) delivered as a consequence of implementing a set of activities. Outputs relate to the completion (rather than the conduct) of activities and are the type of objective over which managers have a high degree of influence (Rotimi *et al.*, 2006)
- **Tasks**, Arielle Tozier and Marie-Ange (2015) stated that, **activities/task** are actions (tasks) taken or work performed through which inputs (financial, human, technical and material resources) are mobilized to produce specific outputs. In the context of the Logframe Matrix, these are the lowest level of all the objectives.

Table (2. 19): Logical framework. Source: (Sadiqi et al., 2017)

	Activity Description	Measurable Indicators	Means of Verification	Important Assumptions
Goal	The ultimate result to which the activity is contributing	Measures (direct or indirect) to verify to what extent the goal is fulfilled	Specifies how data on goal achievement is to be collected	
Purpose	Refers to what the activity actually achieve	Measures (direct or indirect) to verify to what extent the purpose is fulfilled	Specifies how Data on outcome achievement is to be collected	Important events, conditions or decisions outside the control of the project which must be fulfilled for the outcome to be attained

Table (2. 19): Logical framework. Source: (Sadiqi et al., 2017)

	Activity Description	Measurable Indicators	Means of Verification	Important Assumptions
Objectives	If a project entails a number of outputs (component), each output is given an objective statement.	Measures (direct or indirect) to verify to what extent the objective is achieved	Specifies how data on objectives achievement is to be collected	Important events, conditions or decisions outside the control of the project which must fulfilled for the objectives to be achieved
Outputs	The actual product produced as result of the planned tasks	Measures (direct or indirect) which verify to what extent the outputs are produced	Specifies how data on progress is to be collected	Important events, conditions or decisions outside the control of the project which must prevail for the results to be produced
Tasks	The activities/ tasks that need to be undertaken by the project in order to produce outputs	Project management plan (activity duration and scope)	Progress reports	Important events, conditions or decisions outside the control of the project which must fulfilled for the activities to be undertaken

Chapter 3

Methodology

Chapter 3

Methodology

This chapter explains the adopted methodology to achieve the aim and objectives of the thesis. The methodology is summarized by the following five main steps: identify the objective of the thesis, targeted population and sample size, questionnaire design, measurements, and validity and reliability tests. The chapter illustrates the types of statistical measurements which was used to analyze the collected data from the quantitative approach.

3.1. Research approach

The common reasoning method in the research methodology is the deductive and inductive approaches (Thomas, 2006). The reasoning method is the process of drawing conclusions and how people solve problems and make decisions. The inductive approach or conventional approach (Moretti *et al.*, 2011) is used to present the raw data from specific to general, to link between the research objectives and the research findings and provide set of procedures to analyze the qualitative data as well as to generate a new theory from data (Thomas, 2006). The deductive approach or the directed approach has more procedures than the inductive approach through designing the research strategy (Moretti *et al.*, 2011). The deduction approach is moving from general to specific data and use to test theory from available information. According to Moretti *et al.* (2011) the base of the deductive approach is the previous formulation, theoretically derived categories and has a preliminary coding starting from the theory then ending by research findings. Developing the appropriate research methodology and selecting the research tool (method) should be in line with the research aim and objectives (Greener, 2008). The below table makes a comparison between the deductive and inductive approaches.

Table (3. 1): Comparison between research approach

	Inductive Approach	Deductive Approach
Meaning	Specific situations are observed or analyzed to be establish general principle	Uses available information to arrive at conclusion or testing hypothesis.

	Inductive Approach	Deductive Approach
Approach	Bottom up approach	Top down approach
Starting point	Conclusion	Premises
Based on	Trends	Facts- Truth - rules
Structure	Goes from specific to general	Goes from general to specific
Argument	May or may not be strong	May or may not be valid
Example	The coin I pulled from the bag is a penny; the third coin is a penny, so that all coins are pennies.	Every A is B Then C is A So C is B need to check that argument is valid

In this research, the deductive approach (positivism) is adopted to achieve the thesis objectives. Accordingly, a survey is used as a tool of the quantitative methodology to answer the main study questions. The survey is fit for the deductive approach where the data is analyzed to accept or reject the thesis hypothesis (Moretti *et al.*, 2011). The following sections discuss the main research methods (quantitative and qualitative) and the mix method using both qualitative and quantitative.

3.1.1. Quantitative method

The quantitative method is the logical practical analysis of visible phenomena through statistical or computational methods (Creswell and Creswell, 2017). The quantitative method is accepted in many operation research, it is also common in the construction management field with numerous application (Briskorn and Dienstknecht, 2017). Brannen (2017) stated that, the output of the quantitative data is numerical data which contribute to answer the study questions. The questionnaire has many advantages: simple and straightforward method, considered as a low cost and easy technique for gathering the data (Ayyash, 2016; Stone, Sidel, and Bloomquist, 2008). The quantitative method has many advantages: it is easy to collect and for understanding, while the main disadvantages of the quantitative method are the personality (McCusker and Gunaydin, 2015). The personality of the researches effect on the quality of the raw data gathered from the survey (McCusker and Gunaydin,

2015). Moreover, Haig (2018) mentioned that some of the questionnaire may be filled by people who have below expectation experience in the research topic.

3.1.2. Qualitative method

Qualitative a method using to interpret the phenomena using words not numerical expressions (Brannen, 2017). There are many types of the qualitative method used to have a detailed data about a specific problem which may be hardly to be understood using the quantitative approach (Greener, 2008; Thomas, 2006). Tong (2014) stated that, the qualitative method focuses on the study sample or population beliefs, values and their perspective. The main type of the qualitative method is the case study using the interview; it goes more deeply in details to explore the whole aspect of the research problem. The case study contributes to achieve the research objectives and focuses on the main reasons behind the thesis problem (Brannen, 2017). In addition, the case study is built of facts and reflects the real situation on the targeted area; not like the questionnaire which depends on the probability and the statistical analysis. (Kornhaber, Wilson, Abu-Qamar, McLean, and Vandervord, 2015). The below table shows a comparison between the quantitative and qualitative methods.

Table (3. 2): Comparison between research approach

	Quantitative method	Qualitative method
Data collection	Focus group, interviews	Surveys
Quality of data	Less	more
Nature of data	Unstructured, verbal comments (Open ended)	Structured (closed ended)
Focus	Why, How do thing work?	What, How many?
Output	Description	Numbers/ Statistical data

3.1.3. Qualitative and Quantitative Method (Mixed Method)

Combination between the qualitative and quantitative method of research is used to have a comprehensive understanding about the research questions (McCusker and Gunaydin, 2015). Using the mixed method contribute to cover the shortage and weakness of both methods and it used to endorse the result gained from one approach (Kornhaber *et al.*, 2015). As stated in the previous sections regarding the limitation

and advantages of the quantitative approaches the proper way to manage this limitation and to emphasize the result from both approaches is to utilize the mixed method (Brannen, 2017).

3.1.4. Choice of the research approach

Identifying the suitable research method should be depended on the research questions, the data accessibility and the knowledge in the research (Hoy and Adams, 2015). The research approaches are: deductive or inductive or mix of them as well (Brannen, 2017). Haig (2018) mentioned that, the appropriate research approach and methodology lead to have effective and good results; the quantitative methodology may be suitable for a type of researcher while for it is not suitable for another. Accordingly, it is very important to link between the research methodology and the aim of research.

Reviewing the previous studies shows that the researchers have used different types of research methodology, some of them used the quantitative approach, most of them used the qualitative approach and some of them used mixed method. For instant Sadiqi *et al.* (2011) have adopted a combination between the qualitative (questionnaire) and qualitative (case study) to develop a framework for the community participation in post disaster housing reconstruction projects in Afghanistan. Taufika *et al.* (2016) have utilized only the quantitative tool to investigate the barriers and success factors of the community participation in housing reconstruction projects. A case study was used a research methodology by Dias *et al.* (2016) to explore the main features of the community participation in post disaster housing reconstruction projects in Sri Lanka.

The quantitative (questionnaire) is adopted on the thesis methodology to develop the framework for the community participation in post conflict rehousing projects in Gaza Strip. Paper questionnaire (a structured survey) was the basic research tool for similar previous studies (e.g. Samaddar *et al.* (2017); Ludin and Arbon (2017); Haigh *et al.* (2016); Cretney (2016); etc.). Table (3.3) shows the surveyed literature and the adopted methodologies.

Table (3. 3): Research methodologies in the most recent literature.

Type	Author(s)
Questionnaire	(Ostadtaghizadeh <i>et al.</i> , 2016); (Sadiqi <i>et al.</i> , 2015); (Junqi, Weiwu, and Mohan, 2015); (Taufika <i>et al.</i> , 2013); (Mimaki <i>et al.</i> , 2009)
Case study	(Samaddar <i>et al.</i> , 2017); (Ludin and Arbon, 2017);(Haigh <i>et al.</i> , 2016); (Cretney, 2016); (Enshassi and Shakalaih, 2016); (Mannakkara and Wilkinson, 2015); (Junqi <i>et al.</i> , 2015); (Junqi <i>et al.</i> , 2015); (Zhang <i>et al.</i> , 2013); (Glenn and Rajib, 2013); (Chandrasekhar, 2012); (Sadiqi <i>et al.</i> , 2011); (Harding, 2007); (Rotimi <i>et al.</i> , 2006); (Pearce, 2003);
Interview	(Drakaki and Tzionas, 2017); (Sadiqi <i>et al.</i> , 2017); (Vallance, 2015); (Junqi <i>et al.</i> , 2015); (Junqi <i>et al.</i> , 2015); (Bouraoui and Lizarralde, 2013)
Focus group	(Junqi <i>et al.</i> , 2015; Ostadtaghizadeh <i>et al.</i> , 2016; Samaddar <i>et al.</i> , 2017; Vallance, 2015)
Literature and desk review	(Arielle Tozier and Marie-Ange, 2015); (Patel and Hastak, 2013); (Sadiqi <i>et al.</i> , 2013); (Sadiqi "Wardak" <i>et al.</i> , 2012); (Shaluf, 2007a); (Shaluf, 2007b);(NU Siriwardena <i>et al.</i> , 2007); (Baradan, 2006); (Tjosvold, 2006); (Guttal, 2005); (Barki and Hartwick, 2004); (Shaluf, Ahmadun, and Said, 2003)

3.2. Research Framework

The study process that adopted to form the research framework which consisting of five key stages is shown in figure (3.1). The discussion in details of the research framework stages is mentioned in the following sections.

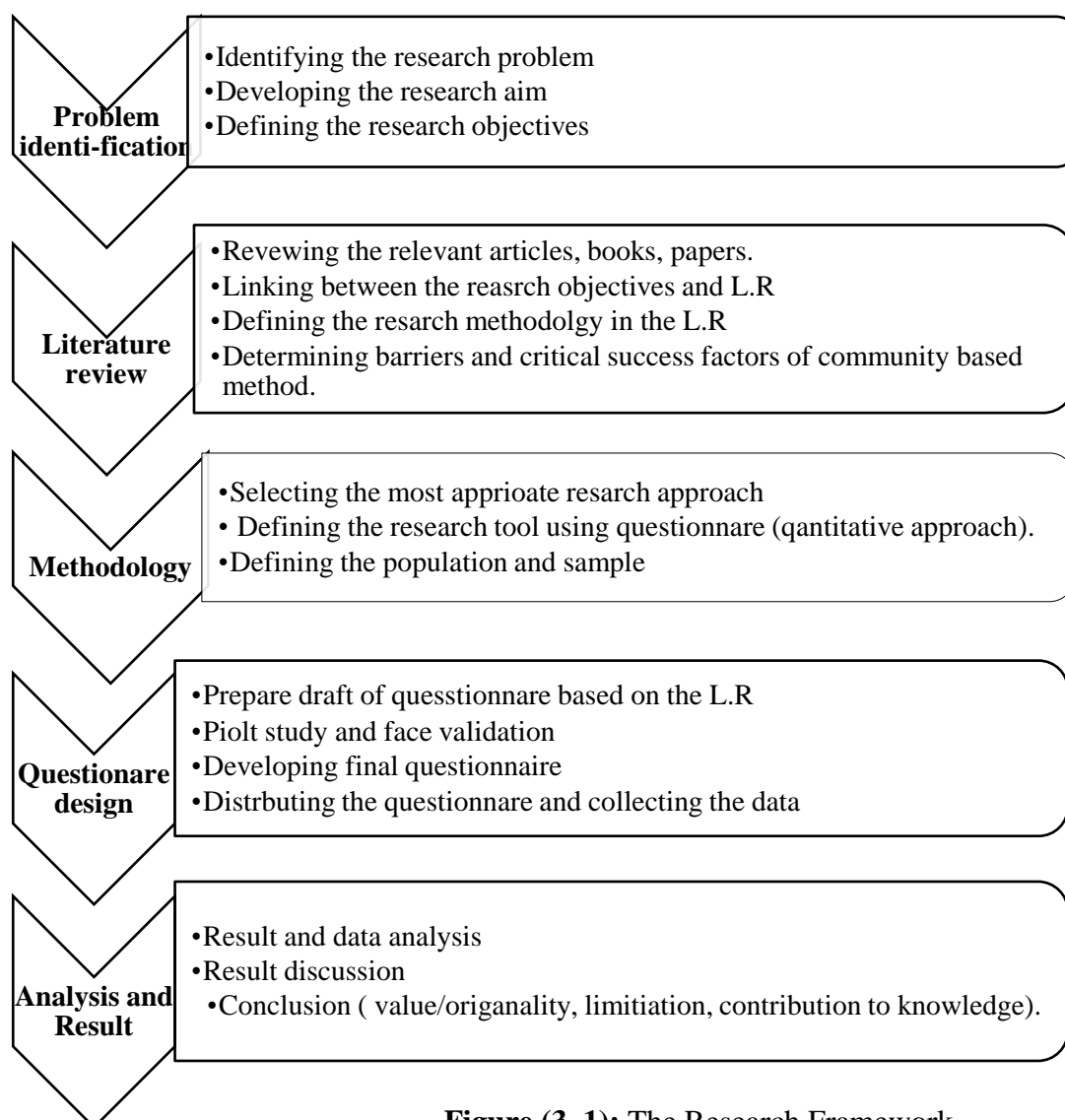


Figure (3. 1): The Research Framework

3.3. Target population and sampling method

The target population for the quantitative methodology using a questionnaire is the community who can contribute to answer the study questions (Tongco, 2007). The target population may be identified during establishing the project aims and objectives. The study population might be a small group of people or the whole population of a country, the target population depends on the nature and the scope of study (Palinkas *et al.*, 2015). The proper choice of the study population contributes to have effective study findings. Accordingly, the specific definition of the study population is essential to determine who will be illegible to answer the survey statements (Palinkas *et al.*, 2015). Moreover, the study population could not be open,

it should be limited to a specific geographic area (Brereton, 2015). Colucci, Giannini, Donini, and Sciascio (2014) mentioned that, the geographic area and the study implementation time should be clearly identified to be as an index for the coming researchers. The restriction of the population may be governed the researcher to choose the exclude some people in the study.

The research population in this study is the community in Gaza Strip, Palestine who have already affected during the recurrent conflicts.

Sampling method selecting sample from population is the most important part in the research methodology therefore; the sample should be representative to the whole population. There are two method of sampling to choose the representative sample: the probability and non-probability method (Colucci *et al.*, 2014). The probability method is a random method to select the sample from the population, where the each member of the sample has independent and equal chance to be selected (Thomas, 2006). The main types of probability sampling which are: the simple random sampling, systematic sampling, layer sampling and the cluster sampling. The different between these types are identified by Greener (2008); he defined the simple random sampling as a sample whereas the chosen element has the same chance of being selected. While the systematic sampling mainly relay on the starting point and selecting the k^{th} (the number) of the selected element. Meanwhile, the layer sampling divides the sample into many groups which are mutual in the same characteristic. Cluster sampling divides the population into clusters (sections), and then selects some clusters randomly; all sample members should be selected from the same cluster.

According to the definition of the probability sampling types which are mentioned in the previous paragraph; the simple random sampling could not be applied in this research since the community in Gaza Strip has not equal chance to be selected in the survey. The systematic sampling is not applicable in this research because it is not dependent on the starting points. In addition, the layer sampling and the cluster sampling could not be employed in this research since the study will target the community of Gaza Strip so it is not limited to one group.

Non-probability sampling methods, the sample members are selected through non-random methods; the main types of the non-probability sampling are the convenience sampling, purposive sampling and the snowball sampling (Palinkas *et al.*, 2015). Tong (2014) defined the convenience sample as the sample which closes to hand and easy to be selected, while the purposive sample is defined as selecting a specific members from population as a sample to represent the whole population. The purposive sample is used when the size of population is limited and the questionnaire should be answered from people who have knowledge in the same research topic (Tongco, 2007). Choosing the purposive sample is not straight forward procedures, it will reflect the reliability and the quality of the research (Palinkas *et al.*, 2015). There is a difference between the purposive sample and the convenience sample; the convenience sample is a statistical method of choosing the representative sample from ease volunteering people (Greener, 2008). In addition, the convenience sample is available and easy to access, in contrast of purposive sample (Tongco, 2007). The snow ball sampling starts with a small group of participants, those participants advice to meet other participants to conduct the research will them (Palinkas *et al.*, 2015).

The purposive sample is the most appropriate for this study since the population is huge and the purposive sample from the experienced people will be sufficient to represent the population (Tongco, 2007). Palinkas *et al.* (2015) stated that, there is no bias in the purposive sample since the selected sample will serve the research scope. As well as the random sample may not achieve the research objective effectively through contribution of some unrelated people in answering the questionnaires (Palinkas *et al.*, 2015). A purposive sampling strategy was used to ensure meaningful statistical analysis (Tongco, 2007). The engineers who have worked in the post conflict housing reconstruction projects are selected to represent the population. The engineers have already impacted on the conflict consequences, and also directly deal with the vulnerable people. The vulnerable people were not chosen as the population because it very difficult to identify a specific people (men, women, teenagers ...) who will respond to the questionnaire. The target sample includes all engineers who work in the governmental, local and international NGOs and consultant offices. The

questionnaires were distributed to the engineers who have a good experience in the disaster management. Other criteria were used to specify the target sample these criteria are the living place, gender and the experience.

Table (3. 4): Previous studies Population and samples

Author & Location	Population	Sample
(Taufika <i>et al.</i> , 2013) Indonesia	The community in Aceh, Padang and Yogyakarta Areas	Purposive sample of employee who work in the reconstruction projects
(Sadiqi <i>et al.</i> , 2015) Afghanistan	Afghanistan community	Random participants from different age groups (ranging from 21 to over 50 years) and with different
(Ludin and Arbon, 2017) Malaysia	Total population of Kelantan	Purposive sampling was used to recruit participants from key people involved in flood management in each area, including those from social and community health, district health, social and welfare, irrigation and drainage, police, fire, and civil defense departments, as well as district officers

3.3.1. Sample Size

After identifying the type of sample (purposive) and the characteristic of the sample, it is essential to determine the sample size. The calculation methods of sample size are varied according to the nature and type of research, expanding the sample size increase the accuracy of the result. Easterby-Smith and Thorpe (2002) issued a rough formula to calculate the size of the sample (N) in terms of the maximum error required (E), as shown in below equation

$$N = \frac{2500}{E^2} \dots\dots\dots \text{Equation 3.1}$$

$$N = \frac{2500}{6^2} = 70 \text{ sample}$$

Assuming the error is the minimum (6%) accordingly, the sample size is 70 surveys in this research 100 questionnaire is adopted as a sample size (Taufika, 2013). One hundred copies of the questionnaire were distributed to staffs who are working in post conflict housing reconstruction projects field in Gaza Strip. This number was chosen after a quick survey with the managers of the major institutions that have a contribution in post conflict housing reconstruction projects. These institutions are: UNRWA, UNDP, Ministry of Public Works and Housing (MoPWH), consultant offices who have more than 10 employees working in disaster management field in Gaza Strip as well as it is easy to meet them. Each respondent took less than 40 minutes to fill out the questionnaire. 85 copies of the questionnaire were collected from the participants, four questionnaires were rejected since the respondents select the same answer for all questions or some questions are empty. The total of 81 questionnaires were satisfactory because the response rate $(81/100) \times (100) = 81\%$. The data were distributed, collected and analyzed by the researcher himself.

The response rate 81% is considered closed to some previous studies such as Taufika (2013) study has a response rate of 79% and higher than some research such as Boshier, Dainty, Carrillo, Glass, and Price (2007) with response rate of 28%. The high response rate may be endorsed to the concern of the respondents in the research topic and follow up techniques which followed by the researchers by sending emails, telephone calls and SMS messages to the respondents.

3.3.2. Research location and time manner

The topic of the thesis mentioned that the research is a case study of Gaza strip. Accordingly, the questionnaires were distributed to selective groups in all Gaza Strip governorates: North, Gaza, Middle Area, KhanYounis and Rafah. The geographical information about Gaza strip is mentioned in section (1.2). The quantitative approach; the questionnaire survey was finalized in September 2017 after that it was distributed within one month in all Gaza Strip Governorates.

3.4. Questionnaire design

An extensive effort was carried out to get the most update literature to fully understand the aspects of the research topics, aim and objectives. The literature

has contributed to make a brain storming to the researcher which facilitates developing the first draft of questionnaire. The draft questionnaire includes the critical barriers and success factors of the community based method in housing reconstruction projects which extracted from the previous studies. In order to ensure the validity and reliability of the first draft of questionnaire it passed through three stages: the face validity, pretest the questionnaire to minimize the misunderstanding errors and the final stage is the pilot study. During each stage the questionnaire was revised and modified more and more as stated in the following paragraphs.

3.4.1. Literature Review

The thesis topic was identified from the crucial situation of Gaza Strip, which has suffered from recurrent conflicts since 2000 (UNRWA, 2017b). In addition, based on the recommendation of previous studies about disaster in Gaza Strip to investigate more in the main barriers and critical success factors of the community based method (Enshassi and Shakalah, 2016). After that the detailed objectives were developed to achieve the thesis aim. Many previous publications in academic journals, conferences, dissertation, thesis, reports and books were reviewed to have a comprehensive understanding about the community participation in post conflict housing reconstruction projects. Literature review has helped the researchers to have a good background or an overview about the thesis topic and the guide lines for developing the questionnaire. The literature review contributed to build the framework of the thesis and to start from the point which other stopped (Sakalasuriya, Haigh, and Amaratunga, 2016).

Initially the first stage of the literature review concerns on the first objective of the thesis; the main barriers of the community based method in housing reconstruction projects. The researcher has classified the barriers factors into groups and sub barriers based on the literatures findings. After developing comprehensive pictures about the barriers factors which hinder the community participation in housing reconstruction projects. As well as, the previous studies on critical success factors have been reviewed using the same methodology in the first objective.

3.4.2. The Questionnaire Survey

Figure (3.2) shows the main steps of developing the survey followed by detailed discussion for each step in the subsequent sections. In this stage the researcher has developed the questionnaire mainly having two sections: the barriers and the critical success factor of the community based method in housing reconstruction projects. Then the data collection, analysis and results has discussed in brief.

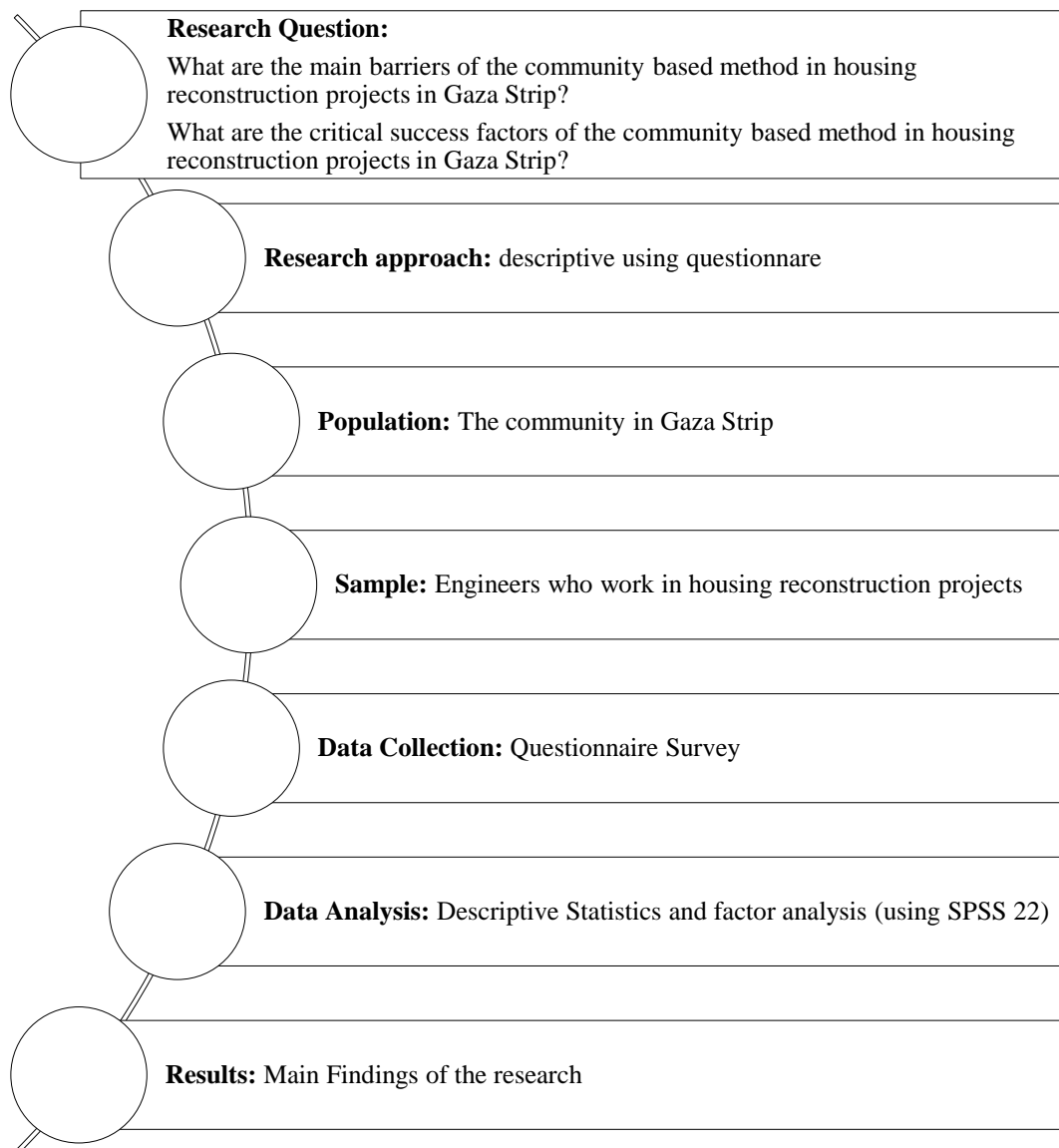


Figure (3. 2): The research process

3.4.3. Research strategy for the questionnaire survey

The research strategy sets the research outlines for what and how data should be collected and the method of how results should be analysed and presented. The quantitative approach was followed as a strategy in this research. The quantitative method is used to explore the barriers and success factors of the community participation in post housing reconstruction projects. The survey is considered the popular tool of the quantitative approach (Babonea and Voicu, 2011), which is adopted in this research to achieve the thesis objectives. The questionnaire has three sections; the first for general profile for the respondents, the second for the barriers and the third for the success factors of the community participation in post conflict housing reconstruction projects (refer to Appendix A). The questionnaire had targeted the engineers in all organization (Governmental, local and international NGOs and consultant offices) which work in disaster management field. The questionnaire statements are divided into groups under the same topic as well as there is an introduction and general questions on the cover page.

The questionnaire cover page includes an introduction to the thesis background, aims and objectives. It is also confirmed that the participants answers will be confidential and it will be used for the academic research purposes only. The first section of the survey contains six general questions about the population sample. The first question was the gender of participants; the question will be linked to the women participation section in the questionnaire. The second question was to classify the population sample according to their education level. While the third, fourth and fifth questions were about the nature of work and place of living, and the work experience. The sixth question was to investigate the availability of the disaster management unit in the participants association.

The questionnaire is divided into two sections; barriers which may hinder implementing the community based method in post conflict housing reconstruction projects and the critical success factors of the community based method in post conflict housing reconstruction projects. Section (2) contains nine barriers groups: lack of stakeholders capacity, lack of government support, inflexible short deadlines of the reconstruction projects, budget restrictions and

donors requirements, neglecting of the community socio- economic, cultural needs, lack of NGOs competency, coordination between the stakeholders, lack of transparency in reconstruction process and lack of women participation (Junqi *et al.*, 2015; Sadiqi "Wardak" *et al.*, 2012; Seneviratne *et al.*, 2015; Shaw, 2014; Taufika *et al.*, 2013). In each group there are several statements in total 54 expected sub barriers which may affect negatively in the community participation. On the other hand, section (3) contains seven success groups: effective communication among stakeholders, respecting the community culture, local government support, developing the community education and training, supporting the women participation, transparency and accountability and availability of sufficient fund for community participation activities (Drakaki and Tzionas, 2017; Ismail *et al.*, 2014; Mannakkara and Wilkinson, 2015; Sadiqi *et al.*, 2013; Samaddar *et al.*, 2017; Shafique, 2016; Taufika *et al.*, 2013). In each group there are several questions in total 43 expected success factor which may affect positively in the community participation.

The questionnaire statements are closed ended (multiple choice) using Likert five scale (1 = lowest scale and 5 = highest scale). The Likert scale was chosen based on the literature review (Acharya, Lee, and Im, 2006; Barki and Hartwick, 2004; Istijono *et al.*, 2016; Sadiqi *et al.*, 2015; Taufika *et al.*, 2016; Taufika *et al.*, 2013) and to achieve the thesis objective to measure the most significant factors which effect on the community participation. The scale is (Not Significant- Slightly Significant- Significant- Very Significant- Extremely Significant).

The second stage of developing the questionnaire is identifying the final survey questions. The draft questionnaire was identified through: face validity, pretesting the questionnaire and pilot study. The identifications methods of the draft questionnaire will be explained in the following sections. After that, the questionnaire was revised considering the expert notes and pretesting feedback to finalize the questionnaire.

3.4.4. Questionnaire Verification

The below figure summarize the steps of the questionnaire verification

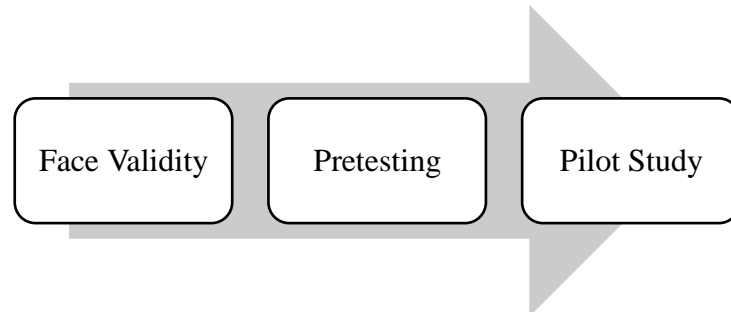


Figure (3. 3): Questionnaire Verification

3.4.4.1. Face validity

The validity test measures the extent to which the research instrument measure, what it is intended to measure. Green and Salkind (2010) mentioned that the face validity is important to ensure that the questionnaire is valid or not. In other words, does the questionnaire applicable or needs some modification to be reliable and easy to understand. The face validity was conducted in two stages; the first stage was done by consulting many people who have experience more than 5 years in conflict recovery projects in Gaza Strip. The experts have a wide knowledge in: academic field, the government institution works, and local and international NGO's works in disaster management. The expert people pre-tested the initial survey and their feedbacks were considered in developing the final version of survey. Six experts with academic knowledge also in disaster management have reviewed the questionnaire respectively. Expert's feedback was gathered either by hand delivery or email after a brief discussion face to face or by telephone to clarify some points. The experts feedback (delete some the repeated questions, merge questions, clarify some statements, and add some questions) has developed the final version of the questionnaire. The experts profile and feedback are summarized in the table (3.5) and (3.6) respectively.

Table (3. 5): Profile of face validity experts

Expert	Academic Knowledge	Job title/ Experience	Works in
Expert (A)	<ul style="list-style-type: none"> - PhD in Civil Engineering - Certified (TOT) in Emergency and Shelter Management 	<ul style="list-style-type: none"> - Projects support officer in shelter sector - More than seven years in shelter Management - Consultant to OCHA/UNRWA/NRC 	International NGO
Expert (B)	<ul style="list-style-type: none"> - Master Degree in Civil Engineering 	<ul style="list-style-type: none"> - Head of the shelter reconstruction unit in the southern governorates - More than 7 years in disaster management 	Governmental Institution
Expert (C)	<ul style="list-style-type: none"> - Master Degree in Civil Engineering 	<ul style="list-style-type: none"> - Head of shelter and design unit - More than 8 years in disaster management 	International NGO
Expert (D)	<ul style="list-style-type: none"> - Master Degree in Construction Management 	<ul style="list-style-type: none"> - Project Manger - More than 5 years in shelter projects 	International NGO
Expert (E)	<ul style="list-style-type: none"> - Master Degree in Disaster Management 	<ul style="list-style-type: none"> - Shelter Officer for more than 5 years 	Local NGO
Expert (F)	<ul style="list-style-type: none"> - Master Degree in Business Administration 	<ul style="list-style-type: none"> - Shelter Officer - More than 6 years in shelter unit 	International NGO

Table (3. 6): Face validity feedback about the questionnaire section

Expert	Expert Feedback regarding the questionnaire statements	
	Section (2): barriers factors	Section (3) critical success factors
Expert (A)	<ul style="list-style-type: none"> - Paraphrase statement no. 4 to avoid any contradiction between other questions. - Clarify statement no. by adding the physical resources in statement no. 7. - Replace “divide the community into groups” by “establish a community groups” in statement no. 10. - Edit statement no, 13 by takeoff word “ensure” by “investigate”. - Paraphrase statement no.15. - Edit statement no. 17 by replacing word “ limitation” by “shortage” - Paraphrase statement no. 19 - Amend statement no. 25 by adding the word “some” before donors. - Delete statement no. 26 - Paraphrase statement no 27. - Amend statement no. 32 by adding “the social and culture sides” - Add statement in group “7” “Illegal homes status of some beneficiaries”. 	<ul style="list-style-type: none"> - Amend statement no. 2 by adding words “miss understanding the role of community” - Edit statement no. 4 by adding words “diversity of the community” - Delete statement no. 25 - Merge statement no. 42 and 43 in one statement.
Expert (B)	<ul style="list-style-type: none"> - In the cover page highlight that the collected data are confidential. - Clarify the definition of the stakeholder by adding word “who affect negatively or positively” - Merge statement no. 22 and 23 in one statement. 	<ul style="list-style-type: none"> - Edit statement no. 21 by replacing the word “mitigation” by another word “the pervious preparedness” - Merge statement no. 42 and 43 in one statement.

Table (3. 6): Face validity feedback about the questionnaire section

Expert	Expert Feedback regarding the questionnaire statements	
	Section (2): barriers factors	Section (3) critical success factors
Expert (C)	<ul style="list-style-type: none"> - Amend statement no. 1 by adding word “emergency” - Clarify statement no. 3 by adding “lack of decision making competencies” - Amend statement no. 16 by adding word “awareness” - Merge statement no. 28 and 29. 	<ul style="list-style-type: none"> - Edit statement no. 2 by adding words “electronic system” - Clarify statement no. 16 by adding “Develop a supportive regulations” - Add words “social networks “rather than “the new media” - Paraphrase statement no. 29.
Expert (D)	<ul style="list-style-type: none"> - Delete statement no. 11 to avoid any confusion. - Delete statement no. 26 - Recommend to delete statement no. 29 because it is not applicable in Gaza. - Clarify statement no. 30 by adding “due to large scale of disaster”. - Delete statement no. 46 	<ul style="list-style-type: none"> - Delete statement no. 25 - Merge statement no. 42 and 43 in one statement.
Expert (E)	<ul style="list-style-type: none"> - Try to shorten the questions statement by deleting “hosing reconstruction projects” by one word “project”. - Clarify statement no. 14 by replacing “other parties” by “community” - Delete statement no. 29 and 30. - Paraphrase statement no. 32 - Merge statement no. 44 and 42 in one statement. - Amend statement no. 46 by replacing word “peace” by “ceasefire” or delete it 	<ul style="list-style-type: none"> - Edit statement no. 10 by deleting the words “Climate and political” - Delete statement no. 11 because it is not applicable in Gaza. - Amend statement no. 12 by replacing the word “identify” by “Respect” - Delete statement no. 25 - Merge statement no. 26 and 28 in one statement.
Expert (F)	<ul style="list-style-type: none"> - Delete statement no.11 because it is not applicable in Gaza Strip. 	<ul style="list-style-type: none"> - Delete statement no. 11 - Amend Question no. 24 by

Table (3. 6): Face validity feedback about the questionnaire section

Expert	Expert Feedback regarding the questionnaire statements	
	Section (2): barriers factors	Section (3) critical success factors
	<ul style="list-style-type: none"> - Amend statement no. 12 by deleting word “rules”, it may lead to misunderstanding. - Amend statement no. 19 by replacing word “Absence” by “lack”. - Amend statement no. 19 by adding word “concentrating” - Merge statement no. 44 and 42 in one statement, because they contain the same meaning. 	<ul style="list-style-type: none"> adding words “social networks” - Merge statement no. 26 and 28 in one statement.

3.4.4.2. Pretesting the questionnaire

This step emphasis that the collected data from the target population are objective, valid and reliable (Lavrakas, 2008). After considering the experts feedback in the survey, the questionnaire was pretested which is very essential to investigate that the errors in the questionnaire are minimum. This stage helps to develop the quality of questions and to eliminate the ambiguity in the questions. A small sample (10 respondents) was selected from the target population to explore the clarity of survey questions. The respondents were asked many questions to make sure there will no misunderstanding in the survey statements. As well as the respondents may provide a good feedback to improve the survey statements by amending or paraphrasing some questions. The pretesting method was conducted in one shot with 10 professional in “Disaster management”. The pretesting sample is considered a representative sample since it is represented 10% from the population sample (Earnest, 2015; Lavrakas, 2008). The participants suggested slight amendments to the final questionnaire and asked clarifications to clarify some questions. In addition, they were attracted to the research topic and support the research field because it is very essential to Gaza Strip. Accordingly, the final questionnaire was ready to be distributed to the overall population sample. Table (3.7) profile for the respondents of the pretesting method and Table (3.8) shows the professional feedback on the pretesting method.

Table (3. 7): Profile of pretesting method

Professional	Job title/ Experience	Type of work
Professional (1)	- Head of Shelter Unit in North Area - 4 years in shelter management	International NGO
Professional (2)	- Shelter Engineer - 3 years in shelter management	International NGO
Professional (3)	- Project coordinator - 5 years in disaster and shelter management	International NGO
Professional (4)	- Shelter coordinator - More than 4 years	International NGO
Professional (5)	- Shelter Engineer - More than 4 years	International NGO
Professional (6)	- Shelter Officer - More than 7 years	Governmental Institution
Professional (7)	- Field shelter coordinator - More than 5 years	Governmental Institution
Professional (8)	- Shelter Engineer - More than 4 years	Governmental Institution
Professional (9)	- Project coordinator - More than 3 years	Local NGO
Professional (10)	- Shelter Engineer - More than 2 years	Local NGO

Table (3. 8): Pre-testing professional feedback about the questionnaire section

Professional	Section (1): barriers	Section (2) critical success
Professional (1)	- Clarify statement no. 10 by adding “proper administrative divisions”	Everything was clear
Professional (2)	- Delete the lack of competency and experience from statement no. 6.	- Clarify statement no. 19 by adding the words “negative impact”
Professional (3)	Everything was clear	Everything was clear
Professional (4)	- In statement no. 11 replace the word “mitigate” by “response”	Everything was clear
Professional (5)	Everything was clear	Everything was clear
Professional (6)	- In statement no. 14 delete word “absence of coordination” by “lack of coordination”	
Professional (7)	Everything was clear	Everything was clear
Professional (8)	- Clarify statement no. 18 by adding “No alternative solutions”	Clarify statement no. 19 by adding “Empower the government administration system through (external consultant – training)
Professional (9)	Everything was clear	Everything was clear
Professional (10)	Everything was clear	Everything was clear

3.4.4.3. Pilot study

A pilot study is defined as a real, simple and complete study with a small scale of the sample (Julious, 2005). It used to ensure that the idea of the research will be understandable for the participants and to get the feedback for the clarity of the questionnaire statements (Dikko, 2016; Enshassi and Chatat, 2012; Taufika, 2013).

Johanson and Brooks (2010) have defined the sample size of the pilot study between 10 and 30 participants for the social science studies. Earnest (2015) conducted the pilot study with 12 participants, while Steinfort and Walker (2007) conducted their study with three levels (15 participants): board level, project personnel and the site engineers. Accordingly, 30 participants were selected from the study sample to conduct the pilot study. All questionnaires were collected, then coded, and analyzed through Statistical Package for the Social Sciences (SPSS) version 22. Two tests were conducted on the pilot study samples as follows: Statistical validity of the questionnaire/ criterion related validity. Reliability of the questionnaire by Half Split method and the Cronbach's Coefficient Alpha method.

3.4.4.4. Statistical validity of the questionnaire

Validity test is used to check if the measurements are accurate, and to test what are really intend to measure (Winter, 2000). Two statistical tests will be applied to check the validity of the questionnaire: the first one is the internal validity/criterion-related test (Pearson test) which is applicable for the explanatory study (Barki and Hartwick, 2004). The internal validity is used to ensure that the study has logical structure and implementing pattern that meet the explanatory study (Taufika, 2013). The second test is the structure validity test which test the validity of each statement to whole questionnaire, in addition it measures the correlation coefficient between the questionnaire groups (Winter, 2000).

3.4.5. Questionnaire Validation

3.4.5.1. Internal validity test

Internal validity test focuses on the causality; which mean giving causes to the study outcomes (Dikko, 2016). The test is very important to judge if the paper conclusion is good or poor, and to what extent the results are attributed to the independent variable (Winter, 2000). This test was applied on the 30 questionnaire from the study sample to measure the correlation coefficient (Pearson test) between the statement and its group. Tables in Appendix C 1 and 2 show the correlation coefficient P-value for each item in each field. The test was conducted on section 2: the barriers in the community based method in post conflict housing reconstruction projects in Gaza Strip and section, 3: Criterion related validity for the success factors in the

community based method in post conflict housing reconstruction projects in Gaza Strip. As shown in the tables C1 and C2 the P-values are less than 0.05, so the correlation coefficients of each field are significant at $\alpha = 0.05$. Therefore all statements are consistent and valid to be measure for the other tests.

3.4.5.2. Structure validity test

Structure validity measures the validity and correlation coefficients between the group and the whole questionnaire (Dikko, 2016). The tested group should has the same level of Likert scale which is 5 points rating scale (Winter, 2000). Table (3.9) below illustrates the correlation between the groups and the whole questionnaire statement.

Table (3. 9): Construct validity of the questionnaire

Barriers/Success group	Pearson correlation coefficient	p-value
Lack of community capacity	0.67	0.00
Lack of government support	0.75	0.00
Inflexible short deadlines of the reconstruction projects	0.49	0.00
Budget restrictions and donors' requirements	0.58	0.00
Neglecting of the community socio- economic, cultural needs	0.78	0.00
Lack of NGOs competency	0.76	0.00
Coordination between the stakeholders	0.66	0.00
Lack of transparency in reconstruction process.	0.7	0.00
Lack of women participation	0.51	0.00
Total Barrier groups	0.94	0.00
Effective communication among stakeholders	0.71	0.00
Respecting the community culture	0.8	0.00
Local government support	0.8	0.00
Developing the community education and training	0.86	0.00
Supporting the women participation	0.65	0.00
Transparency and accountability	0.79	0.00
Availability of sufficient fund for community participation	0.76	0.00
Total Success groups	0.95	0.00

As shown in table (3.7), the significance values are less than 0.05, which indicates that the correlation coefficients of all the success or barriers groups are significant at $\alpha = 0.05$. Thus, it can be said that the the success or barriers groups are valid to be measured what it were set for to achieve the main aim of the study.

3.4.5.3. Reliability test

Reliability is the degree of consistency or dependability with which an instrument (questionnaire for the study) measures what it designed to measure. In interpreting the level of correlation among factors or variables, Cohen and Holliday (1982) proposed the following for a large correlation: 0.19 and below is very low; 0.20 to 0.39 is low; 0.40 to 0.69 is modest; 0.70 to 0.89 is high; and 0.90 to 1 is very high. The tests is doing by repeating the questionnaire to the same sample of the target group in a different time and comparing the scores that obtained in the first time and in the second time by computing a reliability coefficient is above (0.7). A period from two weeks to a month is recommended for distributing the questionnaires for the second time (Field, 2009). Due to the complicated conditions, it was too difficult to ask the same sample to respond to the same questionnaire twice within short period. Thus, to overcome the distribution of the questionnaire twice to measure the reliability, Half Split method and Cronbach's alpha coefficient test were used through the SPSS software to achieve that.

3.4.5.4. Half Split method

This method depends on finding Pearson correlation coefficient between the means of questions with odd rank and questions with even rank of each the success or barriers groups of the questionnaire. Then, correcting the Pearson correlation coefficient can be done by using Spearman Brown correlation coefficient of correction. The corrected correlation coefficient (consistency coefficient) is computed according to the following equation: Consistency coefficient $=2r/(r+1)$, where r is the Pearson correlation coefficient. The normal range of corrected correlation coefficient $2r/(r+1)$ is between 0.0 and +1.0 (Garson, 2013). As shown in table (3.10), all the corrected correlation coefficients values are between 0.81 and 0.92. The significance values are less than 0.05, which indicates that the corrected

correlation coefficients are significant at $\alpha=0.05$. Thus, it can be said that the studied fields were reliable according to the Half Split method.

Table (3. 10):Reliability test by Half-Split coefficient method for barriers groups

Group No.	Barriers group description	Pearson correlation coefficient	Spearman-Brown Coefficient	Sig. (2-tailed)
1	Lack of community capacity	0.58	0.74	0.00
2	Lack of government support	0.50	0.67	0.00
3	Inflexible short deadlines of the reconstruction projects	0.51	0.68	0.00
4	Budget restrictions and donors' requirements	0.57	0.73	0.00
5	Neglecting of the community socio-economic, cultural needs	0.61	0.76	0.00
6	Lack of NGOs competency	0.61	0.76	0.00
7	Coordination between the stakeholders	0.45	0.62	0.00
8	Lack of transparency in reconstruction process.	0.64	0.78	0.00
9	Lack of women participation	0.65	0.79	0.00
Total		0.81	0.89	0.00

3.4.5.5. Cronbach's Coefficient Alpha ($C\alpha$)

This method is used to measure the reliability of the questionnaire between each the success or barriers groups and the mean of the whole groups of the questionnaire. The normal range of Cronbach's coefficient alpha ($C\alpha$) value is between 0.0 and +1 and the higher value reflects a higher degree of internal consistency (Garson, 2013). As shown in table (3.11), the Cronbach's coefficient alpha ($C\alpha$) was calculated for the success or barriers groups. The results were in the range from 0.94 and 0.95. This range is considered high, where it is above 0.7. Thus, the result ensures the reliability of the questionnaire.

Table (3. 11): Reliability test by Cronbach’s Alpha method for barriers groups

Group No.	Barriers group description	Cronbach's Alpha (Cα)
1	Lack of stakeholders' capacity (Community)	0.77
2	Lack of government support	0.78
3	Inflexible short deadlines of the reconstruction projects	0.70
4	Budget restrictions and donors' requirements	0.71
5	Neglecting of the community socio- economic, cultural needs	0.78
6	Lack of NGOs competency	0.80
7	Coordination between the stakeholders	0.70
8	Lack of transparency in reconstruction process.	0.79
9	Lack of women participation	0.85
Total		0.94

Table (3. 12): Reliability test by Half-Split coefficient method for success groups

Group No.	Success groups	Pearson correlation coefficient	Spearman-Brown Coefficient	Sig. (2-tailed)
1	Effective communication among stakeholders	0.58	0.72	0.00
2	Respecting the community culture	0.44	0.61	0.00
3	Local government support	0.63	0.77	0.00
4	Developing the community education and training	0.60	0.75	0.00
5	Supporting the women participation	0.75	0.86	0.00
6	Transparency and accountability	0.70	0.83	0.00
7	Availability of sufficient fund for community participation	0.67	0.80	0.00
Total		0.80	0.89	0.00

Table (3. 13): Reliability test by Cronbach’s Alpha coefficient method for success groups

Group No.	Success groups	Cronbach's Alpha (Cα)
1	Effective communication among stakeholders	0.79
2	Respecting the community culture	0.73
3	Local government support	0.80
4	Developing the community education and training	0.81
5	Supporting the women participation	0.89
6	Transparency and accountability	0.83
7	Availability of sufficient fund for community participation	0.81
Total		0.95

3.5. Data analysis

3.5.1. Descriptive statistics analysis

Descriptive analysis describe the characteristic of data in the sample itself (Stone *et al.*, 2008). The basic characteristics of data are: distribution of data, variability, relationship between variables, size indicators and central tendency (Al-Benna, Al-Ajam, Way, and Steintraesser, 2010; Peffers, Tuunanen, Rothenberger, and Chatterjee, 2007; Winter, 2000). The descriptive analysis also includes the Relative Importance Index (RII) and standard deviation test (Taufika, 2013). The above mentioned test was employed in this research to find the characteristic of the sample and to check the accuracy of the data. The following sections discuss in details the main tests of the descriptive analysis.

- Average index method

The Mean Scores (MS) or the average index is defined as a statistical tool used to order the factors (get the rank) from the most known to the least one (Stone *et al.*, 2008). The effect index which the same meaning of the average index is calculated to know the rank of each barriers and success effectiveness (Hassanain, Bin-Mohanna, Al-Hammad, and Sanni-Anibire, 2017). The average index formula according to (Dominowski, 1980) is

$$\text{Average index} = \left[\frac{\sum_{i=1}^5 a_i x_i}{\sum_{i=1}^5 x_i} \right] \dots \dots \dots \text{Equation 3.2}$$

Where,

a_i = Constant expressing the weight given to i ,

x_i = Variable expressing the frequency of the response for, $i = 1, 2, 3, 4, 5$ and illustrated as follows:

X_1 = Frequency of the response corresponding to $a_1 = 1$;

X_2 = Frequency of the response corresponding to $a_2 = 2$;

X_3 = Frequency of the response corresponding to $a_3 = 3$;

X_4 = Frequency of the response corresponding to $a_4 = 4$;

X_5 = Frequency of the response corresponding to $a_5 = 5$.

Taufika (2013) considered the risk in applying the community based method is classified as ‘high risk’ when the probability impact index is > 0.2 , because the probability range between 0.5 and 0.7 and the impact between 0.2 and 0.4. The effective index will be deployed in this study considering the significant level if the index exceeds 74 (Sadiqi *et al.*, 2017).

- Relative Importance Index (RII)

Relative Importance index measure the respondents preferences by ordering the statements through comparing the statements under its section with the basis RII value (Earnest, 2015). The RII will be calculated to rank the significant level of each barriers and success factor of community based method in housing reconstruction projects in Gaza strip with reference to its group. The RII value is between 0 and 1 (Bluman, 2013) the significant of the statements which has higher RII value is more than the statements with lower RII. According to Al-Tmeemy, Abdul-Rahman, and Harun (2012) the RII for groups is calculated through calculating the average of summation the RII for all statements within this group. In addition the test is used to compare the importance of the statement with other statements in the same group. The RII formula is

$$RII = \frac{\sum_{i=1}^n W_i}{A \times N} \dots \dots \dots \text{Equation 3.3}$$

Where,

RII = Relative Importance Index;

W_i = Weight of the criteria (i) given by respondents ranged between 1 and 5;

A = The maximum weight given by respondents;

N = The number of respondents.

- Standard deviation (SD)

The standard deviation describes how the mean of the sample represents the whole population mean (Al-Benna *et al.*, 2010). The standard deviation measures the average amount is the same mean value or not and the nature of its distribution (Taufika *et al.*, 2016). Brereton (2015) defined the standard deviation as the positive square root of the variance. The SD is used to describe the range of close the data around the mean or the distribution of the data (Al-Benna *et al.*, 2010). The SD value can be considered as good to represent the population if the value is small (Cooper, Schindler, and Sun, 2006). The SD value always less than 1 with positive value. Most of the literature studies in disaster management calculated the SD value (Barakat *et al.*, 2004; Junqi *et al.*, 2015; Taufika *et al.*, 2016; Taufika *et al.*, 2013). In this research the SD values will be calculated to describe the data variability and the ranking of the statements.

3.5.2. Inferential statistics

Al-Benna *et al.* (2010) have argued that the inferential statistic is used to check if the statistical test which deployed in the sample can be reflected on the whole population. Mainly the inferential statistics examine whether the analyzed data differs from the assumed hypothesis (Al-Benna *et al.*, 2010; Taufika, 2013). For example the statement of the barriers or critical success factors which has a mean more than 4.00 are considered critical statements (Taufika *et al.*, 2016). In addition, the suitable statistical tests were used to compare one group data with its hypothetical value. 95% confidence interval with two tails test instead of one tail since the two tail is more powerful (Taufika, 2013). Peffers *et al.* (2007) have mentioned that, the inferential statistics tests are conducted to show the significant values in the quantitative data. The main types of the inferential statistic is the parametric and non-parametric tests; the selected type of the inferential tests is linked with the

distribution of the data (Kothari, 2004; Mackey and Gass, 2015). The following sections discuss deeply the parametric and non-parametric tests.

- **Parametric tests**

Parametric tests or conventional statistical is conducted to obtain the population parameters (Yu, 2003). The parametric test used when the data have a normal distribution (the sample size $n > 30$), the observations are independent and the data have a homogeneous variances (Samaddar *et al.*, 2017; Yau *et al.*, 2014). The parametric tests have been utilized in many previous studies like: (Omidvar *et al.*, 2011; Ostadtaghizadeh *et al.*, 2016; Patel and Hastak, 2013; Ridzuan *et al.*, 2017; Samaddar *et al.*, 2017; Vallance, 2015). The parametric tests comprise many tests: T-Test (Al-Benna *et al.*, 2010; Junqi *et al.*, 2015; Taufika, 2013), multiple regression (Al-Benna *et al.*, 2010; Gilbert, 2016; Huq, Stein, and Gonzalez, 2015) and Pearson correlation (Ludin and Arbon, 2017; Ostadtaghizadeh *et al.*, 2016). Accordingly, the parametric test will be adopted in this thesis since the parametric parameters are applicable in the research. The sample size is 100 respondents therefore it is considered as a normal distribution sample.

- Pearson Correlation Coefficient

The full name of this test is Pearson Product Moment Correlation (PPMC), which consider a parametric test used to measure the measure the nature of the relationship between set of data (Al-Benna *et al.*, 2010). The formula of the Pearson Correlation Coefficient return a value between -1 (Strong negative relationship), 1 (Strong positive relationship) and zero which mean no relationship (Bluman, 2013). Simply the test show the linear relationship between sets of data and answer the statement can the data be representative by linear graph (Stanton, 2001). The formula of the test statistic is $t_{test} = r (n - 2) / (1 - r^2)$ where: r = Pearson's correlation coefficient, $t_{critical}$ for a chosen significance level ($\alpha = 0.05$) and $(n - 2)$ degrees of freedom. The H_0 null hypothesis is rejected if $t_{test} > t_{critical}$. In this research PPMC test has been utilized several times to find the relationship between the questionnaire sections.

- Test of significance

Significant level (α) is defined as the probability of rejecting the null hypothesis when the it is true (Bluman, 2013). Most of researcher use the term to indicate the probability value of the significant level; for instant when the significance level is level is 5% that mean if the p-value is lower than 0.05; the statement has a significant/strong significant on its group (Junqi *et al.*, 2015). The p-value usually has a value between 0 and 1 and the level of significant in the science researches usually 0.05 (Acharya *et al.*, 2006; Dikmen and Elias-Ozkan, 2016; Junqi *et al.*, 2015; Nash and Litz, 2013). To conclude if the p-value >0.05 the null hypothesis is accepted it is sufficient to accept what the researcher has assumed.

The is considered an alternative method to test the hypothesis in other words to take a decision in term of the significance level (Bluman, 2013). Taufika (2013) has argued that, when the smallest value of t-test less than or equal 0.05 that mean the result is statistically significant. The calculated t statistic should be less than the critical value to accept the null hypothesis (Cooper *et al.*, 2006).

The significance test has been utilized in in this research, mainly to indicate which statements of the barriers and critical success factors has a significant in community based method in post conflict housing reconstruction projects. The significance level p-value is determined 0.05 and t critical is 1.99 for two tailed tests based on the literature studies (Acharya *et al.*, 2006; Junqi *et al.*, 2015; Mochizuki and Chang, 2017; Nash and Litz, 2013; Taufika *et al.*, 2013).

- **Nonparametric tests**

Nonparametric tests or distribution-free tests are used when the data is better to be represented by the median, the sample size is small and the collected data are ordinal (Al-Benna *et al.*, 2010). According to (Gibbons and Chakraborti, 2011) the nonparametric tests are used to present the data in discrete value or rank order. Cooper *et al.* (2006) stated that the main types of nonparametric test are: signed-ranked test, Mann-Whitney test (Sadiqi *et al.*, 2015) and Kruskal–Wallis test. The non-parametric test is consider weaker than the parametric test and it used when the collected data has not normal distribution (Gibbons and Chakraborti, 2011).

3.5.3. Factor analysis

The factor analysis technique is the most complicated approach in statistic, it measures to examine the relationship structure of one statement among a large number of the factors (Earnest, 2015; Mayunga, 2007). The main aim of using the factor analysis is to reduce the huge number of statements/factors into a new small set of variables (Austin, 2012). According to Karanci, Aksit, and Dirik (2005) the technique is providing the validity test for the self-reporting studies.

It is also provides construct validity evidence of self-reporting scales (Williams et al., 2010). The following steps summarize the main factor analysis process:

- Eliminate the number of variables.
- Investigate the relationship between the variables.
- Evaluate the construction of the validity of the scale.
- Lunch the first trial of analysis and interpretation
- Add the factors which have been correlated
- Develop the theoretical construction
- Accept or reject the proposed theories.

The main idea behind using the factor analysis technique is to identify the contribution of the statements/ factors to the item; there is a scale it used to comprise the number of component (Adams, Rivard, and Eisenman, 2017). The single factor scores has a weight according to the importance of the other factors in the items and it is linked with the component error (Nakamura, Umeki, and Kato, 2017).

Mooi, Sarstedt, and Mooi-Reci (2018) have stated two main types of the factor analysis: the Exploratory Factor Analysis (EFA), and the Confirmatory Factor Analysis (CFA). The EFA has no definite number of variables since it is exploratory process and the investigator has no expectation. While the CFA is used to measure the model adequacy (Nakamura *et al.*, 2017). There is no model in the research, Accordingly, the EFA type will be deployed in as a tool to eliminate the statements which has slight effect on the community based method in post conflict housing reconstruction projects.

Mooi *et al.* (2018) have stated six steps to do the factor analysis as summarized in the below figure

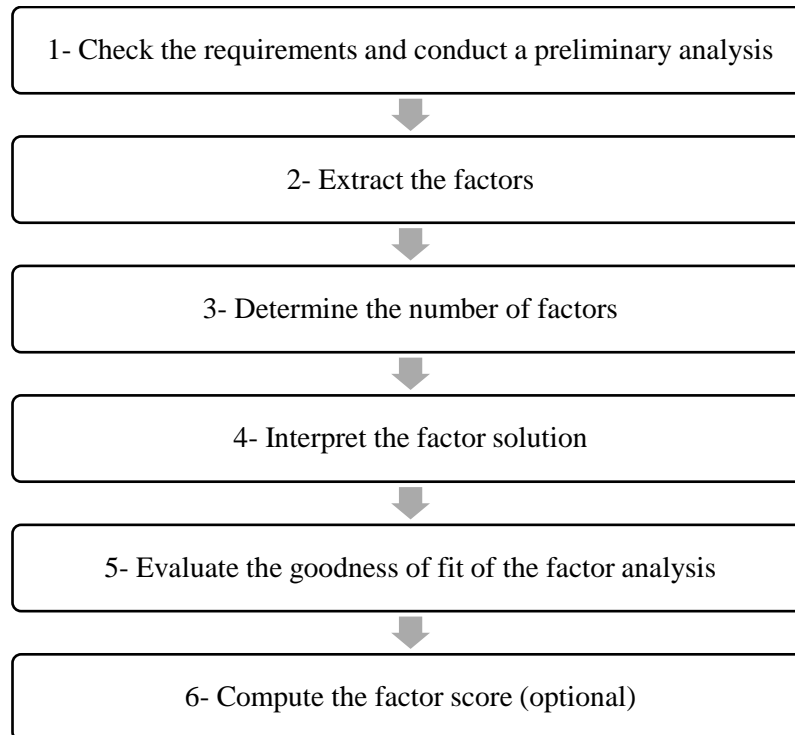


Figure (3. 4): Main steps of the factor analysis. source: (Mooi *et al.*, 2018)

Step 1: Check the requirements and conduct a preliminary analysis

The main requirements of the factor analysis are: ensure that the measurement scale is appropriate, the sample size is sufficient, the observation is independent and the variable are correlated (Mooi *et al.*, 2018). The measurement scale is appropriate when scale points is equal between sections; the scale step is the same and there is more than five categories (Mooi *et al.*, 2018; Nakamura *et al.*, 2017). The sample size is considered sufficient if the number of the observation at least 10 times of the items to be analysis, this provide rough indication of the sample size (Mooi *et al.*, 2018). According to Fabrigar, Wegener, MacCallum, and Strahan (1999) the sample size will be sufficient:

- When all communalities* =0.6 then the sample size <100 is adequate
- When all communalities =0.5 then the sample size between 100 & 200 is adequate

- When all communalities <0.5 then the sample size between 100 & 200 is adequate

Communality is defined as how much variance of each variable, factor extraction can reproduce. The communality is computed by taking the sum of the squared loadings for that variable. This is expressed below:

$$\hat{h}_i = \sum_{j=1}^m \hat{l}_{ij}^2.$$

The observation is considered independent if the observations are completely unrelated. The correlation between items are considered sufficient if the difference between items are high as possible (Fabrigar *et al.*, 1999; Mooi *et al.*, 2018). The ratio between the sample size and the variable are indicated as N:p ratio where N is the number of participants while p is the number of variables (Hogarty, Hines, Kromrey, Ferron, and Mumford, 2005). Table (3.14) illustrate the various ratios values among the questionnaire, N:p ratio is less than 5 which is recommended by Tabachnick and Fidell (2007) and Williams, Onsmann, and Brown (2010). Costello and Osborne (2005) argued that, for the small samples the N:p can be neglected if the collected data are strong and correlated. Strong data means the data are high communalities without cross loadings (Costello and Osborne, 2005).

Table (3. 14): Study sample and variables characteristics

Field description	No. of participant (N)	Number of variable (p)	of (N:p) ratio
The main barriers of community based method in rehousing projects	100	54	1.85
The critical success factors of community based method in rehousing projects	100	42	2.34

Based on the previous conclusion, sample to variable ratio in this study can be neglected in deciding about the suitability of factor analysis process because the researcher has considered only strong data to be included in the final solution of factor analysis. To obtain a strong data in this study, several runs of data filtration

has been conducted. In that, any variable that have communality value less than 0.5 or loaded on the two or more factors with factor loadings more than 0.5 “cross loaded” have been removed from analysis. In addition, variables with high factor loading (equal or more than 0.5) were retained and considered for further factor analysis.

Moreover, the sample should has a normal distribution and the data should be ordinal or continuous variable, or categorical and dichotomous variable (Mayunga, 2007). All the previous mentioned conditions are applicable on this research sample; the opinion data about the barriers and critical success factor are ordinal and the sample size is 100 questionnaires which achieve the condition of the factor analysis.

- **Factorability of the correlation matrix**

R-matrix or the correlation matrix is a a lower triangle matrix contains the correlation (r) between each pair of the study variables (Mooi *et al.*, 2018; Williams *et al.*, 2010). The R-matrix mainly utilized in the EFA to show the relationships between the individual variables. Tabachnick and Fidell (2007) recommended to do the inspection of the R-matrix for the correlation coefficient more than 0.3. The first step before completing the factor analysis is to make a check on the factors which has a correlation coefficient less than 0.3 and eliminate it from the analysis (Costello and Osborne, 2005; Hogarty *et al.*, 2005; Williams *et al.*, 2010).

Also, the correlation matrix between the variables should be scanned by visual inspection in order to see if there is any correlations coefficient above 0.9 (Field, 2009). For that, any variable should be considered and retained in further factor analysis process if it has a several correlations with the other variables above 0.3 “not all correlations” and none of these are greater than 0.9. When all correlations of any variable are less than 0.3 or at least one correlation greater than 0.9 have been found, the researcher have to consider eliminating this variable from the analysis. In addition, Williams *et al.* (2010) reported that, researcher should statement the application of factor analysis if all correlations in the correlation matric are equal.

The measure of sampling adequacy “MSA” for the individual variables can be found by looking at the diagonal elements in the anti-image correlation matrix. Actually, anti-image correlation is just the negative value of the partial correlation. Field

(2009) indicated that all variables in the anti-image correlation matrix should have MSA value above 0.5. If this requirement is not met, this means that distinct and reliable factors cannot be produced. Otherwise, in case any variables have $MSA > 0.5$, it should be removed, and the test should be repeated. If many variables have MSA value less than 0.5 then, the variable with the lowest MSA value should be removed for the next run of factor analysis (Mooi *et al.*, 2018).

In accordance to this discussion, the correlation matrix for all variables/items included in each part of this study was generated and tested to validate the factorability of the correlation matrix. In this, any variable without any correlation above than 0.3 or with at least one correlation larger than 0.9 have been considered for elimination and removed for the next stages of factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy/Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test is used to assess the suitability of the respondent data for factor analysis (Mooi *et al.*, 2018). The KMO statistic compares the magnitude of observed correlation coefficients with the magnitude of partial correlation coefficient (Yong and Pearce, 2013). KMO index ranges from 0 to 1, with 0.50 considered suitable for factor analysis and recommended (Costello and Osborne, 2005; Mooi *et al.*, 2018; Yong and Pearce, 2013). A value close to 1 indicates factor analysis will yield distinct and reliable factors. A value of 0 indicates that the sum of partial correlations is large in comparison to the sum of correlations, which indicates diffusion in the pattern of correlation, and that factor analysis is inappropriate (Vaus, 2002). (Field, 2009) recommended accepting values of 0.5 and described values between 0.5 and 0.6 as miserable; 0.6 and 0.7 as mediocre, 0.7 and 0.8 as middling, > 0.8 as meritorious and values less than 0.5 are unacceptable. The Bartlett test of Sphericity compares the correlation matrix with a matrix of zero correlations (technically called the identity matrix, which consists of all zeros except the 1's along the diagonal). This test measures whether the correlations between variables are sufficiently large for factor analysis to be appropriate. The Bartlett's Test of Sphericity should be significant (p -value < 0.05) for factor analysis to be suitable.

Step 2: Factors extraction

Another important step in factor analysis is how the factors will be extracted from the larger number of factors. There are many ways of extracting factors in factor analysis, these include Principal Components Analysis (PCA), principal axis factoring, maximum likelihood, un-weighted least squares, generalised least squares, alpha factoring, and image factoring. The Principal Components Analysis (PCA) and the Principal Axis Factoring (PAF) are the commonly used (Pett, Lackey, and Sullivan, 2003). The decision whether to use PCA and PAF is fiercely debated among analysts. The practical differences between the two are often insignificant, particularly when variables have high reliability, or where there are 30 or more variables. Thompson (2004) noted that PCA is the default method in many statistical programs, and thus, is most commonly used in EFA. Pett et al. (2003) suggested the use PCA when no a priori theory or model exists.

Principle Component Analysis (PCA) method is one of the common factors extraction methods and it is commonly adopted as the main objective of conducting the factor analysis is to determine how and to which extent the items are linked to their underlying factors (Mooi *et al.*, 2018). PCA will be able to help in identifying if the selected items cluster on one or more than one factor. PCA is recommended when the primary concern is to determine the minimum number of factors that will account for maximum variance in the data for use in subsequent analysis (Yong and Pearce, 2013). Accordingly, Principal Components Analysis (PCA) has been applied in factor analysis process for this study. The aim of extraction process was to reduce a large number of items into factors.

There are many extraction rules and approaches used to determine factor extraction. These include: Kaiser's criteria (which is based on Eigenvalues that are > 1), (Kaiser, 1960), the Scree test, the Cumulative percentage of variance extracted, and parallel analysis. Several criteria related to factors extraction procedures were proposed by several researchers and they are described below:

1. Extraction procedure.

Many extraction rules and approaches exist including: Kaiser.s criteria (eigenvalue > 1 rule), the Scree test, the cumulative percent of variance extracted and parallel

analysis (Hogarty *et al.*, 2005). Costello and Osborne (2005) pointed out that the majority of factor analysts typically use multiple criteria. The first two methods have been used commonly in different research, and described as follows:

Kaiser's criteria (eigenvalue > 1 rule)

The default in most statistical software packages is to retain all factors based on eigenvalues. Eigenvalue indicates the relative importance of each factor in accounting for the particular set of variables being analyzed. By Kaiser method, a value called eigenvalue under 1 is perceived as being inadequate and therefore unacceptable for factor analysis (Hogarty *et al.*, 2005; Mooi *et al.*, 2018; Yong and Pearce, 2013)

Scree plot

Additional tests for factor retention include the Scree plot. Scree plot is a plot of the eigenvalues against the number of factors in order of extraction (Costello and Osborne, 2005; Hogarty *et al.*, 2005). The Scree test involves examining the graph of the eigenvalues and looking for the natural bend or break point in the data where the curve flattens out. The number of data points above the "break" (i.e., not including the point at which the break occurs) is usually the number of factors to retain, although it can be unclear if there are data points clustered together near the bend (Fabrigar *et al.*, 1999; Mooi *et al.*, 2018; Pett *et al.*, 2003; Yong and Pearce, 2013). Two steps are considered during inspecting and interpreting of the scree plot, as follows:

- Draw a straight line through the smaller eigenvalues where a departure from this line occurs. This point highlights where the debris or break occurs. (If the Scree is messy, and difficult to interpret, additional manipulation of data and extraction should be undertaken.
- The point above this debris or break (not including the break itself) indicates the number of factors to be retained.

Eigenvalue is the most commonly used technique for factor extraction. Therefore, it was selected for factor extraction in this study. In this method, only the factors having eigenvalues greater than 1 are considered significant; all factors with

eigenvalues less than 1 are considered insignificant and disregarded. In addition, Scree plot were provided here for verification of the analysis only.

2. Number of the factor items

Not all factors are retained in an analysis, and there is debate over the criterion used to decide whether a factor is statistically important. Traditionally, at least two or three variables must load on a factor so it can be given a meaningful interpretation (Fabrigar *et al.*, 1999; Mooi *et al.*, 2018; Pett *et al.*, 2003; Yong and Pearce, 2013). Mooi *et al.* (2018) argued that, factor with fewer than three items is generally weak and unstable. As a general guide, rotated factors that have 2 or fewer variables should be interpreted with caution. A factor with 2 variables is only considered reliable when the two variables are highly correlated with each another ($r > 0.70$) but fairly uncorrelated with other variables. Based on the previous assumption, any extracted factor contained less than three variables were removed from analysis during this study analysis.

3. Communality value

Communality is the squared multiple correlation coefficient between a variable and all other variables in the analysis. It reveals the percentage of variance in a particular variable that is explained by the factor (Yong and Pearce, 2013). Williams *et al.* (2010) pointed out that uniformly high communalities are unlikely to occur in real data, and 0.4–0.7 should be the common magnitude in social science researches. Pett *et al.* (2003) stated that, item communalities are considered high if they are all 0.8 or greater, which mayn't occur in real data. Communalities less than 0.5 were considered too low, since this would meant that the variable shares less than half of its variability with other variables and have insufficient level of explanation by the extracted factors. It is important to note that if a variable has a communality particularly low (less than < 0.50), then the factor analysis is not accounting for much of the variance associated with that variable which means that the variable does not have much in common with the other variables in the analysis. This may be due to one of three reasons:

- The variable is distinct and/or very different from the others (not be related to the other items),

- The measurement of the variable is very unreliable, or
- An insufficient number of factors were extracted and additional factor that should be explored.

Therefore, variables with communality less than 0.5 were suppressed and removed from the analysis in this study and the factor analysis process repeated. In each run, the communality values of the remaining variables have been investigated and when there was more than one variable with communality value less than 0.5 the variable with the lowest communality values under 0.5 has been removed and the factor analysis processes returned. Finally, all variables in the last solution should have a communality value equal or more than 0.5 to be accepted.

1. Factors loading values

Factor loadings are those values which explain how closely the variables are related to each one of the factors discovered (Costello and Osborne, 2005). Typically, factor loading can be considered as a gauge of the substantive importance of a given variable to a given factor as it can be thought of as the Pearson correlation between a factor and a variable (Field, 2009). In other words, loading of 0.3, indicates that the factors account for approximately 30% relationship within the data, or in a practical sense, it would indicate that a third of the variables share too much variance. The practical significance of the factor loading as follow:

- ✓ Factor loadings in the range of ± 0.3 to ± 0.4 are considered to meet minimal level for interpretation of the structure.
- ✓ Factor loadings ± 0.5 or larger are considered practically significant.
- ✓ Factor loadings exceeding ± 0.7 are considered indicative of well-defined structure and the goal of any factor analysis.

Yong and Pearce (2013) stated that the significance of a factor loading will depend on the sample size. A table of critical values was produced against which loadings can be compared. To summarize, he recommends that for a sample size of 50 a loading of 0.722 can be considered significant, for 100 the loading should be greater than 0.512, for 200 it should be greater than 0.364, for 300 it should be greater than 0.298, for 600 it should be greater than 0.21, and for 1000 it should be greater than 0.162.

After completing the rotation, a cut off point for factor loading has been selected in this study. Generally, there is no hard and fast rule for deciding the cutoff point but commonly it is chosen above 0.5, and the same is adopted in this study as well. Thus, variables with a loading of 0.5 and above are obtained and employed for naming and interpreting the extracted factors.

Williams *et al.* (2010) concluded that, researcher needs to decide about the deletion of a cross loading item, which is an item/variable may have several adequate factor loading values (generally, 0.50 or better) on two or more factors in the rotated solution. Hair *et al.* (2010) argued that, any variable having more than one significant loading (equal or more than 0.5) on the extracted factor become a candidate for deletion from the analysis. Clearly, if there are several cross-loaders, the items may be poorly written or the a priori factor structure could be flawed. In this study, items that were cross loaded on multiple factors are deleted and factor analysis process has been returned (Ayyash, 2016). Factor loadings of 0.5 or more for were the cutoff value used in this study to delete items.

2. Cumulative Percentage of Variance

One measure of a good factor analysis is the amount of the total variance in the original set of variables that is explained by the factors. The greater the explained variance is the better the solution. For instance, in the natural sciences, according to Yong and Pearce (2013) the explained variance is generally as low as 50-60%. It is recommended that the factors extracted should account for at least 60% of the variance. Moretti *et al.* (2011) have suggested that the component solution should explain at least 50% of the total variance. Accordingly, the extracted solution will be accepted in this study only when the percentage of the explained variance from the extracted factors was more than 50%. According to Yong and Pearce (2013), when the explained variance lower than 50%, the variable/item with the lowest value of communality dropped from analysis to increase the total variance explained and factor analysis repeated in the next run.

Step 3: Factors rotation and interpretation

Another consideration when deciding the number of factors to analyze is determining whether a variable is related to more than one factor. The concept of rotation is to maximise high item loadings and minimise low item loadings, in order to produce a more interpretable and simplified solution (Mooi *et al.*, 2018). The two common rotation techniques are Orthogonal rotation and Oblique rotation. There are several options under both rotation techniques. Orthogonal rotation could be Varimax or Quartimax, while oblique rotation could be Obimin or Promax.

Step 4: Reliability of constructs (Cronbach alpha)

By utilizing factor rotation, one has established that there are a number of constructs that consists of more than one variable. Before concluding that variables can be founded by the factors found in the rotated component matrix, reliability of these factors should also measure. One way of testing the consistency between the items in each factor is through the Cronbach's alpha test. The Cronbach's alpha is based on the average inter-item correlation. According to (Mooi *et al.*, 2018) a scale with a Cronbach's alpha higher than 0.7 is required in order to create a reliable construct of multiple variables. Although 0.60 level can be used in exploratory studies (Mooi *et al.*, 2018). Therefore, Cronbach alpha with 0.6 or more for each variable and factor in the final solution can be considered acceptable in this study.

Step 5: Factors interpretation and labeling

The final step in factor analysis is interpretation. This is carried out by examining the variables that are attributable to a factor, and giving that factor a name or theme (Yong and Pearce, 2013). Traditionally, at least two or three variables must load on the factor so it can be given a meaningful interpretation. The meaningfulness of latent factors is ultimately dependent on researcher definition. The reason for thorough and systematic factor analyses is to identify and isolate items with high loadings in the resultant pattern matrices. If the researcher is content with these factors, these should then be descriptively labeled. Interpreting a rotated solution means determining just what is measured by each of the retained components, this involved identifying the variables that demonstrate high loadings for a given

component, and determining what these variables have in common. Usually, a brief name is assigned to each retained component that described its content. Briefly, Items with higher loadings on a factor should play a more important role in naming the factor.

For example, Acharya *et al.* (2006) extracted five factors in their improving waste management in construction projects study, the first factor (four items), was labeled “*team building and supervision*” which all relate to team building and supervision.

Summary of the adopted statistical procedures for factor analysis

Exploratory factor analysis (EFA) can be viewed as a data reduction technique which will identify latent factor and reduces large set of variables to a couple of underlying factor. EFA was applied to specific variables of several fields of questionnaire, in order to eliminate the incompetent and inadequate variables (questions) and to explore if all questions of each construct are properly measuring what they supposed to. To do so, first order factor analysis was performed and identified and the items that violates the main criteria of factor analysis have been deleted one by one which were reported later (communality > 0.5 , factor loading > 0.5 , no cross loading, etc.,). Then, several runs of exploratory factor analysis was carried out on the remaining variables till all requirements of factor analysis are satisfied and the extracted factors were determined the reduced data set of each field. These processes were performed with SPSS analytical tool.

Table (3.15) shows data analysis method of the most updated references in the disaster management.

Table (3. 15):Data analysis method for previous studies

Data analysis method	Author (s)
Factor Analysis	(Adams <i>et al.</i> , 2017; Austin, 2012; Earnest, 2015; Karanci <i>et al.</i> , 2005; Mayunga, 2007; Nakamura <i>et al.</i> , 2017; Salcioglu, Basoglu, and Livanou, 2007; Shakalah, 2016)
Mean score	(Acharya <i>et al.</i> , 2006; Junqi <i>et al.</i> , 2015; Karanci <i>et al.</i> , 2005)

Table (3. 15):Data analysis method for previous studies

Data analysis method	Author (s)
ANOVA Test	(Acharya <i>et al.</i> , 2006; Dikmen and Elias-Ozkan, 2016; Earnest, 2015; Omidvar <i>et al.</i> , 2011; Yau <i>et al.</i> , 2014)
Relative index (RI)	(Earnest, 2015; Enshassi and Chatat, 2012; Shakalah, 2016)
A one-way t-test and correlation analysis	(Junqi <i>et al.</i> , 2015; Salcioglu <i>et al.</i> , 2007; Shakalah, 2016; Taufika, 2013; Taufika <i>et al.</i> , 2013)
Cronbach's Alpha test	(Acharya <i>et al.</i> , 2006; Enshassi and Zaiter, 2013; Karanci <i>et al.</i> , 2005; Mayunga, 2007; Omidvar <i>et al.</i> , 2011; Sadiqi <i>et al.</i> , 2015; Shakalah, 2016)

3.6. Result and discussion

Statistical Package for Social Science (SPSS 22) will be used to analyze the collected data from the questionnaires. The results will be presented using tables and different types of graphs which will illustrate the thesis result. The questionnaire findings will be discussed, interpreted and linked with the previous literature review.

3.7. Conclusion of the research methodology

This chapter exhibits and illustrates the research methodology which adopted to achieve the thesis objectives. The quantitative method using a structure questionnaire was used to investigate the barriers and critical success factors of the community based method in housing reconstruction projects in Gaza Strip. Developing the research methodology started with reviewing the literature as a result, the draft questionnaire was developed. The study population and sample was identified according to the literature studies. Pilot study and pretesting were conducted with experts in disaster management and housing reconstruction projects to develop the final questionnaire. Following that, the questionnaire was distributed and collected to the study sample, the respondent rate was high. The collected data is intended to be analyzed using SPSS V.22 using some statistical methods mainly the descriptive and factor analysis methods. The results and discussion will be discussed in the following chapter, the thesis will conclude by the recommendation chapter.

Chapter 4

Results Analysis

Chapter 4

Results Analysis

Introduction

This chapter presents the results of the quantitative method (questionnaire) which was adopted to achieve the thesis objectives. Both, the descriptive and factor analysis were utilized to analyze the collected data from the questionnaire. This chapter contains: the respondents' profile and exhibits the result of each questionnaire section. The results will be discussed in this chapter to investigate the main barriers and the success factors of the community based method of housing reconstruction projects.

4.1. Respondent's profile

The demographic data of the questionnaire respondents is very important to for the result quality (i.e. it adds the meaningful for the quantitative analysis) (Taufika, 2013). Knowing the background and the profile of the respondents will support the research findings by avoiding the bias and the attitude in the research. The experience of the respondents was asked in section one of the questionnaire to indicate the validity of the research data (Taufika, 2013). The questionnaires were filled by the experienced employees who have already worked in post disaster housing reconstruction projects among Gaza Strip governorates. Table (4.1) shows the respondents demographic data of the thesis sample (81) respondents.

Table (4. 1): The respondents profile

No.	General information	Categories	Frequency	Percent%
1	Gender	Male	74	91.36
		Female	7	8.64
		Secondary	0	0
2	Specialization	BSc	60	73.1
		MSc	20	24.69
		PhD	1	1.23
3	Governorate of work	North	8	9.88
		Gaza	32	39.51

Table (4. 1): The respondents profile

No.	General information	Categories	Frequency	Percent%
		Middle	16	19.75
		Khanyounis	16	19.75
		Rafah	9	11.11
		Governmental	24	29.63
4	Work in	Local NGOs	1	1.23
		International NGOs	40	49.38
		Consultant	16	19.75
		Less than 5 years	41	50.62
5	Years of experience	5< y <10	19	23.46
		10< y <15	6	7.41
		>15 years	15	17.65
	Does your organization have a disaster/conflict management unit?	Yes	63	77.78
6		No	18	22.2

The demographic analysis of questionnaire respondents shows that, the majority of the employees who filled the questionnaires are male. About 73% of the respondents have completed their university studies, while 25% of them have master degrees and only one has a PhD degree. In addition, 50% of respondents have a close five years of work experience in post disaster housing reconstruction projects; although this percentage is high but the respondents have concentrated experience during two successive conflicts. Meanwhile 23% of them have an experience between 5 and 10 years. The wide range of experience indicates that the sample may be considered as a representative sample since the respondents have an adequate experience. The majority of the respondents work in the International NGOs' then in the governmental organizations, which are considered the largest two organizations who works in post disaster housing reconstruction projects among Gaza Strip. The last question concludes that more than 75% of the respondents have a disaster management unit in their organizations. There was a misunderstanding to this question because the respondents understood that there is an engineering unit for

damage assessment. This finding was revealed after doing face validity with some beneficiaries. The below percentage of female respondents is referred to the decrease in numbers of female engineers who worked in disaster management in the thesis period.

4.2. Ranks of the barrier groups which hinder of the community based method in housing reconstruction projects.

The potential barriers of the community based method of housing are classified into nine groups; each group has several statements in total 54 statements. Table (4.2) shows the rank of each barrier group, the mean, the severity index, the standard deviation (SD), t-value and the P-value for each group respectively. The data analysis was conducted using statistical package for sciences (SPSS) 22.0 including descriptive statistics test and t-test with 95% significant level with test value of zero. The analysis was done in order to rank the barrier groups that hinder the community based method in post conflict housing reconstruction projects in Gaza Strip in order to build the framework of the community participation.

Table (4. 2): Ranks of the barrier groups

No.	Barriers Groups	Mean	Severity Index	SD	t-value	p-value	Rank
GB2	Lack of government support	4.00	80.03	0.65	13.78	0.00	1
GB4	Budget restrictions and donors' requirements	3.90	77.98	0.71	11.46	0.00	2
GB1	Lack of community capacity	3.80	75.94	0.75	9.59	0.00	3
GB8	Lack of transparency in reconstruction process.	3.74	74.81	0.80	8.38	0.00	4
GB6	Lack of NGOs competency	3.73	74.61	0.81	8.16	0.00	5
GB7	Coordination between the stakeholders	3.69	73.83	0.80	7.76	0.00	6
GB3	Inflexible short deadlines of the reconstruction projects	3.67	73.46	0.75	8.11	0.00	7
GB5	Neglecting of the community socio-economic, cultural needs	3.40	67.90	1.13	3.16	0.00	8

Table (4. 2): Ranks of the barrier groups

No.	Barriers Groups	Mean	Severity Index	SD	t-value	p-value	Rank
GB9	Lack of Gender Participation	3.36	67.16	0.86	3.73	0.00	9

- *SD: Standard Deviation*
- *Critical t-value (two-tailed): at degree of freedom (df) = [N-1] = [81-1] = 80 and significance level 0.05 equals "1.99"*
- *The hypothesized population mean is the critical rating at 3.5*

Table (4.2) shows all barriers groups have a significant impact on the community based method since its mean value above 3.5 –the hypothesis mean value-. The mean value of barrier groups 5 and 9 are closed to 3.5; accordingly it considered within the significant. The hypothesis mean value was determined based on the literature studies. Junqi *et al.* (2015) utilized four Likert point scale and decided that, all statements with a mean value of 2 or above have an impact on the community participation. While other researchers utilized five Likert point scale and indicated that, mean value of 4 is the critical value of impact on the housing reconstruction projects (Ludin and Arbon, 2017; Taufika *et al.*, 2016).

Taufika *et al.* (2016) justified their decision by selecting the statements with “very or extremely influential” from the Likert scale five points (not influential, slightly influential, influential, very influential and extremely influential). In this study a value of 3.5 will be adopted to decide which groups have a significant effect on the community based method (El-Masri and Kellett, 2001). In this study, Likert scale with five points has been utilized in the questionnaire (Not Significant - slightly Significant - significant - very significant and extremely significant). Accordingly, the justification of proposed the critical mean value of 3.5 is to decide which groups have a significant, very significant and extremely significant on the community participation. However, it is noticed from Table (4.2) that all barrier groups have a mean value above three which mean that all barrier groups have a significant on the community based method in housing reconstruction projects.

The standard deviation of each group is less than one between (0.65 – 0.86) except the fifth group “Neglecting of the community socio- economic, cultural needs” due

to the variety of reconstruction projects approaches (self-help and contractual approach). The majority of the reconstruction projects in the thesis period were self-help approach so that the standard deviation is high because the self-help approach provides the flexibility to meet the socio economic needs. The standard deviation values less than one indicate that there is not much variance between the sample and population mean (Taufika *et al.*, 2016). The fifth group “Neglecting of the community socio- economic, cultural needs” has standard deviation more than one due to variance in the respondent’s answers to this group statements. Furthermore, the results of the severity index test are above 50 which mean more than 50% of the respondents agreed on the same answers of the statements (Bluman, 2013). In addition, the severity index indicate that the barriers group have a strong significant effect on the community based method of housing reconstruction projects (Hassanain *et al.*, 2017).

The t-values are in range between 13 and 3 which mean all t-values are more than the critical t-value 1.99 as mentioned in below Table (4.2). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Bluman, 2013). In addition, all barrier groups are statistically significant as its value less than 0.05 that mean it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010) . Figure (4.1) shows the severity index distribution for the barriers group.

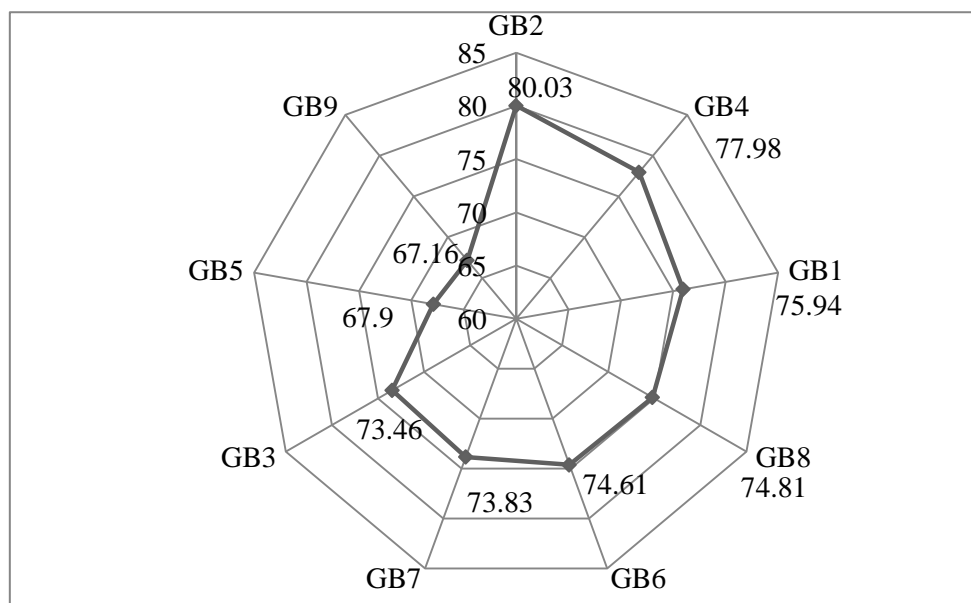


Figure (4. 1): The severity index of the barriers group

4.3. Ranking of the main barriers of the community based method in housing reconstruction projects within the same group.

The following sections illustrate in details the top three ranked statement under the same barrier group. The groups are ordered based on their ranks which given in Table (4.2). Several tables below show the main statistical characteristic including the rank within the group and the overall rank for each barrier. As well as the mean, the severity index, the standard deviation (SD), t-value and the P-value have been stated for all barriers.

4.3.1. Lack of Government support

Table (4.3) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of government support group consists of 8 barriers and it considered the top highest ranked group in the barriers groups.

Table (4. 3): Ranks of barriers in lack of government support group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 8	Absence of clear plans for conflict response.	4.28	85.68	1.02	11.38	0.00	1	1
BA 12	Absence of government monitoring and controlling in achieving community participation.	4.14	82.72	0.86	11.85	0.00	2	3
BA 9	Absence of disaster/conflict management unit in government institutions.	4.07	81.48	1.05	9.24	0.00	3	4
BA 10	Absence of the government role in preparing the proper administrative divisions of Gaza Strip.	3.99	79.75	1.03	8.62	0.00	4	6
BA 11	Lack of the governmental policies which support the community participation.	3.96	79.26	1.03	8.41	0.00	5	8
BA 14	Lack of the government staff capacity to face the	3.89	77.78	1.14	7.02	0.00	6	14

Table (4. 3): Ranks of barriers in lack of government support group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
	conflict implications.							
BA 13	Lack of coordination between the government institutions and the other community organizations	3.86	77.28	1.16	6.71	0.00	7	17
BA 15	Lack of the government activities (workshops- field visits ...) which encourage community participation.	3.81	76.30	1.03	7.15	0.00	8	20
GB 2	Lack of government support	4.00	80.03	0.65	13.78	0.00		

The average mean for all statements in this group is 4.00 which is the highest average mean in all questionnaire groups. Accordingly, all barriers have a very significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.40; which indicates that all statements have almost the same significant. The top three ranked barriers (BA8, BA12 and BA9) are the first, third and fourth highest overall ranking respectively. The average severity index value of all statements is 80.3 that mean 80.3% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers almost above 1; that mean all the distribution of data is spread out enough. The SD is closed to 1 and the high value of SD is referred to the political situation of Gaza Strip. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 11.38 and 6.7 -above the critical value 1.99 - which indicate clearly there is

no sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.2) shows the severity index distribution for the barriers in lack of government support group.

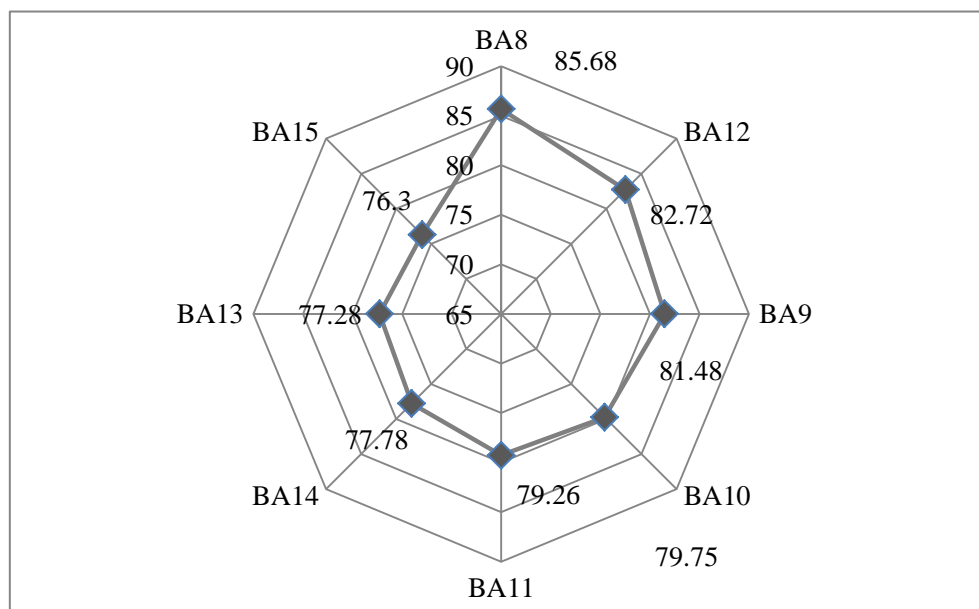


Figure (4. 2): The severity index of lack of government support group

4.3.2. Budget restrictions and donors' requirements

Table (4.4) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The budget restrictions and donors' requirements group is the second highest ranked group in the barriers groups, and it consisted of five barriers which may hinder the community based method.

Table (4. 4): Ranks of barriers in budget restrictions and donors' requirements group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 24	Inactivity of the community participation due to the donor role in the characteristics of houses.	4.01	80.25	1.05	8.64	0.00	1	5
BA 21	Rigidity of the projects or government budget to implement community participation activities	3.98	79.51	1.00	8.78	0.00	2	7

Table (4. 4): Ranks of barriers in budget restrictions and donors' requirements group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 23	Ignoring the community needs as a result of some donors' restrictions.	3.93	78.52	0.86	9.66	0.00	3	12
BA 20	Lack of allocated fund for community participation activities in reconstruction projects	3.88	77.53	1.20	6.59	0.00	4	16
BA 22	High costs of community participation activities	3.81	76.30	0.98	7.51	0.00	5	21
GB 4	Budget restrictions and donors' requirements	3.90	77.98	0.71	11.46	0.00		

The overall average mean for the barriers in this group is 3.90; which is considered above the mean hypothesis. The overall mean value indicate that all barriers have a very significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.20; this indicates that all barriers have almost the same significant in the community based method. The top two ranked barriers (BA24 and BA21) are within the top ten highest ten mean values in all questionnaire statements. The average severity index value of all statements is 77.98 than 78% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are almost above 1; there is not much variance between the sample and population mean. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 8.64 and 7.51 - above the critical value 1.99 - which indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the

population (Gibbons and Chakraborti, 2011). Figure (4.3) shows the severity index distribution for the barriers in budget restriction and donor requirements group.

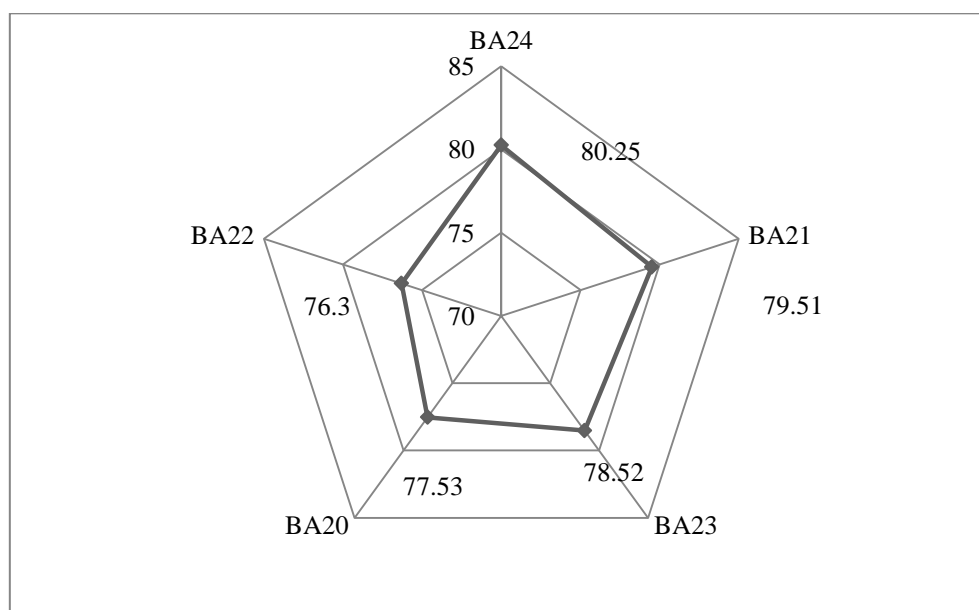


Figure (4. 3): The severity index of budget restrictions and donors' requirements group

4.3.3. Lack of the community capacity

Table (4.5) below **shows** the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of the community capacity group is the third highest ranked group in the barriers groups, and this group consists of seven barriers.

Table (4. 5): Ranks of barriers in lack of community capacity group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA7	Lack of the community resources (Physical and infrastructure -.....)	4.14	82.72	1.17	8.74	0.00	1	2
BA3	Lack of the decision making skills or affecting in the decision making process.	3.90	78.02	1.19	6.82	0.00	2	13
BA6	Lack of stakeholders understanding to principle of the community participation	3.88	77.53	0.95	8.27	0.00	3	15

Table (4. 5): Ranks of barriers in lack of community capacity group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA1	Lack of the community knowledge about disaster mitigation and preparedness plans	3.81	76.30	1.18	6.19	0.00	4	19
BA2	Unclear of the community role in reconstruction projects.	3.73	74.57	1.22	5.35	0.00	5	28
BA4	Diversity of the community parties and difference of their ideas and complexities.	3.60	72.10	1.17	4.66	0.00	6	41
BA5	Low of education level of the community	3.52	70.37	1.15	4.05	0.00	7	47
GB1	Lack of the community capacity	3.80	75.94	0.75	9.59	0.00		

The overall mean value for all barriers is 3.8 which it is closed to the highest average mean value 4 of the groups. All barriers have a significant impact in the community based method in housing reconstruction project since the mean values of all barriers is between 4.14 and 3.52. The difference in mean values between the statements can be considered marginable; since the incremental difference is about 0.10. The top ranked barriers BA7 in this group is considered the second highest mean values of the all barriers of the community participation in housing reconstruction projects. The average severity index for all statement is 75.94; which indicates that the all statements have a significant impact in the housing reconstruction projects. As well as than 75.94% of the respondents agreed on the same answers of the statements (Bluman, 2013). All the standard deviation values are above one expect the BA6 which has a value slightly less than one. The standard deviation has a high value which may due to the different culture of the geographical area of the questionnaire respondents.

The t-values above the critical value 1.99 which indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population. P-values for all barriers are less than the hypothesis (P-value < 0.05) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006).

The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). Figure (4.4) shows the severity index distribution for the barriers in the lack of community capacity group.

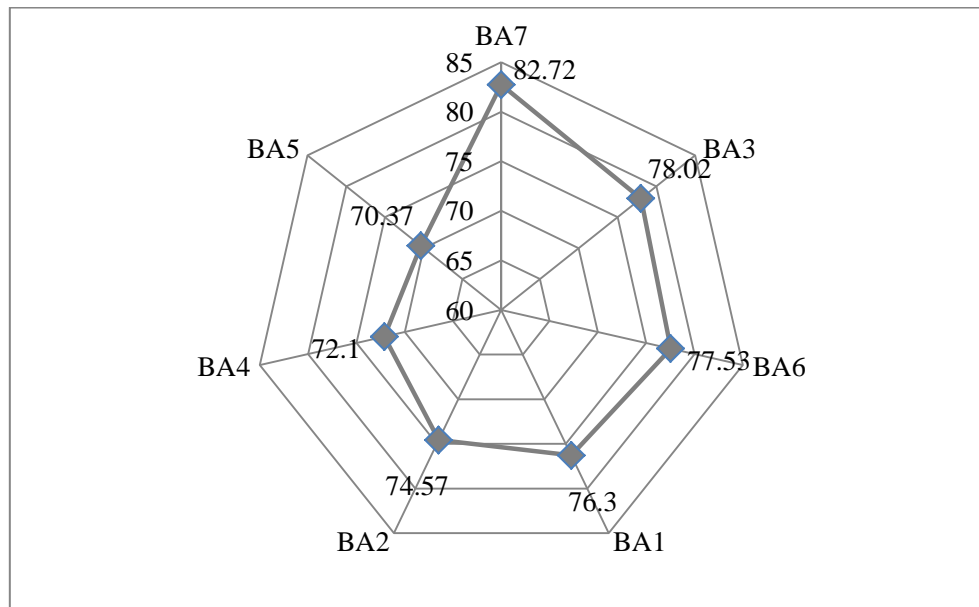


Figure (4. 4): The severity index of lack of community capacity group

4.3.4. Lack of transparency in reconstruction process

Table (4.6) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of transparency in reconstruction process group is the fourth ranked group in the barriers groups, and this group consists of six barriers.

Table (4. 6): Ranks of barriers in lack of transparency in reconstruction process group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 45	Lack of project monitoring and controlling process	3.94	78.77	1.10	7.68	0.00	1	10
BA 43	Lack of information reference to get the government conflict recovery plans.	3.85	77.04	1.04	7.38	0.00	2	18
BA 44	Ambiguous data of the reconstruction projects (Budget-target group- implementation period)	3.78	75.56	1.20	5.81	0.00	3	25

Table (4. 6): Ranks of barriers in lack of transparency in reconstruction process group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 47	Illegal homes status of some beneficiaries.	3.67	73.33	1.12	5.37	0.00	4	35
BA 46	Lack of the field visits for the reconstruction sites	3.63	72.59	1.17	4.86	0.00	5	38
BA 42	Vague of expenditures process of the project budget	3.58	71.60	1.21	4.30	0.00	6	44
GB 8	Lack of transparency in reconstruction process.	3.74	74.81	0.80	8.38	0.00		

The overall average mean for all barriers in this group is 3.74; which is considered above the mean hypothesis. The overall mean value indicate that all barriers have a very significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.36; this indicates that all statements have almost the same significant in the community based method. The top ranked barrier BA45 is the tenth highest mean value in all questionnaire statements. The average severity index value of all statements is 74.81 which mean 74.81% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are above 1; there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 7.68 and 4.30 -above the critical value 1.99- which indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.5) shows the severity index distribution for the barriers in lack of transparency in reconstruction process group.

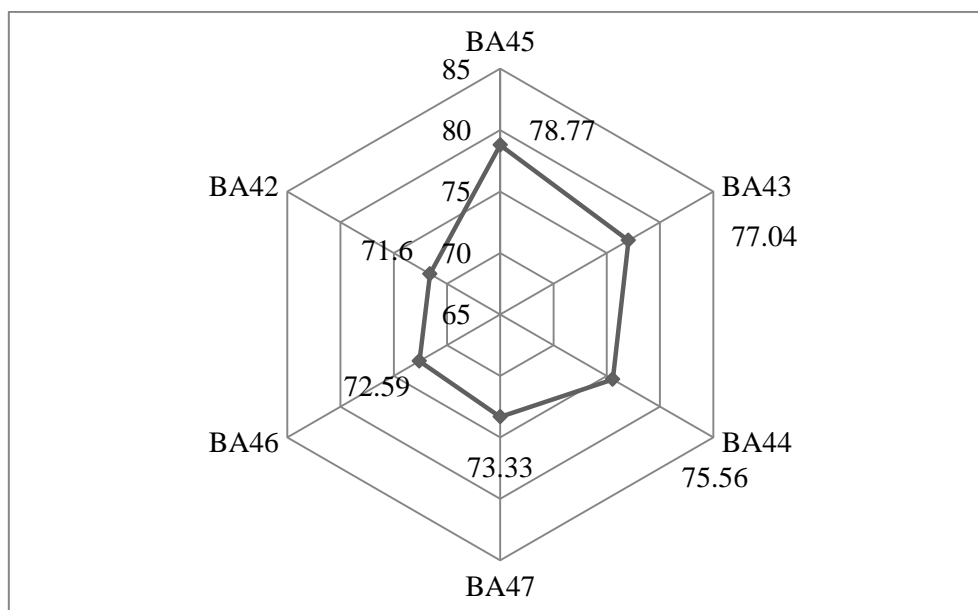


Figure (4. 5): The severity index of lack of transparency in reconstruction process group

4.3.5. Lack of NGOs competency

Table (4.7) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of NGOs competency is the fifth ranked group in the barriers groups, and consists of six barriers.

Table (4. 7): Ranks of barriers in lack of NGOs competency group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 35	Lack of NGOs ability to develop the staff capacity	3.96	79.26	1.05	8.22	0.00	1	9
BA 33	Lack of technical knowledge and skills of the NGOs staff.	3.80	76.05	1.17	6.19	0.00	2	22
BA 34	Lack of the NGOs number of staff in large-scale reconstruction projects.	3.79	75.80	1.11	6.38	0.00	3	23
BA 31	Lack of trust between NGOs and the stakeholders	3.70	74.07	1.12	5.64	0.00	4	31
BA 32	Variance between the NGOs and stakeholders' expectations of the reconstruction project result.	3.59	71.85	1.19	4.48	0.00	5	42

Table (4. 7): Ranks of barriers in lack of NGOs competency group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 36	Lack of the NGOs experience in documentation and archiving the community participation activities.	3.53	70.62	1.16	4.11	0.00	6	46
GB 6	Lack of NGOs competency	3.73	74.61	0.81	8.16	0.00		

The overall average mean for all barriers in this group is 3.73; which is closed to mean value of the third ranked barriers group and considered above the mean hypothesis. The overall mean value indicate that all barriers have a very significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.43; this indicates that all statements have almost the same significant in the community based method. The top ranked barrier BA35 is the ninth highest mean value in all questionnaire statements. The average severity index value of all statements is 74.61 that indicate more than 74.61% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are above 1; that mean there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010) . The t-value values are fluctuated between 8.22 and 4.11 -above the critical value 1.99- which indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.6) shows the severity index distribution for the barriers in lack of NGO's competency group.

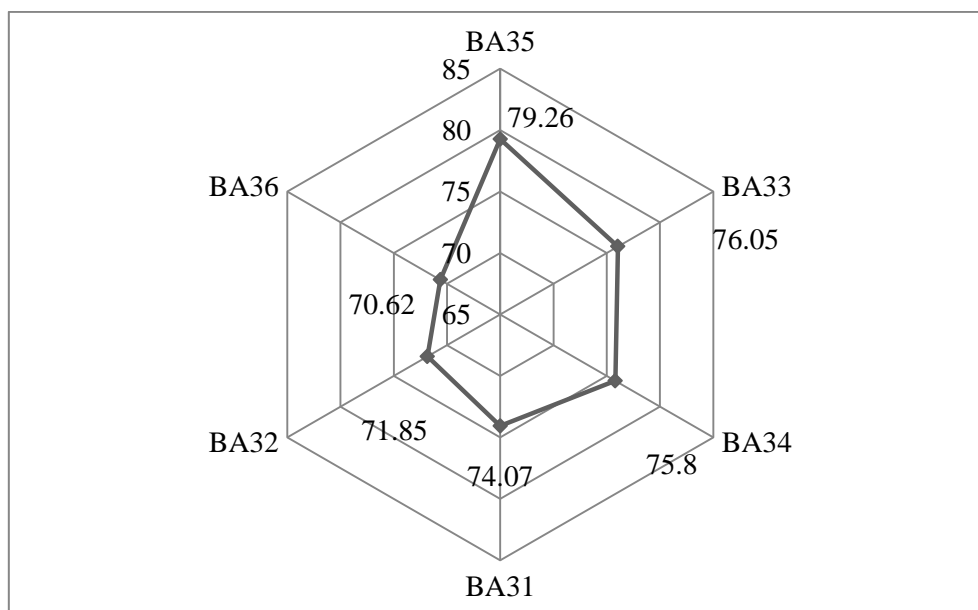


Figure (4.6): The severity index of lack of NGOs competency group

4.3.6. Coordination between the stakeholders

Table (4.8) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of coordination between the stakeholders group is the sixth ranked group in the barriers groups, and consists of five barriers.

Table (4.8): Ranks of barriers in coordination between the stakeholders group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 38	Lack proper transportation infrastructure and plans to meet the stakeholders	3.78	75.56	1.10	6.39	0.00	1	24
BA 41	Lack communication between stakeholders due to failure in signing the case-fire agreements.	3.77	75.31	1.19	5.81	0.00	2	26
BA 39	Lack of physical infrastructure to implement the community participation activities.	3.68	73.58	1.26	4.84	0.00	3	32
BA 37	Absence of proper communication channels between the stakeholder of reconstruction projects.	3.62	72.35	1.20	4.63	0.00	4	39

Table (4. 8): Ranks of barriers in coordination between the stakeholders group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 40	Lack of security in the affected area	3.62	72.35	1.18	4.71	0.00	5	40
GB 7	Coordination between the stakeholders	3.69	73.83	0.80	7.76	0.00		

The overall average mean for all barriers in this group is 3.69; which is considered above the mean hypothesis. The overall mean value indicate that all barriers have a very significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.16; this indicates that all statements have almost the same significant in the community based method. The average severity index value of all statements is 74.76 which indicate that 74.76% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are above 1; that means there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 6.39 and 4.63 - above the critical value 1.99 - which indicates clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.7) shows the severity index distribution for the barriers in the coordination between the stakeholder group.

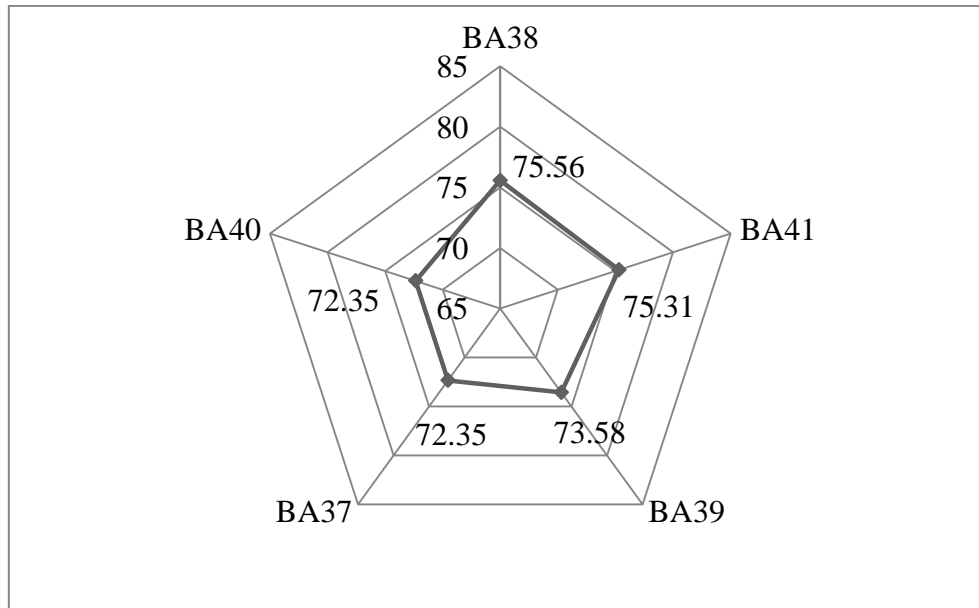


Figure (4. 7): The severity index of coordination between the stakeholders group

4.3.7. Inflexible short deadlines of the reconstruction projects

Table (4.9) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of Inflexible short deadlines of the reconstruction projects group is the seventh ranked group in the barriers groups, and consists of four barriers.

Table (4. 9): Ranks of barriers in inflexible short deadlines group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Ranking Group	Overall ranking
BA 18	Ignoring the community opinions as a result of concentrating on the implementation only.	3.93	78.52	0.92	9.07	0.00	1	11
BA 16	Lack of some projects duration; whereas there is not enough time restricted to form community groups.	3.67	73.33	1.06	5.66	0.00	2	33
BA 19	Inactivity of the community participation role due to the long duration of some reconstruction projects.	3.67	73.33	0.95	6.32	0.00	3	34

Table (4. 9): Ranks of barriers in inflexible short deadlines group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Ranking Group	Overall ranking
BA 17	Inflexible time schedule of the reconstruction projects (lack of alternatives)	3.65	73.09	1.04	5.67	0.00	4	36
G B3	Inflexible short deadlines of the reconstruction projects	3.67	73.46	0.75	8.11	0.00		

The overall average mean for all barriers in this group is 3.67; which is considered above the mean hypothesis. The overall mean value indicate that all barriers have a very significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.28; this indicates that all statements have almost the same significant in the community based method. The average severity index value of all statements is 73.46 that indicate 73.46% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are almost around 1; that mean there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 9.07 and 5.67 - above the critical value 1.99 - which indicates clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.8) shows the severity index distribution for the barriers in the inflexible short deadline of the reconstruction project group.

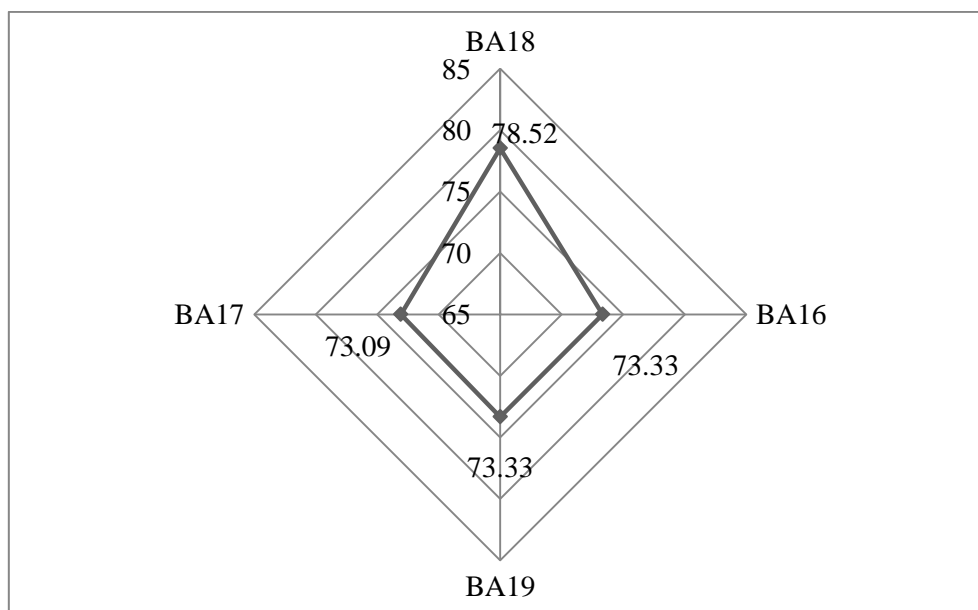


Figure (4. 8): The severity index of inflexible short deadlines of the reconstruction projects group

4.3.8. Neglecting of the community socio- economic, cultural needs

Table (4.10) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The neglecting of the community socio- economic, cultural needs group is the eighth ranked group in the barriers groups, and consists of six barriers.

Table (4. 10): Ranks of barriers in neglecting of the community socio- economic, cultural needs group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 25	Neglecting the community social, economic and culture needs in the implementation stage.	3.72	74.32	1.15	5.59	0.00	1	29
BA 29	Lack of confidence among the stakeholders due to the diversity of interests.	3.70	74.07	1.08	5.88	0.00	2	49
BA 26	Lack of conflict recovery plans ability to accommodate the enormous number beneficiaries with different cultures	3.65	73.09	1.10	5.37	0.00	3	37
BA 27	Unavailability of manual for international organizations	3.57	71.36	1.11	4.62	0.00	4	45

Table (4. 10): Ranks of barriers in neglecting of the community socio- economic, cultural needs group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
	which contribute to identify the social and cultural needs of the community.							
BA 30	Bad physiological situation of the effected people.	3.51	70.12	1.25	3.66	0.00	5	43
BA 28	Negligence of the community needs due to the political fluctuations	3.40	67.90	1.13	3.16	0.00	6	30
GB 5	Neglecting of the community socio-economic, cultural needs	3.59	71.81	0.78	6.79	0.00		

The overall average mean for all barriers in this group is 3.59; which is considered above the mean hypothesis except BA28 which is closed to hypothesis value. The overall mean value indicate that all barriers have significant impact in hindering the community participation in housing reconstruction projects. The different between the highest mean and lowest mean value of the barriers is 0.32; this indicates that all statements have almost the same significant in the community based method. The average severity index value of all statements is 71.81 that indicate 71.81% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are almost above 1; that mean there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 5.59 and 3.16 - above the critical value 1.99 - which indicates clearly that, there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.9) shows the severity index distribution for the barrier in neglecting of the community socio- economic, cultural needs group.

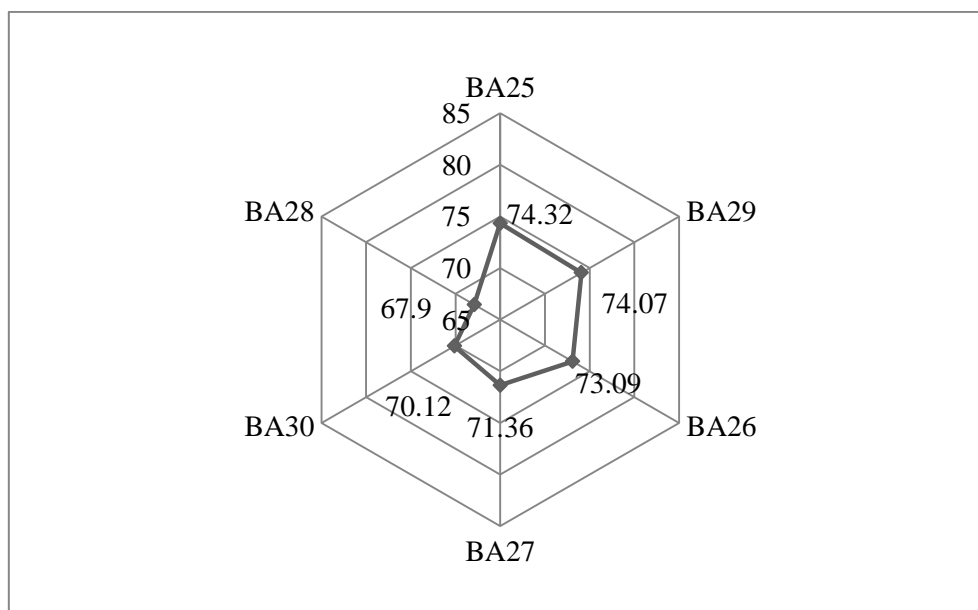


Figure (4. 9): The severity index of neglecting of the community needs group

4.3.9. Lack of Gender Participation

Table (4.11) below shows the ranks of the barriers of the community based method of housing reconstruction projects within the same group and the overall ranking. The lack of Gender Participation group is the ninth ranked group in the barriers groups, and it consists of seven barriers.

Table (4. 11): Ranks of barriers in lack of Gender Participation group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 51	Enormous economic burden on the families which is led by women	3.77	75.31	1.20	5.76	0.00	1	27
BA 50	Inactivity of the women role due to the suffering from the disaster implications more than men	3.52	70.37	1.13	4.13	0.00	2	48
BA 49	Lack of trust between women and reconstruction projects implementing agencies.	3.43	68.64	1.16	3.35	0.00	3	50
BA 48	Negligence of the women role due to the culture custom restrictions in Gaza Strip	3.32	66.42	1.21	2.38	0.02	4	51

Table (4. 11): Ranks of barriers in lack of Gender Participation group

No.	Barrier	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
BA 53	Lack of equity laws in Gaza Strip.	3.25	64.94	1.26	1.76	0.08	5	52
BA 52	Minor role of the women in managing the community resource	3.11	62.22	1.19	0.84	0.40	6	53
BA 54	Lack of women numbers who works in disaster management field.	3.11	62.22	1.24	0.80	0.42	7	54
GB 9	Lack of Gender Participation	3.36	67.16	0.86	3.73	0.00		

The overall average mean for all barriers in this group is 3.36; which is less than the mean hypothesis 3.5, but it is much closed to hypothesis value. The overall mean value indicate that all barriers have slight significant impact in hindering the community participation in housing reconstruction projects. The average severity index value of all statements is 67.16 that indicate 67.16% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all barriers are above 1; that mean there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for most barriers are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all barriers has a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 5.76 and 0.8; The t-values indicate clearly there is a sufficient evidence to reject the hypothesis that the sample is represent the population (Gibbons and Chakraborti, 2011). Figure (4.10) shows the severity index distribution for the barrier in lack of Gender Participation group.

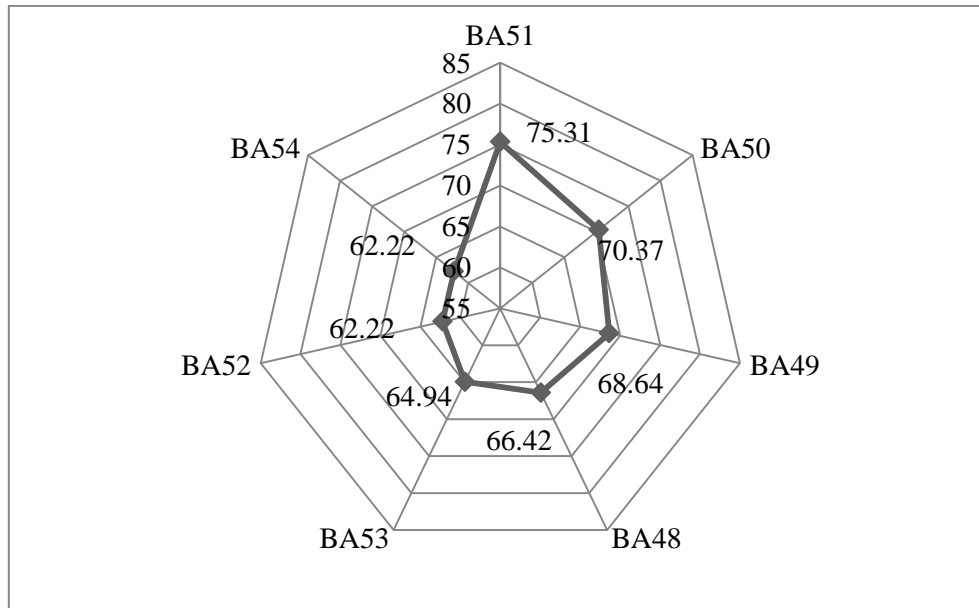


Figure (4. 10): The severity index of lack of Gender Participation group

4.4. Factor analysis results for the barriers of the community based method in housing reconstruction projects

The factor analysis is a method used to present the collected data from the quantitative method in a summary and concentrated form (Williams *et al.*, 2010). The factor analysis aims to eliminate the number of factors/statement in the questionnaire into a small number of factors that are interrelated with each other (Hogarty *et al.*, 2005). In this study the factor analysis is used to eliminate the numbers of barriers to the most correlated barriers of the community based method of housing reconstruction projects. The new set of barriers is summarizing the most significant barriers of the community based method in housing reconstruction projects.

The Principle Component Analysis (PCA) is adopted in this study to decide which barriers could be related together and has the same dimension for hindering the community based method in housing reconstruction projects (Sadiqi *et al.*, 2015). The PCA is used to reduce 54 barriers. Accordingly, an exploratory approach is followed to determine how the barriers are linked together under the same group (Mayunga, 2007).

Figure (4.11) summarizes the four main steps which applied on this study to reduce the number of barriers into most related barriers of the community based method in housing reconstruction projects in Gaza Strip.

4.4.1. First Step: Measuring the suitability of data

Before proceeding with the factor analysis test; several tests should be conducted to ensure that the factor analysis requirements are available in the collected data. The following sections explain the suitability of barriers data for the factor analysis.

4.4.1.1. Internal consistency test “Data reliability”

Reliability shows how the data collected or the variables go together (Costello and Osborne, 2005). Cronbach Coefficient Alpha was 0.94 for the 54 barriers as it is calculated by SPSS. According to Williams *et al.* (2010); this value is accepted because it is larger than 0.7. The Cronbach value of Sadiqi *et al.* (2015) research was initiated with 0.67 in the first run and ended by 0.98, while Omidvar *et al.* (2011) calculated the final Cronbach value 0.88. The final Cronbach value of Acharya *et al.* (2006) was 0.913.

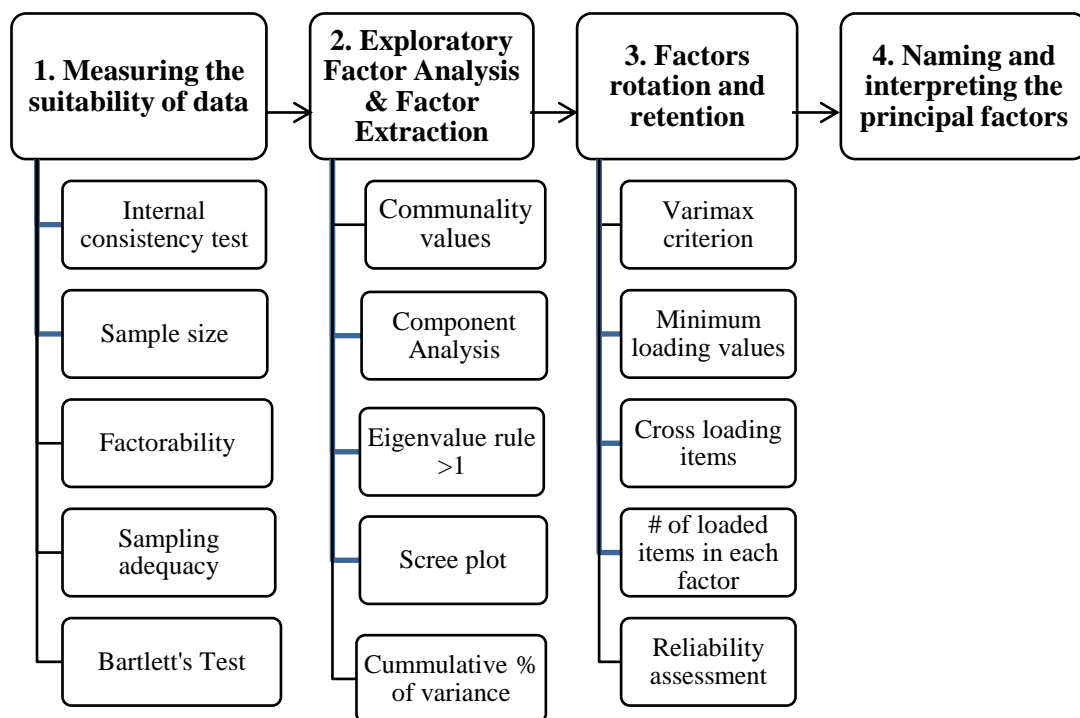


Figure (4. 11): The four steps of the factor analysis

4.4.1.2. Sample size

The number of collected questionnaire to be analyzed by factor analysis is debated issue, since there is no exact number of collected data for conducting factor analysis (Costello and Osborne, 2005; Mooi *et al.*, 2018). The sample size of Sadiqi *et al.* (2015) was 147 respondents, while 196 respondents in Omidvar *et al.* (2011) study. Acharya *et al.* (2006) decided to utilize 126 questionnaires as the study sample. In this research the sample size was 81 questionnaire which is adequate since it is more than 50 (Mooi *et al.*, 2018).

4.4.1.3. Factorability of the correlation matrix

After ensuring that the data are reliable and the sample size is adequate, the factorability test is conducted to check if the data is suitable for being factored. This test is built based on assumption that the correlations is existing between the questionnaire statements, accordingly coherent factors can be extracted (Williams *et al.*, 2010). The initial factorability test was done on 54 barriers of the community based method in housing reconstruction projects. Sadiqi *et al.* (2015) pointed out that the correlation factor should be above 0.30 in the correlation matrix. All variables that have a correlation factor less than 0.30 is excluded before starting with the factor analysis test (Hogarty *et al.*, 2005).

The visual inspection is done to determine the variables which are highly correlated ($r \geq 0.90$) and not sufficiently correlated variables ($r < 0.30$). The high correlated factors are excluded from the factor analysis since it cause a multicollinearity problem (Hogarty *et al.*, 2005). Meanwhile, the insufficiently correlated variables are also excluded from the analysis since they have a clear variance in the data results (Costello and Osborne, 2005).

Table (4.12) shows the barriers in this study which are correlated together highlighted in bold font and the barriers which has $r < 0.30$ and $r > 0.90$ in regular font. Most of barriers are correlated and achieve the criteria of correlation $0.30 < r < 0.90$. However, only 6 barriers have not satisfied the assigned requirements and should be removed before proceeding to the following steps in the factor analysis. The removed barriers are:

- Four barriers including (BA2, BA19, BA48, BA51) should be removed because no one of them has a correlated with any other barriers with correlation coefficient more than 0.30.
- Two barriers including (BA16, BA23) should be removed because each one of them has a correlated with one variable only with correlation coefficient more than 0.30.

So that, these barriers have been removed and the second run was performed with the remaining 48 barriers. Sadiqi *et al.* (2015) eliminated three barriers in the correlation test from 40 to 37 barriers.

Table (4. 12): The correlation matrix of the factorability test

	BA1	BA2	BA3	BA4	BA5	BA6	BA7	BA8	BA9	BA10	BA11	BA12	BA13	BA14	BA15	BA16	BA17	BA18	BA19	BA20	BA21	BA22	
BA1	1.00																						
BA2	0.21	1.00																					
BA3	0.53	0.18	1.00																				
BA4	0.35	0.09	0.37	1.00																			
BA5	0.35	0.00	0.34	0.40	1.00																		
BA6	0.23	0.05	0.26	0.34	0.29	1.00																	
BA7	0.24	0.13	0.32	0.21	0.17	0.09	1.00																
BA8	0.18	0.00	0.28	0.01	0.21	0.00	0.32	1.00															
BA9	0.15	0.02	0.36	0.10	0.13	0.12	0.45	0.63	1.00														
BA10	0.37	-0.02	0.44	0.23	0.38	0.16	0.38	0.52	0.51	1.00													
BA11	0.19	0.04	0.24	0.15	0.18	0.11	0.22	0.29	0.43	0.35	1.00												
BA12	0.11	0.14	0.17	0.26	0.22	0.29	0.22	0.14	0.27	0.35	0.32	1.00											
BA13	0.16	0.15	0.21	0.11	0.06	0.35	0.46	0.16	0.39	0.32	0.28	0.27	1.00										
BA14	0.17	0.07	0.11	-0.03	0.10	0.10	0.41	0.12	0.33	0.24	0.35	0.24	0.31	1.00									
BA15	0.50	-0.04	0.33	0.29	0.17	0.28	0.34	0.26	0.23	0.33	0.11	0.23	0.46	0.20	1.00								
BA16	0.09	0.15	-0.06	0.14	0.18	0.07	0.01	0.21	0.05	0.19	0.11	0.17	0.18	0.06	0.18	1.00							
BA17	0.03	0.18	0.10	0.01	0.14	-0.07	0.28	0.18	0.20	0.32	0.16	0.25	0.40	0.25	0.15	0.31	1.00						
BA18	0.08	0.14	0.12	0.21	0.13	0.08	0.28	0.13	0.14	0.13	0.32	0.22	0.12	0.32	0.11	0.27	0.38	1.00					
BA19	-0.08	0.02	0.08	-0.12	-0.17	0.04	0.10	0.10	0.14	0.14	-0.07	0.05	0.17	0.14	-0.06	0.00	-0.01	0.16	1.00				
BA20	0.33	0.15	0.41	0.24	0.13	0.33	0.43	0.35	0.48	0.40	0.21	0.36	0.53	0.22	0.50	0.17	0.30	0.17	0.16	1.00			
BA21	-0.06	0.15	0.12	0.00	0.09	0.13	0.23	0.17	0.16	0.12	0.24	0.08	0.35	0.22	0.14	0.24	0.28	0.27	0.13	0.47	1.00		
BA22	0.16	-0.17	0.06	-0.04	0.16	0.14	-0.04	0.11	0.29	0.14	0.19	0.18	0.07	0.09	0.16	0.04	0.00	0.10	-0.02	0.23	0.17	1.00	
BA23	0.05	0.02	-0.15	-0.14	-0.14	0.10	-0.15	0.04	-0.10	0.08	0.04	-0.13	0.15	-0.03	0.05	0.10	-0.06	0.00	0.04	0.28	0.22	0.13	1.00

Table (4. 12): The correlation matrix of the factorability test

	BA1	BA2	BA3	BA4	BA5	BA6	BA7	BA8	BA9	BA10	BA11	BA12	BA13	BA14	BA15	BA16	BA17	BA18	BA19	BA20	BA21	BA22
BA24	0.30	0.14	0.25	-0.06	0.03	0.08	0.28	0.24	0.31	0.25	0.04	0.11	0.36	0.18	0.29	-0.07	0.20	0.06	0.12	0.53	0.28	0.41
BA25	-0.03	0.13	0.13	0.11	0.40	0.05	0.04	0.21	0.17	0.10	0.22	0.15	-0.06	0.15	-0.02	0.21	0.14	0.29	-0.18	-0.03	0.18	0.08
BA26	0.08	0.07	0.18	0.20	0.21	0.13	0.16	0.24	0.22	0.18	0.18	0.31	0.32	0.13	0.19	0.17	0.08	0.14	0.17	0.37	0.31	0.21
BA27	0.26	0.09	0.25	0.15	0.31	0.23	0.22	0.24	0.24	0.29	0.27	0.15	0.39	0.25	0.31	0.23	0.18	0.34	0.16	0.37	0.26	0.25
BA28	0.11	0.11	0.25	0.14	0.20	0.27	0.33	0.18	0.41	0.36	0.08	0.39	0.29	0.22	0.23	0.13	0.19	0.30	0.22	0.43	0.31	0.36
BA29	0.24	0.06	0.33	0.26	0.21	0.24	0.40	0.34	0.41	0.33	0.16	0.23	0.44	0.04	0.41	0.23	0.26	0.28	-0.05	0.46	0.41	0.27
BA30	0.24	0.01	0.20	0.17	0.12	0.28	0.24	0.17	0.35	0.35	0.44	0.19	0.30	0.25	0.27	0.15	0.07	0.21	-0.09	0.35	0.19	0.46
BA31	0.30	0.09	0.33	0.20	0.36	0.21	0.22	0.38	0.34	0.35	0.31	0.24	0.27	0.18	0.28	0.29	0.19	0.26	0.16	0.42	0.32	0.21
BA32	0.30	0.09	0.37	0.16	0.35	0.18	0.34	0.28	0.38	0.46	0.27	0.35	0.38	0.38	0.16	0.27	0.24	0.20	0.16	0.51	0.25	0.05
BA33	0.41	0.15	0.29	0.02	0.26	0.23	0.17	0.16	0.29	0.32	0.00	0.18	0.22	0.14	0.10	0.13	0.05	0.06	0.12	0.21	-0.03	0.06
BA34	0.37	0.08	0.46	0.25	0.48	0.21	0.19	0.35	0.38	0.44	0.31	0.21	0.15	0.09	0.09	0.07	0.17	0.15	0.10	0.27	0.14	0.19
BA35	0.43	0.16	0.36	0.18	0.23	0.32	0.28	0.20	0.37	0.40	0.22	0.34	0.41	0.15	0.32	0.13	0.16	0.03	0.15	0.51	0.18	0.22
BA36	0.13	-0.10	0.34	0.23	0.14	0.18	0.31	0.29	0.45	0.40	0.37	0.23	0.43	0.30	0.23	0.02	0.31	0.29	0.19	0.35	0.34	0.22
BA37	0.31	0.20	0.43	0.28	0.45	0.24	0.34	0.41	0.45	0.52	0.26	0.43	0.29	0.32	0.23	0.13	0.32	0.28	0.06	0.43	0.37	0.25
BA38	0.25	-0.02	0.25	0.28	0.33	0.25	0.03	0.09	0.02	0.31	0.27	0.25	0.18	0.10	0.16	0.24	0.31	0.19	-0.04	0.25	0.24	0.15
BA39	0.29	0.08	0.24	0.32	0.18	0.30	0.28	-0.11	0.09	0.09	0.19	0.01	0.35	0.30	0.30	0.08	0.18	0.30	-0.05	0.30	0.29	0.13
BA40	0.12	0.04	0.15	0.08	0.18	0.12	0.10	0.10	0.02	0.17	0.04	0.17	0.04	0.10	0.12	0.15	0.09	0.13	0.00	0.04	0.16	0.05
BA41	0.20	0.15	0.28	0.17	0.33	0.15	0.17	0.17	0.20	0.36	0.20	0.23	0.12	0.11	0.00	0.09	0.26	0.25	0.12	0.18	0.21	0.02
BA42	0.42	0.11	0.27	0.08	0.16	0.19	0.36	0.27	0.30	0.43	0.18	0.13	0.45	0.36	0.32	0.08	0.34	0.06	0.01	0.44	0.29	0.19
BA43	0.27	0.04	0.30	0.25	0.14	0.37	0.20	0.25	0.29	0.15	0.17	0.25	0.34	0.18	0.40	0.19	0.12	0.12	-0.07	0.49	0.37	0.07
BA44	0.44	0.17	0.24	0.11	0.17	0.04	0.30	0.33	0.33	0.36	0.15	0.02	0.23	0.30	0.36	0.11	0.11	0.13	0.15	0.36	0.12	0.14
BA45	0.15	-0.06	0.25	0.16	0.23	0.16	0.11	0.22	0.25	0.21	0.08	0.14	0.19	0.20	0.10	0.00	0.23	-0.01	0.14	0.23	0.19	0.07
BA46	0.40	0.09	0.28	0.18	0.44	0.18	0.46	0.26	0.24	0.43	0.27	0.25	0.36	0.35	0.34	0.09	0.24	0.03	-0.05	0.33	0.25	0.14

Table (4. 12): The correlation matrix of the factorability test

	BA1	BA2	BA3	BA4	BA5	BA6	BA7	BA8	BA9	BA10	BA11	BA12	BA13	BA14	BA15	BA16	BA17	BA18	BA19	BA20	BA21	BA22
BA47	0.06	0.05	0.06	-0.09	0.12	0.22	0.12	0.14	0.12	0.22	0.11	0.42	0.24	0.05	0.17	0.14	0.02	-0.06	0.17	0.23	0.31	0.41
BA48	0.11	-0.01	-0.08	0.12	0.20	0.24	-0.18	-0.03	-0.11	0.16	0.09	0.39	0.19	-0.11	0.18	0.25	0.06	-0.06	-0.08	0.13	0.09	0.26
BA49	-0.06	-0.06	0.00	0.19	0.15	0.29	-0.30	-0.05	-0.07	-0.09	0.07	0.28	0.03	-0.16	0.04	0.12	-0.11	0.07	-0.09	0.04	0.02	0.36
BA50	-0.17	-0.05	0.07	0.06	0.21	0.04	0.07	0.08	0.02	0.03	0.08	0.20	0.17	0.00	0.04	0.06	0.18	0.12	-0.03	0.05	0.29	0.20
BA51	-0.14	-0.01	0.08	0.15	-0.01	0.02	0.06	0.10	0.07	0.01	0.12	-0.11	0.13	-0.11	-0.02	-0.08	-0.03	0.02	-0.03	0.06	0.12	-0.17
BA52	-0.06	-0.10	0.08	0.13	0.30	0.08	0.11	0.28	0.30	0.22	0.26	0.24	0.20	0.09	0.14	0.04	0.21	0.23	0.05	0.15	0.22	0.33
BA53	-0.08	0.01	-0.03	0.25	0.17	0.17	0.13	0.15	0.07	0.20	0.23	0.36	0.34	0.23	0.29	0.14	0.32	0.15	-0.06	0.27	0.29	0.13
BA54	-0.13	-0.09	-0.03	0.23	0.24	0.22	0.03	0.05	0.03	0.11	0.16	0.35	0.31	-0.05	0.30	0.20	0.10	0.07	-0.07	0.27	0.19	0.12

Table (4.12): The correlation matrix of the factorability test (cont'd)

	BA23	BA24	BA25	BA26	BA27	BA28	BA29	BA30	BA31	BA32	BA33	BA34	BA35	BA36	BA37	BA38	BA39	BA40	BA41	BA42	BA43	BA44	
BA23	1.00																						
BA24	0.28	1.00																					
BA25	-0.18	0.04	1.00																				
BA26	0.04	0.09	0.27	1.00																			
BA27	0.20	0.31	0.21	0.57	1.00																		
BA28	-0.01	0.36	0.27	0.46	0.48	1.00																	
BA29	-0.02	0.29	0.22	0.48	0.39	0.52	1.00																
BA30	0.11	0.25	0.14	0.33	0.51	0.36	0.40	1.00															
BA31	0.00	0.30	0.40	0.20	0.40	0.34	0.30	0.31	1.00														
BA32	0.16	0.24	0.21	0.27	0.36	0.28	0.22	0.37	0.52	1.00													
BA33	0.20	0.27	0.22	0.14	0.38	0.30	0.20	0.20	0.32	0.48	1.00												

Table (4.12): The correlation matrix of the factorability test (cont'd)

	BA23	BA24	BA25	BA26	BA27	BA28	BA29	BA30	BA31	BA32	BA33	BA34	BA35	BA36	BA37	BA38	BA39	BA40	BA41	BA42	BA43	BA44
BA34	0.11	0.22	0.33	0.23	0.31	0.23	0.18	0.12	0.41	0.43	0.44	1.00										
BA35	0.09	0.46	0.05	0.26	0.38	0.36	0.29	0.36	0.35	0.52	0.50	0.43	1.00									
BA36	0.21	0.26	0.11	0.28	0.42	0.35	0.27	0.21	0.29	0.28	0.23	0.53	0.34	1.00								
BA37	0.03	0.36	0.29	0.42	0.41	0.52	0.37	0.17	0.34	0.37	0.30	0.57	0.36	0.51	1.00							
BA38	0.13	0.12	0.10	0.28	0.33	0.20	0.17	0.23	0.35	0.34	0.11	0.37	0.32	0.31	0.33	1.00						
BA39	0.07	0.31	0.27	0.21	0.47	0.34	0.29	0.32	0.31	0.23	0.13	0.23	0.25	0.42	0.24	0.45	1.00					
BA40	0.03	0.14	0.17	0.05	0.17	0.10	0.15	0.06	0.19	0.06	0.15	0.07	0.06	0.11	0.18	0.18	0.16	1.00				
BA41	-0.06	0.16	0.37	0.00	0.27	0.26	0.14	0.07	0.37	0.23	0.39	0.51	0.36	0.45	0.45	0.13	0.32	0.21	1.00			
BA42	0.32	0.48	-0.08	0.17	0.35	0.25	0.26	0.24	0.17	0.30	0.35	0.32	0.38	0.52	0.51	0.29	0.34	0.18	0.36	1.00		
BA43	0.19	0.27	0.10	0.29	0.35	0.32	0.33	0.20	0.19	0.23	0.21	0.34	0.35	0.46	0.32	0.20	0.42	0.13	0.23	0.49	1.00	
BA44	0.29	0.47	0.02	0.12	0.40	0.26	0.15	0.29	0.21	0.37	0.42	0.24	0.45	0.27	0.44	0.17	0.22	0.16	0.23	0.59	0.29	1.00
BA45	0.04	0.28	0.14	0.14	0.08	0.24	0.15	-0.01	0.11	0.31	0.24	0.46	0.17	0.42	0.39	0.42	0.27	0.05	0.26	0.47	0.40	0.40
BA46	0.00	0.39	0.17	0.24	0.37	0.27	0.21	0.30	0.25	0.44	0.35	0.39	0.51	0.31	0.46	0.34	0.31	0.17	0.36	0.56	0.42	0.55
BA47	0.07	0.28	0.06	0.21	0.23	0.37	0.16	0.15	0.26	0.18	0.25	0.24	0.35	0.21	0.35	0.19	0.01	0.19	0.24	0.17	0.27	0.13
BA48	0.25	0.03	0.01	0.31	0.30	0.26	0.10	0.33	0.19	0.20	0.12	0.12	0.20	0.09	0.19	0.41	0.09	0.09	0.07	0.06	0.09	0.06
BA49	0.03	-0.01	0.20	0.19	0.29	0.33	0.13	0.28	0.23	0.03	0.00	0.06	0.02	0.06	0.06	0.26	0.15	0.17	0.15	-0.13	0.08	-0.08
BA50	0.05	0.04	0.11	0.27	0.23	0.27	0.26	0.21	0.09	0.14	0.09	0.05	0.01	0.16	0.18	0.14	0.04	0.21	0.07	0.03	0.13	0.09
BA51	0.10	0.06	-0.11	-0.01	0.19	-0.02	-0.07	0.17	0.03	0.04	0.01	-0.09	-0.01	0.14	-0.06	0.02	0.10	0.04	0.05	0.02	0.12	0.08
BA52	-0.01	0.06	0.24	0.23	0.29	0.34	0.29	0.21	0.18	0.16	0.14	0.15	0.03	0.36	0.29	0.14	0.07	0.13	0.28	0.08	0.05	0.20
BA53	0.05	0.16	0.24	0.32	0.31	0.33	0.24	0.31	0.30	0.18	-0.12	0.06	0.01	0.30	0.27	0.35	0.29	0.18	0.13	0.22	0.30	0.12
BA54	0.06	-0.08	0.27	0.39	0.33	0.29	0.31	0.32	0.24	0.18	-0.10	0.05	0.01	0.12	0.10	0.22	0.25	0.11	0.10	-0.01	0.27	-0.05

Table (4.12): The correlation matrix of the factorability test (**cont'd**)

	BA45	BA46	BA47	BA48	BA49	BA50	BA51	BA52	BA53	BA54
BA45	1.00									
BA46	0.40	1.00								
BA47	0.18	0.37	1.00							
BA48	0.04	0.16	0.27	1.00						
BA49	0.03	-0.06	0.16	0.63	1.00					
BA50	0.18	0.15	0.12	0.41	0.49	1.00				
BA51	0.08	0.04	-0.05	0.02	0.05	0.22	1.00			
BA52	0.20	0.22	0.24	0.24	0.42	0.57	0.17	1.00		
BA53	0.22	0.32	0.21	0.43	0.46	0.45	0.16	0.53	1.00	
BA54	0.02	0.13	0.23	0.38	0.46	0.44	0.09	0.53	0.71	1.00

4.4.1.4. Sampling adequacy “Kaiser-Meyer-Olkin (KMO)”

Kaiser Meyer Olkin (KMO) statistic compares the magnitude of observed correlation coefficients with the magnitude of partial correlation coefficient (Mooi *et al.*, 2018). Williams *et al.* (2010) pointed out that the KMO statistic varies between 0 and 1; a value of 0 indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations (hence, factor analysis is likely to be inappropriate) . A value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors (Mooi *et al.*, 2018).

Williams *et al.* (2010) pointed out that the Measurements of the Sample Adequacy (MSA) values in the anti-image matrix are used to ensure the appropriation of data for the factor analysis. The MSA values are extracted from SPSS 22 analysis programme for 48 barriers of the community based method in housing reconstruction projects. Mooi *et al.* (2018) indicated that if the MSA value for any barriers is less than 0.50 then this factor will be removed from the factor analysis. Table (4.13) shows the eliminated barriers after using the diagonal of anti-image correlation matrix test with five runs.

The first run has been conducted using 48 barriers after which resulted from factorability test. The MAS values of the 48 barriers in the diagonal of the anti-image correlation matrix are summarized in Table (4.13) below. The table indicates that there are 7 barriers with MSA value less than 0.50. Accordingly, the variable BA18 has been removed in the second run as it has the lowest value of MSA from the seven barriers with MSA less than 0.50.

In the third run, there was 4 barriers with MSA values <0.50; BA17 has the lowest value of MSA and it has been removed in the third run of factor analysis. The test is conducted again for the fourth time using the remaining 46 barriers; only one barrier (BA22) has MSA value <0.50. Accordingly it has been removed in the fourth run of factor analysis. Finally, according to the Anti-image correlation matrix that obtained in the fifth run, it is clear that each of the 45 barriers has MSA value > 0.50, which means that, these 45 barriers were satisfied the factor analysis requirements for individual variable MSA value.

The overall Kaiser-Meyer-Olkin of sampling adequacy for the remaining 45 barriers was calculated to check if the data still valid to do the factor analysis test. Table (4.14) describes the overall Kaiser-Meyer-Olkin MSA value equals to 0.72 which is larger than 0.50. This value indicate that, factor analysis is appropriate for these 45 barriers because the patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. It is noticed that some of MSA values were lower than 0.5 in the first run but in the fifth run the value it is improved to be more than 0.50.

Table (4. 13): Measures of MSA for barriers of community participation

Barriers	Measures of Sampling Adequacy(MSA)	
	First run	Last run (fifth run)
BA1	0.725	0.707
BA3	0.734	0.820
BA4	0.652	0.659
BA5	0.692	0.727
BA6	0.684	0.694
BA7	0.603	0.684
BA8	0.726	0.702
BA9	0.670	0.740
BA10	0.768	0.764
BA11	0.658	0.721
BA12	0.660	0.677
BA13	0.684	0.823
BA14	0.602	0.641
BA15	0.737	0.738
BA17	0.494	Removed in the 3rd run
BA18	0.433	Removed in the 2nd run
BA20	0.744	0.825
BA21	0.636	0.661
BA22	0.455	Removed in the 4th run
BA24	0.699	0.654
BA25	0.477	0.586
BA26	0.673	0.736
BA27	0.789	0.806
BA28	0.735	0.781
BA29	0.870	0.852
BA30	0.693	0.773
BA31	0.732	0.706
BA32	0.770	0.756
BA33	0.545	0.688
BA34	0.752	0.783

Table (4. 13): Measures of MSA for barriers of community participation

Barriers	Measures of Sampling Adequacy(MSA)	
	First run	Last run (fifth run)
BA35	0.705	0.732
BA36	0.801	0.782
BA37	0.766	0.767
BA38	0.549	0.608
BA39	0.586	0.641
BA41	0.562	0.577
BA42	0.696	0.801
BA43	0.629	0.681
BA44	0.709	0.747
BA45	0.581	0.594
BA46	0.870	0.872
BA47	0.486	0.638
BA48	0.643	0.664
BA49	0.544	0.625
BA50	0.478	0.571
BA52	0.577	0.582
BA53	0.739	0.717
BA54	0.489	0.600

4.4.1.5. Bartlett’s Test of Sphericity

Bartlett’s test of sphericity is the pre-final procedure before for checking the suitability of data for the factor analysis. Bartlett’s Test is like the regression method; it produces factors with score zero for mean and standard deviations larger than one (Mooi *et al.*, 2018). As shown in Table (4.14), the Bartlett test of sphericity results for the remaining 45 barriers with (chi-square= 990), and the associated significance level is (p-value =0.00 <0.05) indicate that, the correlation matrix (R-matrix) is not an identity matrix; therefore, there are some relationships between the barriers, so that, the data are good enough for the factor analysis (Williams *et al.*, 2010). Sadiqi *et al.* (2015) pointed out that the Bartlett test (chi-square= 660) and (p-value =0.00 <0.05) and the result was adequate for further analysis.

Table (4. 14): KMO and Bartlett's Test for overall barriers

Item	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.72
Approx. Chi-Square	2215
Bartlett's Test of Sphericity	df
	990
	Sig.
	0.00
Cronbach's alpha	0.94

The results in this table based on the remaining 45 barriers in the fifth run

4.4.1.6. Test of Internal Consistency “reliability” for the remaining barriers

Reliability for the remaining 45 barriers should be revised again before continuing with the factor analysis. Cronbach coefficient alpha for the remaining 45 barriers has calculated again from SPSS 0.94. This value of Cronbach coefficient considered acceptable since it is larger than 0.70 which consider critical as recommended by (Williams *et al.*, 2010).

The previous discussion on the data suitability indicated that using six runs or SPSS runs (One run for correlation matrix and five for anti-image test) of the initial data for 54 barriers resulted to remove 9 barriers. The remaining 45 barriers are suitable for the factor analysis since it passed the suitability tests.

4.4.2. Second Step: Exploratory Factor Analysis (EFA) and factors extraction

After achieving the requirements of the data suitability Cronbach’s, correlation matrix, KMO values and Barlett’s test of sphericity for the remaining 45 barriers; the factor analysis can be conducted to determine the factor structure of the barriers. In this regard, Exploratory Factor Analysis (EFA) has been conducted by using the Principal Component Analysis (PCA) as the extraction method and the varimax criterion as the rotation method. More than one run can be done for factor analysis in order to attain acceptable solution that satisfies all factor analysis requirements. In any run, one or more barriers may be eliminated till all factor analysis all requirements are achieved.

The following requirements were examined in the output results of each run of factor analysis, as follows;

- All barriers should have communality value more than 0.50.
- Factor extraction based on eigenvalue equals to 1.
- The cumulative percent of the variance explained should be more than 50%.
- Any variable in the final solution should be loaded on one factor only with factor loading more than 0.50.
- Any factor should involve at least three barriers that involved with factor loading more than 0.50.

4.4.2.1. Communality values

Communality is defined as the amount of shared or common variance among the variables (Isa, Alias, and Abdul Samad, 2014, p. 27). In general, communalities indicate the proportion of the variance in the original variables that is accounted for by the factor solution (Isa *et al.*, 2014; Mooi *et al.*, 2018). Actually, extracted values of communalities are estimates of the variance in each variable accounted for by the factors in the factor solution. The general guidelines mentioned that the factor solution explain at least half of each original variable's variance, thus the communality value for each variable after extraction should be more than 0.50 to be accepted in the solution obtained from factor analysis method. In this line, communalities less than 0.50 were considered too low, since this would mean that, the variable share less than half of its variability with other variables (Mooi *et al.*, 2018). Thus, any variables with loadings less than 0.50 were removed from the analysis due to low communality (Williams *et al.*, 2010).

Thus, after performing the first run on the remaining 45 barriers for the community-based method in post conflict housing reconstruction projects, the analysis revealed that, the values of the extracted communalities for all barriers are higher than 0.50 as shown in Table (4.15). Accordingly, this set of data input including all the 45 barriers is justifiable to be used in the following procedures of the factor analysis. In this line, communalities values were checked in each run, for example, the output of the factor analysis in the tenth (10) run indicated that the commonality value for the barrier BA25 "Neglecting the community social, economic and culture needs in the implementation stage" was equal to 0.491 and less than 0.50 which mean that this variable (BA25) should be removed in the sixth run. Table (4.15) shows the

communalities of the barriers of the first and last run for the remaining barriers only. As tabulated in Table (4.19), it is noticed that only BA25 removed in communality test while other barriers were removed in other factor analysis tests.

Table (4. 15): Communalities of the barriers

Barriers	Extraction Communalities	
	First run	Last run
BA1	0.766	0.721
BA3	0.615	0.605
BA4	0.721	0.713
BA5	0.723	Removed in the 1 st run
BA6	0.581	Removed in the 1 st run
BA7	0.696	Removed in the 2 nd run
BA8	0.773	0.752
BA9	0.808	0.781
BA10	0.664	0.631
BA11	0.726	0.710
BA12	0.791	Removed in the 8 th run
BA13	0.625	Removed in the 3 rd run
BA14	0.734	Removed in the 4 th run
BA15	0.737	0.737
BA20	0.728	Removed in the 3 rd run
BA21	0.682	Removed in the 2 nd run
BA24	0.622	0.611
BA25	0.754	Removed in the 6 th run
BA26	0.785	0.755
BA27	0.706	Removed in the 1 st run
BA28	0.691	0.678
BA29	0.721	0.701
BA30	0.709	Removed in the 2 nd run
BA31	0.765	Removed in the 3 rd run
BA32	0.607	Removed in the 1 st run
BA33	0.732	0.711
BA34	0.763	0.742
BA35	0.689	Removed in the 7 th run
BA36	0.776	Removed in the 9 th run
BA37	0.714	Removed in the 1 st run
BA38	0.763	Removed in the 10 th run
BA39	0.839	Removed in the 1 st run
BA41	0.732	0.711
BA42	0.755	0.766
BA43	0.592	Removed in the 2 nd run
BA44	0.769	0.722
BA45	0.666	Removed in the 10 th run

Table (4. 15): Communalities of the barriers

Barriers	Extraction Communalities	
	First run	Last run
BA46	0.759	Removed in the 1 st run
BA47	0.682	Removed in the 8 th run
BA48	0.783	Removed in the 5 th run
BA49	0.808	0.789
BA50	0.633	0.611
BA52	0.774	0.742
BA53	0.812	0.812
BA54	0.760	0.734

4.4.2.2. Factors extraction

Factors extraction is based on the fundamental theorem of factor analysis which argues that every observed value can be written as a linear combination of hypothetical factors (Williams *et al.*, 2010). Thus, Principal Components Analysis (PCA) is one of the multivariate methods of data analysis used commonly for factor extraction where linear combinations of the observed variables are formed (Costello and Osborne, 2005; Williams *et al.*, 2010). PCA is used to extract maximum variance from the data set with each component thus reducing a large number of variables into smaller number of uncorrelated variables called principal components while maintaining most of the information in the original variables (Yong and Pearce, 2013). Extracted principal components are sorted according to their contribution to the variance of the manifest variables, in such a way that the first principal component accounts for as much as possible of the variance, the second principal component accounts for as much as possible of the remaining variance, and successively for the rest of the principal components (Williams *et al.*, 2010). In addition, factor extraction by PCA method can help to determine the number remaining barriers.

4.4.2.3. Eigenvalue-greater-than-one rule (“K1” rule)

Eigenvalues represent the amount of variance accounted for by each component (factor), but they are not in a standardized metric (Yong and Pearce, 2013). Eigenvalue greater than one rule is the most widely known approaches for estimating the number of factors for a given item set were recommended by Mooi *et al.* (2018), Sadiqi *et al.* (2015) and Earnest (2015). Eigenvalue will determine the importance of

a factor and indicate the amount of variance in the entire set of items accounted for by a given factor. The larger a factor's eigenvalue, the more variance that it accounts for within a group of measured variables.

The eigenvalue-greater-than-one rule has been utilized in this study to determine the number of barriers to be retained for the appropriate solution (Yong and Pearce, 2013). Factor analysis has been conducted without limiting the number of factors in order to obtain the eigenvalues and make a scree plot (Williams *et al.*, 2010). Mooi *et al.* (2018) pointed out that, it takes some iteration to come up with the optimal number of factors. Each factor explains a percent of the total variance. Any factor has an eigenvalue less than one does not have enough total variance explained to represent a unique factor, and that do not explain much variance might not be worth included in the final solution and is therefore disregarded.

For the remaining 45 barriers that considered the base data for factor analysis, ten 10 runs have been conducted in which 23 barriers have been eliminated and the remaining 22 barriers were organized under six groups. The last repetition involved 6 groups consisted of 22 barriers and satisfied all factor analysis requirements.

On this basis, the initial data of the barriers that consists of 54 barriers are subjected to a total of 15 runs in which 9 barriers were removed in the first five runs to satisfy factor analysis data suitability requirements and 23 barriers were removed in the last ten runs to satisfy factor extraction requirement which mean that 32 barriers have been eliminated and only the remaining 22 barriers are distributed on 6 factors.

Based on the eigenvalues shown in Table (4.16) below for the last repetition (final solution) of factor analysis for the barriers of implementation the community-based method in post conflict housing reconstruction projects, that criterion would suggest to choose six (6) factors only that have eigenvalues greater than 1.0. The first column of the total Variance explained table contains 22 eigenvalues, one for each of the remaining 22 barriers respectively. The sum of these 22 eigenvalues is equal to the total variance of the sample that is 22. The 22 eigenvalues are arranged in a descending order, with the largest at the top of the column and the lowest at the bottom. Among the 22 factors, factor 1 account for the largest amount of variance in the sample, while factor 22 contributes to the smallest amount. For factor 1, the

corresponding eigenvalue is 5.87, which means that 5.87 can be attributed to factor 1 from the total variance of 22 remaining barriers.

Table (4. 16): Total variance explained by factor analysis for the last run

Barriers	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
BA1	5.87	26.69	26.69	5.87	26.69	26.69	3.28	14.89	14.89
BA3	3.24	14.72	41.42	3.24	14.72	41.42	2.67	12.15	27.04
BA4	1.56	7.08	48.49	1.56	7.08	48.49	2.53	11.50	38.54
BA8	1.54	6.98	55.47	1.54	6.98	55.47	2.16	9.82	48.36
BA9	1.45	6.59	62.07	1.45	6.59	62.07	2.13	9.67	58.02
BA10	1.21	5.48	67.55	1.21	5.48	67.55	2.10	9.52	67.55
BA11	0.84	3.82	71.37						
BA15	0.76	3.44	74.81						
BA24	0.74	3.36	78.16						
BA26	0.60	2.74	80.91						
BA28	0.59	2.69	83.59						
BA29	0.57	2.61	86.20						
BA33	0.49	2.23	88.44						
BA34	0.44	2.00	90.43						
BA41	0.40	1.82	92.26						
BA42	0.34	1.53	93.79						
BA44	0.31	1.43	95.22						
BA49	0.27	1.25	96.47						
BA50	0.24	1.09	97.56						
BA52	0.22	1.00	98.56						
BA53	0.18	0.80	99.36						
BA54	0.14	0.64	100.00						

Extraction Method: Principal Component Analysis.

4.4.2.4. Scree plot

Scree plot is the most useful approach for determining how many barriers to retain (Williams *et al.*, 2010). It is a two-dimensional graph of the eigenvalues against all extracted barriers. Visually appealing graph is constructed by plotting eigenvalues along the ordinate (y-axis) and the extracted factor numbers along the abscissa (x-axis) (Mooi *et al.*, 2018). The point of interest is where the curve starts to flatten which can identify the number of the factors to be retained. Based on Yong and

Pearce (2013) suggestion that the point where the continuous drop in eigenvalues levels off suggests the cutoff, where only random "noise" is being extracted by additional factors. Hence, to determine where the break occurs, a straight line should be drawn with a ruler through the lower values of the plotted eigenvalues. That point where the factors curve above the straight line drawn through the smaller eigenvalues identifies the optimal number of factors to retain. The logic behind this method is that this point divides the important or major factors from the minor or trivial factors (Yong and Pearce, 2013).

In the Scree plot extracted by SPSS as shown in Figure (4.12) below for the data obtained in the tenth run of factor analysis for the barriers to implement the community-based method in post conflict housing reconstruction projects. The point of interest is pointed out by arrow in Figure (4.12) Although there are 22 'principal components', only 6 groups have eigenvalues over one, so it will be expect to find 6 principal factors in the data. Accurately, the scree plot also showed its consistency with the retaining factors from eigenvalue-greater-than-one rule.

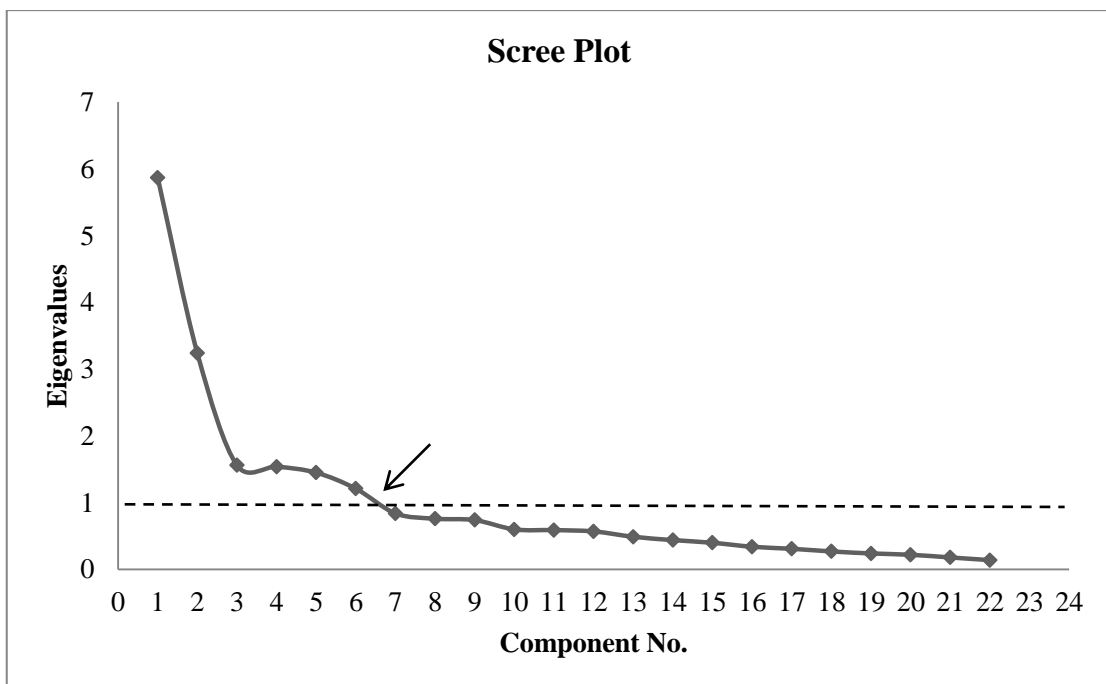


Figure (4. 12): Scree plot for the barriers factors of the community based method

4.4.2.5. Cumulative percentage of variance explained

Determining the total variance of the items included in data set is one important issue of factor analysis to confirm the number of the retained factors from the two mentioned methods of factors retention (Yong and Pearce, 2013). Total variance has been defined as the sum of the variances of the observed variables in the data set. However, total variance explained determines the variability in the data which has been modeled by the extracted factors.

The Total Variance Explained table shown in Table (4.16) has been divided into three sub-sections, i.e. Initial Eigen Values, Extracted Sums of Squared Loadings, and Rotation of Sums of Squared Loadings. However, it is important to note that only Extracted or Rotation Sums of Squared Loadings values are meaningful for analysis and interpretation. The Rotation Sums of Squared Loadings present the eigenvalues and variance after rotation. The rotation maintains the cumulative percentage of variation explained by the extracted components, but that variation is now spread more evenly over the components. According to Sadiqi *et al.* (2015) and Austin (2012), retained factors should explain at least 50% of the variance in the data set. At this stage, if the cumulative percentage of the variance explained less than 50%, the items with inappropriate loadings were deleted, and the analysis repeated, until obtaining a clear factor structure matrix that explained more than 50% of total items variance. At this stage, in the rotation sums of square loadings, the cumulative percentage of variance explained by the remained six factors equals to 67.55%. The first factor accounts for 14.89% of the variance, the second 12.15%, the third 11.50%, the fourth 9.82%, the fifth factor 9.67 and the sixth factor 9.52. To sum up, a model with six factors adequately represents the data related to the 54 barriers to implement the community-based method in post conflict housing reconstruction projects.

4.4.3. Third Step: Factors rotation and retention

4.4.3.1. Varimax rotation

Rotation can be especially helpful when the factor analysis is being performed specifically to gain an explanation of what factors or groups exist in the data or to confirm hypothesized assumptions about the data (Adams *et al.*, 2017; Mooi *et al.*,

2018; Yong and Pearce, 2013). Mooi *et al.* (2018) pointed out that a rotation can help to choose the correct number of factors to retain and can also help the interpretation of the solution. The rotated solution gives a clear indication how each item correlates with each factor (Costello and Osborne, 2005). The idea of rotation is to reduce the number factors on which the variables under investigation have high loadings. Rotation does not actually change anything but makes the interpretation of the analysis easier (Dikmen and Elias-Ozkan, 2016).

- Orthogonal rotations which retain uncorrelated factors
- Oblique rotations which create correlated factors

In general, orthogonal rotation produces factors that are uncorrelated while, oblique method has several options for rotation; Quartimax, Biquartimax, and Equamax (Mooi *et al.*, 2018).

As stated earlier, orthogonal rotation was chosen, since it produces more easily interpretable results and is slightly simpler than oblique rotation (Costello and Osborne, 2005). Specifically, Varimax rotation method was selected since it is the most common form of rotational methods for exploratory factor analysis and will often provide a simple structure. Varimax rotation method rotating is the axes to orientations that maximize the variances of the loadings within the patterns. While maximizing differences between the high and low loadings on a particular pattern. Thus, by rotating the factor pattern, a better explanation of the data should be gained.

4.4.3.2. Factors retention

PCA method as a factor extraction technique produces eigenvalues for the number of components (factors). Eigenvalue actually reflects the number of extracted factors whose sum should be equal to number of items which are subjected to factor analysis (Sadiqi *et al.*, 2015; Shakalaih, 2016). Thus, produced eigenvalues can be employed as a tool in delivering the number of the factors to be retained.

On the other hand, when conducting an exploratory factor analysis, the decision regarding the approach to be used to identify the number of the factors to be retained after factor extraction should be considered very carefully, as the decision can have a dramatic effect on results (Yong and Pearce, 2013). Although there are numerous approaches that can be used when making this decision, the eigenvalue-greater-than-

one rule (K1 rule) (Gibbons and Chakraborti, 2011; Yong and Pearce, 2013). The majority of the researches (Nakamura *et al.*, 2017; Steinfors and Walker, 2007; Yong and Pearce, 2013) used the Kaiser criterion (all factors with eigenvalues greater than one) as a method for deciding the number of constructs to be retained for rotation although it will not always yield the best results for a particular data set.

4.4.3.3. Extracted factors loading and properties

Once the decision about the number of retainable factors was taken, the next step was to report the factor loadings for these retained factors. Factor loading represents the correlation coefficient between the factor score and variable (Mooi *et al.*, 2018). Factor loadings are used to compute Eigenvalues for each factor and the communalities of each variable. The higher the loadings, the more important are the variable in the factor (Williams *et al.*, 2010; Yong and Pearce, 2013). The loading on factors can be positive or negative, with negative loadings indicating that the variable has an inverse relationship with other factors. In this regard, many considerations should be taken to obtain acceptable solution from factor analysis.

4.4.3.4. Minimum loading value

A factor loading is the correlation between a variable and a factor that has been extracted from the data. Yong and Pearce (2013) recommended that any variable with an absolute factor loading of 0.4 or greater is appropriate with the factor. Williams *et al.* (2010) suggest that 0.32 is the minimum loadings of a variable on a factor. A research should take into account a sample size. When it is big (>100) it is likely to obey the traditional scheme (loadings > 0.4), on the other hand, when it is minor, least interpretable loadings ought to be higher than >0.5 (Costello and Osborne, 2005; Fabrigar *et al.*, 1999; Williams *et al.*, 2010).

In this study, a factor loading of 0.50 (Adams *et al.*, 2017; Earnest, 2015; Yong and Pearce, 2013) was used as the cut-off point. Any item with factor loading less than 0.50 will be removed from the solution and the factor analysis should be repeated. In this regard, seven barriers including BA5, BA6, BA27, BA32, BA37, BA39 and BA46 have been removed in the sixth run because they are not loaded on any extracted factor with factor loading more than 0.50.

4.4.3.5. Cross-loading items

Each item in the acceptable solution of factor analysis should be loaded by 0.50 or greater on one factor only. The problem of cross-loading existed when an item is loaded on more than one factor with a significant value of factor loading of more than 0.50. If there are several cross-loaders, the items may be poorly written or the a priori factor structure could be flawed (Costello and Osborne 2005). In general, variables that are not factorially pure and/or cross-load on multiple factors should be deleted (Cheng and Choy, 2007). For example, the item BA48 has been removed in the tenth (10) run because it is across-loading item that loaded with loading value exceed 0.50 on two factors of the extracted factor after rotation.

4.4.3.6. Number of loaded items in each factor

At least three variables per factor should be included in the factor analysis to ensure an adequate identification of the factors (Hogarty *et al.*, 2005; Williams *et al.*, 2010; Yong and Pearce, 2013). Any factor doesn't satisfy this requirement it should be deleted from analysis by removing the items loaded on it and repeat factor analysis again. For example, the extracted barrier BA8 from the output of factor analysis in the 8th run has been removed as it involved two items only (BA12, BA47). This means that the factor analysis should be repeated in the 9th run without these two barriers.

Finally, Table (4.17) below represents the Rotated Component Matrix resulted from the final solution of factor analysis for the proposed 54 barriers of the community-based method in post conflict housing reconstruction projects. It can be seen that the three requirement of factor extraction discussed before are satisfied in this final solution, as follows

- Each item has at least factor loading with value more than 0.50.
- Each one of the remaining barriers loaded on one factor only with factor loading more than 0.50 (No Cross-loading).
- Each factor consists of three or more items loaded on it with factor loading more than 0.50.

•

Table (4. 17): Rotated Component Matrix for the last run of factor analysis

Item	Group					
	1	2	3	4	5	6
BA53	0.83					
BA54	0.80					
BA52	0.73					
BA49	0.70					
BA50	0.70					
BA44		0.78				
BA42		0.76				
BA24		0.73				
BA8			0.75			
BA9			0.75			
BA11			0.70			
BA10			0.60			
BA41				0.74		
BA33				0.69		
BA34				0.68		
BA29					0.73	
BA28					0.69	
BA26					0.68	
BA4						0.78
BA1						0.68
BA15						0.57
BA3						0.56

Table (4.18) below provides clear description about the items that are removed during the 15 runs of the factor analysis for the 54 barriers proposed on this study questionnaire.

Table (4. 18): Reasons for removed items from factor analysis

Barriers	Overall Run Number	Reasons for removal
BA2, BA19, BA40, BA51	2	No correlation coefficient exceeds 0.30
BA16, BA23	2	Correlated with one item only with correlation coefficient more than 0.30
BA18	3	Its measure of sampling adequacy (MSA) less than 0.50 (From Anti-image matrix)
BA17	4	Its measure of sampling adequacy (MSA) less than 0.50 (From Anti-image matrix)

Table (4. 18): Reasons for removed items from factor analysis

Barriers	Overall Run Number	Reasons for removal
BA22	5	Its measure of sampling adequacy (MSA) less than 0.50 (From Anti-image matrix)
BA5, BA6, BA27, BA32, BA37, BA39, BA46	6	Only these two items included in one factor
BA7, BA21, BA30, BA43	7	No factor loading exceeds 0.50
BA13, BA20, BA31	8	No factor loading exceeds 0.50
BA14	9	Loaded alone on factor.
A48	10	Cross-loading Item
BA25	11	Communality value less than 0.50
BA35	12	No factor loading exceeds 0.50
BA12, BA47	13	Only these two items included in one factor
BA36	14	No factor loading exceeds 0.50
BA38, BA45	15	Only these two items included in one factor

4.4.3.7. Evaluation of the identified solution “Reliability assessment”

The reliability of extracted six factors for the remaining 22 barriers was checked by calculating Cronbach’s alpha ($C\alpha$). In addition, the Cronbach’s alpha ($C\alpha$) value for each factor of the extracted factor is based on the items loaded on this factor only. As shown in Table (4.19), the value of Cronbach’s ($C\alpha$) for the first, second, third, fourth, fifth and sixth factors were 0.84, 0.76, 0.77, 0.71, 0.74, and 0.72, respectively. All Cronbach’s alpha ($C\alpha$) for each factor are more than 0.7 which indicating adequate internal consistency (Mooi *et al.*, 2018).

4.4.4. Fourth Step: Naming and interpreting the principal factors

Possible factors names and interpretations can be proposed according to the understanding of the relationships and contents of the barriers involved in each factor (Mochizuki and Chang, 2017; Mooi *et al.*, 2018). Table (4.19) below represents the factor model of the factor analysis data for the barriers to implement the community-based method in post conflict housing reconstruction projects. Six factors were obtained to summarize these data. The total variance explained by these six factors

equals to 67.55% of the cumulative variance in the barriers data. Names of these factors have been prepared to summarize the standards that reflecting the barriers to implement the community-based method in post conflict housing reconstruction projects. The factors names as follows:

1. **Factor No.1: Gender Participation:** involved 5 barriers and has 5.87 eigenvalue which explained 14.89% of the total variance.
2. **Factor No.2: Information:** comprised of 3 barriers and has 3.24 eigenvalue which explained 12.15% of the total variance.
3. **Factor No.3: Governmental Regulations:** comprised of 4 barriers and has 1.56 eigenvalue which explained 11.50% of the total variance.
4. **Factor No.4: Coordination and Communication:** comprised of 3 barriers and has 1.54 eigenvalue which explained 9.82% of the total variance.
5. **Factor No.5: Lack of confidence:** comprised of 3 barriers and has 1.45 eigenvalue which explained 9.67% of the total variance.
6. **Factor No.6: Community Capacity:** comprised of 4 barriers and has 1.21 eigenvalue which explained 9.52% of the total variance.

In depth discussion and interpretation of the extracted factor have been presented in the following sections.

Table (4. 19): Final barriers factors of the community participation

Item	Barrier description	Factor loading	Eigenvalue	% variance explained	Cornbach' α
Factor No.1: Gender Participation					
BA 53	Lack of equity laws in Gaza Strip.	0.83	5.87	14.89	0.84
BA 54	Lack of women numbers who works in disaster management field.	0.80			
BA 52	Minor role of the women in managing the community resource	0.73			
BA 49	Lack of trust between women and the implementing agencies of the reconstruction projects.	0.70			
BA 50	Inactivity of the women role due to the suffering from the disaster implications more than men	0.70			

Table (4. 19): Final barriers factors of the community participation

Item	Barrier description	Factor loading	Eigenvalue	% variance explained	Cornbach' α
Factor No.2: lack of Information					
BA 44	Ambiguous data of the reconstruction projects (Budget- target group- implementation period)	0.78	3.24	12.15	0.76
BA 42	Vague of expenditures process of the project budget	0.76			
BA 24	Inactivity of the community participation due to the donor role in the characteristics of houses.	0.73			
Factor No.3: Governmental Regulations					
BA 8	Absence of clear plans for conflict response.	0.75	1.56	11.50	0.77
BA 9	Absence of disaster/conflict management unit in government institutions.	0.75			
BA 11	Lack of the governmental policies which support the community participation.	0.70			
BA 10	Absence of the government role in preparing the proper administrative divisions of Gaza Strip.	0.60			
Factor No.4: Coordination and Communication					
BA 41	Lack communication between stakeholders due to failure in signing the case-fire agreements.	0.74	1.54	9.82	0.71
BA 33	Lack of technical knowledge and skills of the NGOs staff.	0.69			
BA 34	Lack of the NGOs number of staff in large-scale reconstruction projects.	0.68			
Factor No.5: Lack of confidence					
BA 29	Lack of confidence among the stakeholders due to the diversity of interests.	0.73	1.45	9.67	0.74
BA 28	Negligence of the community needs due to the political fluctuations	0.69			
BA 26	Lack of conflict recovery plans ability to accommodate the enormous number beneficiaries with different cultures	0.68			
Factor No.6: Community Capacity					
BA 4	Diversity of the community parties and difference of their ideas and complexities.	0.78	1.21	9.52	0.72
BA 1	Lack of the community knowledge about disaster mitigation and preparedness plans	0.68			
BA 15	Lack of the government activities (workshops- field visits ...) which encourage community participation.	0.57			
BA 3	Lack of the decision-making skills or affecting in the decision-making process.	0.56			

Table (4. 19): Final barriers factors of the community participation

Item	Barrier description	Factor loading	Eigenvalue	% variance explained	Cornbach' α
Kaiser-Meyer-Olkin measure of sampling adequacy = 0.75					
Bartlett's test of sphericity: $\chi^2= 760.57$, $df=231$, $p\text{-value}=0.00$					
Total variance explained (%) = 67.55%					
Total reliability Cornbach's $\alpha = 0.86$					

4.5. Ranks of the success groups of the community based method in housing reconstruction projects.

The potential success factors of the community based method of housing are classified into seven groups; each group has several statements in total 42 statements. Table (4.20) shows the rank of each success group, the mean, the severity index, the standard deviation (SD), t-value and the P-value for each group respectively. The data analysis was conducted using statistical package for sciences (SPSS) 22.0 including descriptive statistics test and t-test with 95% significant level with test value of zero. The analysis was done in order to rank the success groups that may contribute to achieve the community based method in post conflict housing reconstruction projects in Gaza Strip in order to build the framework of community based method.

Table (4. 20): Ranking of the success factor groups

No.	Success Group	Mean	Severity Index	SD	t-value	p-value	Rank
SG6	Transparency and accountability	4.00	80.03	0.70	12.95	0.00	1
SG1	Effective communication among stakeholders	3.90	78.07	0.78	10.47	0.00	2
SG4	Developing the community education and training	3.88	77.70	0.76	10.41	0.00	3
SG7	Availability of sufficient fund for community participation	3.88	77.65	0.87	9.09	0.00	4
SG3	Local government support	3.86	77.18	0.73	10.61	0.00	5

Table (4. 20): Ranking of the success factor groups

No.	Success Group	Mean	Severity Index	SD	t-value	p-value	Rank
SG2	Respecting the community culture	3.74	74.90	0.69	9.75	0.00	6
SG5	Supporting the Gender Participation	3.53	70.62	1.02	4.69	0.00	7
All success groups		3.84	76.86	0.62	12.18	0.00	

- *SD: Standard Deviation*
- *Critical t-value (two-tailed): at degree of freedom (df) = [N-1] = [81-1] = 80 and significance level 0.05 equals "1.99"*
- *The hypothesized population mean is the critical rating at 3.5*

It is shown from Table (4.20) that all success groups have a significant contribution on the success of the community based method in housing reconstruction projects. The mean value for all success groups is above 3.5 –the hypothesis mean value-. The hypothesis mean value was determined based on the literature studies. (Junqi *et al.*, 2015) utilized four Likert point scale and decided that, all statements with a mean value of 2 or above have an impact on the community participation. While other researchers utilized five point Likert scale and indicated that, mean value of 4 is the critical value of impact on the housing reconstruction projects (Ludin and Arbon, 2017; Taufika *et al.*, 2016).

As mentioned in section (4.3); Taufika *et al.* (2016) justified their decision mean value > 4 by the choosing the highest two ranking in the Likert five points scale . In this thesis a mean value of 3.5 will be adopted to decide which groups have a contribution in the success of the community based method. In this study, Likert scale with five points has been utilized also in the questionnaire for the success (Not Significant - slightly Significant - significant - very significant and extremely significant). Therefore, the justification for utilizing the mean value of 3.5 is to decide which groups have a significant, very significant, and extremely significant contribution in the success of the community participation.

The standard deviation of each group except the fifth group “Supporting the Gender Participation “is less than one between (0.69 – 0.87). The standard deviation values less than one indicate that the respondents answer are consists, as well as the sample

represents the population mean (Taufika *et al.*, 2016). Furthermore, the results of the severity index test are above 50 which mean that more than 50% of the respondents agreed on the same answers of the statements (Bluman, 2013). In addition, the success factors group have a strong significant effect on the community based method of housing reconstruction projects (Hassanain *et al.*, 2017).

The t-values are in range between 12 and 4 which mean all t-values are more than the critical t-value 1.99 as mentioned in below Table (4.20). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population (Bluman, 2013). In addition, all barrier groups are statistically significant as its value less than 0.05 that mean we could not reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). Figure (4.13) shows the severity index distribution for the success factors groups.

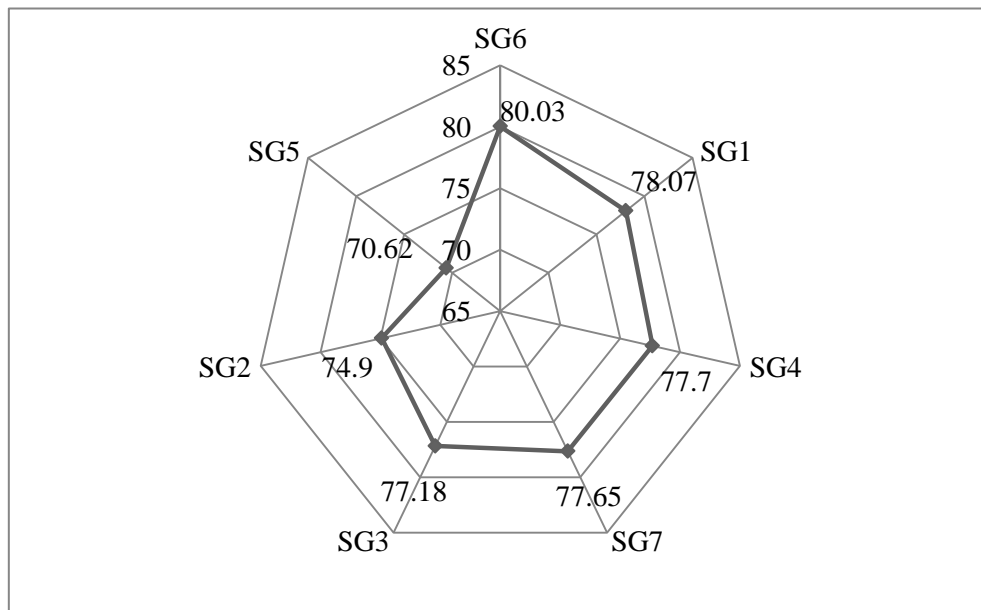


Figure (4. 13): The severity index of the success group

4.6. Ranking of the main success factors of the community based method in housing reconstruction projects in Gaza Strip.

The following sections illustrate in details the top three ranked statement under the same success group. The groups are ordered based on their ranks which are shown in Table (4.20). Several tables below show the main statistical characteristic including the rank within the group and the overall rank for each success factor. As well as the

mean, the severity index, the standard deviation (SD), t-value and the P-value have been stated for all success factors.

4.6.1. Transparency and accountability

Table (4.21) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. The transparency and accountability group is the top highest ranked group in the success groups, and consists of eight success factors.

Table (4. 21): Ranks of success factors in transparency and accountability group

No.	Success Factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF 32	Hold a periodic field visit to the stakeholders to ensure that they are satisfied about the projects results.	4.10	81.98	0.86	11.49	0.00	1	1
SF 33	Clearly identify the scope and the budget of the reconstruction projects	4.10	81.98	1.04	9.47	0.00	2	2
SF 36	Establishing an effective monitoring system for the post conflict housing projects and for each project individually.	4.10	81.98	0.90	10.95	0.00	3	3
SF 34	Monitoring the time schedule especially the community participation activities through specialist committees	4.05	80.99	0.93	10.11	0.00	4	5
SF 31	Prepare transparency plan which shows the community role in post conflict in housing reconstruction projects	4.00	80.00	1.06	8.49	0.00	5	8
SF 37	Accountability the reconstruction projects mangers during/after completion the project to ensure that the projects have achieved its objectives.	4.00	80.00	1.13	7.97	0.00	6	9

Table (4. 21): Ranks of success factors in transparency and accountability group

No.	Success Factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF 38	Enhancing the trust among stakeholders through periodic meeting to discuss the debate points.	3.86	77.28	1.15	6.77	0.00	7	21
SF 35	Facilitate the local media agencies works –as an external part- to check the transparency in the reconstruction projects	3.80	76.05	1.17	6.19	0.00	8	27
SG 6	Transparency and accountability	4.00	80.03	0.70	12.95	0.00		

The average mean for all statements in this group is 4.00 which is the highest average mean in all questionnaire groups. Accordingly, all success factors have a very significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors is 0.30; which indicates that all success factors have almost the same significant. The top three ranked success factors (SF 32, SF33 and SF 36) are also the top three ranked success factors in the overall ranking. The average severity index value of all success factors is 80.03 that mean 80% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 expect SF32, SF 34 and SF36 ; that mean the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all success factors have a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 11.46 and 6.19 which explain the variance of the data and it indicate that the mean is around the hypothesis (Gibbons and Chakraborti, 2011). The t-values - above the critical value 1.99- indicate clearly there is no

sufficient evidence to reject the hypothesis that the sample is represent the population Figure (4.14) shows the severity index distribution for the success factors in this group.

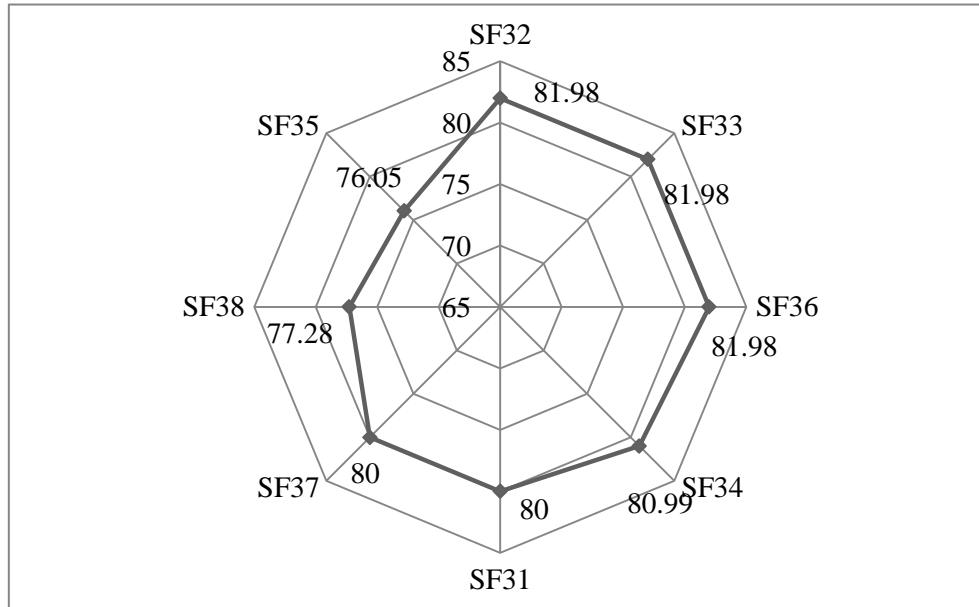


Figure (4. 14): The severity index of transparency and accountability group

4.6.2. Effective communication among stakeholders

Table (4.22) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. The effective communication among stakeholders group is the second highest rank in the success groups, and consists of six success factors.

Table (4. 22): Ranks of success factors in effective communication among stakeholders

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF4	Existing of the coordination unit between the implementing parties of reconstruction projects.	4.04	80.74	1.07	8.76	0.00	1	6
SF2	Availability of electronic in reconstruction projects.	3.99	79.75	1.18	7.55	0.00	2	10
SF6	Effective communication and coordination between stakeholders in all project life cycle stages.	3.94	78.77	1.04	8.11	0.00	3	15

Table (4. 22): Ranks of success factors in effective communication among stakeholders

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF5	Communication accessibility between the five levels of the reconstruction projects: national, international, regional, organization and project level.	3.91	78.27	1.14	7.20	0.00	4	17
SF1	Existing of a smooth channel of communication between the community and the implementing agencies.	3.85	77.04	1.06	7.22	0.00	5	22
SF3	Availability of mutual communication language (e.g. Arabic or English) between the stakeholders.	3.69	73.83	1.18	5.28	0.00	6	34
SG1	Effective communication among stakeholders	3.90	78.07	0.78	10.47	0.00		

The average mean for all statements in this group is 3.90. Accordingly, all success factors have a very significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors is 0.33; which indicates that all success factors have almost the same significant. The first and second top ranked success factors (SF4 and SF 2) are within the top ten ranked success. The average severity index value of all success factors is 78.07 that mean 78% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 that means the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all success factors have a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 8 and 5 which explain the variance of the data and it indicate that the mean is around the hypothesis(Gibbons and Chakraborti, 2011). The

t-values - above the critical value 1.99- indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population Figure (4.15) shows the severity index distribution for the success factors in this group.

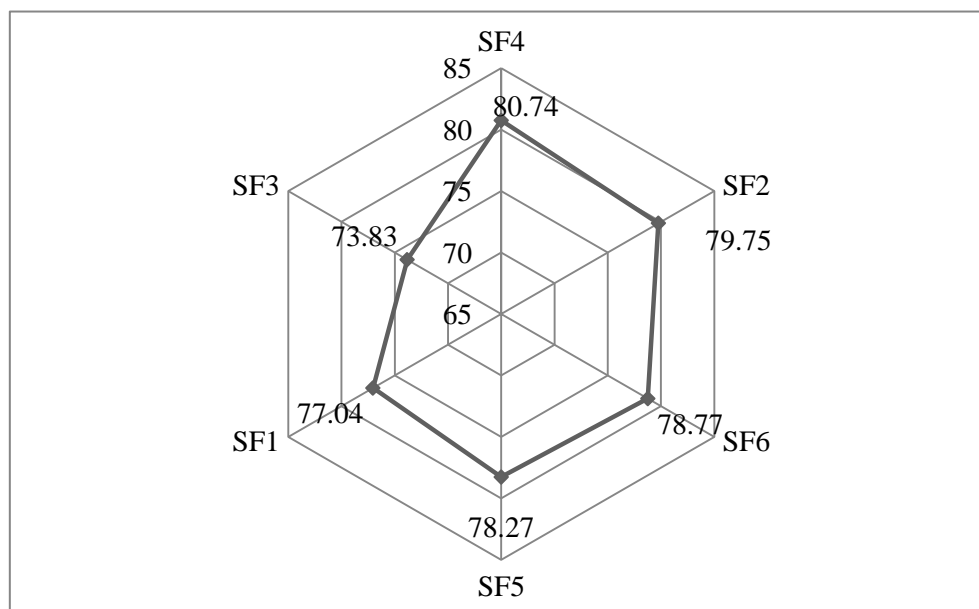


Figure (4. 15): The severity index of effective communication among stakeholders

4.6.3. Developing the community education and training

Table (4.23) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. Developing the community education and training group is the third highest ranked group in the success groups, and consists of six success factors.

Table (4. 23): Ranks of success factors in developing the community education and training group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF24	Support the disaster management system through outsourcing (international consultant – electronic archiving system).	4.01	80.25	1.01	9.06	0.00	1	7
SF20	Support the community education through training courses to understand the concept of the community based method in housing reconstruction projects	3.93	78.52	1.13	7.40	0.00	2	16

Table (4. 23): Ranks of success factors in developing the community education and training group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF22	Strengthening the decision-making skills of the stakeholders to help the decision maker to take the appropriate decision in post disaster projects	3.86	77.28	0.98	7.90	0.00	3	19
SF23	Increase the public awareness about the post disaster housing reconstruction project through practical sessions and media program.	3.86	77.28	1.06	7.35	0.00	4	20
SF21	Develop a job training program to selective groups of the community to enhance to the community capacity	3.85	77.04	1.12	6.85	0.00	5	23
SF25	Hold a competition between the affected area to encourage the community to participate in the reconstruction projects	3.79	75.80	1.10	6.44	0.00	6	28
SG4	Developing the community education and training	3.88	77.70	0.76	10.41	0.00		

The average mean for all statements in this group is 3.88. Accordingly, all success factors have a very significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors is 0.16; which indicates that all success factors have almost the same significant. The top ranked success factors (SF4) with mean value 4.01 is within the top ten ranked success. The average severity index value of all success factors is 77.7 that mean than 77.7% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 that means the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis (P-value < 0.05) which indicates all success factors have a significant impact on the reconstruction projects

(Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 9 and 6 which explain the variance of the data and it indicate that the mean is around the hypothesis (Gibbons and Chakraborti, 2011). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population. Figure (4.16) shows the severity index distribution for the success factors in this group.

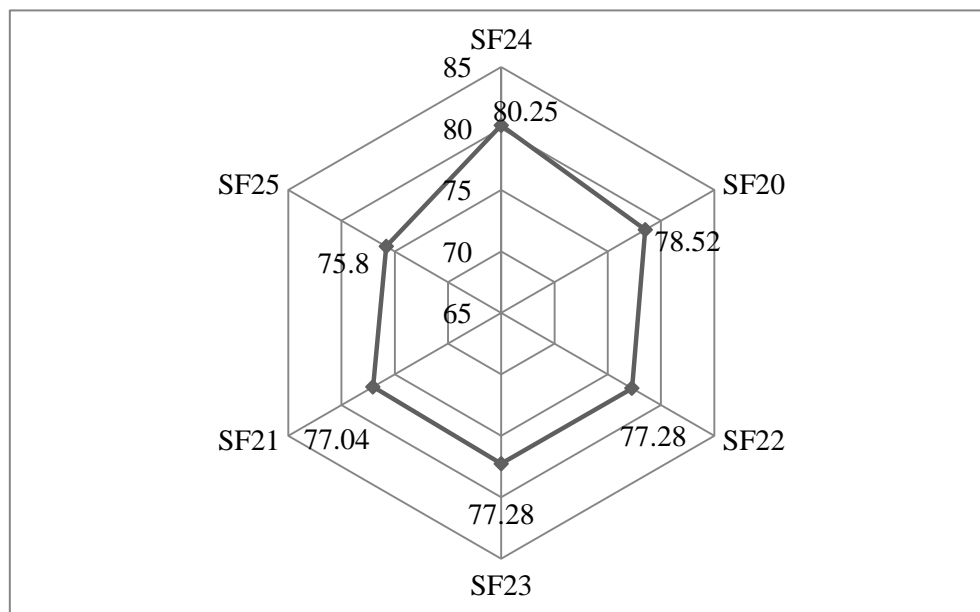


Figure (4. 16): The severity index of developing the community education and training group

4.6.4. Availability of sufficient fund

Table (4.24) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. Availability of sufficient fund group is the fourth highest ranked in the success groups and it consists of four success factors.

Table (4. 24): Ranks of success factors in availability of sufficient fund group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF39	Allocate sufficient fund to support the community participation activities in the post conflict reconstruction projects.	3.99	79.75	1.02	8.73	0.00	1	12
SF40	Preparing plans for community participation activities based on the fund availability	3.99	79.75	1.07	8.33	0.00	2	13
SF41	Allocate part of government general fund to support the community participation activities.	3.79	75.80	1.13	6.32	0.00	3	29
SF42	Choosing the reconstruction method based on the community needs not on the donor desires (donor driven or contractor driven)	3.77	75.31	1.15	5.97	0.00	4	31
SG7	Availability of sufficient fund	3.88	77.65	0.87	9.09	0.00		

The average mean for all statements in this group is 3.88, which is the same mean value of the previous group (SG4). Accordingly, all success factors have a very significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors are 0.22; which indicates that all success factors have almost the same significant. The average severity index value of all success factors is 77.65 that mean 77.6% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 that means the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all success factors have a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value

values are fluctuated between 8 and 5 which explain the variance of the data and it indicate that the mean is around the hypothesis (Gibbons and Chakraborti, 2011). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population. Figure (4.17) shows the severity index distribution for the success factors in this group.

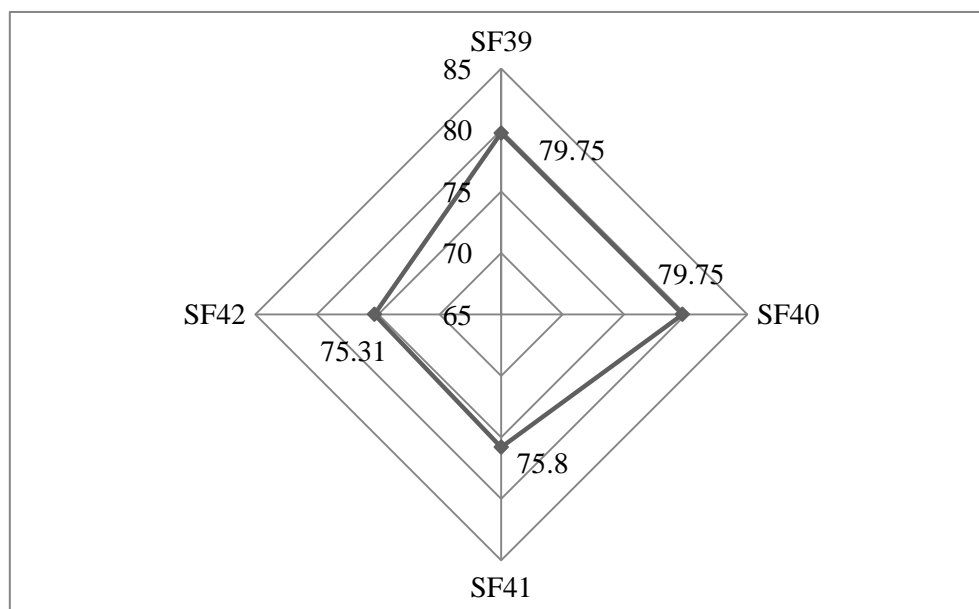


Figure (4. 17): The severity index of availability of sufficient fund group

4.6.5. Local government support

Table (4.25) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. The local government support group is the fifth highest ranked group in the success groups and consists of seven success factors.

Table (4. 25): Ranks of success factors in local government support group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF13	Prepare a plan for managing the team members of the reconstruction projects	4.05	80.99	0.88	10.75	0.00	1	4
SF14	Hold a periodic meeting with the stakeholders to determine discuss their needs	3.99	79.75	1.04	8.52	0.00	2	11

Table (4. 25): Ranks of success factors in local government support group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF18	Prepare a mitigation plan of the political situation in the affected area	3.95	79.01	1.00	8.57	0.00	3	14
SF17	Providing the stakeholders with necessary skills needed to success in housing reconstruction projects.	3.88	77.53	1.11	7.10	0.00	4	18
SF16	Clearly identify the scope of work for the reconstruction projects	3.84	76.79	1.04	7.25	0.00	5	24
SF19	Empower the government administration system through (external consultant – training ...) to support the stakeholder in the community based method.	3.68	73.58	1.18	5.17	0.00	6	35
SF15	Develop supportive regulations (e.g. allocate budget for community participation activities) to determine the community needs.	3.63	72.59	1.23	4.61	0.00	7	37
SG3	Local government support	3.86	77.18	0.73	10.61	0.00		

The average mean for all statements in this group is 3.86, which is closed to the mean value of (SG4 and SG 7). Accordingly, all success factors have a very significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors is 0.42; which indicates that all success factors have almost the same significant. The top ranked success factor of this group is the fourth ranked success factor in overall ranking. The average severity index value of all success factors is 77.18 that mean 77% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 except SF13 that means the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all success factors have a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 8 and 5 which explain the variance of the data and it indicate that the mean is around the hypothesis (Gibbons and Chakraborti, 2011). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population. Figure (4.18) shows the severity index distribution for the success factors in this group.

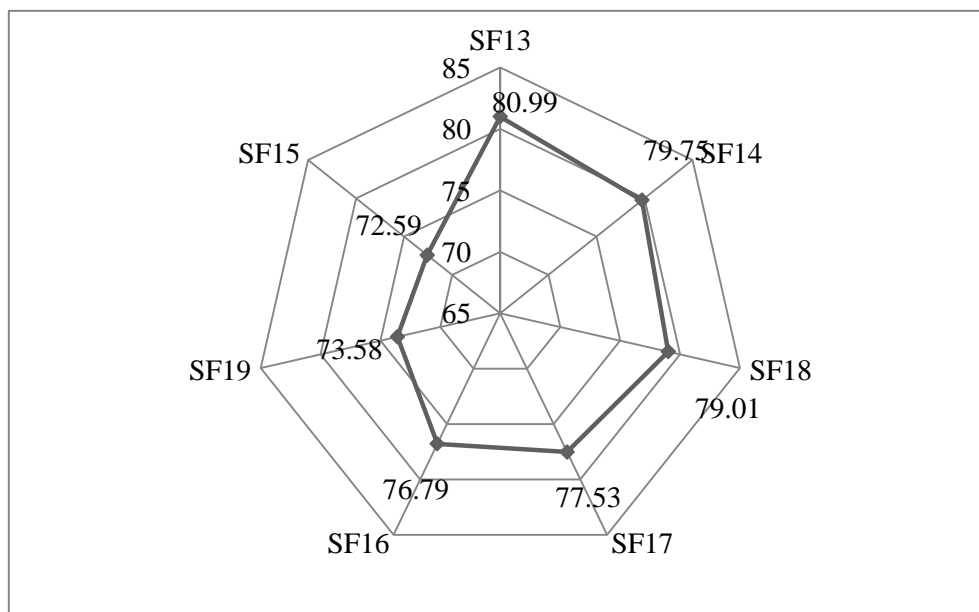


Figure (4. 18): The severity index of local government support group

4.6.6. Respecting the community culture

Table (4.26) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. Respecting the community culture group is the sixth highest ranked group in the success groups and consists of six success factors.

Table (4. 26): Ranks of success factors in local government support group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF8	Considering the location and the accessibility of the service facilities (Hospital- garden-) of the houses	3.83	76.54	0.96	7.76	0.00	1	25
SF9	Considering the community customs in the reconstruction projects	3.83	76.54	1.10	6.74	0.00	2	26
SF10	Comprising the reconstruction strategies in reconstruction projects	3.78	75.56	1.04	6.75	0.00	3	30
SF7	Considering the cultural and social characteristics of the community in the design stage reconstruction projects	3.70	74.07	1.08	5.88	0.00	4	32
SF12	Respect the community restrictions (Mixing between men and women (in reconstruction projects.	3.70	74.07	1.05	6.01	0.00	5	33
SF11	Developing the community capacities to satisfy the main cultural needs in the reconstruction projects	3.63	72.59	1.07	5.32	0.00	6	36
SG2	Respecting the community culture	3.74	74.90	0.69	9.75	0.00		

The average mean for all statements in this group is 3.74. Accordingly, all success factors have a very significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors is 0.20; which indicates that all success factors have almost the same significant. The average severity index value of all success factors is 74.90 that mean 74.9% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 except SF8 that means the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all success factors have a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 7 and 5 which explain the variance of the data and it indicate that the mean is around the hypothesis (Gibbons and Chakraborti, 2011). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population. Figure (4.19) shows the severity index distribution for the success factors in this group.

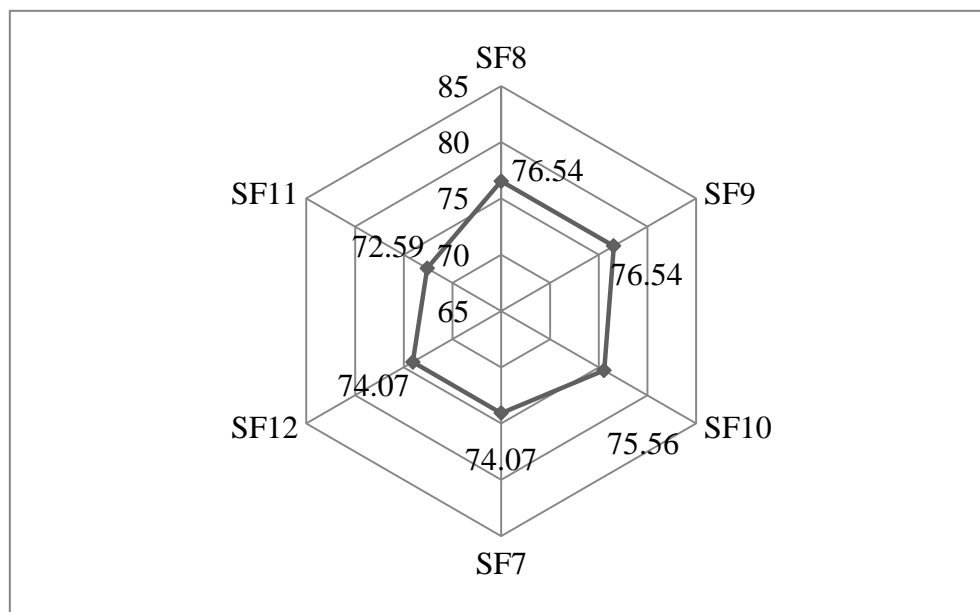


Figure (4. 19): The severity index of respecting the community culture group

4.6.7. Supporting Gender Participation

Table (4.27) below shows the ranks of the success factors of the community based method of housing reconstruction projects within the same group and the overall ranking. Supporting Gender Participation group is the seventh highest rank in the success groups and consists of five success factors.

Table (4. 27): Ranks of success factors supporting Gender Participation group

No.	Success factor	Mean	Severity Index	SD	t-value	p-value	Group Ranking	Overall ranking
SF28	Respect the women point view in community based method in housing reconstruction projects.	3.57	71.36	1.26	4.04	0.00	1	38
SF27	Develop the women capacity through training courses to participate in community based method	3.56	71.11	1.16	4.30	0.00	2	39
SF26	Increase women's awareness in disaster management	3.54	70.86	1.18	4.13	0.00	3	40
SF29	Strength the women role in her family to participate in housing reconstruction projects	3.53	70.62	1.29	3.72	0.00	4	41
SF30	Develop gender equity regulations	3.46	69.14	1.23	3.36	0.00	5	42
SG5	Supporting Gender Participation	3.53	70.62	1.02	4.69	0.00		

The average mean for all statements in this group is 3.53 which is closed to the hypothesis mean value 3.5. Accordingly, all success factors have significant on the success of the community based method in housing reconstruction projects. The different between the highest mean and lowest mean value of the success factors is 0.11; which indicates that all success factors have almost the same significant. The average severity index value of all success factors is 70.62 that mean 70.62% of the respondents agreed on the same answers of the statements (Bluman, 2013). The standard deviation values for all success factors are above 1 that means the distribution of data is spread out enough. As well as there is much variance between the sample and population; due to different in the culture and the living place of the respondents.

P-values for all success factors are less than the hypothesis ($P\text{-value} < 0.05$) which indicates all success factors have a significant impact on the reconstruction projects (Acharya *et al.*, 2006). The P-value indicate that it is not possible to reject the hypothesis that sample represents the population (Al-Benna *et al.*, 2010). The t-value values are fluctuated between 4 and 3 which explain the variance of the data and it

indicate that the mean is around the hypothesis (Gibbons and Chakraborti, 2011). The t-values indicate clearly there is no sufficient evidence to reject the hypothesis that the sample is represent the population. Figure (4.20) shows the severity index distribution for the success factors in this group.

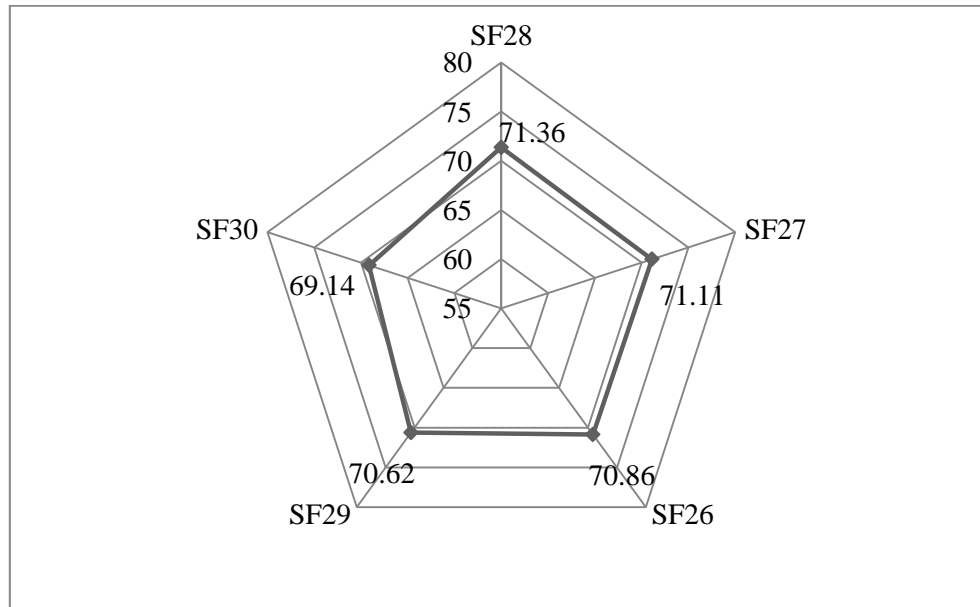


Figure (4. 20): The severity index of supporting Gender Participation group

4.7. Factor Analysis for the success factors of the community participation

As mentioned in details in section 4.5 in this study the Exploratory Factor Analysis was adopted using Principle Component Analysis (PCA) to extract the suitable groups for the 42 success factors of the community based method in housing reconstruction projects mentioned in section (3) of the questionnaire. The following sections discuss the main steps followed to conduct the factor analysis for the 42 success factors.

4.7.1. First Step: Measuring the suitability of data

The suitability of data tests were conducted to ensure that the factor analysis requirements are achieved in the collected data. The following sections explain the suitability of data for the factor analysis.

4.7.1.1. Internal consistency test “Data reliability”

Cronbach coefficient alpha equals to 0.95 for the 42 success factors involved in reliability analysis as calculated from SPSS. This value of Cronbach coefficient considered acceptable according to (Acharya *et al.*, 2006; Mooi *et al.*, 2018; Omidvar *et al.*, 2011) as it is larger than the threshold of 0.7.

4.7.1.2. Sample size

In this research the sample size was 81 questionnaire which is adequate since it is more than 50 (Mooi *et al.*, 2018). Accordingly, the collected data included in these 42 success factors is suitable for the factor analysis test.

4.7.1.3. Factorability of the correlation matrix

The factorability test is conducted to check if the data is suitable for being factored. The correlation matrix in Table (4.28) shows the correlation coefficients for the 42 success factors of the community based method that involved in the first run of SPSS to implement the factor analysis. This table revealed that each success factor correlated with many other variables with correlation coefficient between 0.3 and 0.9 heightened in bold. In addition, it is shown that, that there is no correlation coefficient more than 0.9. Accordingly, all of the 42 success factors can be involved in factor extraction procedures.

Table (4. 28): Correlation matrix of the success factors

	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18	SF19	SF20	SF21	SF22	SF23	
SF1	1.00																							
SF2	0.53	1.00																						
SF3	0.45	0.30	1.00																					
SF4	0.39	0.48	0.36	1.00																				
SF5	0.44	0.44	0.13	0.40	1.00																			
SF6	0.33	0.25	0.34	0.42	0.54	1.00																		
SF7	0.26	0.36	0.30	0.27	0.33	0.36	1.00																	
SF8	0.17	0.27	0.25	0.06	0.05	0.24	0.51	1.00																
SF9	0.24	0.20	0.20	0.14	0.23	0.50	0.40	0.49	1.00															
SF10	0.36	0.21	0.23	0.27	0.02	0.27	0.15	0.28	0.32	1.00														
SF11	0.48	0.33	0.24	0.21	0.27	0.20	0.28	0.14	0.33	0.49	1.00													
SF12	0.24	0.20	0.18	0.14	0.15	0.27	0.22	0.23	0.37	0.17	0.32	1.00												
SF13	0.22	0.29	0.21	0.38	0.24	0.34	0.39	0.23	0.38	0.34	0.31	0.39	1.00											
SF14	0.36	0.19	0.37	0.23	0.21	0.14	0.30	0.15	0.20	0.26	0.40	0.26	0.46	1.00										
SF15	0.28	0.33	0.34	0.16	0.31	0.29	0.50	0.32	0.29	0.10	0.24	0.40	0.43	0.42	1.00									
SF16	0.22	0.22	0.15	0.23	0.33	0.47	0.29	0.26	0.26	0.16	0.10	0.20	0.40	0.32	0.36	1.00								
SF17	0.46	0.34	0.40	0.37	0.28	0.43	0.32	0.17	0.15	0.29	0.25	0.41	0.44	0.29	0.48	0.31	1.00							
SF18	0.38	0.19	0.38	0.05	0.22	0.31	0.33	0.40	0.35	0.17	0.28	0.29	0.29	0.31	0.38	0.34	0.40	1.00						
SF19	0.43	0.35	0.30	0.39	0.39	0.35	0.45	0.25	0.33	0.23	0.34	0.44	0.33	0.43	0.42	0.23	0.42	0.35	1.00					
SF20	0.38	0.34	0.29	0.20	0.30	0.35	0.57	0.37	0.33	0.40	0.42	0.32	0.31	0.46	0.53	0.38	0.36	0.44	0.47	1.00				
SF21	0.47	0.48	0.32	0.39	0.38	0.47	0.50	0.26	0.38	0.25	0.34	0.39	0.31	0.29	0.50	0.37	0.48	0.37	0.57	0.67	1.00			
SF22	0.30	0.35	0.31	0.24	0.32	0.58	0.33	0.25	0.43	0.40	0.33	0.41	0.35	0.31	0.42	0.40	0.45	0.48	0.30	0.53	0.62	1.00		
SF23	0.15	0.24	0.22	0.07	0.22	0.34	0.23	0.36	0.36	0.14	0.01	0.46	0.32	0.20	0.45	0.39	0.32	0.42	0.24	0.44	0.43	0.46	1.00	

Table (4.28): Correlation matrix of the success factors (cont'd)

	SF1	SF2	SF3	SF4	SF5	SF6	SF7	SF8	SF9	SF10	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18	SF19	SF20	SF21	SF22	SF23	
SF24	0.46	0.18	0.14	0.19	0.39	0.26	0.29	0.27	0.42	0.21	0.40	0.27	0.21	0.30	0.21	0.22	0.18	0.32	0.45	0.32	0.40	0.24	0.26	
SF25	0.37	0.25	0.28	0.21	0.08	0.20	0.43	0.26	0.25	0.33	0.43	0.33	0.23	0.32	0.31	0.05	0.43	0.26	0.26	0.38	0.41	0.34	0.31	
SF26	0.26	0.16	0.11	0.08	0.16	0.41	0.39	0.38	0.48	0.17	0.24	0.47	0.29	0.28	0.38	0.28	0.25	0.44	0.21	0.37	0.27	0.40	0.47	
SF27	0.33	0.11	0.15	- 0.10	0.07	0.20	0.27	0.45	0.37	0.13	0.21	0.36	0.02	0.35	0.44	0.27	0.09	0.43	0.30	0.38	0.29	0.34	0.35	
SF28	0.30	0.11	0.28	- 0.03	0.15	0.16	0.39	0.39	0.32	0.15	0.24	0.22	0.14	0.40	0.48	0.23	0.23	0.55	0.22	0.35	0.19	0.40	0.33	
SF29	0.15	0.12	0.34	0.02	- 0.06	0.03	0.34	0.40	0.18	0.24	0.17	0.19	0.19	0.42	0.36	0.11	0.25	0.41	0.13	0.32	0.22	0.36	0.29	
SF30	0.20	0.28	0.09	0.03	0.16	0.28	0.35	0.41	0.42	0.16	0.17	0.28	0.16	0.17	0.38	0.21	0.31	0.47	0.16	0.32	0.26	0.40	0.38	
SF31	0.21	0.47	0.32	0.39	0.22	0.33	0.51	0.22	0.30	0.31	0.32	0.42	0.47	0.25	0.37	0.27	0.47	0.24	0.24	0.33	0.45	0.43	0.21	
SF32	0.30	0.08	0.34	0.04	0.03	0.19	0.15	0.13	0.18	0.15	0.19	0.16	0.22	0.22	0.18	0.07	0.30	0.53	0.06	0.21	0.22	0.33	0.21	
SF33	0.24	0.21	0.20	0.23	0.21	0.30	0.15	0.15	0.11	0.39	0.29	0.28	0.21	0.27	0.14	0.50	0.19	0.23	0.26	0.31	0.43	0.40	0.27	
SF34	0.32	0.34	0.27	0.37	0.33	0.22	0.39	- 0.05	0.17	0.19	0.28	0.19	0.32	0.51	0.27	0.24	0.38	0.32	0.43	0.38	0.38	0.38	0.36	0.17
SF35	0.42	0.19	0.43	0.25	0.17	0.16	0.26	0.21	0.11	0.39	0.34	0.20	-0.01	0.27	0.24	0.00	0.37	0.38	0.32	0.43	0.38	0.29	0.12	
SF36	0.13	0.35	0.23	0.23	0.25	0.14	0.31	0.32	0.13	-0.03	0.04	0.31	0.29	0.21	0.35	0.19	0.42	0.32	0.12	0.24	0.25	0.18	0.45	
SF37	0.32	0.21	0.52	0.17	0.25	0.30	0.35	0.22	0.24	0.05	0.12	0.39	0.25	0.41	0.50	0.31	0.38	0.45	0.25	0.33	0.47	0.42	0.49	
SF38	0.45	0.37	0.36	0.25	0.46	0.46	0.36	0.13	0.35	0.29	0.46	0.44	0.42	0.52	0.56	0.47	0.50	0.40	0.39	0.54	0.58	0.57	0.38	
SF39	0.36	0.21	0.36	0.22	0.27	0.47	0.37	0.52	0.32	0.41	0.31	0.33	0.43	0.33	0.43	0.39	0.37	0.34	0.24	0.49	0.35	0.43	0.38	
SF40	0.42	0.22	0.23	0.13	0.29	0.30	0.29	0.18	0.15	0.28	0.34	0.29	0.39	0.38	0.41	0.18	0.47	0.33	0.35	0.49	0.25	0.31	0.28	
SF41	0.28	0.32	0.06	0.16	0.24	0.44	0.30	0.43	0.41	0.44	0.30	0.33	0.50	0.35	0.37	0.45	0.39	0.42	0.32	0.49	0.33	0.40	0.43	
SF42	0.33	0.22	0.18	0.32	0.24	0.28	0.43	0.20	0.10	0.38	0.21	0.22	0.34	0.41	0.48	0.43	0.43	0.36	0.45	0.59	0.50	0.36	0.29	

Table (4.28): Correlation matrix of the success factors (cont'd)

	SF24	SF25	SF26	SF27	SF28	SF29	SF30	SF31	SF32	SF33	SF34	SF35	SF36	SF37	SF38	SF39	SF40	SF41	SF42	
SF24	1.00																			
SF25	0.41	1.00																		
SF26	0.44	0.40	1.00																	
SF27	0.29	0.34	0.66	1.00																
SF28	0.40	0.38	0.64	0.68	1.00															
SF29	0.06	0.33	0.42	0.56	0.67	1.00														
SF30	0.22	0.25	0.63	0.60	0.67	0.61	1.00													
SF31	0.16	0.38	0.25	0.05	0.25	0.32	0.37	1.00												
SF32	0.10	0.23	0.11	0.17	0.35	0.39	0.30	0.47	1.00											
SF33	0.15	0.12	0.15	0.28	0.20	0.37	0.21	0.45	0.27	1.00										
SF34	0.33	0.31	0.19	0.07	0.27	0.20	0.22	0.47	0.27	0.28	1.00									
SF35	0.36	0.39	0.09	0.15	0.26	0.26	0.14	0.35	0.33	0.27	0.42	1.00								
SF36	0.18	0.31	0.24	0.09	0.19	0.26	0.30	0.46	0.31	0.08	0.39	0.35	1.00							
SF37	0.24	0.31	0.28	0.30	0.33	0.42	0.27	0.44	0.44	0.39	0.34	0.33	0.42	1.00						
SF38	0.40	0.40	0.39	0.36	0.40	0.19	0.28	0.52	0.34	0.41	0.45	0.29	0.35	0.57	1.00					
SF39	0.28	0.33	0.39	0.42	0.31	0.43	0.30	0.34	0.26	0.40	0.09	0.31	0.33	0.42	0.40	1.00				
SF40	0.34	0.49	0.38	0.28	0.39	0.30	0.32	0.35	0.36	0.16	0.23	0.26	0.29	0.24	0.55	0.54	1.00			
SF41	0.41	0.31	0.48	0.33	0.27	0.30	0.38	0.36	0.15	0.37	0.31	0.22	0.32	0.30	0.44	0.64	0.48	1.00		
SF42	0.35	0.35	0.29	0.32	0.38	0.33	0.27	0.36	0.26	0.50	0.51	0.43	0.32	0.34	0.52	0.48	0.47	0.53	1.00	

4.7.1.4. Sampling adequacy “Kaiser-Meyer-Olkin (KMO)”

The MSA values of the 42 success factors in the first run are stated shown in the diagonal of the anti-image correlation matrix and these values are mentioned in Table (4.29). It is shown that all success factors have MSA above 0.5. Accordingly, the MSA values are justified the appropriateness of the collected data 42 success factors for the factor analysis. The MSA values of the last run are mentioned in the table to indicate that the data is still stable after the tenth run. Some SFs was removed in other factor analysis test see Table (4.35).

Table (4. 29): Anti-image correlation matrix

Item	First run	Last run (10 th)
SF1	0.697	0.597
SF2	0.700	0.701
SF3	0.635	0.720
SF4	0.695	0.697
SF5	0.652	0.629
SF6	0.709	Removed in the 2nd run
SF7	0.693	Removed in the 2nd run
SF8	0.767	0.763
SF9	0.880	Removed in the 2nd run
SF10	0.650	Removed in the 6th run
SF11	0.696	Removed in the 6th run
SF12	0.697	Removed in the 8th run
SF13	0.768	Removed in the 9th run
SF14	0.825	Removed in the 4th run
SF15	0.789	Removed in the 2nd run
SF16	0.788	0.722
SF17	0.818	Removed in the 2nd run
SF18	0.758	Removed in the 3rd run
SF19	0.647	Removed in the 7th run
SF20	0.775	Removed in the 2nd run
SF21	0.714	Removed in the 3rd run
SF22	0.852	Removed in the 2nd run
SF23	0.783	Removed in the 3rd run
SF24	0.696	Removed in the 7th run
SF25	0.680	Removed in the 2nd run
SF26	0.754	0.722
SF27	0.681	0.843
SF28	0.790	0.755
SF29	0.700	0.760
SF30	0.812	0.830

Table (4. 29): Anti-image correlation matrix

Item	First run	Last run (10 th)
SF31	0.710	Removed in the 9th run
SF32	0.645	0.756
SF33	0.679	0.782
SF34	0.846	Removed in the 10th run
SF35	0.819	0.758
SF36	0.777	Removed in the 5th run
SF37	0.809	0.824
SF38	0.795	Removed in the 2nd run
SF39	0.818	0.767
SF40	0.659	Removed in the 4th run
SF41	0.738	Removed in the 2nd run
SF42	0.797	0.790

In addition, overall Kaiser-Meyer-Olkin measure of sampling adequacy for the 42 success factors is shown in Table (4.30) which indicates that the overall Kaiser-Meyer-Olkin MSA value equals to 0.74. Accordingly, the 42 success factors are suitable for factor analysis as their overall MSA values are larger than 0.5.

Table (4. 30): KMO and Bartlett's Test for success factors

Item	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.74
Approx. Chi-Square	2379.7
Bartlett's Test of Sphericity	df
	Sig.
	0.00
Cronbach's alpha	0.95

The results in this table based on the first run of all the 42 success factors

4.7.1.5. Bartlett's Test of Sphericity

As tabulated in Table (4.30), Bartlett test of sphericity for the 42 success factors with (chi-square= 861), and the significance level is (p-value =0.00 <0.05) indicates that, the correlation matrix (R-matrix) is not an identity matrix. Therefore, there are sufficient relationships between the 42 success factors which satisfied the required suitability for the factor analysis.

In summary, the previous results justify the suitability of the 42 items for the factor analysis as obtained from the first run of factor analysis. It is shown that all the 42 items represent the "factors that lead to success in the community-based method in

post conflict housing reconstruction projects" are confirmed with all requirements of the data suitability to be processed in actual factor analysis process which mainly involves factors extraction and rotation processes.

4.7.2. Second Step: Exploratory Factor Analysis (EFA) and factors extraction

After achieving the requirements of the data suitability Cronbach's, correlation matrix, KMO values and Barlett's test of sphericity for all 42 success factors; the factor analysis can be conducted to determine the factor structure of the success factors. In this regard, Exploratory Factor Analysis (EFA) has been conducted by using the Principal Component Analysis (PCA) as the extraction method and the varimax criterion as the rotation method. More than one run can be done for factor analysis in order to attain acceptable solution that satisfies all factor analysis requirements. In any run, one or more success factors may be eliminated till all factor analysis all requirements are achieved.

The following requirements were examined in the output results of each run of factor analysis, as follows:

- All success factors should have communality value more than 0.5.
- Factor extraction based on eigenvalue equals to 1.
- The cumulative percent of the variance explained should be more than 50%.
- Any variable in the final solution should be loaded on one factor only with factor loading more than 0.5.
- Any factor should involve at least three success factors that involved with factor loading more than 0.5.

4.7.2.1. Communality values

The communalities values that obtained in the first run of factor analysis for the success factors of the community based method of the post conflict housing reconstruction projects are shown in Table (4.31). All communalities values for the 42 success factors are higher than 0.5. Accordingly, the 42 success factors are suitable to be used in the following procedures of the factor analysis. The communalities values were checked in each run, for example, In the seventh run

indicated that the commonality value for the SF12 “Respect the community restrictions “ was equal to 0.467 and less than 0.5 which mean that the SF12 should be removed in the eighth run (8). It should be noticed that, only SF12 was removed in the communality test while the other factors removed in the remaining factor analysis tests.

Table (4. 31): Communalities of the success factors

Success Factors	Extraction Communalities	
	First run	Last run
SF1	0.77	0.66
SF2	0.68	0.66
SF3	0.82	0.63
SF4	0.66	0.60
SF5	0.75	0.58
SF6	0.75	Removed in the 2ed run
SF7	0.71	Removed in the 2ed run
SF8	0.84	0.59
SF9	0.82	Removed in the 2ed run
SF10	0.79	Removed in the 6th run
SF11	0.70	Removed in the 6th run
SF12	0.73	Removed in the 8th run
SF13	0.85	Removed in the 9th run
SF14	0.80	Removed in the 4th run
SF15	0.74	Removed in the 2ed run
SF16	0.73	0.71
SF17	0.66	Removed in the 2ed run
SF18	0.69	Removed in the 3ed run
SF19	0.67	Removed in the 7th run
SF20	0.69	Removed in the 2ed run
SF21	0.81	Removed in the 3ed run
SF22	0.68	Removed in the 2ed run
SF23	0.69	Removed in the 3ed run
SF24	0.76	Removed in the 7th run
SF25	0.65	Removed in the 2ed run
SF26	0.77	0.71
SF27	0.84	0.73
SF28	0.86	0.76
SF29	0.83	0.71
SF30	0.83	0.71
SF31	0.83	Removed in the 9th run
SF32	0.73	0.55
SF33	0.79	0.69
SF34	0.80	Removed in the 10th run

Table (4. 31): Communalities of the success factors

Success Factors	Extraction Communalities	
	First run	Last run
SF35	0.80	0.54
SF36	0.79	Removed in the 5th run
SF37	0.73	0.54
SF38	0.76	Removed in the 2ed run
SF39	0.80	0.53
SF40	0.79	Removed in the 4th run
SF41	0.78	Removed in the 2ed run
SF42	0.82	0.58

4.7.2.2. Factors extraction

Principal component analysis (PCA) was adopted in each run to extract the suitable factors from the items involved in factor analysis process. In the first run 12 factors were obtained as a result of factor analysis process conducted with the 42 success factors. In the last run, four factors were extracted from the remaining 18 success factors and arranged in the factor analysis results in a table called component matrix as shown in Table (4. 32) below for the last run.

Table (4. 32): Component Matrix for the last run of factor analysis of the success factors

Success factors	Component			
	1	2	3	4
SF28	0.72			
SF39	0.70			
SF29	0.69			
SF27	0.68			
SF30	0.66			
SF37	0.64			
SF26	0.63			
SF42	0.63			
SF1	0.59			
SF8	0.56			
SF3	0.53			
SF35				
SF4		0.67		
SF5		0.50		
SF2				
SF32			-0.57	
SF33	0.55			-0.59
SF16				-0.51

Extraction Method: Principal Component Analysis

4.7.2.3. Eigenvalue-greater-than-one rule (“K1” rule)

Eigenvalue will determine the importance of a factor and indicate the amount of variance in the entire set of items accounted for by a given factor. Eigenvalues represent the amount of variance accounted for by each component (factor), but they are not in a standardized metric (Yong and Pearce, 2013). Eigenvalue greater than one rule is the most widely known approaches for estimating the number of factors for a given item set were recommended by Mooi *et al.* (2018) and Sadiqi *et al.* (2015). The larger factor’s eigenvalue is the more variance that it accounts for within a group of measured variables.

Table (4.33) below shows a clear description about the eigenvalues for the factors extracted from the remaining 18 success factors in the last run of factor analysis. The first column of the table is the total Variance Explained contains 18 success factors that represent the remaining items. The second column named "Initial Eigenvalues" involves the total eigenvalue for each one of the remaining success factors, which represents the amount of the variance attributed to each component. The 18 eigenvalues are arranged in a descending order in which the eigenvalue for the first success factor equals to 5.98 and it is the largest amount of variance explained in the sample, while the eigenvalue for last success factors number 18 equals to 0.13 and represents the smallest amount of the variance explained in the sample. It is shown from the below table the Eigenvalues for the first four components are more than one. So that, the first four factors can be retained only according to their Eigenvalue values >1 . These four components can explain 62.63% of the sample variance because their cumulative percent of eigenvalues equals to 62.63%.

Table (4. 33): Total variance explained by factor analysis for the last run

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.98	33.23	33.23	5.98	33.23	33.23	3.88	21.58	21.58
2	2.43	13.50	46.73	2.43	13.50	46.73	2.61	14.50	36.07
3	1.56	8.67	55.39	1.56	8.67	55.39	2.47	13.73	49.81
4	1.30	7.23	62.63	1.30	7.23	62.63	2.31	12.82	62.63
5	0.97	5.37	68.00						
6	0.85	4.71	72.72						
7	0.75	4.18	76.90						
8	0.66	3.69	80.59						
9	0.59	3.27	83.86						
10	0.54	2.99	86.85						
11	0.49	2.74	89.58						
12	0.43	2.36	91.94						
13	0.39	2.14	94.08						
14	0.29	1.62	95.71						
15	0.25	1.37	97.08						
16	0.22	1.20	98.28						
17	0.18	1.02	99.30						
18	0.13	0.70	100.00						

Extraction Method: Principal Component Analysis.

4.7.2.4. Scree plot

Scree plot can be extracted from the output of factor analysis process in SPSS as shown in Figure (4.21) below for the data of the remaining 18 success factors in the last run of factor analysis. From the 18 success factors that are shown with their eigenvalues in the below figure, only four factors with eigenvalues >1 .

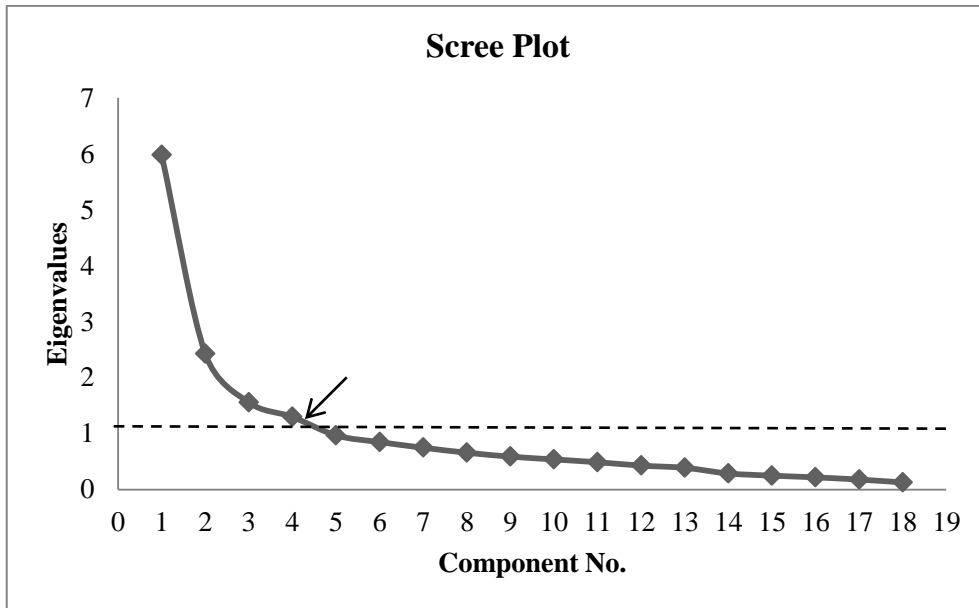


Figure (4. 21): Scree plot for the last run of the success factors

4.7.2.5. Cumulative percentage of variance explained

As discussed previously, the retained factors should have at least fifty percent of the variance in the factors to be acceptable (Mooi *et al.*, 2018). Table (4.33) below, shows that the cumulative percent of the rotation sums of square loadings for the remaining four factors after rotation equals to 62.63%, which is considered acceptable value as it is more than 50%., The first factor accounts for 21.58% of the variance, the second 14.50%, the third 13.73%, the fourth 12.82.

4.7.3. Third Step: Factors rotation and retention

4.7.3.1. Varimax rotation

As discussed previously in this study, orthogonal rotation method was selected to be used for factor rotation after its extraction. Specifically, Varimax rotation method was selected since it is the most common form of rotational methods for exploratory factor analysis and will often provide a simple structure. In this process, all the factor loading that are arranged in the component matrix table as obtained from factor analysis, are subjected to rotation process in order to maximize the variances of the loadings within the patterns, while maximizing differences between the high and low loadings on a particular pattern. After this process, a table called "Rotated Component Matrix" is obtained from factor analysis output, which provides new

factor loading values for the items involved in analysis. In this table, three requirements should be satisfied in order to obtain acceptable solution from the factor analysis. These requirements are discussed below, as follows:

4.7.3.2. Minimum loading value

In this study, a factor loading of 0.50 was used as the cut-off point. Each item should be loaded on one factor only with factor loading more than 0.5. In this regard, any item with all factor loading values less than 0.5 will be removed from the solution and the factor analysis should be repeated. For example, in the second run of factor analysis, 10 success factors have been removed because each one of them didn't loaded on any factor with factor loading more than 0.5 as obtained from the rotated component matrix that was generated from the first run of factor analysis process.

4.7.3.3. Cross-loading items

Each item in the acceptable solution of factor analysis should be loaded by 0.5 or greater on one factor only. During the 10 runs of the factor analysis for this part of study, no cross-loading item was obtained.

4.7.3.4. Number of loaded items in each factor

In this requirement, each one of the retained factors should involve at least three items with factor loading more than 0.5. Any factor didn't satisfy this requirement has been removed from analysis by removing the items loaded on it and repeat factor analysis again. This requirement has been satisfied in the result of the output of factor analysis in all of the ten runs. On the previous considerations, rotated component matrix table as shown in Table (4.34) below, describes the factor loadings values for the remained 18 success factors in the last run of factor analysis. According to this table, the following facts can be described:

- Each item is loaded on one factor only with factor loading more than 0.5
- There is no cross-loading item are existed.
- Each one of the extracted factors involved at least three items with factor loading more than 0.5.

•

Table (4. 34): Rotated Component Matrix for the last run of the success factor

Item	Component			
	1	2	3	4
SF27	0.83			
SF30	0.83			
SF28	0.82			
SF26	0.81			
SF29	0.66			
SF8	0.58			
SF3		0.72		
SF32		0.70		
SF35		0.69		
SF37		0.58		
SF2			0.79	
SF5			0.71	
SF4			0.71	
SF1			0.67	
SF33				0.78
SF16				0.78
SF42				0.66
SF39				0.51

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization

4.7.3.5. Evaluation of the identified solution “Reliability assessment”

The reliability of the extracted four factors for the remained 18 success factors was checked by calculating Cronbach’s alpha ($C\alpha$). The Cronbach’s alpha ($C\alpha$) value for each one of the extracted factors is based on the items loaded on this factor only. As shown in Table (4.35), the total Cronbach’s ($C\alpha$) value equals to 0.88 and its value for the first, second, third, fourth factors were 0.84, 0.88, 0.72, 0.76 and 0.76, respectively. And then, the values of Cronbach’s alpha ($C\alpha$) for all data and for each factor are more than 0.7 which indicating adequate internal consistency. In summary, the reliability of the extracted four factors and the remained 18 items was satisfied.

Any factor doesn't satisfy reliability requirement discussed before, should be subjected to reliability analysis again after removing the items that reducing the Cronbach alpha ($C\alpha$). For example, in the 10 run of factor analysis, the item SF34 has been removed from the fifth factor resulted from the ninth run because its existence in the factor reduced this factor reliability and the factor reliability will be increased over the threshold value after its removal.

Table (4. 35): Reasons for removed success factors from factor analysis

Success factors	Run number	Reasons for removal
SF6, SF7, SF9, SF15, SF17, SF22, SF20, SF25, SF38, SF41.	2	No factor loading exceeds 0.5
SF18, SF21, SF23	3	No factor loading exceeds 0.5
SF14, SF40	4	No factor loading exceeds 0.5
SF36	5	No factor loading exceeds 0.5
SF10, SF11	6	Only these two items included in one factor
SF19, SF24	7	No factor loading exceeds 0.5
SF12	8	Communality value less than 0.5
SF13, SF31	9	Only these two items included in one factor
SF34	10	Causes reduction in Cronbach $C\alpha$ of its factor less than 0.7

4.7.4. Fourth Step: Naming and interpreting the principal factors

Table (4.36) below summarizes the results obtained from the factor analysis for the factors that lead to success in the community-based method in post conflict housing reconstruction projects. Four factors were obtained to summarize these data. The total variance explained by these four factors equals to 62.63% of the cumulative variance in data. These four factors named as follows:

Factor No.1: Gender Participation: involved 6 items and has 5.98 eigenvalue which explained 21.58% of the total variance.

Factor No.2: Communication: comprised of 4 items and has 2.43 eigenvalue which explained 14.50% of the total variance.

Factor No.3: Coordination: comprised of 4 items and has 1.56 eigenvalue which explained 13.73% of the total variance.

Factor No.4: Information: comprised of 4 items and has 1.3 eigenvalue which

explained 12.82% of the total variance.

In depth discussion and interpretation of the extracted factor have been presented in the following sections.

Table (4. 36): Final success factor of the community participation

Item	Success factor description	Factor loading	Eigenvalue	% variance explained	Cornbach' α
Factor No.1: Gender Participation					
SF27	Develop the women capacity through training courses to participate in community based method	0.83			
SF30	Develop gender equity regulations	0.83			
SF28	Respect the women point view in community-based method in housing reconstruction projects.	0.82	5.98	21.58	0.88
SF26	Increase women's awareness in disaster management	0.81			
SF29	Strengthen the women role in her family to participate in housing reconstruction projects	0.66			
SF8	Considering the location and the accessibility of the service facilities (Hospital- garden-) of the houses	0.58			
Factor No.2: Communication					
SF3	Availability of mutual communication language (e.g. Arabic or English) between the stakeholders.	0.72			
SF32	Hold a periodic field visit to the stakeholders to ensure that they are satisfied about the projects results.	0.70			
SF35	Facilitate the local media agencies works –as an external part- to check the transparency in the reconstruction projects	0.69	2.43	14.50	0.72
SF37	Accountability the reconstruction projects managers during/after completion the project to ensure that the projects have achieved its objectives.	0.58			
Factor No.3: Coordination					
SF2	Availability of electronic information system in reconstruction projects.	0.79			
SF5	Communication accessibility between the five levels of the reconstruction projects: national, international, regional, organization and project level.	0.71			
SF4	Existing of the coordination unit between the implementing parties of reconstruction projects.	0.71	1.56	13.73	0.76
SF1	Existing of a smooth channel of communication between the community and the implementing agencies.	0.67			

Table (4. 36): Final success factor of the community participation

Item	Success factor description	Factor loading	Eigenvalue	% variance explained	Cornbach' α
Factor No.4: Information					
SF33	Clearly identify the budget of the reconstruction projects	0.78			
SF16	Clearly identify the scope of work for the reconstruction projects	0.78			
SF42	Choosing the reconstruction method based on the community needs not on the donor desires (donor driven or contractor driven)	0.66	1.30	12.82	0.76
SF39	Allocate sufficient fund to support the community participation activities in the post conflict reconstruction projects.	0.51			
Kaiser-Meyer-Olkin measure of sampling adequacy = 0.77					
Bartlett's test of sphericity: $\chi^2= 665.98$, $df=153$, $p\text{-value}=0.00$					
Total variance explained (%) = 62.63%					
Total reliability Cronbach's $\alpha = 0.88$					

Chapter 5

Results Discussion

Chapter 5

Results Discussion

Introduction

This chapter discusses and illustrates the data which have been collected by the field survey (questionnaire) and analyzed in chapter 4. Both, the descriptive and factor analysis results will be discussed in this chapter in details. The approach of discussion is explaining the results which gained from the SPSS 22, then illustrate it based on the situation of the target area and finally linked it with the literature studies.

5.1. Rank of barrier groups which hinder the community based method

As stated in Table (4.2), the barrier groups are in descending order according to its mean value from the highest mean value 4 to the lowest mean value 3.36 as the following: Lack of government support, budget restrictions and donors' requirements, lack of community capacity, lack of transparency in reconstruction process, lack of NGOs competency, lack of coordination between the stakeholders, inflexible short deadlines of the reconstruction projects, neglecting of the community socio- economic, cultural needs and lack of gender participation. In the following sections the barriers groups will be discussed in details to interpret the ranks of each group and the relationship between the barriers groups and the Gaza Strip situations.

5.1.1. Lack of government support

As illustrated in Table (4.2), the lack of government support group is considered the main barrier group that hinders the community participation in housing reconstruction projects in Gaza Strip. The respondents considered the government is the main responsible for reconstruction their houses. The government support to the community participation can be existed in many forms for examples (new regulations; e.g. allocate sufficient budget for community participation, training; e.g. effective participation in reconstruction projects, forming the community councils if it not exist, etc.). Issuance a clear regulations that identify the community role in housing reconstruction projects is the real support from government to the

community during the post conflict housing reconstruction projects. The government support is essential to build the trust between the community and the government to participate in the reconstruction projects. The lack of government support would encourage the implementing agencies of the reconstruction projects to ignore the community role. The lack of governmental training to the community and respecting the community opinions disappointed the people to participate the reconstruction projects.

Due to the political situation, the governmental role in Gaza Strip is limited for coordination between the stakeholders only, since the government is not considered the budget owner for the reconstruction projects (Barakat *et al.*, 2009). The international Non-Governmental Organizations (NGO's) such as: United Nations Relief and Works Agency (UNRWA) and the United Nations Development Programme (UNDP) have their own financial system and operation system to implement the reconstruction projects (UNDP, 2014). Accordingly, the NGOs are totally independent to implement the reconstruction projects without any support or instruction from the local government to engage the community in the reconstruction projects. Moreover, any community participation activities (e.g. focus groups, workshop,etc.) in the reconstruction projects are restricted to the NGO's regulations. For instant the training materials should be neutrality; it is not subjected to government regulations any more. The lack of accountability from the local government to the implementing agencies (mainly the international NGOs) encourages the NGOs to ignore the community participation in the reconstruction projects. The accountability should done through asking the NGOs to provide the government with the full details about the reconstruction projects including the community based activities to avoid any corruption (Barakat *et al.*, 2009).

The international NGOs in Gaza Strip prepare the reconstruction project proposals for the funding raising without mentioning the community participation activities or consulting the local government. Barakat and Zyck (2009a) mentioned that, the local government has not the authority to review the project proposals before sharing it with the donors, so that the community role may be neglected. The role of government is approached to zero due to the harsh situation in Gaza Strip and the lack of the fund resources (Barakat *et al.*, 2009). The absence of the government

support in Gaza Strip is referred to lack of authority to implement the projects (Al Dabbeek, 2011). As well as the NGO's in Gaza Strip refuse to deal with the *de facto* government (Hamas Government) or to obey their regulations, so that the government role to prepare the beneficiaries list.

Sadiqi *et al.* (2017) considered the lack of governmental support is the major obstacle of the community participation in housing reconstruction projects in Afghanistan. Seneviratne *et al.* (2017) concluded that, weakness of the government support hinders the community based method in housing reconstruction projects. The lack of government support and regulation that encourage the community participation would cause the failure in the community based method in housing reconstruction projects (Samaddar *et al.*, 2017). The government support should be by issuing plans that draw the guide lines for the community participation and to oblige the implementing agencies to respect the community role (Nakamura *et al.*, 2017).

5.1.2. Budget restrictions and donors' requirements

As illustrated in Table (4.2), budget restrictions and donors' requirements group is considered the second barrier group that hinder the community based method in post conflict housing reconstruction projects in Gaza Strip. The financial impact of the conflict or disaster is massive and the local government could not be able to implement the reconstruction projects without external assistant from the donors. The lack of funds to cover the community based method activities costs will hinder the government to involve the community in housing reconstruction projects. The budget limitation and restrictions (e.g. there is no budget breakdown for all projects activities) lead the implementing agencies (mainly the international NGOs) of the reconstruction projects to focus on the reconstruction activities only and ignore the community role. The imposed restrictions from the donors through deciding the type of intervention and the method of reconstruction (i.e. community, self-help or contractor based method) hinder the community participations (Barakat, 2003). The implementing agencies take the donor restrictions and requirements as the top priority even if these requirements are unfit for the community conditions. Due to the donor restrictions and neglecting the community requirements; the community will

be frustrated to participate in the reconstruction projects. The donor restrictions may be as follows: some donors decide in which stage the community participation would be participated (i.e. planning phase, construction phase or post construction). Also, the restrictions in the workshop materials of the community participation, and number of participated beneficiaries. As well some donors asked to get their clearance on each step of the reconstruction projects before proceeding with the implementation and some donors have a lot of visibility requirements (photos- video- etc.) for beneficiaries.

Due to the political situation in Gaza Strip, the donors rarely donate directly to the government here in Gaza due to the political situation. All contributions are channeled through the international NGO's or local NGO's (UNRWA, 2017b). The budget restriction and the donor requirements (e.g. utilize the contractual approach) have a significant impact on the community participation activities in Gaza Strip (UNDP, 2016). For instant, most contributions for reconstruction projects in UNRWA and UNDP are utilized to implement the reconstruction activities only. Some donors considered that any activities beyond the reconstruction activities (e.g. community participation) are meaningless, and it wastes the time. Regarding the donor restrictions, most of donors decide the approach of reconstruction either the self-help approach or the contractual approach. In both approaches the community participation is approach to zero (Enshassi and Chatat, 2012). For example most of the donors in UNRWA for the reconstruction projects in Gaza prefer the self-help approach (i.e. paying to the beneficiaries the amount of their reconstructions); this approach is individual approach and has not community participations activities.

Another example; the Kingdome of Saudi Arabia through the Saudi Fund for Development (SFD) is considered one of the main donor for the reconstruction projects in Gaza Strip; the SFD has many restriction on the reconstruction project. The SFD should approve each step of the reconstruction steps starting from the beneficiaries list ending by the reimbursement of the paid amount through claims. The SFD specify the number of the beneficiaries and the process of the reconstruction in the agreement.

The budget restrictions and donors' requirements group is overlapped with the first group "The lack of the government support. There is a link between the budget constraints and the governmental role (Sadiqi *et al.*, 2017). Samaddar *et al.* (2017) stated that, the local government plays a significant role in owner driven approach to decide the ceiling of assistant amount to reconstruction the stakeholder houses. If the budget constraints (i.e. there is no flexibility in the budget to implement the community participation activities) are not clear stated in the project plan, the project will not succeed to achieve its objectives (Chang-Richards *et al.*, 2017). According to Shafique (2016), the balance in the project constraints (scope, quality, budget, risks, resources and schedule) are vital issues to avoid any obstacles in applying the community based method in housing reconstruction projects.

5.1.3. Lack of the community capacity

As illustrated in Table (4.2) the lack of the community capacity is ranked the third barrier groups of the community based method in housing reconstruction projects with a mean value of 3.8. The community capacity is considered the core of the community participation; since all participation activities depends on the community. The lack of the community capacity leads to decrease the importance and scale of the community role in the reconstruction projects.

The education capacity of the community in Gaza Strip is excellent since the education percentage in Gaza Strip is considered the highest percentage around the world (UNDP, 2015). The community capacity is impacted (lack of resources and infrastructure) by the repeated conflicts and the delay in the housing reconstruction projects (Al-Dabbeek, 2008). For examples many experts or academic people may be injured or killed in the conflicts. Thus the lack of human capacity is due to lack of people who may participate in the reconstruction projects (Barakat and Zyck, 2009b). Regarding the lack of the infrastructure of the targeted area during the conflict disaster, it may be considered the main issue of the lack of the community capacity (Barakat *et al.*, 2009). During the 2014 last conflict Shujaa Area in Gaza city has been totally destroyed including the roads and the people left the area to another safe area (Harlow, 2016). Accordingly, when the international NGO's tried to meet the people they faced difficulties because no one was living there.

Shafique and Warren (2016) pointed out that the human losses in the disaster lead to weaken the community capacity in the post disaster reconstruction projects. There are many challenges in managing the stakeholders in post disaster reconstruction projects (Baroudi and Rapp, 2014). Nuwani Siriwardena and Haigh (2011) conclude that, people consultation in post disaster reconstruction projects is not straight forward issue, it is depends on the community capacity. The deterioration in the infrastructure of the targeted area hinder the effective community participation in reconstruction projects (Sadiqi *et al.*, 2011; Nuwani Siriwardena, Haigh, and Ingirige, 2011).

5.1.4. Lack of transparency in reconstruction process

As illustrated in Table (4.2) the lack of transparency in the reconstruction projects is fourth major obstacles of the community involvement in the reconstruction projects. The transparency in the reconstruction process emphasizes the trust between the stakeholders and the community. Moreover, the community may be an obstacle and causes the delay in the reconstruction projects if the implementing agencies (international NGOs) did not share the project information with the community (Ridzuan *et al.*, 2017). For instant, the community may refuse to provide the implementing agencies engineers with the required information about their homes if the there is no trust between them. The vague in the project duration and the type of the reconstruction activities will not allow the community to participate effectively in the reconstruction projects (Chang-Richards *et al.*, 2017). The government responsibility is to empower the trust between the stakeholder and the implementing agencies through providing a clear system for monitoring and controlling then the result should be shared with the stakeholders.

In Gaza Strip, the lack of transparency system between the international agencies and the stakeholders lead the stakeholder to avoid the participation in the reconstruction projects (Barakat and Zyck, 2009a). The international NGO's consider the project budget, information, and activities are secret and the community has not the right or the authority to account them about the reconstruction projects outcomes (Al-Dabbeek, 2008). The local government in Gaza has not a role in the accountability for the international NGO's which let the NGO's to ignore the community role in the

community participation (Barakat *et al.*, 2004). For example, the lack of meetings with the community in Gaza resulted in loss of the trust between the implementing agencies and the community (Enshassi and Chatat, 2012). Accordingly, the lack of transparency in the construction projects causes the failure in the community based method of housing reconstruction projects (El-Masri and Kellett, 2001). The UNDP has faced many challenges with some beneficiaries during the damage assessment stage, the beneficiaries refused to meet with the UNDP staff and those beneficiaries. The beneficiaries told the UNDP that you were laying, you will take our information, and you will not do anything as well as many NGOs came here before you. Up to date no official documents or publications from the international NGO's which show the details of the reconstruction projects.

Labadie (2008) concluded that, the community can help to mitigate the possible future disasters effect by making the community more sustainable and survivable about the results of the reconstruction projects. The lack of transparency and accountability and institutional support in the reconstruction projects lead to delay and the failure in these projects (Seneviratne *et al.*, 2017; Vahanvati and Mulligan, 2017). Mannakkara and Wilkinson (2015) pointed out that engagement the community in the design phase and implementing the reconstruction projects; will provide the support to the community and will maintain full transparency (Barakat and Zyck, 2011; El-Masri and Kellett, 2001). Barakat *et al.* (2009) indicated that, in Gaza Strip there is a lack in transparency between the agencies that implement the reconstruction projects and the stakeholders due to the donor restrictions.

5.1.5. Lack of NGOs competency

As illustrated in Table (4.2) the lack of the NGO's competency is the fifth ranking the barrier groups of the community participation in housing reconstruction projects. The NGO's competency includes mainly the communication skills with stakeholders and the coordination for implementing the community based method activities. The lack of NGO's employees' competency will cripple the community participation activities and hinder the progress in the reconstruction projects. The experienced in dealing with the vulnerable people is essential competency needed for the NGO's employee to ensure the success in the reconstruction projects.

In Gaza Strip, due to the lack of fund there is no job security for international NGO employees; accordingly the experienced staff leave their jobs periodically. The new staff need more time and training to communicate with the stakeholders, therefore this causes a delay in the reconstruction projects (Barakat, 2003). The NGO's capacity in Gaza Strip is limited since they have not the enough capacity (i.e. sufficient human and physical resources) to participate the reconstruction projects with the community (Enshassi and Zaiter, 2013). Moreover, the lack of human resource in the international NGO's in Gaza Strip obstacle the community participation activities. For example, the fixed staff in the UNDP for the reconstruction projects is less than ten. UNRWA and UNDP could be able to follow up many of the reconstruction activities and the community based method activities in same time due to the lack of staff capacity.

Vahanvati and Mulligan (2017) mentioned that, the good competency of the NGO help to overcome the barriers of the community based method in housing reconstruction projects. According to Sadiqi *et al.* (2017) findings, the lack of professional competence in NGOs has a negative impact on the community based method of housing reconstruction projects in Afghanistan. The lack of communication skills of the NGO's staff hinder the community based method in housing reconstruction projects (Ismail *et al.*, 2014; Mukherji *et al.*, 2014).

5.1.6. Lack of coordination between the stakeholders

As illustrated in Table (4.2) the lack of coordination between stakeholders is the sixth barrier group of the community based method in housing reconstruction projects. The poor coordination among the community and implementing agencies (international NGOs) increase the opportunity of disputes. The of lack coordination between the stakeholders resulted in preparing a poor disaster recovery plans. There will be a lot of limitation in the recovery plans; for example the plans will discuss the general outlines of the community participation without details. The lack of coordination between the stakeholders leads to the overlap in the reconstruction projects; for example some beneficiaries may be nominated to more than one reconstruction projects in the same time. The community loses the confidence and

the accountability for the implementing agencies if the coordination between the stakeholders is very poor.

In Gaza strip, the shelter cluster is responsible for coordination between the main stakeholders (Ministry of Public Works and Housing “MoPWH” – UNRWA – UNDP and other local/International NGO’s). The Global Shelter Cluster (GSC) is an Inter-Agency Standing Committee (IASC) coordination mechanism that supports people affected by natural disasters and internally displaced people affected by conflict with the means to live in safe, dignified and appropriate shelter (cluster", 2018). There is adequate coordination between the implementing agencies so it may slightly hinder the reconstruction projects (Enshassi and Chatat, 2012). The coordination between the community in Gaza and the implementing agencies is through the MoPHW. The effective coordination helps the implementing agencies to resolve many pending issues related to the land owners, the rights of constructions and to make a strong backup data (Barakat and Zyck, 2011). For example, in one of the reconstruction projects UNRWA has coordinated with the local municipalities to expedite issuing the construction permissions and drawings which contributed to achieve the projects goals on time. The coordination problem in Gaza Strip causes to duplication in the reconstruction activities, for example UNRWA is responsible for the refugees families while the UNDP for Non-refugees many cases has received the reconstruction funds twice when the wife is non-refugee while her spouse is refugee.

Seneviratne *et al.* (2017) pointed out the coordination among organization facilitated resolving the critical issue during the construction stage. The coordination between the stakeholders facilitates the obstacles and achieve the projects goals within the allocated budget and time (Chen, Tan, and Luo, 2017; Ludin and Arbon, 2017; Sadiqi *et al.*, 2017) . Sadiqi *et al.* (2017) conclude that the lack of coordination and communication between the stakeholders caused lack of trust between the stakeholders. The lack of the coordination between stakeholders crippled the progress in the reconstruction projects and lead to the discrimination between the community (Barfield and Krug, 2017; Chang-Richards *et al.*, 2017; Drakaki and Tzionas, 2017; Taufika *et al.*, 2016).

5.1.7. Inflexible short deadlines of the reconstruction projects

As illustrated in Table (4.2) the inflexible short deadlines of the reconstruction projects is the seventh barriers group of the community based method in housing reconstruction projects. The project duration is controlled and governed the type of activities that shall be implemented in the reconstruction projects. The restricted time deadline leads the agencies which implemented the reconstruction projects to cancel some of the project activities like the community participation. The tight deadlines of the reconstruction projects push the main stakeholders to focus on the pure construction activities only and neglecting the community participation. The inflexible deadlines (i.e. there is no opportunity to extend the project completion date beyond the planned date) of the reconstruction projects lead to rush in implementing the community participation activities in reconstruction projects without focusing on the follow up process.

In Gaza Strip, unfortunately most of the donors have a restricted timeframe for implementing the reconstruction projects activities therefore this hinders the community participations (Barakat *et al.*, 2009). As well as the community participation process is a time consuming activities since the discussion and arranging for meeting with community take a long time (Al Dabbeek, 2011; Enshassi and Zaiter, 2013). For example, one of the main donors of UNRWA for reconstruction projects did not accept any justifications for extending the project duration except waiting the construction materials approval. The total population of Gaza Strip is about 1.9 million (UNRWA, 2018), inviting the representative groups of the community take a long time –more than one month- and the feedback process is very complex process. The complexity of the feedback process is resulted from the number of representative groups and the variety in the living space of the community. Moreover, UNRWA has done all the best to complete many of the SFD funded projects on the time to avoid the refund the grant to the donor.

The community participation may take a long time if it is not planned or organized so that it will effect negatively on the community participation (Bilau *et al.*, 2015; Vahanvati and Mulligan, 2017). The inflexible deadline for the reconstruction projects hinder the community participation activities (Sadiqi "Wardak" *et al.*, 2012;

Sadiqi *et al.*, 2017). Nuwani Siriwardena *et al.* (2011) pointed out that the tight deadlines of the reconstruction projects prevented the implementing agencies (international NGOs) to conduct the activities of community participation effectively. The lack of time of the community participation activities may hinder the reconstruction projects (Barakat *et al.*, 2009; Bilau *et al.*, 2015; Ganapati and Ganapati, 2008; Sadiqi *et al.*, 2017)

5.1.8. Neglecting of the community socio- economic, cultural needs

As illustrated in Table (4.2) Neglecting of the community socio- economic and cultural needs are one of the major barriers groups of the community in the housing reconstruction projects. Ignoring the social and economic needs of the community in the reconstruction projects feel the people a frustration to participate in the reconstruction projects. Disregard of the cultural need of the community will not emphasis the people to participate in the reconstruction projects. Ignoring the culture needs of the community through implementing the reconstruction projects that are not in in line with the community culture values (e.g. using traditions of another country) hinder the community participation activities. The social and economic needs of the community (e.g. the house design with isolated rooms for children and with big halls) encourage the community to participate in the reconstruction projects.

In Gaza Strip, most of the reconstruction projects are implemented using the self-help approach accordingly, respecting the community culture and social needs is achieved by individuals (UNDP, 2016) . The cultural need is respected through allowing the community to design their houses based on their cultural needs. Therefore, neglecting the community socio- economic needs is less significant than other groups. However, most international NGO's employees are from Gaza Strip, so they are totally aware of the community culture and social needs (Barakat *et al.*, 2009). For example, UNRWA has received a contribution from one of the donors, the conditions of this contribution are not compatible with the characteristic of the architecture design of the houses (Area less than 80 square meters). The employee in UNRWA coordinated with the donor that such projects are not impossible to be implemented and they reprogrammed the project scope to another one.

Ignoring the culture and social needs of the community impacted the trust between the stakeholders (Drakaki and Tzionas, 2017; Haigh *et al.*, 2016; Mannakkara and Wilkinson, 2015). Ignoring the community culture and social needs hinder the community based method activities (Samaddar *et al.*, 2017; Seneviratne *et al.*, 2017). The implementing agencies (international NGOs) of the reconstruction projects should be totally aware of the community culture and social needs to avoid any distractions in the implementation process (Sadiqi *et al.*, 2017; Samaddar *et al.*, 2017).

5.1.9. Lack of Gender Participation

As illustrated in Table (4.2) the lack of the Gender Participation comprises of seven barriers which may hinder the community participation in post disaster housing reconstruction projects. The enormous economic burden on the families which is led by women has a significant impact on the community participation (Handrahan, 2004). The women in these families have not enough time to participate in the housing reconstruction projects since they are busy to collect the food for their children (Smet, 2009). The life pressure and economic burden are the main reasons behind preventing the women to participate in housing reconstruction projects. The families who led by women are looking for survive and to face the challenges of the life, accordingly usually they are not interested in the community involvement in housing reconstruction projects (Ginige *et al.*, 2009).

In Gaza Strip there is a sufficient space for the gender participation in the housing reconstruction projects, since the discrimination is not exists in the community (Barakat *et al.*, 2009). As well as there is an equity between gender in the normal community activities, the women can freely compete with the men in the job opportunities (Barakat *et al.*, 2004) From another side the low ranking of the lack of Gender Participation in housing reconstruction projects may referred to most of the householders in Gaza strip are men so that they are representing their families (Al-Dabbeek, 2008). The Palestinian community is conservative accordingly; the women representation in the community participation may be limited in the planning phase of the reconstruction projects (UNDP, 2016). Some donors of the reconstruction

projects have conditions for the women portion in the reconstruction projects in order to support the women role in the community (Al-Dabbeek, 2008).

The physical and psychological characteristic of the gender is different from women than men; the men are less affected by the disaster implication than women (Ginige *et al.*, 2009) . The participation of the effected women who lost some of their children or their homes in the targeted area is less than the men with the same conditions (Smet, 2009). Sadiqi *et al.* (2017) pointed out the community participation of the women is very important and essential for the success in the community participation activities. The gender discrimination in some countries hinder the effective community participation of the gender in the reconstruction projects (Huq *et al.*, 2015).

5.2. Rank of the main barriers within the same barriers group of the community based method

This section will discuss in details the main three (top ranking) barriers of the community based method within the same group. The groups are ordered based on their overall ranks not as mentioned in the questionnaire for example the “lack of government support” was the second group in the questionnaire while it is the first rank in the analysis. The discussion approach will firstly, introduce the group barriers, then based on the analysis mentioned in chapter 4 the main barriers will be illustrated then interpreted based on Gaza Strip situation and finally linked with the previous study.

5.2.1. Lack of government support

As illustrated in Table (4.3) the lack of government support group comprises of eight barriers which may hinder the community participation in post disaster housing reconstruction projects. The absence of clear plans for the conflict response statement has the highest mean in all questionnaire statements. Most of participants indicated that the absence of the clear plans form the government has an extremely significant in hindering the community based method in housing reconstruction projects in Gaza Strip. The environment and conditions of the community after the conflict is very complex so the plans are essential to organize the reconstruction

project activities. Identifying the authority and the role of the community in the plans is very important to facilitate the progress in the reconstruction projects. Availing the disaster/conflict response plan expedite the response process from the disaster/conflict impact.

The second top ranking barriers statement in this group is the absence of the monitoring and controlling process. The lack of monitoring and controlling encourage the implementing agencies (international NGOs) to neglect the role of the community in the reconstruction projects. The absence of monitoring and controlling frustrate the community to participate in housing reconstruction projects effectively. The lack monitoring and controlling system usually leads to the failure in the reconstruction projects since there is a not a role for community in these projects.

The absence of disaster management unit in the government instantiations is considered the third ranked barriers which lead to ignore the community role the reconstruction projects. The disaster/conflict management role is considered as a reference for the post-conflict interventions, it specify the guidelines of the interventions and organize the relationship between project stakeholders. Implementing the reconstruction projects without exist the disaster management unit will minimize the benefits of the stakeholders from the reconstruction projects.

In Gaza Strip the local government has no plans to manage, organize the reconstruction activities nor to response to the conflict (Barakat *et al.*, 2009). The reconstruction projects in Gaza Strip are implemented directly through the local or international NGO's (Barakat *et al.*, 2004; UNDP, 2014). Accordingly, the local government could not prepare plans for managing or organizing the reconstruction projects since the government is not the implementer of these projects. Therefore, community participation is existed in the NGO's plans only if any. The role of the government in Gaza Strip is just to provide the NGO's with the beneficiaries lists, it has not the authority to monitor or control the range of community participation in the reconstruction projects. Some of the international NGO's have their auditing system and some of them refuse to deal with the local government, therefore the government monitoring and controlling system is missed.

The absence of disaster management unit in Gaza Strip leads to weakness of the community role in the reconstruction projects (Al-Dabbeek, 2008). The local government institution suffers from the lack of human resources and expertise which needed to establish the disaster/conflict management unit. Recently, disaster management units have been established in some of governmental institution to deal with the challenges of the disaster housing reconstruction projects (Enshassi and Chatat, 2012).

The questionnaire analysis results matched Vahanvati and Mulligan (2017) results that missing the government plans to involve the community in the reconstruction projects lead to failure in the reconstruction projects. The government recovery plans should be clearly announced to determine the role of community in housing reconstruction projects to avoid any obstacles during the implementation (Junqi *et al.*, 2015; Mannakkara and Wilkinson, 2015; Shaw, 2014). Sadiqi *et al.* (2017) conclude that without monitoring and controlling systems the role of the community in the housing reconstruction projects will be negligible. The lack of transparency in the process of monitoring and controlling system hinder the community participation in housing reconstruction projects (Crawford *et al.*, 2013; Zhang *et al.*, 2013). Ludin and Arbon (2017) mentioned the same result of the study results regarding the not existing of disaster management unit. The disaster management unit organizes the reconstruction activities (Seneviratne *et al.*, 2017).

5.2.2. Budget restrictions and donors' requirements

As illustrated in Table (4.4) the budget restrictions and donor requirement group includes of five barriers which may hinder the community participation in post disaster housing reconstruction projects. The donor restriction in the characteristics of houses is the first ranked statement in this group. The restrictions from the donors on type of finishing for example or the building area hinder the effective community participation in housing reconstruction projects because the fund is not enough to implement the needed area. Some donors have their technical staff and they think identifying the characteristics (set some reconstruction standards) of the house contribute to reduce the corruption. The tight restrictions bind the implementing agencies (international NGOs) to allow the community to express their ideas in the

reconstruction method. The implementing agencies of the reconstruction project should implement the reconstruction projects to meet the donor expectations not the community expectations.

The second highest mean statement in this group is the rigidity of the projects budget to implement community participation activities. The inflexible budget of the reconstruction projects hinders the community participations in the reconstruction projects. The activities of the community based method (for e.g. work shop – training – focus groups) need a sufficient budget to hear from the community. The implementing agencies will not be able invite the community to participate if there is a restriction on the allocated budget for the community participation. The inflexible budget prevents the implementing agencies to extend the scope of the community based method activities to involve more people to participate in the reconstruction projects.

The third ranked barrier in this group is the donor restrictions to engage the community in the reconstruction projects. The donors some time ask the implementing agencies to focus on the reconstruction activities only and to ignore any activities like community participation. Moreover, the donors may consider involving the community in the reconstruction projects hinder the progress in the reconstruction activities; accordingly they posed some restrictions for the community participations. The donor restrictions lead to ignore the community role in the reconstruction projects and then to failure in achieving the projects aim.

Due to the harsh situation of Gaza Strip and the existing of the do facto government “ Hamas ” (Sayigh, 2010) the donors are free to impose their restrictions on the reconstruction projects (Barakat and Zyck, 2011; Barakat *et al.*, 2009). The donors are afraid to deal directly with the community in Gaza Strip due to the siege which restricted on Gaza Strip since 2007. For example, UNRWA received a contribution from a donor to reconstruction of 800 houses after the 2014 conflict. In this project agreement the donor has specify the modality of the reconstruction and the built up area only 60 square meter which is not applicable in Gaza Strip due to the huge family size. The project has not any community participation activities; accordingly the project was crippled many times. To sum up ignoring the community role in

housing reconstruction projects due to the donor restrictions hinder the progress in these projects (Enshassi and Zaiter, 2013).

Karunasena and Rameezdeen (2010) stated that the donor driven approach in the reconstruction projects is less effective than the community based method in housing reconstruction projects. Sadiqi *et al.* (2017) and Samaddar *et al.* (2017) stated that, the donor restrictions prevent the community to have a direct participation in housing reconstruction projects. Ignoring the community role due to the donor preferences hinder the progress in the reconstruction activities (Barakat and Zyck, 2009a; Shafique and Warren, 2016; Tad and Janardhanan, 2016). Seneviratne *et al.* (2017) preferred to maximize the number of beneficiaries through restriction on the budget by allocating the overall budget for the reconstruction activities only.

5.2.3. Lack of community capacity

As illustrated in Table (4.5) the lack of community capacity group contains of seven barriers which may hinder the community participation in post disaster housing reconstruction projects. The community is considered the backbone of the community based method, accordingly any defect or fault in the community capacity may hinder the effect participation in the reconstruction project. The community or the targeted community is the people who are supposed to participate in the community based method. The capacity of the community includes all aspects which may be needed to apply the community based method in housing reconstruction projects.

The lack of the community resources is considered the main barrier of this group. The community resources includes all resource that may be fully or partially utilize in the community based method. The community resources may be physical resources or human resources. The physical resources and infrastructure resources contains the roads which needed to meet the community end by the equipped venue which needed to hold the community participation workshops or meetings. Meanwhile, the human resources include all qualified people who can add value or know how to participate in the community based method.

The second top ranking barrier which may hinder the community participation is the lack of the decision making skills, which may be considered the core of the community based method. The community can participate effectively if they can take a decisions in all issues related to the reconstruction projects. The decision making skills contribute to facilitate the barriers and the obstacles in the housing reconstruction projects. The decision making skills strengthen the community point view in the reconstruction projects.

The third ranking barrier of the lack of the community capacity is the lack of understanding to the principle of the community based method. Most of nominated people to participate in the reconstruction projects have the ability to speech but unfortunately they do not have the ability to exchange their ideas with the others. The community participation has some guide lines to the effective participation. The community should know the suitable time for participation, the proper channel, the median of participation and the democracy way to respect the opinion of the other people.

In Gaza Strip, unfortunately, the community resources are limited since the men in the affected area are busy in their work or for looking for works therefore they have not enough time to participate in the reconstruction projects (Al-Dabbeek, 2008). The infrastructure and physical resources are not available in Gaza Strip due to the repeated conflicts that cause the deterioration in most of the physical infrastructure which needed to hold the community participation activities (UNDP, 2014)Moreover, the lack of fund has a significant impact to provide the community with an equipped place for the community based method (Enshassi and Shakalaih, 2016). In addition, there is not a clear system (electronic system) to decide the physical requirements for community participation. Regarding the capacity of the human resources it is varied according to the geographic area, for instant the people who are living in the eastern area are less educate than the people who are living in the city center. The people in the city center have not enough time to participate, since most of them are employee in contrast with the people in the boundary areas most of them are working in the agriculture.

Regarding to the lack of the decision making skills in Gaza Strip, most of people are educated and know how to participate but the decision making skills may be not clear for all people. The decision making skills is essential to conclude the opinion of community which discussed in the workshops or in the meetings (Barakat *et al.*, 2009). The lack of the decision making skills may be referred to the difference in the academic or cultural background of the participant committee. The principles of the community participation are not clear for the community in Gaza Strip since the contributions from the donor is restricted with the donor requirements. The NGOs' who are implementing the reconstruction projects attributed the lack of the community participation in decision making due to the donor requirements (Barakat, 2003; Barakat *et al.*, 2004). Moreover, some of international NGOs have their system and regulations and it is not for sharable with the community, accordingly the community has not the chance to know further details about reconstruction projects.

The thesis result is in line with Thayaparan *et al.* (2015) findings that, the lack of the community capacity has a negative influence in the housing reconstruction projects. Samaddar *et al.* (2017) mentioned that the capacity building of the community to participate in the rehousing projects is essential to avoid any obstacles in the community based method which match this research finding. Understanding the principle of the community based method by the community is essential to achieve the success in housing reconstruction projects which mentioned in this research findings (Sadiqi *et al.*, 2017; Taufika, 2013). Drakaki and Tzionas (2017) considered that the decision making process in mutual responsibility between the stakeholders to ensure the success in rehousing projects which the same of the research findings. The Tad and Janardhanan (2016) findings matched the research findings that, the decision making skills should be found with people who nominated to participation to ensure the progress smoothly in the projects.

5.2.4. Lack of transparency in reconstruction process

As illustrated in Table (4.6) the lack of transparency in the reconstruction process group involves eight barriers which may hinder the community participation in post disaster housing reconstruction projects. The top ranked barrier is the lack of project monitoring and controlling process. Absence of the monitoring and controlling

process of the community based method activities lead to ignore the role of the community in housing reconstruction projects. The follow up process of the community participation activities encourage the community to engage in the reconstruction projects. The feedback of the monitoring and controlling participate in developing the community participation activities.

The second ranked barrier is the lack of information reference in the reconstruction projects. The success of the reconstruction projects is based on strength information system which facilitates the community participation. The lack or vague data in the information obstacle the implementing agencies (international NGOs) to hold the activities of community involvement in post disaster reconstruction projects. The information may include the basic contacts details of beneficiaries, accordingly the lack on these data hinder the effective community participation activities.

The third ranked barrier is the ambiguous data of the reconstruction projects (Budget- target group- implementation period). The unclear information about the projects budget hesitate the implementing agencies to hold the community participation activities. Identifying the targeted group is essential to for the implementing agencies to focus on the targeted group only. Concentrating the community participation on a specific group contribute to accelerate the reconstruction recovery activities. The ambiguous data related to the project duration hinder the community participation since the community participation activities need a sufficient time to be implemented.

In Gaza Strip the transparency in the reconstruction projects is missed, there is no clear information system for reconstruction projects (Barakat *et al.*, 2004). The international NGO's who is main responsible for implementing the reconstruction projects consider the reconstruction projects data as a confidential data and it could not share with the community (Enshassi and Zaiter, 2013). Due the community structure (the demographic distribution) of Gaza Strip: refugees and non-refugees, there is no unified system for the beneficiaries' details (UNDP, 2014). The international NGO's intend to announce some vague data related to the project to avoid the direct inquiries from the beneficiaries.

Vahanvati and Mulligan (2017) indicated that good transparency and accountability system help to resolve the disputes in housing reconstruction projects through the community participation. Seneviratne *et al.* (2017) pointed out it essential to provide the stakeholders with the basic information the time and the budget restrictions of the reconstruction projects. Without transparency the post disaster housing reconstruction projects will fail (Mannakkara and Wilkinson, 2015; Sadiqi *et al.*, 2015; Shafique and Warren, 2016; Taufika *et al.*, 2016).

5.2.5. Lack of NGOs competency

As illustrated in Table (4.7) the lack of NGOs competency group comprises of six barriers which may hinder the community participation in post disaster housing reconstruction projects. The top ranked barriers of this group is lack of NGOs ability to develop the staff capacity. The NGO's agencies are not like the government, it have not an army of employees and separated human resources department. Accordingly, the small international NGO's have not the sufficient capacity to develop the competency of their employees. The unqualified employees contribute to hinder the effective participation in housing reconstruction projects. Most of employees work in the international NGO's with limited duration contracts, so the investment on developing the employees' capacity have not the good worth. Once the contract of employees finish they will leave the job to another one.

The second barrier of the housing reconstruction projects is the lack of technical knowledge and skills of the NGOs staff. The staffs who deal directly with community should be trained enough and have the technical skills (Archiving data – Ms Office). The lack of the employees experience to arrange for the community participation activities hinder the community based method. Knowing the physiological status of the community is very important for the employee to avoid any obstacles during the community participation housing reconstruction projects.

Lack of number of NGOs staff in reconstruction projects is considered the third ranked barriers in this group. The lack of number of NGO's staff hinder the community participation since they have not they have not sufficient staff to deal the community directly or to implement the community participation directly. The

number of staff in the housing reconstruction projects is attributed to the lack of fund allocated for the employees.

In Gaza Strip, most of the NGOs fixed term staff has a good academic degree with sufficient training courses (UNDP, 2014) however, the employees with limited duration contracts has not enough capacity to manage the reconstruction projects (Al-Dabbeek, 2008). The international NGO's staff is overloaded and they have not enough time to manage the community based method activities (UNRWA, 2017a).

5.2.6. Lack of coordination between stakeholders

As illustrated in Table (4.8) the lack of coordination between stakeholders group comprises of five barriers which may hinder the community participation in post disaster housing reconstruction projects. The top ranked barrier of this group is the lack of proper transportation, infrastructure, and plans to meet the stakeholders. After conflict/disaster the transportation of the affected area is very miserable. The lack of transportation is due to the deteriorated infrastructure; accordingly it is very difficult to reach to the affected area. The disaster impact is not limited to the housing only it is comprised of all surrounded infrastructure in the impacted area. Most of implementing agencies of the reconstruction projects are located in the city center of the country where the transportation is available all the time in contrast of the boundary area where the transportation is not easy to reach. The importance of transportation is concluded in the tool which used to meet the stakeholders in the affected area. For example, when the implementing agencies decided to hold an event for the community participation it is not easy to meet with the stakeholder; so that this reason is may lead to hinder the community participation.

The lack communication between stakeholders due to failure in signing the case-fire agreements is considered the second top barrier of the lack of coordination between stakeholders group. The communication is essential to exchange the reconstruction data between the stakeholders and to facilitate the damage assessment process. The communication includes three main items: the sender & receiver (implementing agencies and the community) and the communication channel. The senders and receivers should be have the acceptance through the trust to exchange the data, while the physical communication channel are essential to be existed to ensure the fluency

of data. That mean, the telecommunication network is very important to facilitate the process of sharing the data between stakeholders. For example, the bad quality of the telecommunication network will hinder the community participation.

The lack of physical infrastructure to implement the community participation activities is the third ranked barriers of the community based method The physical infrastructure means all roads, internet network, and other networks which utilized in facilitating the coordination between the stakeholders. The availability of roads accelerates to meet with the stakeholders to hold the community based method activities. The existing of road ensures that meeting with the stakeholder is not impossible task. For example; the affected area is demolished in all aspects housing, roads, water and electricity networks all of these will hinder the effective community participation.

In Gaza Strip, the lack of coordination between stakeholders is a critical issue for implementing the reconstruction projects. Unfortunately, the implementing agencies mainly the international NGO's (Enshassi and Shakalaih, 2016).; work without direct coordination between others. Each of the international NGO's has its filed of works; for example UNRWA works for reconstruction project of refugees families, UNDP servers the Non-refugees families(Al Dabbeek, 2011). The problem is raised if the householder is a refugee wife while her spouse is non-refugee; the duplication in the reconstruction project is possible in this case. UNRWA and UNDP reported many cases of the damaged housing unit is recorded twice one in the UNDP records and another in the UNRWA reports. Due to continued siege the telecommunication network is deteriorated and out of service. The phone call is interrupted many times and the quality of voice is very difficult to be understandable (Barakat and Zyck, 2011). The internet network is not available all the time especially in the boundary area which is affected from the conflict. The electricity cut off our obstacle to the effective communication between stakeholders because most of the modern telecommunication tools are depend on the electricity (Enshassi and Zaiter, 2013). All the aforementioned reasons hinder the effective community participation activities in Gaza Strip.

Shafique and Warren (2016) mentioned that, the effective telecommunication tools contribute to facilities the community participation in reconstruction projects. The availability of infrastructure in the affected area is the main key of implementing the community participation activities (Tad and Janardhanan, 2016; Taufika *et al.*, 2016). The internet is the most important communication tool in the housing reconstruction projects, because it is the link between the all stakeholders. The coordination between the implementing agencies is essential to avoid any duplication in the reconstruction projects. All available communication or coordination tools are needed to implement the community participation activities (Adams *et al.*, 2017).

5.2.7. Inflexible short deadlines of the reconstruction projects

As illustrated in Table (4.9) the inflexible short deadline of the reconstruction projects group involves four barriers which may hinder the community participation in post disaster housing reconstruction projects. The top ranked barrier is the ignoring of the community opinions as a result of concentrating on the implementation only. The restricted deadlines of the reconstruction projects lead the implementing agencies to focus on the reconstruction projects only and ignoring the community opinion. Neglecting the community opinion causes to lose the trust between the implementing agency and the community. For example, the donors ask the implementing agencies to complete the projects within a limited period; the donor may ignore the work plan which submitted by the implementing agencies to consider the community participation activities. The community participation activities take a specific period at least one month and it is extended to the end of the project. If the implementing agencies did not manage the community participation in proper way to save the project time; the project timetable will be impacted. The inflexible deadline due to the donor conditions is affect negatively on the community participation activities.

The lack of time to form the community groups which is nominated to participate in the reconstruction projects. After the conflict the demographic distribution of the community is changed accordingly, the local government should help the community to form their representative participation groups to expedite the process of the community participation. Most of donation announced immediately after the end of

conflict that mean there is no enough time to formulate the community group. The availability of the community group helps the implementing agencies to target these groups directly; otherwise the community participation will be neglected. Forming the community groups passed through three steps; nomination, election, results. The nomination is allowed to all qualified adult people to nominate themselves to be part of the community groups, the election process of the nominated members for all community people and finally announced the result. All of the previous mentioned steps take a period of time to be finalized. The restricted deadlines of the projects hinder the effective community participation activities.

The inactivity of the community participation role due to the long duration of some reconstruction projects is the third ranked barrier of this group. The period of some reconstruction projects is exceeded two or three years with a total budget over 10 million dollars have a negative impact on the community participation activities. The long period of the reconstruction project will not encourage the community to participate in the reconstruction project they will feel boring due to the long period of these projects. Usually these project are planned to be implemented through many stages with the same scope and the same number of beneficiaries accordingly, if the community participate in the first stage it is not necessary to participate in the remaining part of the reconstruction projects.

In Gaza Strip most of the donors have a restricted time plan either mentioned in the project agreement or in the proposal (Barakat and Zyck, 2011; El-Masri and Kellett, 2001). For example the SFD ask to submit the project time plan prior the implementation and they follow up the implementation step by step. Due to the political situation, the SFD prefers to complete the project no later than one year of start the implementation date. The SFD has an annual contribution of the shelter project for Gaza \$ 10 million at least, accordingly the implementing agencies do all the best to complete the projects focusing in the reconstruction activities only. In Gaza Strip, due to the lack of government and municipalities resources they could not form the community groups easily. For example, Khanyounis municipality in Gaza Strip has formed the 13 neighbourhoods community groups after three years of the last conflict. The period of forming the community groups exceeded one year because the process was held in each neighbourhood respectively. These

neighbourhoods groups were not be able to participate in the active reconstruction projects because the time is out. Meanwhile, most of the other municipalities are not ready to form the community groups. The long period of the reconstruction projects have affected negatively in the community participation for example; the \$ 20 m USA funded project aimed to reconstruction up to 800 housing reconstruction projects for the totally demolished housing reconstruction projects after the 2014 conflict has been crippled many times due to the lack of the community participation. In the first stage of the project the community was emphasised to participate in this project but due to the donor conditions related to the housing design the community participation scaled down.

The project completion date has an impact on the nature of the community participation activities, duration and the tools of the participation (Sadiqi *et al.*, 2013; Taufika, 2013). The restricted deadlines of the projects hinder the effective community participation of the reconstruction projects. The rush in implementing the reconstruction projects has a significant impact on the reconstruction projects; it will miss the added value of these project (Biswas and Choudhuri, 2012; Chandrasekhar, 2012). The implementing period of the reconstruction projects encourage the community to participate in the community based activities.

5.2.8. Neglecting of the community socio- economic, cultural needs

As illustrated in Table (4.10), the neglecting of the community socio-economic and cultural needs comprises of six barriers which may hinder the community participation in post disaster housing reconstruction projects. The highest ranked barrier of this group is the neglecting the community social, economic and culture needs in the implementation stage. Each community has specific social needs (e.g. the privacy in the design, mixing between the men and women) economic needs (e.g. the type of finishing in the building, the cost of construction materials) and culture needs (e.g. the Islamic decorticate, the country custom) should be taken into consideration during implementing the reconstruction projects. The community will be satisfied and will encourage to participate in the reconstruction project if their needs are fulfilled. Ignoring the community needed will hinder the community participation due they will believe their participation is meaningless. The

implementing agencies should respect the culture needs (e.g. holding a separated meetings for women/men) of the community during implementing to encourage them to participate in the community based activities.

The second top ranked barriers of this group is the lack of confidence among the stakeholders due to the diversity of interests. Each stakeholder has their own interest on the reconstruction projects; for example the interest of the community in the reconstruction projects is reconstruction their homes with a good quality. While the contractor aimed to have a good profit, meanwhile the implementing agencies aimed to complete the project on time and within the available budget. The different in the interest of the project lead to hinder the community participation activities. The dispute may be existed between the stakeholders due to the different in the outcomes of the projects. The implementing agencies intend to reconstruction the houses based on standards and tender documents, while the community need to achieve over quality which may hinder the progress in the reconstruction projects.

The lack of conflict recovery plans ability to accommodate the enormous number beneficiaries with different cultures is considered the third highest barriers of community participation in housing reconstruction projects. The large numbers of beneficiaries form a pressure on the implementing agencies in the same time. The implementing agencies should deal those beneficiaries according to their culture. For example the people who are living the city center have a culture is totally different about those living in the agriculture area. Moreover, the vulnerable people have a bad physiological condition, so that the implementing agencies should take it during implementing the community participation activities. For example the beneficiaries may be shouted in the implementing agencies staff, because they need to back to their homes as soon as possible, the staff should be patient during dealing with the people.

5.2.9. Lack of gender participation

As illustrated in Table (4.11) the lack of gender participation in the reconstruction process group involves seven barriers which may hinder the community participation in post disaster housing reconstruction projects. The top ranked barrier is the enormous economic burden on the families which are led by women. The women

who are responsible to provide the food and the money for their families have not enough time or clear mid to participate in the reconstruction projects. The economic burden is not limited to provide vulnerable families with the food which needed to still survive only; it is extended to provide the families with durable source of income to overcome the life challenges. The opportunity of work for women is less than the men opportunities in many sectors, accordingly some time women are hardly finding the jobs. Looking for a job is a time consuming tasks and not straight forward process in the effected community as well as the competition is very high so that the women have not enough time participate.

5.3. Factor Analysis for the barriers of the community based method in post conflict housing reconstruction projects

The factor analysis results for the barriers which hinder the community based method in housing reconstruction projects in Gaza Strip will be discussed in the following sections. The extracted results from SPSS indicated that six principal factors with 22 barriers are significantly correlated variables out of 54 potential barriers that mentioned in the questionnaire. These six factors are: Gender participation, lack of information, governmental regulations, coordination, and communication, lack of confidence and finally the community capacity.

5.3.1. Factor No.1: Gender participation

The first factor of the main barriers of the community participation in post conflict housing reconstruction projects in Gaza strip is labeled gender participation. Naming of this factor was based on the barriers that are correlated together and mainly target women participation. This factor consists of 14.89% of the total variance. This factor contains five barriers with relatively high factor loadings (≥ 0.70) as follows:

- BA53: “*Lack of equity laws in Gaza Strip*” with factor loading = 0.83
- BA54: “*Lack of women numbers who works in disaster management field*” with factor loading = 0.80
- BA52: “*Minor role of the women in managing the community resource*” with factor loading = 0.73

- BA49: “*Lack of trust between women and implementing agencies (international NGOs) of the reconstruction projects*” with factor loading = 0.70
- BA50: “*Inactivity of the women role due to the suffering from the disaster implications more than men*” with factor loading = 0.70

The five barriers of the community based method that loaded on this factor are all related to gender participation, so it gathered under this factor. The first barrier “lack of equity” is related to the gender participation through the equity is emphasis the gender participations. While the remaining barriers stated clearly the “women” word and they indicated the lack of women participation. All of the loaded barriers on this factor had factor loading greater than 0.70 which are considered significant in contributing to the interpretation of this factor. This factor is considered the most important one in terms of the percentage of the variance among the barriers of the community based method in post conflict housing reconstruction projects. Thus, lack of gender participation factor is considered the critical barrier of the community based method of housing reconstruction projects in Gaza Strip.

Enshassi and Shakalaih (2016) and Barakat *et al.* (2004) considered the lack of equity laws one of the top barriers of the effective community participation in housing reconstruction projects which is in line with the findings in this study. The absences of Parliament role in Palestine since 2007 as mentioned by Sayigh (2010) encourages the NGOs who work in the post conflict reconstruction projects to ignore the women role in these projects. The findings of this study shows that the lack of women numbers who works in disaster management field is considered one of the main barriers of the community based method which is consistent with Al Dabbeek (2011) findings. Barakat *et al.* (2009) mentioned that due to the tradition and culture in Gaza strip some women refuse to participate in reconstruction project in men groups; this supports the thesis results in the same regard. The minor role of the women in managing the community resource hinders the community participation activities through the lack of women authority in the decision making process; this agree with (Enshassi and Shakalaih, 2016) conclusion. Managing the human resources or physical resource by women will grantee sufficient portion of the gender participation in the community based method. Enshassi and Shakalaih (2016) stated

that, the lack of trust between women and implementing agencies (international NGOs) obstacle the community participation, this compatible with the factor analysis results of this study.

The construction industry is harsh work in nature and it depends on men mainly, so that women role is approach to zero (Mochizuki and Chang, 2017; Nakamura *et al.*, 2017). Ignoring the women participation in the reconstruction project due to the lack of law leads to threaten the reconstruction projects and not achieve the project goals, this finding is supported by Chen *et al.* (2017) and Milton and Barakat (2016) who considered the lack of community participation law causes the failure in the reconstruction projects. The laws preserve the rights of each stakeholder to participate freely in the reconstruction project and prevent the implementing agencies to ignore the community participation. Sadiqi *et al.* (2017) stated that, women prefer to discuss their point of view with same gender; this finding is consistent with result, women feel free to share their ideas with the female employee in the NGO's association. The conclusion of Ostadtaghizadeh *et al.* (2016) study agreed with the findings that the lack of trust between stakeholders hinder the effective community participation. Accordingly, the trust leads the women to talk freely to the NGOs without any obstacles.

The factor analysis results highlighted the importance of women participation in housing reconstruction projects. The local Government of Palestine should issue the regulations which instruct the implementing agencies to encourage the women to participate in the reconstruction projects. Legislation bodies in Gaza Strip should introduce laws to facilitate the gender participation in housing reconstruction projects as in Kosovo (Earnest, 2015) and in Yokohama, Japan (Arielle Tozier and Marie-Ange, 2015). The implementing agencies of the reconstruction projects in Gaza Strip should be transparent with the women and community to build the trust and increase the women participation.

5.3.2. Factor No.2: lack of information

The second factor of the barriers of the community based method in the post conflict housing reconstruction projects in Gaza Strip is labeled as lack of information

process and explained 12.5% of the total variance. All barriers under this factor had high factor loadings (≥ 0.73). The three barriers are as follows:

- BA44: “*Ambiguous data of the reconstruction projects (Budget- target group- implementation period)*” with factor loading = 0.78
- BA42: “*Vague of expenditures process of the project budget*” with factor loading = 0.76
- BA24: “*Inactivity of the community participation due to the donor role in the characteristics of houses*” with factor loading = 0.73

This factor was named in accordance with the features of the set of individual barriers of community based method of housing reconstruction project. Under this factor, the correlations between the three barriers can be distinguished by the lack of information either (operational or financial) about the reconstruction projects. All of these barriers of community based method have an acceptable factor loading which are considered important in terms of the percentage of the variance among the barriers.

The lack of information about the reconstruction projects in Gaza Strip is considered one of the main reasons behind the failure in the community based method, this is consistent with Enshassi and Shakalaih (2016) conclusion. The ambiguous data of the reconstruction projects for example budget, target group, and implementation period will affect negatively on the relationship between the community and the implementing agencies of the reconstruction projects which is in line with Al-Dabbeek (2008) conclusion. The financial expenditure is considered confidential documents according to UNRWA in Gaza, so that the community has not the right to make any audit for its expenditures. Donor requirements to own all information about the beneficiaries of the reconstruction projects or to approve/ reject the community based activities hinder the community based activities on the reconstruction projects. UNRWA refused to share the names or any personal information about any beneficiaries of the reconstruction projects.

Providing the beneficiaries (the affected people in the community) with all information about the reconstruction projects enable the implementing agencies to shorten the construction periods and achieve the projects goal. The budget details is

the most important factor to the beneficiaries in order to participate effectively on the reconstruction projects which is agreed by Handrahan (2004) and El-Masri and Kellett (2001) findings. Sharing the community with the needed information about the reconstruction project is the key of the success in the community based method is consistent with Sadiqi *et al.* (2017) conclusion. The donors interventions for example (refuse the community participation activities or impose the contractual method) may hinder the community based method of housing reconstruction projects.

The findings show that the implementing agencies of the reconstruction projects in Gaza Strip should be transparent with the community about the information of the reconstruction projects to ensure the success in these projects. Sharing the basic information of the project with the stakeholder will increase the trust between all stakeholders and achieve the projects goals. The community will support the implementing agencies of the reconstruction projects and will facilitate the obstacles to complete the project of time. The government in Palestine should follow up the fluent of sharing the information between the implementing agencies of the reconstruction projects and the community.

5.3.3. Factor No.3: Governmental Regulations

The third factor of the barriers of the community based method in the post conflict housing reconstruction projects in Gaza Strip is named governmental regulations explained the 11.5 % of the total variance. The interpretation of this component based on the barriers included in it. This factor contains of four with relatively high factor loadings (≥ 0.60). These four barriers of the governmental regulations of the community based method are as follows:

- BA8: “*Absence of clear plans for conflict response*” with factor loading = 0.75
- BA9: “*Absence of disaster/conflict management unit in government institutions*” with factor loading = 0.75
- BA11: “*Lack of the governmental policies which support the community participation*” with factor loading = 0.70
- BA10: “*Absence of the government role in preparing the proper administrative divisions of Gaza Strip*” with factor loading = 0.60.

The four barriers of the community based method that loaded on this factor are relevant to government regulation, so it gathered under this factor. The mentioned barriers: preparing conflict recovery plan, availability of disaster unit and regulation policies mentioned in the above barriers are related to the existing of government regulations. All of the loaded barriers on this factor had factor loading greater than 0.60 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the barriers.

The absence of clear plans for conflict response in Gaza strip is one of the main barriers of the community based method of housing reconstruction projects. The recovery plans set the guidelines for the effective community participation which is consistent with Enshassi and Shakalaih (2016) findings. Due to lack of the government role in managing the reconstruction projects and to the political situation in Gaza; the conflict recovery plans –if it existed- are weak. The Absence of the conflict management unit in government institutions hinders the effective community participation, this is agreed by Baroudi and Rapp (2014) results. The importance of the conflict management unit in Gaza Strip is managing the conflict response and identifying the role of each party. The lack of the governmental policies in Gaza Strip which supposed to support the community participation have a significant role in hindering the community based method as highlighted by Barakat *et al.* (2009).

The lack of the government role is considered the key barrier of the community based method in housing reconstruction projects, this is supported by Dikko (2016) and Junqi *et al.* (2015) findings. The lack of the government regulations which identify the role of each stakeholder and support the participation activities hinders the community based method, this is supported by Ludin and Arbon (2017) conclusion. Sadiqi *et al.* (2017) stated that, the disaster unit in Afghanistan plays a significant role in managing the community based activities which is disagree with this study finding due to the absence of disaster unit in Gaza. Tad and Janardhanan (2016) stated that, the poor recovery plans of the disaster have a negative role in the community based method, this finding is consistent with this thesis results.

The government regulations should encourage the community to participate in the reconstruction projects. The conflict recovery plans should be prepared considering all conditions of the stakeholders to ensure the effective community based method. The government in Palestine and implementing agencies of the reconstruction projects in Gaza Strip should establish a disaster management unit to facilitate and organize the community based activities.

5.3.4. Factor No.4: Coordination and Communication

The fourth factor of the barriers of the community based method in the post conflict housing reconstruction projects in Gaza Strip is named coordination and communication explained the 9.82 % of the total variance. This factor contains three barriers with relatively high factor loadings (≥ 0.68). These three barriers of the community based method are as follows:

- BA41: *“Lack communication between stakeholders due to failure in signing the case-fire agreements”* with factor loading = 0.74
- BA33: *“Lack of technical knowledge and skills of the NGOs staff”* with factor loading = 0.69
- BA34: *“Lack of the NGOs number of staff in large-scale reconstruction projects”* with factor loading = 0.68

The three barriers of the community based method that loaded on this factor are all closely related to coordination and communication, so it gathered under this factor. The above barriers are related directly and indirectly to the coordination and communication. The second barrier of this factor the lack of technical knowledge hinders the effective coordination between stakeholders. As well as the lack of staff in NGOs in the third barrier make the coordination between the stakeholders is impossible. All of the loaded barriers on this factor had factor loading greater than 0.68 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the barriers.

The lack of communication between stakeholders due to failure in signing the case-fire agreement (peace agreement) is considered the main barriers of the community based method in post conflict housing reconstruction projects in Gaza Strip. The

continuity of the hostilities works hinder the communication between the stakeholders to implement the community based activities due to the safety and security issues which is compatible with Enshassi and Shakalaih (2016) findings. The lack of coordination between the stakeholders hinder the implementing the community based activities and struggle preparing the recovery plans of the conflict. The poor coordination between the implementing agencies lead to prevent some beneficiaries to participate in the community based activities which is supported by El-Masri and Tipple (2002) conclusion. The lack of the technical skills of the NGOs employees who work in the community based activities hinder the communication between stakeholders. The adequate numbers of staff in the NGOs help the NGOs to prepare the communication and coordination plans to implement the community based activities. The NGOs need communication officers in each field to coordination for the meeting and workshops with stakeholders. In UNRWA; Chief Area Offices are responsible for communication and meeting with the community.

The absence of coordination between the reconstruction project stakeholders is the main reason of the failure in the reconstruction projects as concluded by Earnest (2015) and Taufika *et al.* (2013). The lack of the proper channel of communication (verbal or oral) between the stakeholders hinders the community based method activities which is consistent with Dyer *et al.* (2014) and Taufika (2013) findings. The lack of the communication plans and skills of the government and the implementing agencies employees hinder the effective community participation activities, this is supported by Chandrasekhar (2012) conclusion.

The government in Palestine and the implementing agencies of the reconstruction projects in Gaza Strip should prepare a proper and effective communication and coordination plans to ensure the good community based activities. The government should build a breakdown structure for the community and divide the community to groups with a representative or focal point for each group. These community groups facilitate implementing the community based method activities by saving the time of long communication process. The NGOs could not communicate with each person in the community to implement the community based activities; accordingly it is important to develop the communication plans. The communication among the stakeholders should be available around the clock to facilitate the community based

method. The government and implementing agencies should develop their employ skill to deal with affected community and to achieve the project goals.

5.3.5. Factor No.5: Lack of confidence

The fifth factor of the barriers of the community based method in the post conflict housing reconstruction projects in Gaza Strip is named lack of confidence explained the 9.67 % of the total variance. This factor contains three barriers with relatively high factor loadings (≥ 0.68). These three barriers of the community based method are as follows:

- BA29: *“Lack of confidence among the stakeholders due to the diversity of interest”* with factor loading = 0.73
- BA28: *“Negligence of the community needs due to the political fluctuations”* with factor loading = 0.69
- BA26: *“Lack of conflict recovery plans ability to accommodate the enormous number beneficiaries with different cultures”* with factor loading = 0.68

The three barriers of the community based method that loaded on this factor are all related to lack of confidence directly or indirectly, so it gathered under this factor. The first barrier is related directly to the lack of confidence while the second barrier when the implementing agencies neglect the community needs the confidence between the stakeholders is impacted. While third barrier “lack of conflict recovery plan” disturb the community based activities and causes the lack of confidence between stakeholders. All of the loaded barriers on this factor had factor loading greater than 0.68 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the barriers.

The lack of confidence between the stakeholders hinders implementing the community based activities; the community will refuse to participate in the reconstruction projects. The confidence strengthens the relationship between the stakeholders which leads to the success in the reconstruction projects. Barakat *et al.* (2004) stated that the political fluctuations in Palestine lead to negligence of the community needs and failure in the reconstruction projects which is the same result of this thesis. The poor of the recovery conflict plans to manipulate the different

cultures of the affected people causes the failure in the community based activities in the reconstruction projects as concluded by Enshassi and Shakalaih (2016) and Enshassi and Chatat (2012).

Identifying the community need to be satisfied in the reconstruction projects is the best way to achieve the success in the reconstruction projects which is agreed with Ludin and Arbon (2017), Nakamura *et al.* (2017) and Sadiqi *et al.* (2017) findings. The lack of trust among the stakeholders affect negatively on the community based activities; the people will refuse to participate in the reconstruction projects; this is consistent with Sadiqi *et al.* (2015) conclusion. Preparing the recovery plans without identifying the role of each stake holder play a significant role in the failure of the reconstruction projects; the chain of command between the stakeholders will not transfer easily on the reconstruction projects which is consistent with Félix *et al.* (2015) findings.

The government in Palestine and implementing agencies of the reconstruction projects in Gaza Strip should emphasis the trust and support the confidence with the community by being transparent with the effected people. The confidence will be increased with the community by satisfying the community needs and answering the community inquires. Identifying the role of the stakeholders will facilitate the community based method activities and develop the trust between the stakeholders. Moreover, increasing the trust between the stakeholders through preparing clear plans for the conflict recovery plays a significant role in the success of the reconstruction projects.

5.3.6. Factor No.6: Community Capacity

The sixth factor of the barriers of the community based method in the post conflict housing reconstruction projects in Gaza Strip is named community capacity explained the 9.52 % of the total variance. This factor contains four barriers with relatively high factor loadings (≥ 0.56). These four barriers of the community based method are as follows:

- BA4: “*Diversity of the community parties and difference of their ideas and complexities*” with factor loading = 0.78

- BA1: *“Lack of the community knowledge about disaster mitigation and preparedness plans”* with factor loading = 0.68
- BA15: *“Lack of the government activities (workshops- field visits ...) which encourage community participation”* with factor loading = 0.57
- BA3: *“Lack of the decision-making skills or affecting in the decision-making process”* with factor loading = 0.56

The four barriers of the community based method that loaded on this factor are related directly or indirectly to community capacity, so it gathered under this factor. The first barrier in this factor is related in directly with the community capacity; the diversity between the community parties decreases the community capacity. The NGOs could not implement the reconstruction projects in diversity conditions or develop the community capacity. Developing the community knowledge through the government activities increases the community capacity; so that the second “community Knowledge” and third barrier “government activities” are related to the factor name. The community who have enough capacity (i.e. educated person, communication and participation skills) could take the decision easily, so that the forth barrier is related to the factor name. All of the loaded barriers on this factor had factor loading greater than 0.56 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the barriers.

The diversity in the community culture and difference of their ideas is the main obstacles of the community based method; the main challenge is how to unify the community cultures and opinions. The findings in this study is agreed with Al-Dabbeek (2008) findings that the urban culture in Gaza is totally different about the rural culture. For example the urban culture accepts to hold a work shop for men and women together, while it is not acceptable in the rural. The lack of the decision maker skill to understand the community capacity and needs lead to the failure in the reconstruction projects in Gaza which is consistent with Enshassi and Chatat (2012) findings.

Ignoring the community capacity and need in the reconstruction projects one of the main reasons of the failure of the reconstruction projects as stated by Vahanvati and

Mulligan (2017) and Seneviratne *et al.* (2017) findings. Chen *et al.* (2017) mentioned that, the lack of information about the community components and trends hinder the community participation activities; the implementing agencies will not be able to conduct the community based method activities, this is in line with the thesis findings. The lack decision maker skills to identify the community capacity and managing the participation activities hinder the community based method of housing reconstruction projects.

The government in Palestine and the implementing agencies in Gaza Strip should identify and study the community capacity before proceeding with the implementation of the reconstruction projects to achieve the projects goals. Moreover, if the community capacity and skills are low they should hold many training courses to develop the community capacity. On the other hand, the organizations in Gaza Strip should develop their employee skills to be able to identify the community capacity and to deal with the vulnerable people. The government should do its job by increase the community capacity by conducting many workshops and training courses to develop the community skills.

5.4. Ranks of the success groups of community based method of post conflict housing reconstruction projects.

As stated in Table (4.20), the success groups are ordered decently according their mean value form the highest mean value of 4 to the lowest mean value of 3.53 as the following: transparency and accountability, effective communication among stakeholders, developing the community education and training, availability of sufficient fund for community participation, local government support, respecting the community culture and supporting the Gender Participation.

5.4.1. Transparency and accountability

As illustrated in Table (4.20) the transparency and accountability group is considered the main success group of the community based method in post conflict housing reconstruction projects in Gaza Strip. The transparency in the community based method is very essential to ensure the success in housing reconstruction projects. The transparency in the nature of participation activities and the budget of the

reconstruction projects encourage the community to participate in the reconstruction projects. The implementing agencies (international NGOs) should be transparent with the community regarding the project restrictions and the type of the reconstruction activities. The transparency and accountability in the reconstruction projects reduce the dispute in the reconstruction projects. Moreover, the accountability contributes to reduce the corruption in housing reconstruction projects. The accountability during or after completing the reconstruction activities lead to encourage the community to participate in housing reconstruction projects. The transparency and the accountability empower the trust between the community and implementing agencies of the reconstruction projects.

In Gaza Strip, due to the political situations and the absence of the government role in monitoring and controlling the reconstruction activities; most questionnaire's participants considered the transparency and accountability is the main success group of reconstruction projects. The international NGO's who implement the reconstruction projects in Gaza Strip prefer to implement the reconstruction projects without accountability from outside their organizations (Barakat *et al.*, 2009); due to their organization regulations (e.g. No one can raise a claim against UNRWA in the local courts). The international NGO's have a limited space for transparency and accountability due to lack of staff, for example: UNRWA allocates two hours from 11:00 to 1:00 pm every Tuesday to answer the community inquiries. Accordingly, the transparency and accountability is not applied one hundred percent in the reconstruction projects in Gaza Strip. The transparency and accountability concept need to be developed in ordered to success in the reconstruction projects.

Vahanvati and Mulligan (2017) considered the transparency and accountability are the main key of the success in the post conflict housing reconstruction projects. According to Taufika *et al.* (2016) the accountability reduce the corruption in housing reconstruction projects which match this study findings. The transparency and accountability encourage the community to participate in housing reconstruction projects moreover, it facilitate the challenges in the reconstruction projects (Gilbert, 2016; Junqi *et al.*, 2015; Taufika *et al.*, 2013).

5.4.2. Effective communication among stakeholders

As illustrated in Table (4.20) the effective communication among stakeholders has a significant impact on the success of post disaster housing reconstruction projects. The proper communication leads to proper coordination between the stakeholders. The communication includes three main parts: the sender, receiver and the channel of communication. The sender and receiver are the community and the implementing agencies (international NGOs) respectively; they should maintain a good relationship to ensure the success in the projects. The effective communication means providing the good communication channel either face to face or using modern technologies which are available in the targeted area. The effective communication among stakeholders encourages the community to participate in the post conflict housing reconstruction projects. The effective communication save the time in housing reconstruction projects and minimizes the disputes between the community members. The effective communication supports other housing reconstruction projects like monitoring and controlling.

In Gaza Strip, the effective communication is the second top ranked group in the success housing reconstruction projects. In Gaza Strip, the shelter cluster under the UN organization is responsible for the communication and coordination between all stakeholders of housing reconstruction projects (Barakat *et al.*, 2005). The international NGO's usually communicate with the community using the SMS and the telephone call. Supporting other kind of communication like workshop, meetings are very important to ensure the success in housing reconstruction projects. The effective communication builds the trust between the implementing agencies and the stake holders and facilitates the working of other reconstruction projects (Enshassi and Shakalaih, 2016).

The communication is the core of the communication in community based housing reconstruction projects activities (Ismail *et al.*, 2014; Junqi *et al.*, 2015; Shafique and Warren, 2016; Steinfort and Walker, 2007; Taufika, 2013). Sadiqi *et al.* (2017) conclude that the effective communication empower the community role in housing reconstruction projects. Shafique and Warren (2016) mentioned that, the effective communication lead to identify the essential needs of the community in housing

reconstruction projects. Poor communication in housing reconstruction projects lead bad quality of housing reconstruction projects (Ophiyandri, Amaratunga, and Pathirage, 2010). Steinfort and Walker (2007) stated that, the proper communication channel strengthen the community role in housing reconstruction projects.

5.4.3. Developing the community education and training

As illustrated in Table (4.20) developing the community education and training group is ranked the third success groups of the community based method in housing reconstruction projects with mean value of 3.88. Developing of the community education is primary to implement the community based activities since the educated people can understand the community based activities easier than the uneducated people. The educated community may have a contribution in developing the implantation methods of housing reconstruction projects from their experience. The disputes can easily resolved in the educated community by negotiation and exchange the ideas in contrast of the uneducated community. The educated community understands the resections of the reconstruction projects and they try to find an alternative to facilitate the community based activities. The training is very important to practice the community based method activities. The training (e.g. effective participation, how to participate and risk management) empowers the community role and save time of housing reconstruction projects. The effective community engagement in housing reconstruction projects is resulted from good education and training for the community.

Gaza strip is considered the highest educated community around the world (Barakat *et al.*, 2004). Most of the people understand the goals of the reconstruction projects; therefore there are no challenges or need to educate the community in order to facilities the housing reconstruction projects activities. Developing the community participation skills in housing reconstruction projects is needed to apply the community based method in housing reconstruction projects in Gaza. The training should include many aspects: how to participate, the suitable time for participation and the output of participation. The good training leads to encourage and support the community to participate in the reconstruction projects. The training reduces the

diversity between the community culture and facilitate the implementing agencies (international NGOs) work (Barakat *et al.*, 2005; UNDP, 2016).

Sadiqi *et al.* (2017) stated that the education increase the community capacity to participate in housing reconstruction projects. The education and training among the community members is needed to understand the scope of community based method activities (Chang-Richards *et al.*, 2017; Shafique and Warren, 2016; Taufika *et al.*, 2013). Samaddar *et al.* (2017) conclude that the training help the community to be self-reliant. The practice and training is important to meet the scope of the community based housing reconstruction projects (Chang-Richards *et al.*, 2017).

5.4.4. Availability of sufficient fund

As illustrated in Table (4.20) the availability of sufficient fund for the community participation is very important to implement the community based method activities. There is a cost for the community participation activities like (training, communication, focus groups and other activities). The availability of fund helps the implementing agencies (international NGOs) to conduct the community participation activities. The project fund always limited on the reconstruction activities only, accordingly the fund for community participation activities is approach to zero. The funds for the community based activities encourage the community to participate in housing projects. The continuity of fund during the post disaster housing reconstruction project, motivate the community to participate in all stages of reconstruction project. The amount of donation for the community participation activities is related with the damage size in the targeted area. The donors tend to reallocate the displaced people to their homes rather than investment their money in the participation activities. For instant, the donor may be convinced easily to investment additional fund for reconstruction more shelter than cover the cost of community participation.

In Gaza strip, due to the massive destruction in the conflict; the donors prefer to investment their money in the pure reconstruction activities. The impact of the reconstruction activities is more visible than the community based activities regardless the quality or the effectiveness of the reconstruction projects. The output of the reconstruction activities is many people will back to their homes while the

community based activities improve the quality of the reconstruction projects. The budget of the reconstruction activities is straight forward since it is based on technical assessment to the destroyed homes, while the community based activities is subjected to the implementing agencies judgment (Al-Dabbeek, 2008). The donors may tend to have zero allocation for the community based activities to avoid any corruption in the reconstruction projects (Barakat *et al.*, 2009). In Gaza strip, unfortunately there is no budget for the community participation; the donors donate for the reconstruction activities and the visibility (photos – video). Accordingly the community is frustrated to participate in the reconstruction projects.

Ismail *et al.* (2014) pointed out that the success in the reconstruction projects is related to the availability of fund for the community based method activities. The availability of fund is essential to sustain the community informed about the reconstruction project (Ismail *et al.*, 2014; Sadiqi *et al.*, 2013). The budget of the reconstruction activities should balance with the community based activities to implement the projects within the allocated time and budget (Samaddar *et al.*, 2017; Vahanvati and Mulligan, 2017). Labadie (2008) conclude that the sufficient budget for the community participation is the most important factor for the success in housing reconstruction projects.

5.4.5. Local government support

As illustrated in Table (4.20) the local government support is in the fifth ranking of the success groups of the community participation in housing reconstruction projects. The local government support is needed to prompt the community to participate in the reconstruction projects. The community needs the government support to participate in the reconstruction project freely without any restrictions from the implementing agencies (international NGOs). The local government support is including any activities or regulations that encourage the community to participate in the reconstruction projects. The government support should help the community to participate effectively in the reconstruction projects by forming the community groups. The support may be extended to hold training sessions for the community for the community participation. The local government should impose regulation that organizes the community participation in housing reconstruction projects.

Due to the political issues in Gaza Strip the local government is negligible; accordingly most participants pointed out the government role is vital to success in housing reconstruction projects (Barakat *et al.*, 2005). The government role in Gaza is limited only to provide the implementing agencies with the beneficiaries list and provide the facilitation for the community to implement the reconstruction projects. The facilitation forms mainly to save the time in issuing the construction licenses and to solve the disputes between the householders (Al Dabbeek, 2011). The International NGOs consider the Palestinian Government in West Bank is the official government for the Gaza people so they avoid dealing the de facto government in Gaza. The local government in Gaza has not enough capacity or authority to provide the community with the support to participate in the reconstruction projects.

Shafique and Warren (2016) mentioned that, the government role is essential to achieve the reconstruction projects objectives and to support the community participation activities. The government role is to monitoring and controlling the community based activities (Ade Bilau and Witt, 2016; Ismail *et al.*, 2014; Junqi *et al.*, 2015). According to Taufika (2013) recommendations; the government regulations should encourage the community to participate in housing reconstruction projects. The political issues should not prevent the government to support the community to participate in housing reconstruction projects (Darabi *et al.*, 2013)

5.4.6. Respecting the community culture

As illustrated in Table (4.20) respecting the community culture is the sixth success group of the community based method in housing reconstruction projects. Respecting the community culture and the social value of the community build the trust between the community and the implementing agencies (international NGOs). The end user of the reconstruction projects is the community accordingly the compliance of the community need is very important to achieve the success in housing reconstruction projects. The community culture is varied from area to another in the same city accordingly the implementing agencies should identify the community needs to avoid any dispute or any obstacle in the reconstruction projects. For example in some areas there don't have any concerns to have a meeting with all people together while in another area two meeting should be arranged one for men and another for women.

The community participation is built on the respect between the stakeholders. Respecting the stakeholders including let him to speak freely, answer to his inquires and appreciate his opinion. Ignoring the community culture will prevent the community to support the implementing agencies to implement the reconstruction projects.

The reconstruction project in Gaza Strip mainly respect the community culture of the community since most of the employee who works in the reconstruction projects are from the local staff (Enshassi and Chatat, 2012). However, sometimes there is a restriction from the donor to not consider the community culture; for example in after 2014 conflict in Gaza Strip UNRWA has received a contribution from donors to reconstruction the houses with maximum area of 60 square meters which not aligned with the community culture. The community rejected to the project many times since the cluture in Gaza to build a wide rooms and to spate between girls and boys in bed rooms. Respecting the community culture of the community will increase the community participation.

Vahanvati and Mulligan (2017) mentioned that respecting the community culture and needs is important to implement the reconstruction projects smoothly. The local government should consider the community culture in housing reconstruction projects (Sadiqi *et al.*, 2017). The community culture should be identified before proceeding in the reconstruction projects (Chang-Richards *et al.*, 2017; Gilbert, 2016). Ophiyandri *et al.* (2010) pointed out all culture needs should be included in the design stage of the reconstruction projects. The culture needs should be taken into consideration during the community based method activities (Darabi *et al.*, 2013).

5.4.7. Supporting Gender Participation

As illustrated in Table (4.20) supporting Gender Participation is the seventh success group of the community based method in housing reconstruction projects. The discrimination between the women and men in the community participation prevent the women to participate in the reconstruction projects. The culture restrictions are always the main reason behind neglecting the community role in housing reconstruction projects. Supporting the gender role by respecting their contribution

and ideas will encourage the women to participate in the reconstruction projects. Supporting the women is extended to alleviate the economic pressure and burden from the women house holder to be free for community participation. Training the community to respect the gender participating is very essential to ensure the success in the reconstruction projects.

The questionnaire participants considered supporting Gender Participation is the last group that may lead to success in the community based method in housing reconstruction projects. The discrimination in Gaza Strip between gender is negligible, accordingly it may not effect on Gender Participation in the reconstruction projects(Barakat *et al.*, 2005). Most of the householders are men so that there is a minor role for the women in the community participation in housing reconstruction projects. However, due to culture barriers the women may not prefer to participate in the reconstruction projects(Barakat *et al.*, 2005). Some donors specify a portion for the gender in the reconstruction project to ensure the equity in the reconstruction projects. For example, most of the European donors imposed a percent for the women householders and the total number of beneficiaries, accordingly the women rights is preserved.

Vahanvati and Mulligan (2017) concluded that empowerment of the women role lead to the success in hosing reconstruction projects. Preventing the women to participate in the reconstruction projects causes the failure in the reconstruction activities (Dias *et al.*, 2016; Sadiqi *et al.*, 2017). The women should be consulted in allover reconstruction projects stages (Sadiqi *et al.*, 2017; Samaddar *et al.*, 2017). Ophiyandri *et al.* (2010) recommend allowing the women to work in the reconstruction projects. The government should support the women to participate in the community based housing reconstruction projects (Barakat *et al.*, 2005). Dyer *et al.* (2014) pointed out that, the gender balance should be available in the reconstruction projects to implement the project activities smoothly.

5.5. Rank of the main success factors of the community based method within the same success group

This section will discuss in details the main three (top ranking) success factor of the community based method within the same group. The groups are ordered based on

their overall ranks not as mentioned in the questionnaire for example the “transparency and accountability” was the sixth group in the questionnaire while it is the first rank in the analysis. The discussion approach will firstly, introduce the success group, then based on the analysis mentioned in chapter 4 the main success factors will be illustrated then interpreted based on Gaza Strip situation and finally linked with the previous study.

5.5.1. Transparency and accountability

As illustrated in Table (4.21) the transparency and accountability group comprises of eight success factors of the community participation in post disaster housing reconstruction projects. Hold periodic field visits to ensure that stakeholders are satisfied about the projects results is top ranked success factors for the community participation in housing reconstruction projects. Face to face meeting with the community contribute to solve the challenges in the reconstruction projects and ensure their participation in the reconstruction projects. Meeting with the community is considered type of monitoring and controlling to the community participation as well as it encourages the community to participate in the reconstruction projects. The feedback of the meeting with the stakeholders improves the community participation activities and lead to success of the future reconstruction projects.

The second top ranking success factor is clearly identifying the scope and the budget of the reconstruction projects. The transparency with the community about the basic information of the projects supports the community participation activities. For example, when the implementing agencies share with the community the project duration, donor, budget and number of beneficiaries the community will satisfy and support the reconstruction projects. Identifying the scope and targeted group of the community lead to concentrate the community based activities on the targeted group and save the project time. Participating the community with the project budget increase the trust between the stakeholders and support the implementing agencies (international NGOs) to implement the projects without obstacles. Hiding the project challenges (e.g. shortage of fund and construction materials approvals) away from the community will affect negatively on the reconstruction project and The

confidence among the stakeholders will be strengthening if the community knew the basic information about the reconstruction projects.

The third ranked success factor of the community based method is establishing an effective monitoring system. The monitoring and controlling system lead to support the community role in the reconstruction projects. The indicators and verification (No. of rehoused shelters & families) should be shared with the community to measure the project achievements. The follow up system to the implementing agencies lead the implementing agencies to respect the community ideas in the reconstruction projects. The effective monitoring and controlling system reduce the corruption in the reconstruction projects and increase the success opportunities of the reconstruction projects. The monitoring system includes: field visit to the construction site, inspect project files and make a check if the community is involved enough in the reconstruction projects.

Due to the political situation in Gaza Strip the local government could not be able to hold field visits to all vulnerable to ensure that they are participating or satisfying about the range of the community participation. The local government has not the capacity to meet with the stakeholders. However the beneficiaries can go to the Ministry of Public Works and Housing (MoPWH) to raise a complaint against the international NGOs regarding the community participation. The monitoring and controlling system in Gaza Strip almost not exist due to the political situation (The community has not the capacity to hire staff for the follow up); there is no accountability for the international NGOs (Barakat *et al.*, 2005). The monitoring and controlling system in Gaza Strip need to be established in ordered to ensure the success in the community participation in Gaza Strip.

5.5.2. Developing the community education and training

As illustrated in Table (4.23) developing the community education and training group includes six success factors of the community based method in post conflict housing reconstruction projects. The top ranked success factor is supporting the disaster management system through outsourcing (international consultant – electronic archiving system). The community may suffer from lack of disaster management experience, so that it is essential to assist by the external experts. The

outsourcing or the international experts will assist and train the local staff how to manage the post disaster housing reconstruction projects. The experts role is to organize the community based method activities and to support the implanting agencies of the reconstruction projects in their mission.

5.5.3. Availability of sufficient fund

As illustrated in Table (4.24) the availability of sufficient fund group includes four success factors of the community based method in post conflict housing reconstruction projects. The top ranked success factor under this group is allocating sufficient fund to support the community participation activities in the post conflict reconstruction projects. The fund is needed to cover the financial burden of the community based method activities. There is a cost for conducting training courses and work shop for the community based activities. Without sufficient fund or with partial fund the effective of the community participation will be impacted or it will be less significant. The sufficient fund will encourage the community to participate in the reconstruction projects.

The second highest mean of the success factor in this group is preparing plans for community participation activities based on the fund availability. The coordination for the community based activities should be scheduled in a plan in line with the budget. The fund identified the nature and the duration of each community based activities. Preparing a good plan which clearly stated the community based activities lead to achieve the project objectives successfully.

The third ranked success factor in this group is the allocate part of government general fund to support the community participation activities. Some of the reconstruction projects have not fund for the community based method activities. Accordingly in order to ensure the success in the reconstruction project the local government should allocate a fund from the government general fund to implement the community based method activities. This fund will enable the community to monitor the project activities and to participate in the reconstruction activities.

In Gaza Strip, most of the reconstruction projects have zero funds for the community based activities; accordingly the projects are implemented without budget. The donors prefer to investment their money for the reconstruction activities

only (Barakat *et al.*, 2009). The community participation activities are covered from the general fund of the implementing agencies (international NGOs) of the reconstruction projects. For example, UNRWA is holding a periodic meeting with the community using the internal fund. Due to financial crisis of the UNRWA the community based activities have been reduced due to the lack of fund.

Sadiqi *et al.* (2017) mentioned that the fund needed for the community based activities is considered the key success of the reconstruction projects. The availability of fund enables the community to participate in the reconstruction activities (Chang-Richards *et al.*, 2017; Taufika *et al.*, 2016). The good disaster management plan is conditioned by the availability of fund for the community based activities (Istijono *et al.*, 2016; Shafique, 2016)

5.5.4. Local government support

As illustrated in Table (4.25) local government support group includes seven success factors of the community based method in post conflict housing reconstruction projects. Prepare plans for managing the project stakeholders is considered the top ranked success factor of this group. Managing the stakeholders is not easy going process since there is a difference in the culture within the community. Working with scatter or disorganized reconstruction environment leads to waste the efforts and the time of the reconstruction projects. The government role is to prepare which shows the authority and responsibility of the stakeholders. The implementing agencies (international NGOs) of the reconstruction projects will focus to conduct the community based method activities rather than organizing the community groups and identifying the responsibilities of the community. The plans which clearly identify the responsibilities of the stakeholder contribute to success in housing reconstruction projects.

The second highest mean success factor in this group is holding a periodic meeting with the stakeholders to follow up the community based activities. Meeting the community encourage them to explain their basic needs and challenges of the reconstruction projects. Meeting with the community is type of monitoring and controlling to the community based activities in the reconstruction projects. The field visit to the community empowers the role of the community in the reconstruction

projects and increases the trust between the stakeholders. The feedback of the meeting with the community helps the decision makers to develop the community based activities in housing reconstruction projects. Meeting with the community contribute to solve the challenges in the projects easier than other methods like paper complaints.

The third ranked success factor in this group is preparing a mitigation plan of the political situation in the affected area. The political situation affect negatively on the process of the community based method housing projects. The political situation may lead to cripple the reconstruction projects and to impose new restrictions from the donor toward the community based activities. The mitigation plan is needed to draw the procedures of engagement the community regardless the political situations. As well as the purpose of plan is mitigation the impact of the political situation to enable the community to participate in the reconstruction projects without any restrictions. The plan is empower the community role to participate in the reconstruction projects.

Due to the harsh situation of Gaza Strip the role of the local government is not significant any more. The local government (*de facto*) is not able to prepare any plans or to hold a periodic meeting with the stakeholders to investigate the challenges which face the community. The role of the local government almost does not exist. The local government has not the authority to organize the relationship between the project stakeholders since the international NGOs deny the government role in the reconstruction projects. The international NGOs are responsible for preparing the plans for organizing the relationship with the community. For example, UNRWA has five area offices in each governorate which are responsible to deal directly with the community and to answer their inquiries (UNRWA, 2017b). The role of the community is just to provide the implementing agencies with the beneficiaries list only.

Vahanvati and Mulligan (2017) pointed out that the government is mandated to coordinate between the stakeholders in order to achieve the goal of the project activities. The local government is responsible for preparing the disaster management plans (Sadiqi *et al.*, 2017; Samaddar *et al.*, 2017). Chang-Richards *et al.* (2017) stated that, the community needs should be identified by the local government to

ensure the success in the reconstruction projects. The government should facilitate and support the community role in community based method of post disaster housing reconstruction projects (Dyer *et al.*, 2014; Ismail *et al.*, 2014; Shafique, 2016; Shafique and Warren, 2016).

5.5.5. Respecting the community culture

As illustrated in Table (4.26) respecting the community culture group includes six success factors of the community based method in post conflict housing reconstruction projects. Considering the location and the accessibility of the service facilities of the houses is the top ranked success factor within this group. Identifying the location of the effected houses is considered very essential for the community based method activities since it facilitate the communication and coordination between the project stakeholders. Taking into consideration the houses locations and the services in line with the community needs and desires increase the trust with the community and support them to participate in the reconstruction projects. The accessibility of the services is important for the community because it built the confidence between the stakeholders that the implementing agencies (international NGOs) need the best solution for the end users. The location of the effected community helps the establishment of the community groups based on their living place.

The second highest mean statement in this group is considering the community customs in the reconstruction projects. The community custom is one of critical issues in the reconstruction projects accordingly; the implementing agencies for the reconstruction projects should respect the community traditions to avoid any dispute with the stakeholders. Respecting the community traditions encourage the community to participate in the reconstruction projects. Respecting the community customs includes for example to avoid the mix between men and women in the community based method activities. Considering the community tradition in the reconstruction projects expedite the projects activities and contribute to achieve the project objectives smoothly.

The third ranked success factor in this group comprises the reconstruction strategies in reconstruction projects. The reconstruction strategies mean including the

environmental and economic aspects or considerations in the design stage of the reconstruction projects. Considering the construction strategies in the reconstruction projects will satisfy the community needs then lead the community to support the implementing agencies. The new strategic construction projects will save the time of the community participation and build the trust between the stakeholders that the implementing agencies are doing all the best for the community welfare.

Due to the harsh economic and environment situation of Gaza Strip, the implanting agencies of the reconstruction projects could not apply the construction strategies. The new strategies need a special equipment and materials which are not available in Gaza Strip. The community is frustrated about using the new modern construction strategies. The construction strategies organize the community based method since the community will be as a monitor for the project activities. The international NGOs in Gaza could not implement the reconstruction strategies (Barakat and Zyck, 2011), thus it tend to the self-help approach in the reconstruction projects. The transparency with the community in this regards is very important to ensure the success in the reconstruction projects.

Vahanvati and Mulligan (2017) pointed out that respecting the community culture is the critical success factor of the community based method in housing reconstruction projects. Taufika *et al.* (2016) stated that the government in Indonesia should be sensitive to deal with the community culture and customs. Moreover they mentioned that, the government should take into consideration the traditions of each area respectively during the planning phase. Respecting the community culture, customs and traditions will encourage the community to participate in housing reconstruction projects (Ade Bilau and Witt, 2016; Chang-Richards *et al.*, 2017; Crawford *et al.*, 2013; Sadiqi *et al.*, 2017; Shafique and Warren, 2016; Taufika *et al.*, 2013).

5.5.6. Supporting Gender Participation

As illustrated in Table (4.27) supporting Gender Participation group includes five success factors of the community based method in post conflict housing reconstruction projects. Respect the women point view is the top ranked success factor in this group. Respect the women opinion by providing them the enough space to participate, take into consideration their good suggestions and adequate

representation of the gender in the reconstruction projects lead to success in the reconstruction projects. Respect the gender participation increase the trust between the community and the implementing agencies (international NGOs). Supporting the vulnerable group in the community like gender leads to expedite the work in the reconstruction projects. The women may have a creative solution which may contribute to facilitate the obstacles in housing reconstruction projects.

The second highest mean in this group is developing the women capacity through training courses. The effective participation process is built on the good understanding of the community to participation concepts. Training the community especially women is essential to have a good idea from the community and to save the time in the reconstruction projects. During the training the women will learn when and how they should participate in the reconstruction projects. As a result of training, the implementing agencies will not be afraid that the gender participation has not any worth in the reconstruction projects. The education and training will empower the women role in the reconstruction projects.

The third ranked success factor in this group is increase the women awareness in disaster management. The local government is responsible for increase the overall community awareness about the disaster management to support the community based method in housing reconstruction projects. Increasing the women awareness about the disaster management will lead to mitigate the disaster impact and to support the reconstruction projects. Increasing the women awareness of the disaster management includes: provide them with the main guidelines to deal with the disaster, and the main process of the reconstruction projects. The women are the leader of their family in case of absence the men, accordingly their participation in the reconstruction projects is very important like the men participation.

In Gaza Strip most of the international NGOs who are responsible for implementing the reconstruction projects are respect the Gender Participation in the reconstruction projects, which interpret the lowest rank of this group. The international NGOs provide have a conditions in some reconstruction projects that the women house holder portion should be equal to the men portion (Barakat *et al.*, 2009). Moreover, UNRWA and UNDP respect the community culture and have a women staff to deal

with the women in the community. UNRWA holds a periodic meeting with the community to inform them the latest update about the reconstruction projects and to increase their awareness in the disaster management. UNRWA and UNDP have social worker to provide the physiological support for the vulnerable people to support them to participate in the reconstruction projects. The women is hired in the top management level for the reconstruction projects for example the chief of reconstruction projects in the UNDP is a women.

Smet (2009) mentioned that, improving the women capacity contributed in supporting the housing reconstruction projects. Women is the most vulnerable group form the community and increasing the women awareness is very important to the success in the reconstruction projects (Ginige *et al.*, 2009). The gender equity increases the trust between the implementing agencies and the community and facilitates the reconstruction projects (Ginige *et al.*, 2009; Handrahan, 2004). Handrahan (2004) pointed out the community should respect the women role in the reconstruction projects. Supporting the women role in the community based method lead to success in the post disaster housing reconstruction projects (Seneviratne *et al.*, 2017).

5.6. Factor Analysis for the success factors of the community based method in post conflict housing reconstruction projects

The factor analysis results for the success factors of the community based method in post conflict housing reconstruction projects in Gaza Strip will be discussed in the following sections. The extracted results from SPSS indicated that four principal factors with 18 successes are significantly correlated variables out of 42 potential success factors that mentioned in the questionnaire. The remained success factors are underlined under four components which are labeled: Gender Participation, communication, coordination and information; these components are discussed below:

5.6.1. Factor No.1: Gender Participation

The first factor of the success of the community based method in the post conflict housing reconstruction projects in Gaza Strip is labeled gender participation explained the 21.58 % of the total variance. This factor contains six sub factors with

relatively high factor loadings (≥ 0.58). These six sub factors of the community based method are:

- SF27: “*Develop the women capacity through training courses to participate in community based method*” with factor loading = 0.83
- SF30: “*Develop gender equity regulations*” with factor loading = 0.83
- SF28: “*Respect the women point view in community-based method in housing reconstruction projects*” with factor loading = 0.82
- SF26: “*Increase women's awareness in disaster management*” with factor loading = 0.81
- SF29: “*Strengthen the women role in her family to participate in housing reconstruction projects*” with factor loading = 0.66
- SF8: “*Considering the location and the accessibility of the service facilities (Hospital- garden-) of the houses*” with factor loading = 0.58.

The six sub factors of the community based method that loaded on this factor are related to gender participation, so it gathered under this factor. The first success factor stated to ensure the gender participation; their capacity should be developed. Developing the equity regulation in the second success factor is related indirectly to the gender participation; these regulations support the gender participation in the reconstruction projects. Respecting the women point view as stated in the third success factor emphasis and encourages the gender to participate in the reconstruction projects. Increasing the awareness of the gender preserve the gender rights to participate in the reconstruction projects. All of the loaded success factors on this factor had factor loading greater than 0.58 which are considered significant in contributing to the interpretation of this factor. This factor is considered the most important one in terms of the percentage of the variance among the success factors. The gender participation factor is considered the critical success factor of the community based method of housing reconstruction projects in Gaza Strip.

Training course for the women in Gaza Strip in order to participate in the community based activities is considered the main success factor of the community based method this is supported by Barakat *et al.* (2009) findings. The training courses should include the following topics: effective participation method, who can

participate and time of participation. Enshassi and Shakalaih (2016) findings supports the result developing the gender equity regulations contribute to encourage the women to participate in the community based activities as well as save the women rights in the community based method. Respect the gender ideas in community-based method and encourage them to participate in brain storming activities play a significant role in the success of the community based activities. Increase the women awareness of the disaster management has an effective role in the success of the community based method which is consistent with Enshassi and Shakalaih (2016) and Barakat *et al.* (2004) conclusion.

The role of the gender in the community based method is significant role in the success of the community based activities Ginige *et al.* (2009) and Handrahan (2004) findings. The education and training courses for the women in the affected area by the conflict or disaster contribute in saving the time of the reconstruction projects and implementing the community based activities effectively. Ndinda (2007) findings agreed with the thesis findings that the governmental regulation that identified the women role and rights in those community participation activities is one of the main reasons of the success in the community based activities. Strengthen the women role in her family by the physiological support activities lead to encourage the women to participate in housing reconstruction projects. The power women is enabled to participate in the reconstruction projects freely, so that support the women in her families is very important in the community based method this findings is agreed with Ginige *et al.* (2009) findings.

These results highlighted the importance of the women role in the success of the community based method of housing reconstruction projects in Gaza Strip. Government in Palestine should issue and follow up the regulations which save the women rights in the community based method. Legislation bodies in Gaza Strip should issue laws to facilitate the community based activities. The implementing agencies of the reconstruction projects in Gaza Strip should work closely with professional bodies to prepare training courses to support the women role in the community based method.

5.6.2. Factor No.2: Communication

The second factor of the success of the community based method in the post conflict housing reconstruction projects in Gaza Strip is labeled communication explained the 14.5 % of the total variance. This factor contains four sub factors with relatively high factor loadings (≥ 0.58). These four sub factors of the community based method are as follows:

- SF3: *“Availability of mutual communication language (e.g. Arabic or English) between the stakeholders”* with factor loading = 0.72
- SF32: *“Hold a periodic field visit to the stakeholders to ensure that they are satisfied about the projects results”* with factor loading = 0.70
- SF35: *“Facilitate the local media agencies works –as an external part- to check the transparency in the reconstruction projects”* with factor loading = 0.69
- SF37: *“Accountability the reconstruction projects managers during/after completion the project to ensure that the projects have achieved its objectives”* with factor loading = 0.58

The four sub factors of the community based method that loaded on this factor are related to communication, so it gathered under this factor. The existing of the communication language as mentioned in the first success factor SF3 is related directly to the factor name since it is the core of communication. Although in the second success factor SF32 it is not mentioned clearly word “communication” but the field visit is one of the communication examples. The local media contributes indirectly to communicate with all people on the community. Accordingly all success factors in this factor are related to the communication. All of the loaded success factors on this factor had factor loading greater than 0.58 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the success factors.

The same language “Arabic” in Gaza Strip is considered the main success factor of the community based method which contributes to facilitate the understanding of the community based method this is supported by (UNDP, 2016; UNRWA, 2016) reports. The English language of some international NGOs is not hinder the

community based activities since they are some local employees in the same organization who speaks Arabic which is consistent with (UNRWA, 2017a) report. Hold a periodic field visit to the stakeholders to ensure that they are satisfied about the projects results is very essential to success of the reconstruction projects this is consistent with (Barakat *et al.*, 2004; Enshassi and Shakalaih, 2016) findings. The accountability of the implementing agencies about the outcome of the reconstruction projects encourage the community to participate in the reconstruction projects. In Gaza strip, the site engineers of the implementing agencies of the reconstruction projects visit the beneficiaries weekly to follow up the progress in the reconstruction and to solve any obstacles.

The good communication among the stakeholders using proper communication channel has a significant role in the success of the reconstruction projects this is supported by Sadiqi *et al.* (2017) and Nakamura *et al.* (2017) findings. Dyer *et al.* (2014) stated that, the mutual language of the community in the affected area facilitate implementing the community based activities which is existed in Gaza Strip “Arabic language” and in the thesis findings. The accountability is the core of the success of the reconstruction projects since the trust between the stakeholders will be emphasized which is in line with Istijono *et al.* (2016) findings. Developing the communication channel strengthen the relationship between the stakeholders and achieve to complete the reconstruction projects on time, this in agreed with Dias *et al.* (2016) conclusion.

The government and the implementing agencies in Gaza Strip should develop the communication channels and communication skills of their organization to facilitate the community based method activities. Holding a field visit to the reconstruction projects site in Gaza Strip will increase the trust between the stakeholders through direct communication with the beneficiaries. The government in Palestine should hold a periodic accountability to the implementing agencies to ensure the reconstruction projects goals have been achieved.

5.6.3. Factor No.3: Coordination

The third factor of the success of the community based method in the post conflict housing reconstruction projects in Gaza Strip is labeled coordination explained the

13.73 % of the total variance. This factor contains four success factors with relatively high factor loadings (≥ 0.67). These four sub success factors of the community based method are as follows:

- SF2: “*Availability of electronic information system of reconstruction projects*” with factor loading = 0.79
- SF5: “*Communication accessibility between the five levels of the reconstruction projects: national, international, regional, organization and project level*” with factor loading = 0.71
- SF4: *Existing of the coordination unit between the implementing parties of reconstruction projects* with factor loading = 0.71
- SF1: “*Existing of a smooth channel of communication between the community and the implementing agencies (international NGOs)*” with factor loading = 0.67

The four sub factors of the community based method that loaded on this factor are related to coordination, so it gathered under this factor. The name of factor was confusing because it is very close to the second factor “communication”. However, all success factors are related coordination as the following; the first success factor “information system” is the base of the effective coordination between the stakeholders. While the second success factor mentioned the levels of reconstruction projects which coordination between them is vital to ensure the success in the reconstruction projects. The third success factor stated clearly the coordination in the success factor. Finally, existing the communication channel facilitate the coordination between the stakeholders as mentioned in the fourth success factor. Accordingly, all of the loaded success factors on this factor had factor loading greater than 0.67 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the success factor.

The availability of the information system of the reconstruction projects facilitate implementing the community based activities in Gaza Strip, this is consistent with Enshassi and Shakalah (2016). Barakat *et al.* (2004) stated that the coordination and communication between the projects stakeholders facilitate the community

participation activities which are agreed with the thesis findings. The coordination is implemented through direct meeting with the stakeholders and using any communication channels which available of the reconstruction projects. Existing of a smooth channel for example (social media, radio, website,etc.) of communication between the community and the implementing agencies will contribute to save the time of meeting and prompt response to the beneficiaries inquires. In Gaza Strip, Al-Quds radio invites the focal points of the reconstruction projects from UNRWA and Ministry of Public works once a month to answer the beneficiaries inquires but this is not sufficient to respond to all inquiries.

The coordination between the stakeholders through the meetings or workshop to resolve the pending issue and organize the reconstruction activities, this is compatible with Shafique (2016) and Taufika *et al.* (2016) findings. Istijono *et al.* (2016) stated that the coordination between the project stakeholders should be continued among the project life cycle to ensure the success in the reconstruction projects, this in line with the thesis finding that the coordination should start from the early stage of reconstruction projects. The coordination between the stakeholders includes all aspect of the reconstruction projects (the reconstruction activities, budget and community based activities).

The coordination between the stakeholders in Gaza Strip is considered the government and it should utilize all its resources to facilitate the coordination activities. The government should hold a periodic meeting with the stakeholder to solve all pending issues of the reconstruction activities. The representative office of the NGOs in Gaza Strip should coordinate closely with the stake holders to facilitate all obstacles of the reconstruction projects.

5.6.4. Factor No.4: Information

The fourth success factor is labeled information explained the 12.82 % of the total variance. This factor was named information based on fundamental relationships among the underlined success factors. This factor contains four sub success factors with relatively high factor loadings (≥ 0.51). These four sub factors of the community based method are:

- SF33: “Clearly identify the budget of the reconstruction projects” with factor loading = 0.78
- SF16: “Clearly identify the scope of work for the reconstruction projects” with factor loading = 0.78
- SF42: “Choosing the reconstruction method based on the community needs not on the donor desires (donor driven or contractor driven)” with factor loading = 0.66
- SF39: “Allocate sufficient fund to support the community participation activities in the post conflict reconstruction projects” with factor loading = 0.51

The four sub factors of the community based method that loaded on this factor are related to information, so it gathered under this factor. The first and second success factor SF33 & 16 mentioned that the information about project budget and scope should be clearly defined to the beneficiaries so it is directly related to the factor name. The third factor SF42 is related indirectly to the information, since informing the beneficiaries with the type of intervention is vital to the success in the reconstruction projects. The last success factor SF39 is not related to the “information” but since the first three factors which have the higher factor loading are related to the information; so that the factor is named information. All of the loaded success factors on this factor had factor loading greater than 0.51 which are considered significant in contributing to the interpretation of this factor. This factor is considered significant in terms of the percentage of the variance among the success factor. This factor has the lowest percentage of the total variance of the success factors of the community participation in post conflict housing reconstruction projects. Thus, this factor has the lowest influence degree on the success factors of the community participation of housing reconstruction projects.

Existing of the good information system in Gaza Strip will facilitate the effective community participation of post conflict housing reconstruction projects, this is consistent with the findings of UNDP (2016) Report. The information system should include all relevant data about the beneficiaries (name, ID, contract,etc.) and about the house (building area- no. of floors, type of building..... etc.). Enshassi and Shakalah (2016) findings agreed with the thesis results, the availability of the

basic information including the scope and objective of the reconstruction project in Gaza Strip lead to effective community participation in these projects. Barakat *et al.* (2004) mentioned that identifying the information about the budget of the project contributes to the success of the reconstruction projects. The information about the sufficient funds for the community based activities plays a significant role in the success of the community based method of housing reconstruction projects as concluded by Al-Dabbeek (2008). In Gaza Strip, all information about the reconstruction projects are secreted, there are no periodic reports, conferences, or magazine which explained the reconstruction projects update. Most of NGOs in Gaza Strip like UNRWA and UNDP refuse to share the information about the reconstruction projects with the beneficiaries according to their regulations which considered this information as confidential.

The well organized and published information about the reconstruction projects and its relationship with the success of the community based method has been discussed in the literature Seneviratne *et al.* (2015) and Sadiqi *et al.* (2015). Adequate information about the scope of work and the budget of the reconstruction projects is needed to build the trust with the community and the success in the community based method, which agreed with Drakaki and Tzionas (2017) findings. Tad and Janardhanan (2016) validated that the good information system in the reconstruction projects is the main reason of the success in the community based method. Identifying the information about the type of the reconstruction intervention (community based, self-help, contractual approach or others) to the beneficiaries contribute to have an effective community based method.

The findings encourage the decision makers and the NGOs which work in the reconstruction projects in Gaza Strip to share the basic information of these projects with the beneficiaries. The NGOs in Gaza Strip should be transparent about the basic information of the reconstruction projects as much as they can in line with their organization regulations. The NGOs in Gaza Strip should ensure that the scope of the project, the type of intervention, and the participation budget are identified clearly to the beneficiaries to successfully apply the community based method.

5.7. Framework for the community based method in housing reconstruction projects

Community participation is not only a decisive factor in the successful

5.7.1. Introduction

The major aim of this research is to develop a Logical Framework to enable effective community participation in post-disaster reconstruction projects. In order to develop a practical Logical Framework for community participation two questions need to be answered: first, what are the major barriers and success factors for community participation; second, how these barriers and success factors impact on the community participation. The first question is answered in the analysis and discussion of objective (1) “the barriers” and objective (2) “the success” factors in the previous sections in this chapter, while the answer of the second question will be discussed with details incorporated in the below sections. Moreover, as stated in chapter (2); developing the framework of the community participation is passed through three steps as the following: problem tree, objective tree, and logical framework. These steps are followed in the below sections and figures.

5.7.2. Problem Tree

The problem tree structure (cause and effect diagram) which is shown in Figure (5.1) represents the main barriers which are extracted from the descriptive and factor analysis of the barriers for the community participation in Gaza Strip. The highest four ranked barriers groups were chosen as the reasons of the lack of community participation.

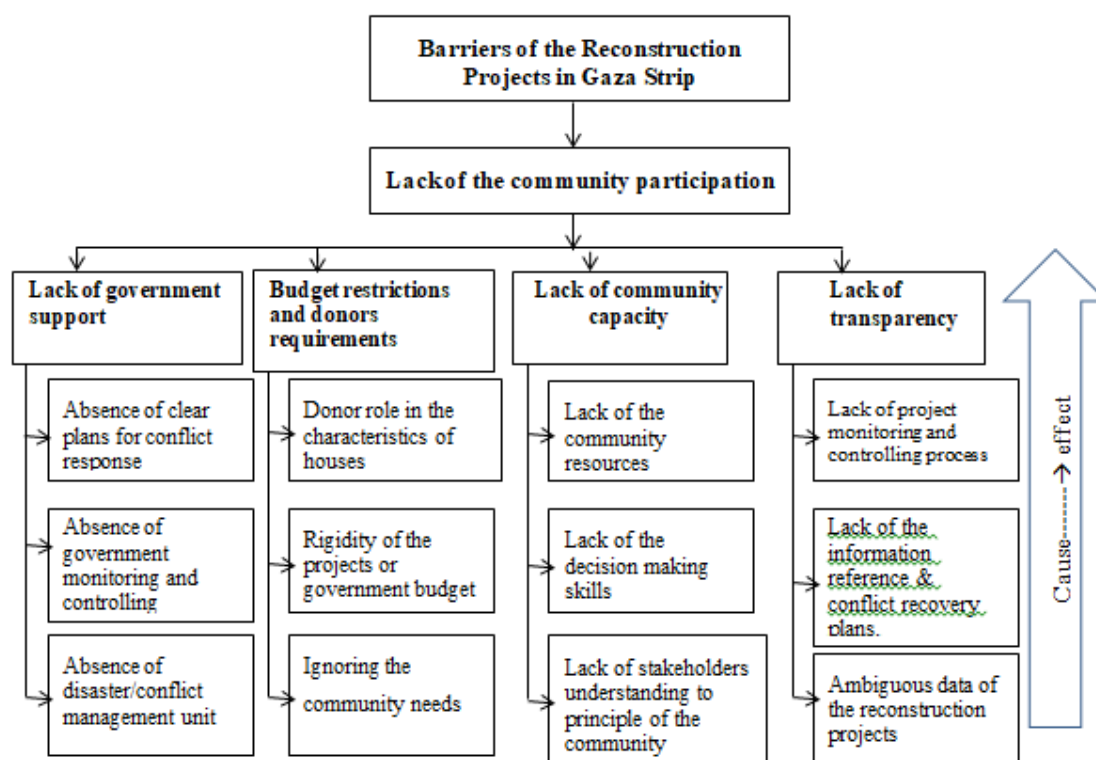


Figure (5. 1): **Problem Tree**

- Lack of government support

The questionnaire participants revealed that the government role is very weak in Gaza Strip, so it considered the main obstacle of the community participation in post conflict housing reconstruction projects. The government regulation is needed to get some control over the reconstruction projects and to follow up the community participation activities. This is indorsed the government actually made it impossible for the International or local NGOs to lunch the reconstruction projects, by delaying their damage assessment process. The implementing agencies of the reconstruction projects are bounded by the government regulation and policies, so that they ignore the role of the community in the reconstruction projects. The government support represents on facilitating issuing the reconstruction permissions and land certifications. The current polices of the Palestine government have totally disappoint the implementing agencies of the reconstruction projects and the affected people for contributing in the community based activities.

- Budget restrictions and donors requirements

The budget restriction and donor requirements are considered the main problem in the community based method. Without adequate budget to implement the community participation activities; the community based approach is not applicable. Preparing for the community participation workshops, training sessions or brain storming groups need sufficient money and resources to be implemented. The requested money is including all materials in these activities (communication, fees for hall, stationary, hospitalities and others). Availing the adequate money to implement the community based activities will support the reconstruction projects as a success rather than barrier factor. The reconstruction projects in Gaza Strip are implemented with zero budget for the community participation activities. The implementing agencies are volunteered to do some participation sessions with the community from its general budget. UNRWA holds meeting with the community through the Chief Area offices in small scale.

The donor requirement plays a negative role in implementing the community based method activities. Some donor of the reconstruction projects in Gaza identify the type of the reconstruction intervention for example the United States of America obtained only the contractual approach for the reconstruction projects. There is no community participation in the contractual approach; the relationship is only between the contractor and the beneficiaries. Other donors have some criteria to choose the targeted beneficiaries which are not compatible with plans of the implementing agencies of the reconstruction projects. According to that, the community participation is hindered and could not be implemented.

- Lack of community capacity

The community capacity is the core of the community based approach; that mean the poor capacity of the community hinders the effective participation activities. The capacity of the community includes the physical and mental capacity. The physical capacity is all visible materials that contribute to support the community base activities for example the availability of halls, electricity, and communication and internet networks. The physical materials play a significant role in connection between the community groups and building comprehensive idea about the

community role in the reconstruction projects. Moreover, the physical resources contribute to exchange the information about the reconstruction projects between stakeholders easily. In Gaza Strip, the physical capacity is available but not in sufficient matter, for example after the last conflict in 2014; the electricity and telecommunication networks were totally destroyed in east Gaza Area, so that the arrangements for the meetings with the beneficiaries were very difficult.

The importance of the mental capacity in the community based method of the reconstruction projects is equal to the physical capacity. The mental capacity means, the availability of educated people who will support the community participation activities or the ability of the uneducated community to understand the community based activities. The affected people in the targeted area of the reconstruction projects have not the capacity to participate in the reconstruction projects. Accordingly, the implementing agencies of the reconstruction projects supported by the educated people should increase the awareness of affected people about the community based activities by holding training sessions. In Gaza Strip, most of people are educated but after the conflict they do not have the capacity or time to participate in the reconstruction projects. They were busy in availing alternative house or some food for their families. So that; the local government and the implementing agencies of the reconstruction projects should provide the affected people with all humanitarian needs to ensure the success in the community based activities.

- Lack of transparency

The lack of transparency with the community directly hinders the community based method in post conflict housing reconstruction projects. The lack of transparency decreases the trust between the stakeholders and without trust; the community participation activities will be meaningless. The community will believe that the implementing agencies are layers and no added value or benefits for their participation, so that they will not participate in the participation activities. In addition, the poor monitoring and controlling of the local government role discourage the community to participate in the reconstruction projects. Usually, the community understands the lack of transparency as a corruption; the implementing

agencies have something to hide so that they are not transparent with the community. The transparency encourages the community to facilitate any obstacle that may face the reconstruction projects. In Gaza Strip, the implementing agencies of the reconstruction projects consider the information about the reconstruction projects are confidential, so that they did not share the project budget or any minor information with the community. So that, there is a lack of trust between the implementing agencies of the reconstruction projects and the community which hinders the community based activities.

5.7.3. Objective Tree

The second step of building the logical framework is the objective tree of the community based method. The findings from the problem tree and discussion of main barriers and success factors of the community based method in the previous sections will be used as a foundation for developing the Objective Tree Figure (5. 2), which will subsequently be used for developing the “Activity narrative description” in the Logical Framework Matrix (LFM). The discussion of the objective tree is linked with the LFM, the components of the objective tree and LFM are discussed in the LFM section (5.1.3).

5.7.4. Logical framework matrix of the community based method of housing reconstruction projects in Gaza Strip

To develop the Logical Frame Matrix (LFM) firstly a summary description of the activities will be provided in column 1, and then specific assumptions will be informed in column 4. These assumptions can relate to external or internal factors over which NGOs have no direct control, or may not be able to influence at the time when implementing their project.

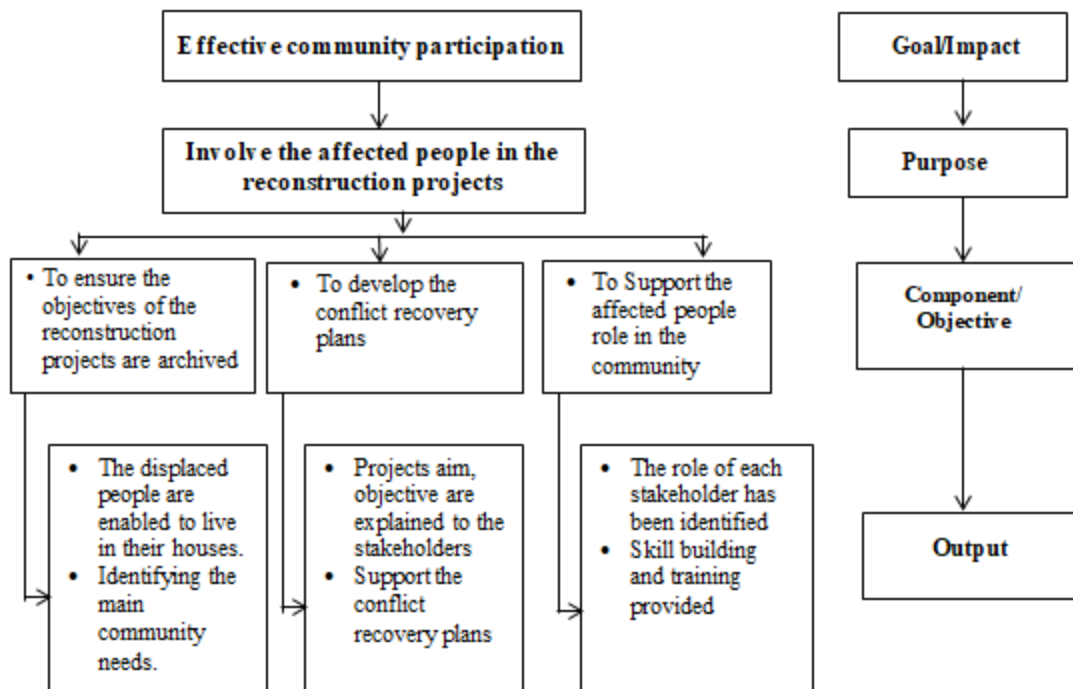


Figure (5. 2): Objective Tree

The below sections will provide a detailed description of the activities to be undertaken in order to achieve the effective community participation in post-disaster reconstruction projects (see column 1 Table 5.1).

Table (5. 1): Logical framework for the community participation

	Activity Description	Measurable Indicators	Means of Verification	Important Assumptions
Goal	Effective community participation	Affected people are engaged entirely in post conflict housing reconstruction projects	The project documents, meetings minutes, direct feedback from the community and project cash flow.	<ul style="list-style-type: none"> The community has a sufficient understanding to the community based method
Purpose	Involve the affected people in the reconstruction projects	The affected people participate in the reconstruction projects freely.	Projects plan, number of involved people and project documents	<ul style="list-style-type: none"> Community based method has been adopted in the projects & the capacity is available at the implementing agencies.
Objectives	<ul style="list-style-type: none"> To ensure the objective of the reconstruction projects are archived To develop the conflict recovery plans To support the affected people role in the community 	<ul style="list-style-type: none"> The projects are completed with the allowable time and budget The recovery plans can be applicable and useful in post conflict projects The affected community councils are existed in the reconstruction projects, with strong sense that they are the project owner. 	<ul style="list-style-type: none"> Projects final reports, cash flow of the project. The component of the recovery plans and its resources. The reports of the community groups, the meeting minutes, workshops and training courses. 	<ul style="list-style-type: none"> The fund is available to implement the community based activities. The local government supports the community based activities.

Table (5. 1): Logical framework for the community participation

	Activity Description	Measurable Indicators	Means of Verification	Important Assumptions
Outputs	<ul style="list-style-type: none"> • The displaced people are enabled to live in their houses. • Identifying the main community needs. • Support the conflict recovery plans • The role of each stakeholder has been identified • Skill building and training are provided to the community 	<ul style="list-style-type: none"> • Many houses have been reconstructed • The community has a flexibility to participate in the reconstruction projects • The community has the access to all project data. • The recovery plan are able to meet the challenges of the projects • The reconstruction projects progressing smoothly without disputes • The community is qualified to participate in the reconstruction projects. • The community is enabled to participate in decision making process 	<ul style="list-style-type: none"> • No. of the reconstructed houses • Reports, meeting, project documents • The extracted documents form the project and the community feedback • The quality of the recovery plans • The project progress reports. • The training courses, the no. of trainers, reports. • Videos, photos. • No. of disputes 	<ul style="list-style-type: none"> • The community councils are formed and ready to participate.
Activities/ Tasks	<ul style="list-style-type: none"> • Clearly identify the nature of participation to the community • Hold a periodic field visit to the stakeholders • Establish an effective monitoring system. • Coordination between stakeholder 	<ul style="list-style-type: none"> • The community is qualified enough to participate in the reconstruction projects. • Meetings between stakeholders • The projects progressing smoothly 	<ul style="list-style-type: none"> • Project documents • Meeting minutes • Work shop • No. of training sessions • Access to the electronic system 	

5.7.4.1. Activities or tasks description

- **Clearly identify the nature of participation activities to the community**

As discussed in the previous sections to ensure the success in the community based method; the community should understand the nature of participation. The implementing agencies should hold workshops with the community to illustrate the nature and tools of participation. The following are some participation tools which aim to promote the participation of stakeholders not only in collecting data, but also in analyzing findings and making decisions according to Arielle Tozier and Marie-Ange (2015) and Sadiqi (2014):

- Mapping - drawing maps showing the location of important places (markets, social services, etc.), types of resources available and used, and the pattern of social and economic linkages in a community from the perspective of the community itself or of relevant member groups.
- Ranking and Scoring - defining priorities and preferences on different issues (problems, opportunities, etc.), revealing differences of opinions between various groups
- Diagramming - using visual / graphical tools (Venn diagram, flow chart, timelines, etc.) to represent relationships, flow of resources, trends and pattern of changes affecting relevant aspects of the economic, social and institutional life of the community and
- Participant observation - an observer living within a community observing social interactions, behaviours, attitudes in the daily life of a community.

A number of factors should be taken into consideration when choosing methods of collecting data:

- Purpose of data collection (needs assessment, monitoring, evaluation);
- Nature of the intervention (service delivery, emergency project, etc.);
- Time available;
- People available (skills, expertise);
- Funds available; and
- Individuals' interest in participating.

The main levels of participation are summarized below as provided from interviews with some experts in the community participation in housing reconstruction projects in Gaza strip.

- **Self-mobilization:** People participate by taking initiatives independently from external agencies, increasing their control over their conditions and determining their path of change. Doing this indicates a significant level of self-confidence and empowerment of stakeholders.
- **Interactive participation:** People participate in research and analysis leading to joint assessment, planning, monitoring and evaluation. Individuals or groups (particularly those who are usually excluded) are involved in actually making decisions. This level implies the use of methodologies and approaches that seek the perspectives of different stakeholders to ensure a structured mutual learning process.
- **Functional participation:** People participate by forming groups to meet the predetermined objectives of externally initiated organizations, usually after planning decisions have been made elsewhere. This level tends to be dependent on external facilitators.
- **Participation for material incentives:** People participate by providing resources (i.e. labor, cash, building materials, etc.) in return for material incentives. This is either as a consequence of top-down pressure from the development agency imposing participation as a conditionality for project implementation, or as a result of 'voluntary' mobilization aimed at gaining access to the immediate material benefits offered by the project.
- **Participation through consultation:** People are consulted and are able to express their concerns and views. Researchers / staff listen to their views, but have no obligation to take them into consideration. Researchers / staff then define problems and solutions without involving people in any decision making.
- **Participation in information giving:** People participate by answering questions posed by researchers / staff using questionnaires or similar approaches. People do not have the opportunity to influence proceedings, as the findings are not shared. A one way flow of information.

- **Passive participation:** People participate by being told what is going to happen. Programme management announces the course of events without active feedback from people.

-

- **Hold a periodic field visit to the stakeholders**

The second proposed activity to ensure the effective community participation is hold a periodic filed visit to the stakeholders by the local government to ensure that the participation activities are implemented smoothly. The period between two visits is identified from the local government according to the size of the project and the geographical area. The aim of the filed visits to have the beneficiaries feedback to develop the community participation activities. The field visit increase the trust between the implementing agencies and encourage the community to participate in the community based activities.

- **Establish an effective monitoring system**

As mentioned in the discussion of success factors section; establishing an effective monitoring system will impose the implementing agencies of the reconstruction projects to implement the participation activities. The existing of the monitoring system will save the rights of community especially gender to participate in the reconstruction projects. The monitoring system should be applicable and valid to be implemented in the complex conditions like the post conflicts. The good monitoring system is communicated or discussed with the community before the implementation to encourage the community to participate in the reconstruction projects. Moreover, the strong monitoring system is accompanied with penalties regulations to ensure the success of this system.

- **Coordination between stakeholder**

One of the main barriers of the community based activities is the lack of coordination between the stakeholders of the reconstruction projects. The role of the local government is to establish a communication system that contributes to facilitate the coordination between the stakeholders. This system should be applicable, workable, reachable, and easy to reach from all stakeholders. The coordination should be between all project levels for example: the senior level (mangers of implementing

agencies) and low level (employees and direct beneficiaries). The coordination system save the time of coordination for the community based activities and facilities the feedback process of the reconstruction project from the community.

5.7.4.2. Objectives and Output in LFM

In this section the objective and its related output will be discussed together in order to explain and achieve the main goal of the LFM which is the effective community participation in the reconstruction projects.

- **Objective (1): To ensure the objectives of the reconstruction projects are archived.**

Output (1): The displaced people are enabled to live in their houses.

To ensure the success of any reconstruction projects, the first step is to secure a temporary houses for the displaced people or pay for them Transitional Shelter Cash Assistant (TSCA) which is instead of rental fees. This step is needed to know where the affected people had gone. In Gaza Strip both temporary shelters like Cravans and TSCA were provided to the beneficiaries. After that, the implementing agencies can invited the effected people to participate in the community participation activities of the reconstruction projects. The next step is starting the reconstruction activities of the beneficiaries houses with direct intervention from the beneficiaries. The displaced people will be return back smoothly to their houses if the community participation activities are implemented.

Output (2): Identifying the main community needs.

It is very important for planning success in the reconstruction projects to meet with affected people and listen from them in order to identify their needs. The implementing agencies should not deal with the affected people as a victim and they have not the ability to express their needs. The affected people can draw the path of the reconstruction projects and contributes in achieving the projects objectives and goals effectively. The community participation activities ensure that the community needs are identified and the tender documents of the reconstruction projects are prepared based on the community needs. The community needs are mainly to relocate again to their houses with good surrounded infrastructure.

- **Objective (2): To develop the conflict recovery plans**

Output (3): Support the conflict recovery plans

The community participation activities support developing the conflict recovery plans through identifying the community needs and capacity in post conflict stage. The local government should clearly explain the scope of the project to the affected beneficiaries and to inform them the components of the recovery plans in order to enable the community to participate in the conflict recovery plans. The affected beneficiaries may offer creative ideas for the recovery plans or availing the security support for the implementing agencies when they understand and participate in the preparing recovery plans. The local government should never do any reconstruction work plans or recovery plans without some form of community participation

- **Objective (3): To support the affected people role in the community**

Output (4): The role of each stakeholder has been identified

The affected people in the community are always the first layer to respond to the impact of the conflict. The local government and implementing agencies of the reconstruction projects come along later to provide, where they can, additional support to expedite recovery and reconstruction. Accordingly the stakeholders role is clearly identified through the community participation activities. The role of the implementing agencies of the reconstruction projects is limited to implement the reconstruction projects and giving specialist housing engineering advice, while the affected beneficiaries role is to manage the actual reconstruction projects. The governmental role mainly is to monitor the community participation activities and the coordination between stakeholders.

Output (5): Skill building and training are provided to the community

The role of the implementing agencies of the reconstruction projects is extended to identify what skills and abilities are already existed there in the community and which are not available. After identifying the missing participation skills it should be developed through training courses in order to achieve the success in the reconstruction projects. For example, working with groups is missing skills at the

effected people in Gaza Strip, So that, a training programme should be establish to develop this skill with the community in Gaza. Working as a team or within the groups is the basic of success in the community participation activities.

5.7.4.3. Assumptions

This section will identify and provide the analysis of main assumptions that should be existed to ensure the effective community participation activities. These assumptions are involved in the reconstruction projects (see column 4 Table 5.1).

- **The community has a sufficient understanding to the community based method**

A successful completion of post-disaster reconstruction projects requires the knowledge and involvement of the wider community population. The complex nature of post conflict reconstruction projects, the religious and socio-cultural issues, can be severely undetermined in some areas. Accordingly, the implementing agencies of the reconstruction projects should encourage the people to participate in the projects by holding workshops to explain the community participation concept. Evidence from the questionnaire analysis results confirms that the community participation is very important because the community has much understanding of their needs and the knowledge of their house design. Regardless of the challenges in the reconstruction projects, NGOs should established positive relationship with the affected community to train them how to participate in the reconstruction projects.

- **Community based method has been adopted in the reconstruction projects.**

Reconstruction projects with greater involvement of community can increase the power dynamic towards complete the projects on time. The NGOs should be aware the family cohesion and cause other problems in the targeted area based on an absolute understanding of the community culture and social norms. The questionnaire analysis results shows that adopting the community based method is the key success of the housing reconstruction projects. To achieve the effective community participation, the first step the community based approach should be adopted in order to implement the participation activities. Adopting other

reconstruction projects approach for example the contractual approach prevents adopting the community based activities.

- **The fund is available to implement the community based activities.**

Allocating part of the reconstruction projects budget for the community participation activities is assumed to ensure the success in these projects. Without sufficient funds to implement the participation activities, the logical framework matrix is meaningless and could not be applicable. The fund is needed to coordinate between stakeholders and to develop the missing skills at the affected people to support the reconstruction projects activities. The importance of sufficient fund is explained in details in the previous sections.

- **The local government supports the community based activities**

The government policies should be a positive thing, but it can be a real blockage if it is not existed to support the community based activities. The government should has a fundamental interests in promoting strong community participation in the reconstruction projects. Without the local government support the community will not participate effectively in the reconstruction projects. Moreover, the government play a critical role in coordinating the reconstruction efforts among implementing agencies and beneficiaries.

- **The community councils are formed and ready to participate**
- The base of the community based method is the community councils or union which has an influence in facilitating the community participation activities. The community councils not only by providing aid (e.g. information about the beneficiaries- culture of the area) to the implementing agencies of the reconstruction projects, but also by acting all the community in these projects. So that the community councils the backbone of the community based method. It is impossible for any implating agencies to deal with every person in the community, accordingly the community councils save the time in the reconstruction projects. Moreover, these councils participate in resolving the pending issues related to the community (e.g. the people refuse the reconstruction intervention due to the cultural issue). The community role in the previous example is to convince the people to accept the reconstruction

intervention and to deal with the team of the implementing agencies team. The community councils provide the protection to the NGOs team, moreover the needed support to complete their mission on time.

Chapter 6

Conclusion and

Recommendations

Chapter 6

Conclusion and Recommendations

Introduction

This chapter presents the main findings, the added value to the knowledge, recommendations and the limitation of the main barriers and success factors of the community based method in post conflict housing reconstruction projects in Gaza Strip. The findings will be presented for each objective respectively, and how it is close to the previous studies. The limitation will be stated to highlight what are the main sides which the researcher was not able to cover in this thesis. The final section summarizes the main recommendations of this thesis for future research.

6.1. Research summary

This research has explored and discussed the context of the main factors that are affecting in the outcomes of post-conflict reconstruction projects in Gaza Strip. The research provides a wide explanation about the main barriers and success factors of the community based approach in the reconstruction projects. Moreover, a logical framework for the community participation has been developed to utilize as a planning tool for the effective community participation in the reconstruction projects in Gaza Strip.

The study was conducted through the following steps; the first step was mentioned in Chapter (2) which explored the extent and most recent literatures on post-conflict housing reconstruction projects. The analysis of the literature revealed 54 barriers and 43 success factors of community based method. Second step, the questionnaire was drafted, reviewed and verified based on the literature review analysis. The overall methodology for this research, along with the reasons of choosing the quantitative approach was presented in Chapter (3). Exactly, 81 questionnaires out of 100 distributed questionnaires were considered.

Third step, the collected data from the respondents was carefully coded and analyzed using SPSS version 22 software (factor analysis and descriptive analysis) as mentioned in Chapter (4). The fourth step, is explained in Chapter (5) which provided a general discussion for the thesis objectives, in addition to developing the

logical framework matrix as the final product of this thesis. Finally, the main findings, added to knowledge, limitations and recommendations are presented in the following sections of this chapter.

6.2. Research conclusion

Post-conflict housing reconstruction projects are very complex, complicated and it may be implemented in varied environmental and political conditions. The aim and objective of the reconstruction projects should be established based on the community needs. The community needs of post conflict housing reconstruction projects should be addressed in each phase of the project lifecycle. For example during the design phase the community needs are the participation in preparing the Engineering drawings based on the community custom and culture, also to have a copy of the drawings. While in the implementation stage; the community needs are to close follow up of the reconstruction process and to consider their point of view if they need any amendment during the implementation. The adequate participation of community in the reconstruction projects started from the planning phase and end by the implementation. Housing reconstruction projects are owned by the affected people, and thus they need to have adequate participation in decision-making process. Post-conflict housing reconstruction projects which implemented without the community participation extremely threaten the project objectives and leads to failure in these projects.

Community based method is not only a decisive factor in the successful implementation of reconstruction projects and, but can also contribute to the definition of policies and strategies of the implementing agencies. For example, the agencies regulations will be amended to permit the community to have a role in the agency activities, also to have a monitoring role in the project activities. Moreover, the confidential regulations which are related to the projects files will be amended to except the representative community committees from these regulations. Participatory approach is not just a tool, it promote a genuine concern and respect for the values, skills and needs of community, particularly those most vulnerable and marginalized. For example, the participatory approach should be flexible and consider the custom and culture of the community; not only a rigid tool utilized in

the project regardless the added value of this tool. The participatory tool should also represent overall population of the community especially the marginalized and effected people from the conflict. They imply a reversal of the traditional roles of outside ‘experts’ from extracting information to facilitating local people to undertake their own analysis. Promoting a higher degree of participation and adopting participatory approaches will benefit the reconstruction projects by improving the relevance of implementing agencies decision-making and providing better services to the community. The main conclusions drawn from the research study are presented in the following sections. The research conclusion is divided according to research objectives.

6.2.1. Objective One: “The barriers of the community participation”

The community participation in post-conflict housing reconstruction projects faces many barriers or challenges during the implementation stage. These barriers may initiate from different sources either internal barriers for example (the lack of government support and lack of the communication between stakeholders) or external barriers for example (the lack of the budget and the donor restrictions). In the context of Gaza Strip the internal and external barriers hinder the reconstruction projects for instance; the lack of government support, the budget restrictions and donors requirements, and lack of the community capacity are the main barriers of the community based resulted from the descriptive statistics analysis. While the lack of gender participation, lack of information, lack of governmental regulations, lack of coordination and communication, ignore the community needs and lack of community capacity are main barriers of the community participation according to the factor analysis results.

There is a direct and indirect interaction between the findings of descriptive and factor analysis methods. The government role and lack of the community capacity are stated in the findings of both methods, while the lack of the communication and community needs are indirectly that mentioned in the factor analysis results are indirectly stated in the other groups of the descriptive analysis results. The following sections discuss the conclusion of descriptive and factor analysis respectively.

6.2.1.1 Conclusion of the descriptive method

The post conflict housing reconstruction projects are subjected to many barriers which may hinder the effective community participation. The lack of government support is considered one of the main barriers of the community participation of post conflict housing reconstruction projects in Gaza Strip. The absence of clear plans for conflict recovery, the absence of government monitoring and controlling role, and the absence of conflict management unit in government institutions are the major forms of the lack of government support. Successful implementation of the community participation activities can be attained when government and legal authorities support the establishment of laws that clarify the stakeholders roles in the reconstruction activities. The government role is to save the rights of the community to participate in the reconstruction projects.

The budget restrictions for implementing the community participation activities and donors requirement to ignore the community role also hinder the community based method. The government and NGO's should not submit any proposal of reconstruction projects for fund raising or implement any reconstruction project without existing of adequate fund for the community participation activities. If the government and the implementing agencies knew that this donor doesn't support the community participation activities; they should not submit any proposal for this donor. The proposal budget for the community participation should cover all participation activities during the life cycle of the project. The reconstruction projects which have a sufficient fund for the community participation activities; usually progressing smoothly.

The government role is to convince the donor about the importance of the community role in the reconstruction projects and stop their intervention in the reconstruction projects. For example, the Islamic Bank for Development (IsBD) does not allocate any fund for the community participation activities or for direct implementation cost of the reconstruction projects. Accordingly, the project will be implemented away from the community participation or with a minor role of the community. Moreover, this donor is not care about the community participation activities and it is totally depends on the general fund of the implementing agencies.

Results from this research also indicate that community capacity plays a crucial role in establishing the level of community engagement in decision making and in different phases of reconstruction projects. The lack of the community physical and human resources, the lack of the decision making skills of the affected community and the lack of stakeholders understanding to principle of the community participation are the famous forms of the lack of the community capacity. The affected people in the community are the main owner of the reconstruction projects; accordingly, they should have enough space to participate in the decision making process of the reconstruction projects. Developing the skills of the community is very essential to facilitate the community based activities.

6.2.1.2. Recommendations

The study recommendations related to the descriptive analysis of objective one are mentioned below:

- The government should issue regulations which clearly identify the role of each stakeholder and follow up the implementation of these regulations.
- Periodic site visits from the government representative should be conducted to ensure that the implementing agencies of the reconstruction projects are committed to apply the community based method activities. As well as, the community is satisfied about outcomes of the reconstruction projects.
- The conflict recovery plans should be prepared in fully coordination with the community considering the community needs and the participation activities.
- The local government should establish a conflict management unit from a skilled employee in all government institutions to facilitate the community needs for example (land authorities, permission, ...etc.).
- The local government role is to convince the donors to accept the reconstruction projects proposal which is included budget for community based method. Otherwise the government should allocate adequate budget for the community participation activities from its general fund.

6.2.1.3 Originality/value

The value of the barriers findings can be summarized in the following points:

- Identifying the main barriers of the community based method of post conflict housing reconstruction projects is considered the first and unique study in this field in Gaza Strip.
- The barriers findings would guide the decision maker to avoid or find the solution for these barriers in the reconstruction projects.
- The barriers findings will help the decision maker in the implementing agencies of the reconstruction projects to prepare the conflict recovery plan.
- The findings will help the implementing agencies to choose the proper reconstruction method.
- The findings will mitigate the risk of unforeseen conditions (lack of the community support) which may affect negatively in the reconstruction projects.
- The findings draw the path of the success in the community participation through avoiding the barriers.

6.2.1.4. Conclusion of the factor analysis method

The lack of: gender participation, information, and coordination and communication, are considered the main component of the factor analysis which hinder the community based method in housing reconstruction projects. These components have more than three barriers which hinder the effective community participation activities. The following sections present the main conclusion of these factors.

The lack of women numbers who works in disaster/conflict management field, the minor role of the women in managing the community resource and the lack of equity laws in Gaza Strip are considered the main reasons of the lack of gender participation. The nature of the conflict management work is risky and harsh so that most of the women avoid the work in this field due to the emotional nature of the women. The gender participation in the community based method supports the success in the reconstruction projects. The women role in the community not only to stay at home and take care of the kids, her role is extended to the participation in the decision making process of the reconstruction projects. In Gaza Strip, the gender

represents about the half of the Gaza Strip population, so that their participation is essential to ensure the success in the reconstruction projects.

The lack of information about the reconstruction projects prevents the community to participate effectively in these projects so that the lack of information is directly hinders the community participation method. Without adequate information about the project scope, target groups and budget implementing the community participation activities is impossible to be implemented. Sharing the project information with the stakeholders increases the trust between the stakeholders and encourage the community to participate in the reconstruction projects. For example, the people in Gaza Strip has not any information about the details of the reconstruction projects which implemented by UNRWA, so that they could not participate effectively in theses project

The good coordination and communication between stakeholders ensure the delivery of the reconstruction aids and effective community participation. The communication between the implementing agencies of the reconstruction projects saves the time of the projects. The communication is the core of the community participation it transfers the beneficiaries ideas to the decision makers. The absence of the telecommunication networks hinders the implement of the community based activities. Ignoring the community needs cripple the community participation in the reconstruction project since the community will believe that there is no added value to their ideas in the reconstruction projects. For example, UNRWA has implemented a shelter project with maximum building area of 80 square meter which did not meet the community needs to increase the building area. The community has asked UNRWA repeatedly to increase the building area, but UNRWA's feedback was negative because it was donor requirements. So that the community felt frustration and UNRWA hardly found beneficiaries to reconstruct their houses. The community needs should be addressed by the government through the community councils to facilitate the community participation activities.

6.2.1.5. Recommendations

The study recommendations related to the factor analysis of objective one are mentioned below:

- The local government should support the gender participation in the reconstruction projects
- The community should be engaged in all workshops which explain the details of the community participation activities.
- The employees in the NGOs who are working in the reconstruction projects should have adequate skills to deal with the effected people in the target area.
- The government should allocate adequate budget for the community participation activities or convince the donors to accept the reconstruction projects proposal which is included budget for community based method.
- The government should issue regulations which clearly identify the role of each stakeholder and follow up the implementation of these regulations.
- Periodic site visits should be conducted to ensure that the implementing agencies of the reconstruction projects are committed to apply the community based method activities. As well as, the community is satisfied about outcomes of the reconstruction projects.
- The implementing agencies and local government should ensure the existing of the telecommunication networks in order to implement the community based activities

6.2.1.6. Originality/value

The value of the barriers findings can be summarized in the following points:

- Identifying the main barriers of the community based method of post conflict housing reconstruction projects in another statistical method verify the results of the descriptive method.
- The barriers results support the implementing agencies to avoid these barriers and to save the project time.

- The results show the importance of the government role in supporting the community participation and the gender role in the success of the reconstruction projects.

6.2.2. Objective Two “The success factors of the community based method”

Although there are many barriers of the community based method of housing reconstruction projects; there are many success factors which ensure the effective community participation. The opposite of the barriers is not necessarily to be a success factors as mentioned in the below sections. In the context of Gaza Strip; transparency and accountability, effective communication among stakeholders and developing the community education and training skills are the main success factors of the community based resulted from the descriptive statistics analysis. While the gender participation, communication, coordination and information are the main components of the success factors of community participation according to the factor analysis results. There is a direct and indirect interaction between the findings of descriptive and factor analysis methods. The communication and coordination stated in the findings of both methods, while the gender participation and information are indirectly that mentioned in the factor analysis results are indirectly stated in the other groups of the descriptive analysis results. The following sections discuss the conclusion of descriptive and factor analysis respectively.

6.2.2.1 Conclusion of the descriptive method

The transparency and accountability is considered one of the main success factors of the community based method of post conflict housing reconstruction projects. The transparency with the community about the information of the reconstruction projects increase the trust and encourage the affected people to participate in the reconstruction projects. The accountability system imposes the implementing agencies to apply the community based method in housing reconstruction projects. The core of the community based method is the communication, accordingly the effective communication ensure the success in the reconstruction projects. The communication should not be limited on the post-conflict stage it should be continued during all projects phases. The Affected people have the answers to key

questions that often concern experienced planners and implementing agencies of the reconstruction projects. The educated people on the community have a significant role in the success of the reconstruction projects. In Gaza Strip, most of the people are educated but they need some training courses to participate effectively in the reconstruction projects. The local government may consult experts from abroad to develop the community skill.

6.2.2.2. Recommendations

The study recommendations related to the descriptive analysis of objective two are mentioned below:

- The implementing agencies of the reconstruction projects should share the reconstruction projects documents with community to achieve the transparency and support the community participation.
- The local government should establish an accountability system to follow up the implementation of the community participation activities. This system explains how the government could measure the participation activities, has the authorities to inspect all projects file.
- The government should issue regulations which clearly identify the role of each stakeholder and follow up the implementation of these regulations.
- Periodic site visits should be conducted to ensure that the implementing agencies of the reconstruction projects are committed to apply the community based method activities. As well as, the community is satisfied about outcomes of the reconstruction projects.
- The local government should establish a network of communication or communication channels to facilitate the community participation activities.
- The government should assign many translators who know the foreign languages like Spanish language to communicate with the implementing agencies and donors.
- The government should develop the community capacity through periodic training courses in the community participation to facilitate the participation activities.
- The targeted sample should include more women and experienced people.

6.2.2.3. Originality/value

The value of the success factors findings can be summarized in the following points:

- Identifying the critical success factors of the community participation in Gaza Strip contribute directly to success in the reconstruction projects.
- The success factors findings shows that it is not necessary that the opposite of the barriers are success factors.
- Implementing the success factors would gain greater credibility with aid donors, stakeholders, and the affected public.
- The findings support the implementing agencies in Gaza Strip to achieve the reconstruction projects objective smoothly and without obscles.
- The findings of this section support the need for further integration and support for local community led preparedness and response initiatives and demonstrate the possible value of pre-disaster community preparedness activities.

6.2.2.4 Conclusion of the factor analysis method

The gender participation, communication, coordination and information are the main components of the success factors of community participation according to the factor analysis results. The gender participation in the community participation is the key success of the reconstruction projects. The gender has the ability and comprehensive view about community needs in the reconstruction projects. Following the customs and traditions of the community by the implementing agencies contributes to allow the women to participate effectively in the reconstruction projects. The rigidity of the implementing agencies regulations to be changed in order to follow the community customs hinders the effective community participation. For example, there is a tradition in Gaza Strip to split between the women and men in the meetings especially in the boundary (village) Area, so that the implementing agencies should respect this culture of the community and implementing the participation activities for men and women respectively. Strengthen the women role to ensure the equity in the community, through supporting her to lead some of the community institutions will support the decision maker to prepare the conflict recovery plans.

The coordination and communication between the stakeholders facilitates the obstacles in the reconstruction projects. The coordination and communication between stakeholders should be in the community council level and implementing agencies to facilitate the community participation activities. The implementing agencies could not communicate with all people in the targeted area, so that the communication with the community councils is enough to reach to all affected people. Developing the community capacity in both physical side for example (construction of training halls and providing the community with communication tools), and mental side for example (Training in participation method and brain storming sessions) lead to support the community participation activities. Holding training courses for the community to develop their capacity in participation skills, support the community participation activities.

6.2.2.5. Recommendations

The study recommendations related to the factor analysis of objective two are mentioned below:

- A schedule training courses for women to strengthen their role should be conducted by government to support the women role in the community participation.
- The government should issue a regulation to identify the women role in the reconstruction projects to impose the NGOs to engage the women in these projects.
- The government should issue a manual for the international and local NGOs which explain the main custom of the community.
- The implementing agencies should hold training courses for their employees to explain the main custom of the targeted beneficiaries in order to facilitate the participation activities.
- The implementing agencies should hold training courses for the community to develop their capacity in participation skills.
- The local government should establish a good and electronic communication system to facilitate the communication with the beneficiaries.

- The government should allocate some budget to develop the community physical capacity by construction training halls and developing the internet network.

6.2.2.6. Originality/value

The value of the success factors findings can be summarized in the following points:

- The success findings would guide the decision maker to focus on the success factors to ensure the success in the reconstruction projects.
- The study attributes the success in community participation is directly related to the level of women participation in reconstruction projects; in other words increasing the women participation lead to emphasis the project success.
- Implementing the success factors would gain greater credibility with aid donors, stakeholders, and the affected public.
- The findings of this section support the need for further integration and support for local community led preparedness and response initiatives and demonstrate the possible value of pre-disaster community preparedness activities.

6.2.3. Objective Three “Framework of the community participation”

The logical framework provide a realistic explanation of the community participation to deliver sustainable post conflict housing reconstruction projects in the most complex and often uncertain conditions. The logical framework is developed to support the planning and development of a participatory approach to post conflict housing reconstruction projects in Gaza Strip.

The main goal of the framework is to ensure the effective community participation in post conflict housing reconstruction projects. The main indicator for the community based method is the affected people are entirely engaged and satisfied about the post conflict housing reconstruction projects results. The verification of achieving the framework goal includes: the project documents, meetings minutes and the direct feedback from the community. The main objectives of the framework are: achieving the reconstruction projects objectives, developing the conflict recovery plans and supporting the affected people role in the reconstruction projects. There are several assumptions should be assumed in order to utilize the framework tool; these

assumptions comprised of: the community is totally understanding the community based method, the community based method is adopted in the reconstruction projects not other methods like contractor approach, the fund for community participation is available in the reconstruction projects and the government supports the community based activities.

The practical steps which should be followed to apply this framework in post conflict housing reconstruction projects in Gaza are summarized in the framework tasks:

1. **Identify the participatory approach to the community:** The implementing agencies and local government should hold workshops and training the community to illustrate the nature and tools of participation to the community. The training should include some tasks which simulate the actual participation in the reconstruction projects and implemented in the affected areas.
2. **Identify the community needs:** during the participation activities the community will identify their main needs from the reconstruction projects. For example, the average building area, the distribution of rooms and the type of finish. The implementing agencies should consider these needs in the conflict recovery plans and the reconstruction project to encourage the community to participate in other projects life cycle.
3. **Hold a periodic field visits to the affected community:** The local government employees should hold periodic visits according to the project size and budget to ensure that the participation activities are implemented smoothly. Also the aim of the filed visits to collect the beneficiaries feedback in order to develop the community participation activities.
4. **Establish an effective monitoring system:** The local government should establish a separated system to monitor implementing the community based activities in the reconstruction project in consultant with some expert to be an applicable and valid system. This system is needed to support the rights of community especially gender to participate in the reconstruction projects.

5. **Coordination between stakeholder:** The local government should establish a communication system that contributes to facilitate the coordination between the stakeholders. This system should be applicable, workable, reachable, and easy to reach from all stakeholders.

Implementing the above five tasks will achieve the project objectives and goal of the framework which is the effective community participation in housing reconstruction projects. The framework assist the strategic planner in the government and NGOs to understand the most important barriers and success factors that effect on the community participation in post conflict housing projects in Gaza Strip. The framework will overcome most of barriers and to achieve the success in the reconstruction projects.

6.2.3.1. Recommendations

The main recommendations of the framework are:

- The decision makers in local government should prepare plans for conflict recovery based on the framework results of the community based method.
- The community should be invited and participate in all workshops which explain the details of the community participation activities.
- The NGOs should develop their employees capacity who are working in the reconstruction projects to have adequate skills to deal with the effected people in the affected area.
- The government should allocate adequate budget for the community participation activities or convince the donors to allocate some of the reconstruction fund for the community participation.
- The government should issue regulations which clearly identify the role of each stakeholder and follow up the implementation of these regulations.

6.2.3.1. Originality/value

The framework originality and value are:

- The framework of the community based method of post conflict housing reconstruction projects is considered the first and unique study in this field in Gaza Strip.

- The framework provides the main steps and verification method to ensure the effective community participation in housing reconstruction projects.
- The findings would guide the decision maker in selection of the appropriate reconstruction method of housing reconstruction projects.
- The framework contributes to save the reconstruction project time and achieve the projects objective through avoiding the main barriers and community participation.
- The framework identifies the participatory approach and the type of participation.
- The framework for the community participation will support the decision maker and facilitate the community involvement in post-conflict housing reconstruction projects in Gaza Strip.
- The logical framework was prepared specifically for the community participation in post-conflict housing reconstruction projects in Gaza Strip; it can be utilized for in similar contexts in the world.

6.3. Research limitations/implications

Several limitations are identified to be acknowledged in this research as the following:

- The quantitative approach (questionnaire only) has been adopted to achieve the thesis objectives. A case study should be applied to support the questionnaire results.
- The study sample was relatively small; only 100 engineers who worked in post conflict housing reconstruction projects.
- The subjectivity of the data collected from different perceptions on a five-point Likert scale is also a limitation.
- The questionnaire targeted only the engineers who worked in the international and local NGO's; the study sample was supposed to include also the affected people in the community.
- This study focused on the community based method only in housing projects. It did not mention the infrastructure projects or public buildings like hospitals projects.

- The advantages and benefits of the community participation are not handled in this study. The study is limited to discuss the success and barriers factors of the community participation.
- The research focused on the post conflict stage, it did not cover the community based method in pre and during conflict stages.

6.4. Future studies

Notwithstanding the value in the findings of this study, there are many opportunities for further research in this field because it is an important approach in post conflict management. This study has thrown up many questions in need for further investigation. It is recommended that further research be undertaken in the following areas:

- Conduct a case study based research on various areas in Gaza Strip to provide an integrated comprehensive understanding to the community based method of post conflict housing reconstruction projects.
- Study the benefits of the community based method in housing reconstruction projects.
- This study is conducted for only post conflict housing reconstruction projects, it is advised to be conducted for post conflict infrastructure projects as well as the pre and during disaster stages.
- Investigate the risk analysis of community based method of housing reconstruction project.
- Hold a comparison between the donor, contractual and owner based method in housing reconstruction projects and the role of community in each intervention.
- Further researches also are needed to be conducted to identify the interaction among the barriers/ success factors and between others implementation issues such as duration or budget of the housing reconstruction projects in Gaza Strip.
- Develop a model for the community participation in housing reconstruction projects.

- Study the key performance indicators (KPIs) of the community based method of housing reconstruction projects.
- The study was applied only in Gaza Strip, it should be applied in the West Bank to develop a comprehensive framework for the community participation in Palestine.

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Appendices

Appendix A: Questionnaire (English)

The Islamic University–Gaza
Research and Postgraduate Affairs
Faculty of Engineering/ Civil Eng.



الجامعة الإسلامية – غزة
شئون البحث العلمي والدراسات العليا
كلية الهندسة/الهندسة المدنية

Questionnaire

Subject: Questionnaire survey about: “**The main barriers and critical success factors of community based method in post conflict housing reconstruction projects in Gaza strip**” for submitting a thesis in partial fulfilment of the requirements for the Master degree in Construction Management in the Islamic University of Gaza, Palestine.

Research aim: to develop a framework for the community participation in post conflict housing reconstruction projects in Gaza Strip

Target group: Employees of the governmental institutions, local and International NGOs who are working in the disaster/conflict management field, OR Engineers who are working in post conflict housing reconstruction/damage assessment projects and any other professional with related specialization.

The questionnaire consists of **TWO main sections (Barriers & Success) factors aim to:**

- To explore the main barriers of implementation the community-based method in post-conflict housing reconstruction projects.
 - To determine which critical success factors are most influential in the community based method in post conflict housing reconstruction projects.
-

The validity of the questionnaire results is completely depending on your answer accuracy. Thank you in advance for your valuable time and contribution to this research work.

Kind Regards,

Osama Mohammed Abdalhadi,

M.Sc. Candidate in Construction Management, IUG

(October, 2017)

Basic information about the respondent's

- Please tick (√) the appropriate option in the following questions:

Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female				
Educational level	<input type="checkbox"/> Secondary	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Master	<input type="checkbox"/> PhD		
Governorate of work	<input type="checkbox"/> North	<input type="checkbox"/> Gaza	<input type="checkbox"/> Middle	<input type="checkbox"/> KhanYounis	<input type="checkbox"/> Rafah	
Nature of your work	<input type="checkbox"/> Governmental institutions	<input type="checkbox"/> Local NGOs	<input type="checkbox"/> International NGOs	<input type="checkbox"/> Consultation Office		
Years of experience	<input type="checkbox"/> < 5 y	<input type="checkbox"/> 5 < y < 10	<input type="checkbox"/> 10 < y < 15	<input type="checkbox"/> > 15 y		
Does your organization have a disaster/conflict management unit?				<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Definitions:

- **Stakeholder:** A person, group or organization that has interest or concern in an organization. Stakeholders can affect or be affected by the organization's actions, objectives and policies
- **Community Participation:** engage the community stakeholders in the identifying, analyzing, evaluating, monitoring and taking the decision of disaster risk.

Section (1): Barriers which may hinder implementing the community based method in post conflict housing reconstruction projects.

How do you rate significant of the following barriers in the community based method in post conflict housing reconstruction projects?

Please tick (√) in front of significant degree that reflects your point of view.

No.	Barriers	Not Significant	Significant	Significant	Significant	very Significant	Extremely Significant
Group (1):Lack of stakeholders capacity (Community)							
BA 1	Lack of the community knowledge about disaster mitigation and preparedness plans						
BA 2	Unclear of the community role in reconstruction projects.						
BA 3	Lack of the decision making skills or affecting in the decision making process.						
BA 4	Diversity of the community parties and difference of their ideas and complexities.						
BA 5	Low of education level of the community						
BA 6	Lack of stakeholders understanding to principle of the community participation						
BA 7	Lack of the community resources (Physical and infrastructure -.....)						
Group (2): Lack of government support							

No.	Barriers	Not	Significant	Significantly	Significant	Significant	very	Significant	Extremely	Significant
BA 8	Absence of clear plans for conflict response.									
BA 9	Absence of disaster/conflict management unit in government institutions.									
BA 10	Absence of the government role in preparing the proper administrative divisions of Gaza Strip.									
BA 11	Lack of the governmental policies which support the community participation.									
BA 12	Absence of government monitoring and controlling in achieving community participation.									
BA 13	Lack of coordination between the government institutions and the other community organizations									
BA 14	Lack of the government staff capacity to face the conflict implications.									
BA 15	Lack of the government activities (workshops- field visits ...) which encourage community participation.									
Group (3): Inflexible short deadlines of the reconstruction projects										
BA 16	Lack of some projects duration; whereas there is not enough time restricted to form community groups.									
BA 17	Inflexible time schedule of the reconstruction									

No.	Barriers	Not Significant	Significantly Significant	Significant	Very Significant	Extremely Significant
	projects (lack of alternatives)					
BA 18	Ignoring the community opinions as a result of concentrating on the implementation only.					
BA 19	Inactivity of the community participation role due to the long duration of some reconstruction projects.					
Group (4): Budget restrictions and donors requirements						
BA 20	Lack of allocated fund for community participation activities in reconstruction projects					
BA 21	Rigidity of the projects or government budget to implement community participation activities					
BA 22	High costs of community participation activities					
BA 23	Ignoring the community needs as a result of some donors restrictions.					
BA 24	Inactivity of the community participation due to the donor role in the characteristics of houses.					
Group (5): Neglecting of the community socio- economic, cultural needs						
BA 25	Neglecting the community social, economic and culture needs in the implementation stage.					

No.	Barriers	Not	Significant	Significantly	Significant	very	Significant	Extremely	Significant
BA 26	Lack of conflict recovery plans ability to accommodate the enormous number beneficiaries with different cultures								
BA 27	Unavailability of manual for international organizations which contribute to identify the social and cultural needs of the community.								
BA 28	Negligence of the community needs due to the political fluctuations								
BA 29	Lack of confidence among the stakeholders due to the diversity of interests.								
BA 30	Bad physiological situation of the effected people.								
Group (6): Lack of NGOs competency									
BA 31	Lack of trust between NGOs and the stakeholders								
BA 32	Variance between the NGOs and stakeholders expectations of the reconstruction project result.								
BA 33	Lack of technical knowledge and skills of the NGOs staff.								
BA 34	Lack of the NGOs number of staff in large-scale reconstruction projects.								

No.	Barriers	Not	Significant	Significantly	Significant	very	Significant	Extremely	Significant
BA 35	Lack of NGOs ability to develop the staff capacity								
BA 36	Lack of the NGOs experience in documentation and archiving the community participation activities.								
Group (7): Coordination between the stakeholders									
BA 37	Absence of proper communication channels between the stakeholder of reconstruction projects.								
BA 38	Lack proper transportation infrastructure and plans to meet the stakeholders								
BA 39	Lack of physical infrastructure to implement the community participation activities.								
BA 40	Lack of security in the affected area								
BA 41	Lack communication between stakeholders due to failure in signing the case-fire agreements.								
Group (8): Lack of transparency in reconstruction process.									
BA 42	Vague of expenditures process of the project budget								
BA 43	Lack of information reference to get the government conflict recovery plans.								
BA 44	Ambiguous data of the reconstruction projects								

No.	Barriers	Not	Significant	Significantly	Significant	Significant	very	Significant	Extremely	Significant
	(Budget- target group- implementation period)									
BA 45	Lack of project monitoring and controlling process									
BA 46	Lack of the field visits for the reconstruction sites									
BA 47	Illegal homes status of some beneficiaries.									
Group (9): Lack of women participation										
BA 48	Negligence of the women role due to the culture custom restrictions in Gaza Strip									
BA 49	Lack of trust between women and reconstruction projects implementing agencies.									
BA 50	Inactivity of the women role due to the suffering from the disaster implications more than men									
BA 51	Enormous economic burden on the families which is led by women									
BA 52	Minor role of the women in managing the community resource									
BA 53	Lack of equity laws in Gaza Strip.									
BA 54	Lack of women numbers who works in disaster management field.									

END of Section (1) Barriers groups

Section (2): The critical success factors of the community based method in post conflict housing reconstruction projects

How do you rate the significant of the following factors that lead to success in the community based method in post conflict housing reconstruction projects

Please tick (✓) in front of significant degree that reflects your point of view.

No.	Success factors	Not Significant	Significant	Significant	Significant	very Significant	Extremely Significant
Group(1): Effective communication among stakeholders							
SF 1	Existing of a smooth channel of communication between the community and the implementing agencies.						
SF 2	Availability of electronic in reconstruction projects.						
SF 3	Availability of mutual communication language (e.g. Arabic or English) between the stakeholders.						
SF 4	Existing of the coordination unit between the implementing parties of reconstruction projects.						
SF 5	Communication accessibility between the five levels of the reconstruction projects: national, international, regional, organization and project level.						
SF 6	Effective communication and coordination between stakeholders in all project life cycle stages.						
Group(2): Respecting the community culture							
SF 7	Considering the cultural and social characteristics of the						

No.	Success factors	Not	Significant	Significantly	Significant	very	Significant	Extremely	Significant
	community in the design stage reconstruction projects								
SF 8	Considering the location and the accessibility of the service facilities (Hospital- garden-) of the houses								
SF 9	Considering the community customs in the reconstruction projects								
SF 10	Comprising the reconstruction strategies in reconstruction projects								
SF 12	Developing the community capacities to satisfy the main cultural needs in the reconstruction projects								
	Respect the community restrictions (Mixing between men and women) in reconstruction projects.								
Group(3): Local government support									
SF 13	Prepare a plan for managing the team members of the reconstruction projects								
SF 14	Hold a periodic meeting with the stakeholders to determine discuss their needs								
SF 15	Develop a supportive regulations (e.g. allocate budget for community participation activities) to determine the community needs.								

No.	Success factors	Not	Significant	Significantly	Significant	Significant	Extremely	Significant
SF 16	Clearly identify the scope of work for the reconstruction projects							
SF 17	Providing the stakeholders with necessary skills needed to success in housing reconstruction projects.							
SF 18	Prepare a mitigation plan of the political situation in the affected area							
SF 19	Empower the government administration system through (external consultant – training) to support the stakeholder in the community based method.							
Group(4): Developing the community education and training								
SF 20	Support the community education through training courses to understand the concept of the community based method in housing reconstruction projects							
SF 21	Develop a job training program to selective groups of the community to enhance to the community capacity							
SF 22	Strengthening the decision making skills of the stakeholders to help the decision maker to take the appropriate decision in post disaster projects							
SF 23	Increase the public awareness about the post disaster housing reconstruction project through practical sessions and media program.							

No.	Success factors	Not Significant	Significant	Significant	Significant	very Significant	Significant	Extremely Significant
SF 24	Support the disaster management system through outsourcing (international consultant – electronic archiving system).							
SF 25	Hold a competition between the affected area to encourage the community to participate in the reconstruction projects							
Group(5): Supporting the women participation								
SF 26	Increase women's awareness in disaster management							
SF 27	Develop the women capacity through training courses to participate in community based method							
SF 28	Respect the women point view in community based method in housing reconstruction projects.							
SF 29	Strengthen the women role in her family to participate in housing reconstruction projects							
SF 30	Develop a gender equity regulations							
Group(6): Transparency and accountability								
SF 31	Prepare transparency plan which shows the community role in post conflict in housing reconstruction projects							
SF 32	Hold a periodic field visit to the stakeholders to ensure							

No.	Success factors	Not	Significant	Significantly	Significant	very	Significant	Extremely	Significant
	that they are satisfied about the projects results.								
SF 33	Clearly identify the scope and the budget of the reconstruction projects								
SF 34	Monitoring the time schedule especially the community participation activities through specialist committees								
SF 35	Facilitate the local media agencies works –as an external part- to check the transparency in the reconstruction projects								
SF 36	Establishing an effective monitoring system for the post conflict housing projects and for each project individually.								
SF 37	Accountability the reconstruction projects mangers during/after completion the project to ensure that the project have achieved its objectives.								
SF 38	Enhancing the trust among stakeholders through periodic meeting to discuss the debate points.								
Group(7): Availability of sufficient fund for community participation									
SF 39	Allocate sufficient fund to support the community participation activities in the post conflict reconstruction projects.								
SF 40	Preparing plans for community participation activities based on the fund availability								

No.	Success factors	Not Significant	Significantly	Significant	Significant	Very Significant	Extremely Significant
SF 41	Allocate part of government general fund to support the community participation activities.						
SF 42	Choosing the reconstruction method based on the community needs not on the donor desires (donor driven or contractor driven)						

Other Suggestions:

End of Questionnaire

Thank you for your valuable time

Appendix B: Questionnaire (Arabic)



استبيان

الموضوع: استبيان حول "أبرز معوقات وعوامل نجاح إشراك المجتمع المحلي في مشاريع إعادة إعمار المنازل المدمرة ما بعد الحروب في قطاع غزة فلسطين" كجزء من متطلبات الحصول على درجة الماجستير في إدارة المشروعات الهندسية في الجامعة الإسلامية في غزة، فلسطين.

غرض البحث: إعداد إطار منطقي للمشاركة المجتمعية في مشاريع إعادة إعمار المنازل المدمرة بعد الحروب في قطاع غزة.

الفئة المستهدفة: الموظفين في الدوائر الحكومية ومؤسسات المجتمع المحلي والمؤسسات الدولية الذين يعملون في مجال إدارة الكوارث والحروب. أو المهندسين الذين يعملون في مشاريع إعادة الإعمار/ تقييم الأضرار. أو أي شخص لديه خبرة عملية في هذا المجال.

هذا الاستبيان يحتوي على **قسمين** أساسيين (معوقات وعوامل نجاح) المشاركة المجتمعية ل :

- معرفة أبرز معوقات تنفيذ مشاريع إعادة المنازل المهتمة في قطاع غزة باستخدام طريقة المشاركة المجتمعية.
- تحديد العوامل الأكثر تأثيراً على نجاح طريقة المشاركة المجتمعية في مشاريع إعادة إعمار المنازل المهتمة في قطاع غزة بعد حدوث الحروب.

تعتمد صحة نتائج هذا البحث بشكل كامل على دقة إجاباتكم التي ستستخدم لغرض البحث العلمي فقط.

شكراً لكم مقدماً على وقتكم القيم والمساهمة في نجاح هذه الدراسة

أطيب التحيات

أسامة محمد عبد الهادي

ماجستير إدارة المشروعات الهندسية الجامعة الإسلامية غزة

(أكتوبر 2017)

معلومات أساسية حول الفئة المستهدفة

- من فضلك ضع إشارة (√) أمام الإجابة المناسبة للأسئلة التالية:

		<input type="checkbox"/> أنثى	<input type="checkbox"/> ذكر	الجنس
	<input type="checkbox"/> دكتورة	<input type="checkbox"/> ماجستير	<input type="checkbox"/> بكالوريوس	مستوى التعليم
<input type="checkbox"/> رفح	<input type="checkbox"/> خانيونس	<input type="checkbox"/> الوسطى	<input type="checkbox"/> غزة	محافظة العمل
	<input type="checkbox"/> مكتب استشاري	<input type="checkbox"/> مؤسسة دولية	<input type="checkbox"/> مؤسسة مجتمع محلي	طبيعة العمل
	<input type="checkbox"/> < 15 سنة	<input type="checkbox"/> 10 < س > 15	<input type="checkbox"/> 5 < س > 10	سنوات الخبرة في مجال الكوارث
<input type="checkbox"/> لا	<input type="checkbox"/> نعم	هل يوجد في مؤسستك وحدة لإدارة الأزمات والكوارث؟		

تعريفات:

- **أصحاب المصلحة:** شخص أو مجموعة أو مؤسسة تؤثر وتتأثر سلبا وإيجابيا بشكل مباشر وغير مباشر بأهداف وسياسات مشاريع إعادة الإعمار.
- **المشاركة المجتمعية:** إشراك أصحاب المصلحة في المجتمع في تحديد وتحليل وتقييم ورصد واتخاذ القرارات ما بعد حدوث الكارثة/ الحروب.

القسم الأول: العوامل التي من الممكن أن تعيق تنفيذ مشاريع إعادة إعمار المنازل المدمرة باستخدام طريقة المشاركة المجتمعية.

كيف تقيم درجة تأثير المعوقات التالية على تنفيذ طريقة المشاركة المجتمعية في مشاريع إعادة إعمار البيوت المدمرة بعد انتهاء الحروب؟

من فضلك ضع إشارة (√) أمام درجة التأثير المناسبة للأسئلة التالية:

م	العامل (المعيق)	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
المجال (1): نقص قدرة وكفاءة أصحاب المصلحة (المجتمع)						
1.	عدم معرفة المجتمع بخطط طوارئ وتجهيزات الكوارث والتغلب عليها.					
2.	عدم وضوح دور المجتمع في مشاريع إعادة الإعمار					
3.	نقص خبرات اتخاذ القرار أو التأثير علي صناعة القرار.					
4.	تعدد الأحزاب داخل المجتمع واختلاف افكارهم ومتعدداتهم.					
5.	انخفاض المستوى التعليمي للمجتمع.					
6.	عدم فهم المجتمع لمبادئ المشاركة المجتمعية في مشاريع إعادة الإعمار					
7.	نقص موارد المجتمع (المادية والخدماتية ...)					
المجال (2): نقص الدعم الحكومي للمشاركة المجتمعية						
8.	عدم وجود خطط واضحة لمواجهة تأثيرات الحروب والكوارث مما					

م	العامل (المعيق)	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	يؤدي الي التسرع في اتخاذ القرارات					
9.	عدم وجود وحدة إدارة الأزمات والكوارث في المؤسسات الحكومية					
10.	غياب دور الحكومة في إعداد التقسيمات الإدارية الصحيحة لتسهيل عملية المشاركة المجتمعية.					
11.	ضعف السياسات الحكومية التي تدعم المشاركة المجتمعية.					
12.	غياب دور الرقابة الحكومية في تحقيق المشاركة المجتمعية.					
13.	ضعف التنسيق بين المؤسسات الحكومية ومؤسسات المجتمع المحلي.					
14.	افتقار الموظفين الحكوميين للكفاءة اللازمة لمواجهة تداعيات الحروب.					
15.	قلة نشاطات الحكومة (ورش عمل، زيارات ميدانية،) التي تشجع المجتمع للمشاركة في مشاريع إعادة الإعمار.					
المجال (3): قصر مدة وعدم مرونة مواعيد إنجاز مشاريع إعادة الإعمار						
16.	قصر فترة تنفيذ بعض مشاريع الإعمار بحيث لا يوجد وقت كافي لتشكيل مجموعات المجتمع اللازمة للمشاركة المجتمعية.					
17.	عدم مرونة الجداول الزمنية لتنفيذ مشاريع إعادة الإعمار (عدم وجود حلول بديلة).					

م	العامل (المعيق)	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
18.	إهمال رأي المجتمع نتيجة للتركيز علي جانب التنفيذ فقط لضيق فترة تنفيذ المشروع .					
19.	عدم فعالية دور وآراء المجتمع في مشاريع إعادة الإعمار بسبب طول فترة تنفيذ بعض المشاريع.					
المجال (4): محدودية ميزانية المشاريع و قيود ومتطلبات الممولين.						
20.	عدم وجود ميزانية مخصصة لتنفيذ نشاطات المشاركة المجتمعية في مشاريع إعادة الإعمار.					
21.	عدم مرونة ميزانيات مشاريع إعادة الإعمار أو ميزانيات الحكومة لتنفيذ نشاطات المشاركة المجتمعية.					
22.	ارتفاع تكاليف تنفيذ نشاطات المشاركة المجتمعية.					
23.	القيود المفروضة من بعض الممولين على المشاركة المجتمعية					
24.	تصميم المشاريع بناءا على رؤية الممول خاصة في شكل ومساحة المباني					
المجال (5): القيم الاجتماعية والاقتصادية والثقافية للمجتمع.						
25.	إهمال القيم الاجتماعية والاقتصادية والثقافية للمجتمع في مرحلة التنفيذ					
26.	عدم قدرة خطط التغلب على استيعاب الاعداد الكبيرة من النازحين من					

م	العامل (المعيق)	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	مختلف الثقافات.					
27.	عدم وجود دليل (كتاب إرشادي) للمؤسسات الأجنبية يوضح لها الاحتياجات الاجتماعية والاقتصادية والثقافية للمجتمع.					
28.	إهمال الجوانب الاجتماعية والثقافية نتيجة للتقلبات السياسية.					
29.	تفكك قيم المجتمع وفقدان الثقة بين أصحاب المصلحة نتيجة اختلاف اهتمامات كل طرف في مشاريع إعادة الإعمار					
30.	سوء الوضع النفسي لأصحاب المصلحة (المتضررين)					
المجال (6): نقص قدرة وكفاءة مؤسسات المجتمع المحلي والمؤسسات الدولية						
31.	فقدان الثقة المتبادلة بين أصحاب المصلحة (المجتمع) و مؤسسات المجتمع المحلي والمؤسسات الدولية					
32.	اختلاف بين توقعات المجتمع المحلي و مؤسسات المجتمع المحلي والمؤسسات الدولية لنتائج مشاريع الإعمار					
33.	نقص الخبرة الفنية والمهارات اللازمة للمشاركة المجتمعية لدى موظفي مؤسسات المجتمع المحلي والمؤسسات الدولية					
34.	نقص الطاقة الاستيعابية (عدد الموظفين) في مشاريع إعادة الإعمار الضخمة.					
35.	عدم قدرة مؤسسات المجتمع المحلي والمؤسسات الدولية على تطوير					

م	العامل (المعيق)	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	وتدريب الطواقم بسبب نظام العقد المؤقت					
36.	قلة خبرة مؤسسات المجتمع المحلي والمؤسسات الدولية في التوثيق والأرشفة لملفات المشاركة الاجتماعية					
المجال (7): التنسيق والتواصل بين أصحاب المصلحة						
37.	عدم وجود قنوات تواصل واضحة بين أفراد مشاريع إعادة الإعمار					
38.	عدم وجود بنية تحتية مناسبة وخطط مواصلات للوصول إلى أصحاب المصلحة (المجتمع المتضرر)					
39.	عدم وجود بنية تحتية (مثل أماكن لعقد ورش عمل) مناسبة لتنفيذ نشاطات المشاركة المجتمعية.					
40.	غياب الأمان في أماكن البيوت المهدمة					
41.	الفشل في استمرارية الهدنة مما يصعب الوصول إلى أصحاب المصلحة (المجتمع)					
المجال (8): نقص الشفافية في مشاريع إعادة الإعمار						
42.	عدم وضوح طرق صرف ميزانيات مشاريع إعادة الإعمار					
43.	عدم وجود مرجع للحصول على خطط الحكومات لمواجهة الكوارث					

م	العامل (المعيق)	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	ولتحديد دور المجتمع في مشاريع إعادة الإعمار.					
44.	غموض المعلومات الخاصة بمشاريع إعادة الإعمار (الميزانية – الفئة المستهدفة – فترة التنفيذ)					
45.	عدم وجود سياسات واضحة لمراقبة والتحكم في مشاريع إعادة الإعمار					
46.	قلة عدد الزيارات الميدانية لأصحاب العلاقة للتأكد من إشراكهم في مشاريع إعادة الإعمار					
47.	الوضع الغير قانوني لبعض البيوت المهدامة.					
المجال (9): إهمال دور المرأة في المشاركة المجتمعية						
48.	إهمال دور المرأة في مشاريع إعادة الإعمار نتيجة لبعض القيود الثقافية والاجتماعية للمجتمع					
49.	إشراك المرأة بشكل طفيف في مشاريع إعادة الإعمار مما يفقد ثقة المرأة بالجهات المنفذة					
50.	تأثر المرأة بشكل أكبر من الرجل من تبعات وآثار الكوارث والحروب					
51.	العبء المالي الكبير على الأسر التي تقودها المرأة مما يشغلها عن المشاركة المجتمعية في مشاريع إعادة الإعمار.					
52.	إهمال دور المرأة في إدارة مصادر المجتمع المتعددة					

م	العامل (المعيق)	لا يؤثر	طيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
.53	عدم وجود أي قوانين وسياسات تشجع مشاركة المرأة في مشاريع إعادة الإعمار					
.54	قلة عدد النساء اللواتي يعملن في مجال ادارة الكوارث مقارنة بالرجال					

نهاية القسم الأول: العوامل المعيقة لمشاريع إعادة إعمار البيوت المهدمة باستخدام طريقة المشاركة المجتمعية

القسم الثاني: أبرز العوامل التي من الممكن أن تؤدي إلى نجاح تنفيذ مشاريع إعادة إعمار المنازل المدمرة باستخدام طريقة المشاركة المجتمعية.

كيف تقيم درجة تأثير عوامل النجاح التالية على تنفيذ طريقة المشاركة المجتمعية في مشاريع إعادة إعمار البيوت المدمرة بعد انتهاء الحروب؟

من فضلك ضع إشارة (√) أمام درجة التأثير المناسبة للأسئلة التالية:

م	عوامل النجاح	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
المجال (1): التواصل والتنسيق الفعال بين أصحاب المصلحة						
1.	وجود قنوات اتصال سلسلة بين أفراد المجتمع والجهات المنفذة لمشاريع إعادة الإعمار قبل وأثناء مرحلة التنفيذ.					
2.	توفر نظام معلومات الكتروني دقيق وفعال للمشاركة المجتمعية في مشاريع إعادة الإعمار.					
3.	توفر لغة تواصل مشتركة (مثل العربية أو الانجليزية) بين أصحاب المصلحة في مشاريع إعادة الإعمار.					
4.	تشكيل غرفة عمليات موحدة للتنسيق بين الأطراف المنفذة لمشاريع إعادة الإعمار					
5.	سهولة التواصل بين المستويات الخمسة لمشاريع إعادة الإعمار: الوطني، الدولي، الإقليمي، التنظيمي ومستوى نفس المشروع.					
6.	سهولة التنسيق والتواصل بين أصحاب المصلحة خلال كل فترات تنفيذ مشاريع إعادة الإعمار.					

م	عوامل النجاح	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
المجال (2): احترام ثقافات المجتمع						
7.	الأخذ بعين الاعتبار الخصائص الاجتماعية والثقافية للمجتمع في مرحلة تصميم مشاريع إعادة الإعمار.					
8.	الأخذ بعين الاعتبار موقع إعادة إعمار البيوت (بالقرب من الخدمات الأساسية للمجتمع					
9.	احترام عادات وتقاليد المجتمع في مرحلة تنفيذ مشاريع إعادة الإعمار					
10.	تضمين استراتيجيات إعادة البناء في مشاريع إعادة الإعمار.					
11.	تطوير كفاءة وقدرات المجتمع لتلبية الاحتياجات الثقافية والاجتماعية في مشاريع إعادة الإعمار.					
12.	احترام قيود ومحظورات المجتمع (مثل الاختلاط) في مشاريع إعادة الإعمار لتحقيق طموحات المجتمع.					
المجال (3): دعم السلطات الحكومية						
13.	إعداد خطة لإدارة الطاقم الفني في مشاريع إعادة الإعمار لضمان تحقيق مبدأ المشاركة المجتمعية.					
14.	عقد اجتماعات دورية مع أصحاب المصلحة لتحديد ومناقشة احتياجاتهم					
15.	سن واعتماد قوانين وتشريعات (مثل تخصيص مبلغ للمشاركة					

م	عوامل النجاح	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	المجتمعية) من أجل تحديد احتياجات المجتمع.					
16.	تحديد اهداف ونشاطات مشاريع اعادة الاعمار بشكل واضح					
17.	تزويد أصحاب المصلحة بكافة المعلومات والمهارات اللازمة لنجاح المشاركة المجتمعية في مشاريع اعادة الاعمار.					
18.	إعداد خطة للتخفيف من الآثار السلبية في المناطق المتضررة.					
19.	تمكين وتدعيم النظام الحكومي الإداري من خلال (مستشارين خارجيين – تدريب) لدعم المشاركة المجتمعية في مشاريع اعادة الاعمار					
المجال (4): تطوير ودعم تعليم وتدريب المجتمع على ادارة الكوارث والحروب						
20.	دعم وتطوير مستوى تعليم المجتمع للاستجابة المسبقة للكوارث وكيفية التعامل ما بعد الكارثة					
21.	تطوير برامج تدريبية عملية حول إدارة الكوارث والحروب للموظفين الحكوميين في أماكن عملهم لزيادة كفاءة المجتمع.					
22.	تعزيز وتطوير مهارات اتخاذ القرار لدى المجتمع لمساعدة صانعي القرار لاتخاذ القرار المناسب في مشاريع إعادة الإعمار					
23.	زيادة وعي المجتمع حول إدارة الكوارث والحروب من خلال برامج تلفزيونية وإذاعية ومن خلال شبكات التواصل الاجتماعي .					

م	عوامل النجاح	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
24.	دعم وحدات إدارة الكوارث والحروب لدى الجهات الرسمية من خلال (مدربين دوليين لديهم خبرة كافية – تطوير نظام الكتروني لحفظ وارشفة بيانات المستفيدين)					
25.	تشجيع المجتمع علي المشاركة المباشرة في مشاريع الإعمار من خلال تدريبهم ثم عقد منافسات بين المناطق المتضررة المختلفة.					
المجال (5): دعم مشاركة المرأة						
26.	زيادة وعي المرأة في مجال إدارة الكوارث والتجهيز والوقاية منها.					
27.	زيادة كفاءة المرأة من خلال التعليم التدريب للمشاركة في إبداء الرأي في مشاريع إعادة الإعمار.					
28.	احترام وجهة نظر المرأة لتشجيعها على المشاركة الفعالة في مشاريع إعادة الإعمار.					
29.	تعزير دور المرأة داخل أسرتها لتشجيعها على المشاركة المجتمعية في مشاريع إعادة الإعمار.					
30.	تطوير وسن قوانين تشجع على المساواة في إبداء الرأي بين الجنسين					
المجال (6): النزاهة والشفافية والمساءلة						
31.	إعداد خطط توضح خطوات مراقبة النزاهة والمساءلة في مشاريع إعادة					

م	عوامل النجاح	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	الإعمار.					
32.	عقد زيارات ميدانية لأصحاب العلاقة للتأكد من رضاهم عن مستوى المشاركة المجتمعية في مشاريع إعادة الإعمار.					
33.	تحديد وتوضيح أهداف وميزانيات ونشاطات مشاريع إعادة الإعمار للمجتمع المحلي.					
34.	مراقبة الجداول الزمنية وتنفيذ أنشطة إعادة الإعمار من قبل وحدة متخصصة من المجتمع المحلي					
35.	تسهيل عمل وكالات الصحافة المحلية (كطرف خارجي) لإجراء تقارير صحفية عن مستوى النزاهة والشفافية في مشاريع إعادة الإعمار					
36.	تطوير نظام رقابة فعال لمشاريع إعادة الإعمار بشكل عام ونظام لكل مشروع بشكل منفصل.					
37.	مسائلة مدراء مشاريع إعادة الإعمار قبل وبعد انتهاء المشاريع للتأكد من أن المشاريع حققت أهدافها المرصودة.					
38.	تعزيز الثقة بين أصحاب المصلحة من خلال عقد اجتماعات دورية لمناقشة نقاط الخلاف.					
المجال (7): تخصيص ميزانيات كافية للمشاركة المجتمعية						
39.	تخصيص ميزانيات كافية في مرحلة التخطيط والتنفيذ لدعم نشاطات					

م	عوامل النجاح	لا يؤثر	طفيف التأثير	متوسط التأثير	عادي التأثير	قوي التأثير
	المشاركة المجتمعية .					
40.	إعداد خطط واضحة لتنفيذ نشاطات المشاركة المجتمعية بما يتناسب مع الميزانيات المخصصة لهذه الأنشطة					
41.	تخصيص جزء من الموازنة العامة للحكومات لتنفيذ ودعم نشاطات المشاركة المجتمعية في مشاريع إعادة الإعمار.					
42.	اختيار طريقة المشاركة المجتمعية في مشاريع إعادة الإعمار بناء على حاجة المجتمع وليس حسب رغبة الممول (عن طريق مقاولين - مؤسسات خارجية)					

اقتراحات أخرى

انتهت الاستبانة

شكرا لكم لمنحي جزءا من وقتكم الثمين

Statistical analysis of the collected data

No.	Barrier description	Mean	Severity Index	SD	t-value	p-value	Rank
BA8	Absence of clear plans for conflict response.	4.28	85.68	1.02	11.38	0.00	1
BA7	Lack of the community resources (Physical and infrastructure -.....)	4.14	82.72	1.17	8.74	0.00	2
BA12	Absence of government monitoring and controlling in achieving community participation.	4.14	82.72	0.86	11.85	0.00	3
BA9	Absence of disaster/conflict management unit in government institutions.	4.07	81.48	1.05	9.24	0.00	4
BA24	Inactivity of the community participation due to the donor role in the characteristics of houses.	4.01	80.25	1.05	8.64	0.00	5
BA10	Absence of the government role in preparing the proper administrative divisions of Gaza Strip.	3.99	79.75	1.03	8.62	0.00	6
BA21	Rigidity of the projects or government budget to implement community participation activities	3.98	79.51	1.00	8.78	0.00	7
BA11	Lack of the governmental policies which support the community participation.	3.96	79.26	1.03	8.41	0.00	8
BA35	Lack of NGOs ability to develop the staff capacity	3.96	79.26	1.05	8.22	0.00	9
BA45	Lack of project monitoring and controlling process	3.94	78.77	1.10	7.68	0.00	10

No.	Barrier description	Mean	Severity Index	SD	t-value	p-value	Rank
BA18	Ignoring the community opinions as a result of concentrating on the implementation only.	3.93	78.52	0.92	9.07	0.00	11
BA23	Ignoring the community needs as a result of some donors' restrictions.	3.93	78.52	0.86	9.66	0.00	12
BA3	Lack of the decision making skills or affecting in the decision making process.	3.90	78.02	1.19	6.82	0.00	13
BA14	Lack of the government staff capacity to face the conflict implications.	3.89	77.78	1.14	7.02	0.00	14
BA6	Lack of stakeholders understanding to principle of the community participation	3.88	77.53	0.95	8.27	0.00	15
BA20	Lack of allocated fund for community participation activities in reconstruction projects	3.88	77.53	1.20	6.59	0.00	16
BA13	Lack of coordination between the government institutions and the other community organizations	3.86	77.28	1.16	6.71	0.00	17
BA43	Lack of information reference to get the government conflict recovery plans.	3.85	77.04	1.04	7.38	0.00	18
BA1	Lack of the community knowledge about disaster mitigation and preparedness plans	3.81	76.30	1.18	6.19	0.00	19

No.	Barrier description	Mean	Severity Index	SD	t-value	p-value	Rank
BA15	Lack of the government activities (workshops- field visits ...) which encourage community participation.	3.81	76.30	1.03	7.15	0.00	20
BA22	High costs of community participation activities	3.81	76.30	0.98	7.51	0.00	21
BA33	Lack of technical knowledge and skills of the NGOs staff.	3.80	76.05	1.17	6.19	0.00	22
BA34	Lack of the NGOs number of staff in large-scale reconstruction projects.	3.79	75.80	1.11	6.38	0.00	23
BA38	Lack proper transportation infrastructure and plans to meet the stakeholders	3.78	75.56	1.10	6.39	0.00	24
BA44	Ambiguous data of the reconstruction projects (Budget-target group- implementation period)	3.78	75.56	1.20	5.81	0.00	25
BA41	Lack communication between stakeholders due to failure in signing the case-fire agreements.	3.77	75.31	1.19	5.81	0.00	26
BA51	Enormous economic burden on the families which is led by women	3.77	75.31	1.20	5.76	0.00	27
BA2	Unclear of the community role in reconstruction projects.	3.73	74.57	1.22	5.35	0.00	28
BA25	Neglecting the community social, economic and culture needs in the implementation stage.	3.72	74.32	1.15	5.59	0.00	29

No.	Barrier description	Mean	Severity Index	SD	t-value	p-value	Rank
BA28	Lack of confidence among the stakeholders due to the diversity of interests.	3.70	74.07	1.08	5.88	0.00	30
BA31	Lack of trust between NGOs and the stakeholders	3.70	74.07	1.12	5.64	0.00	31
BA39	Lack of physical infrastructure to implement the community participation activities.	3.68	73.58	1.26	4.84	0.00	32
BA16	Lack of some projects duration; whereas there is not enough time restricted to form community groups.	3.67	73.33	1.06	5.66	0.00	33
BA19	Inactivity of the community participation role due to the long duration of some reconstruction projects.	3.67	73.33	0.95	6.32	0.00	34
BA47	Illegal homes status of some beneficiaries.	3.67	73.33	1.12	5.37	0.00	35
BA17	Inflexible time schedule of the reconstruction projects (lack of alternatives)	3.65	73.09	1.04	5.67	0.00	36
BA26	Lack of conflict recovery plans ability to accommodate the enormous number beneficiaries with different cultures	3.65	73.09	1.10	5.37	0.00	37
BA46	Lack of the field visits for the reconstruction sites	3.63	72.59	1.17	4.86	0.00	38
BA37	Absence of proper communication channels between the stakeholder of reconstruction projects.	3.62	72.35	1.20	4.63	0.00	39
BA40	Lack of security in the affected area	3.62	72.35	1.18	4.71	0.00	40

No.	Barrier description	Mean	Severity Index	SD	t-value	p-value	Rank
BA4	Diversity of the community parties and difference of their ideas and complexities.	3.60	72.10	1.17	4.66	0.00	41
BA32	Variance between the NGOs and stakeholders' expectations of the reconstruction project result.	3.59	71.85	1.19	4.48	0.00	42
BA30	Neglecting of the community socio-economic, cultural needs	3.59	71.81	0.78	6.79	0.00	43
BA42	Vague of expenditures process of the project budget	3.58	71.60	1.21	4.30	0.00	44
BA27	Unavailability of manual for international organizations which contribute to identify the social and cultural needs of the community.	3.57	71.36	1.11	4.62	0.00	45
BA36	Lack of the NGOs experience in documentation and archiving the community participation activities.	3.53	70.62	1.16	4.11	0.00	46
BA5	Low of education level of the community	3.52	70.37	1.15	4.05	0.00	47
BA50	Inactivity of the women role due to the suffering from the disaster implications more than men	3.52	70.37	1.13	4.13	0.00	48
BA29	Bad physiological situation of the effected people.	3.51	70.12	1.25	3.66	0.00	49
BA49	Lack of trust between women and reconstruction projects implementing agencies.	3.43	68.64	1.16	3.35	0.00	50
BA48	Negligence of the women role due to the culture custom restrictions in Gaza Strip	3.32	66.42	1.21	2.38	0.02	51
BA53	Lack of equity laws in Gaza Strip.	3.25	64.94	1.26	1.76	0.08	52

No.	Barrier description	Mean	Severity Index	SD	t-value	p-value	Rank
BA52	Minor role of the women in managing the community resource	3.11	62.22	1.19	0.84	0.40	53
BA54	Lack of women numbers who works in disaster management field.	3.11	62.22	1.24	0.80	0.42	54
All barriers in the community based method in post conflict housing reconstruction projects		3.72	74.49	0.54	12.07	0.00	

No.	Success description	Mean	Severity Index	SD	t-value	p-value	Rank
SF32	Hold a periodic field visit to the stakeholders to ensure that they are satisfied about the projects results.	4.10	81.98	0.86	11.49	0.00	1
SF33	Clearly identify the scope and the budget of the reconstruction projects	4.10	81.98	1.04	9.47	0.00	2
SF36	Establishing an effective monitoring system for the post conflict housing projects and for each project individually.	4.10	81.98	0.90	10.95	0.00	3
SF13	Prepare a plan for managing the team members of the reconstruction projects	4.05	80.99	0.88	10.75	0.00	4
SF34	Monitoring the time schedule especially the community participation activities through specialist committees	4.05	80.99	0.93	10.11	0.00	5
SF4	Existing of the coordination unit between the implementing parties of reconstruction projects.	4.04	80.74	1.07	8.76	0.00	6

No.	Success description	Mean	Severity Index	SD	t-value	p-value	Rank
SF24	Support the disaster management system through outsourcing (international consultant – electronic archiving system).	4.01	80.25	1.01	9.06	0.00	7
SF31	Prepare transparency plan which shows the community role in post conflict in housing reconstruction projects	4.00	80.00	1.06	8.49	0.00	8
SF37	Accountability the reconstruction projects managers during/after completion the project to ensure that the project have achieved its objectives.	4.00	80.00	1.13	7.97	0.00	9
SF2	Availability of electronic in reconstruction projects.	3.99	79.75	1.18	7.55	0.00	10
SF14	Hold a periodic meeting with the stakeholders to determine discuss their needs	3.99	79.75	1.04	8.52	0.00	11
SF39	Allocate sufficient fund to support the community participation activities in the post conflict reconstruction projects.	3.99	79.75	1.02	8.73	0.00	12
SF40	Preparing plans for community participation activities based on the fund availability	3.99	79.75	1.07	8.33	0.00	13
SF18	Prepare a mitigation plan of the political situation in the affected area	3.95	79.01	1.00	8.57	0.00	14
SF6	Effective communication and coordination between stakeholders in all project life cycle stages.	3.94	78.77	1.04	8.11	0.00	15

No.	Success description	Mean	Severity Index	SD	t-value	p-value	Rank
SF20	Support the community education through training courses to understand the concept of the community based method in housing reconstruction projects	3.93	78.52	1.13	7.40	0.00	16
SF5	Communication accessibility between the five levels of the reconstruction projects: national, international, regional, organization and project level.	3.91	78.27	1.14	7.20	0.00	17
SF17	Providing the stakeholders with necessary skills needed to success in housing reconstruction projects.	3.88	77.53	1.11	7.10	0.00	18
SF22	Strengthening the decision-making skills of the stakeholders to help the decision maker to take the appropriate decision in post disaster projects	3.86	77.28	0.98	7.90	0.00	19
SF23	Increase the public awareness about the post disaster housing reconstruction project through practical sessions and media program.	3.86	77.28	1.06	7.35	0.00	20
SF38	Enhancing the trust among stakeholders through periodic meeting to discuss the debate points.	3.86	77.28	1.15	6.77	0.00	21
SF1	Existing of a smooth channel of communication between the community and the implementing agencies.	3.85	77.04	1.06	7.22	0.00	22
SF21	Develop a job training program to selective groups of the community to enhance to the community capacity	3.85	77.04	1.12	6.85	0.00	23
SF16	Clearly identify the scope of work for the reconstruction projects	3.84	76.79	1.04	7.25	0.00	24
SF8	Considering the location and the accessibility of the service facilities (Hospital- garden-) of the houses	3.83	76.54	0.96	7.76	0.00	25

No.	Success description	Mean	Severity Index	SD	t-value	p-value	Rank
SF9	Considering the community customs in the reconstruction projects	3.83	76.54	1.10	6.74	0.00	26
SF35	Facilitate the local media agencies works –as an external part- to check the transparency in the reconstruction projects	3.80	76.05	1.17	6.19	0.00	27
SF25	Hold a competition between the affected area to encourage the community to participate in the reconstruction projects	3.79	75.80	1.10	6.44	0.00	28
SF41	Allocate part of government general fund to support the community participation activities.	3.79	75.80	1.13	6.32	0.00	29
SF10	Comprising the reconstruction strategies in reconstruction projects	3.78	75.56	1.04	6.75	0.00	30
SF42	Choosing the reconstruction method based on the community needs not on the donor desires (donor driven or contractor driven)	3.77	75.31	1.15	5.97	0.00	31
SF7	Considering the cultural and social characteristics of the community in the design stage reconstruction projects	3.70	74.07	1.08	5.88	0.00	32
SF12	Respect the community restrictions (Mixing between men and women (in reconstruction projects.	3.70	74.07	1.05	6.01	0.00	33
SF3	Availability of mutual communication language (e.g. Arabic or English) between the stakeholders.	3.69	73.83	1.18	5.28	0.00	34
SF19	Empower the government administration system through (external consultant – training) to support the stakeholder in the community based method.	3.68	73.58	1.18	5.17	0.00	35

No.	Success description	Mean	Severity Index	SD	t-value	p-value	Rank
SF11	Developing the community capacities to satisfy the main cultural needs in the reconstruction projects	3.63	72.59	1.07	5.32	0.00	36
SF15	Develop supportive regulations (e.g. allocate budget for community participation activities) to determine the community needs.	3.63	72.59	1.23	4.61	0.00	37
SF28	Respect the women point view in community based method in housing reconstruction projects.	3.57	71.36	1.26	4.04	0.00	38
SF27	Develop the women capacity through training courses to participate in community based method	3.56	71.11	1.16	4.30	0.00	39
SF26	Increase women's awareness in disaster management	3.54	70.86	1.18	4.13	0.00	40
SF29	Strength the women role in her family to participate in housing reconstruction projects	3.53	70.62	1.29	3.72	0.00	41
SF30	Develop gender equity regulations	3.46	69.14	1.23	3.36	0.00	42
All factors that lead to success in the community based method		3.84	76.86	0.62	12.18	0.00	

