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Post Disaster Housing Reconstruction after 2014 Gaza Strip's War: Challenges and supportive Factors

العوامل المعرقلة والمؤثرة على اعادة الاعمار في قطاع الاسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014

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إقـــــــــرار

أنا الموقع أدناه مقدم الرسالة التي تحمل العنوان:

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العوامل المعرقلة و المؤثرة على اعادة اعمار الاسكان بعد حرب غزة 2014

Post Disaster Housing Reconstruction after 2014 Gaza Strip's War:
Challenges and Supportive Factors

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عميد البحث العلمي والدراسات العليا

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إدارة المكتبة المركزية

أ. محمود عبد الداعوق .....

Abstract

Background: The Gaza Strip faced many wars during the last 10 years, and the worse one was the last on July 2014, this war had affected the Gaza Strip significantly specially on the housing sector.

Aim and Objectives: The aim of this research is to study and to investigate the main influencing factors (challenges and supportive factors) of the housing reconstruction after the war in the Gaza Strip in 2014.

Methodology: a literature review had been done, and then from the literature influencing factors of housing reconstruction had been extracted. Quantity and quality approaches had been used. As a quality approach interviews with managers and expertise had been done, supported and obstacle factors were identified, and as a quantity approach a questionnaire was prepared and developed to reach the most important influencing factors that fit with the aim of the research. 98 questionnaires were distributed, 90 questionnaires were collected. Conclusion and recommendation had been summarized for future housing reconstructing.

The Results: From the interview and the questionnaire the influencing factors were evaluated. Interview the most influencing factors that support the housing reconstruction are: the availability of expertise workers, effective cooperation between participants (engineers), the existence of the a plan phase, self-help modality, Build-back better, Justice in distribution the chances between the beneficiaries, build with concrete instead of old mechanism. And the interview result showed other factors which affect the reconstruction, but negatively as a challenged factors that affect the housing reconstruction, such as the lack of funds, lack of building materials, the huge number of the destructive buildings, no strategy plans for such project. But the questionnaire result showed that the most influencing factors that considers as supportive factors are the efficiency of the government management 80%, effective cooperation between participants (engineer) 82%, having a good practice in managing the sudden issues 82%, effective and quality of the work 83.56%, effective preliminary of disaster's assessment 80%, effective role of municipality 74.22%, justice in distribution chances for beneficiaries 78.89%. And challenged factors are no emergency plans by the government 79.78%, no planning for disaster reduction 80%, increasing of the beneficiaries 83.33%, no fitting between the funds and the real demand 82%, number of destructed houses 88%, the role of the government 71.11%, the volume of destructed areas 82.89%, build back better 75.11. In addition, same issues of housing reconstruction in the Gaza strip are being faced after the 2014,2008 and 2012.

Conclusions: Housing reconstruction in the Gaza Strip is struggling mainly due to the political issue and because it's a developing country as it needs donors and funds. And furthermore, the factors that resulted from interviews were a little bit different than those which appeared from questionnaires, because interview's factors are from the reality.

الملخص

واجه قطاع غزة خلال العشرة أعوام السابقة ثلاثة حروب، حيث أن أكبرها كانت الحرب الأخيرة في يوليو 2014، حيث أثرت هذه الحرب جوهريا على قطاع الاسكان في قطاع غزة.

حيث أن الهدف الرئيسي من هذا البحث هو دراسة أهم العوامل المؤثرة التي تؤثر على سير عمليات إعادة الاعمار في قطاع الإسكان.

المنهجية التي سار عليها البحث تتمثل بمراجعة دراسات سابقة حول الموضوع لإخراج أهم العوامل ومقارنتها بالواقع في قطاع غزة. تم اعتماد منهجية الكمية و النوعية في عملية استخراج هذه العوامل، حيث أن منهجية الكمية كانت متمثلة بالقيام مقابلات مع المدراء والخبراء حول هذا النوع من المشاريع لا خراج أهداف أكثر واقعية، حيث أن عوامل معرقلة و عوامل داعمة تم تعريفها و استخراجها. اما بالنسبة لمنهجية النوعية فهي تمثلت بتحضير و تطوير استبيان. حيث ثم تم توزيع 98 استبيان وتم جمع 90 استبيان ثم تحليلها لإيجاد نتائج متعلقة بالعوامل المؤثر لإعادة الاعمار في قطاع غزة بعد عام 2014.

النتائج حول العوامل المؤثرة لعملية إعادة الاعمار في قطاع الإسكان في قطاع غزة من خلال الاستبيان و المقابلات لم تكن متشابهة كثيرا حيث أن نتائج المقابلات اوضحت الاختلاف ما بين العوامل المؤثرة ايجابيا و الوامل المعرقلة، حيث أن العوامل الداعمة لعملية اعادة الاعمار في القطاع الاسكاني هي: وجود عمال ذو خبرة، تعاون فعال بين العاملين في المنظمات الدولية التي تختص بإعادة الاعمار، توفر على مرحلة اعداد الخطط قبل البدء بالتشييد، تطبيق مبدأ البناء الذاتي حيث يأخذ المنتفع الأموال المختصة له و يقوم بعملية التشييد و أيضا إعادة البناء بشكل أفضل لتطبيق خطط التنمية مثلا البناء بالخرسانة مهما كان المنزل سابقا اما بالنسبة للعوامل المعرقلة فهي: التمويل الضعيف، قلة وفرة مواد البناء، و العدد الكبير في المنازل المدمرة، وعدم وجود خطط استراتيجية. أما بالنسبة للاستبيان. فتمثلت عوامله المؤثرة ب:الادارة الجيدة من قبل الحكومة في قطاع غزة 80% مشاركة فعالة بين المهندسين 82%، الخبرة الكافية في حلول مشاكل الانشاءات 82%، عمل فعال وذو نوعية جيدة 83.56%، التقييم الأولى الفعال لمقدار الدمار 80%، دور البلدية الفعال 74.22%، العدالة في توزيع الفرص بين المستفيدين 78.89%، أما بالنسبة للعوامل المعرقلة فهي: لا يوجد خطط طارئة من الحكومة لهكذا مشاريع 79.78%، لا يوجد خطط للتخفيف من المخاطر مستقبلا 80%، عدد المستفيدين المتزايد 83.33%، البناء بشكل أفضل و أطول 75.11%. بالاضافة الى أن العوامل المؤثرة على اعادة الاعمار هي نفس العوامل لاعادة الاعمار بعد الحروب الثلاثة 2008، 2012 و 2014.

الاستنتاج: اعادة الاعمار في قطاع الاسكان في قطاع غزة، يعاني بشكل رئيسي بسبب مشاكل الدولة السياسية و أيضا كونها من الدول النامية التي بحاجة إلى متبرعين و تمويل. نتائج الاستبيان كانت مختلفة قليلا عن تلك العوامل الناتجة عن المقابلات، كون العوامل الناتجة عن المقابلات مستخلصة من الواقع و التجارب.

Dedication

To our God who gave us the strength, the Knowledge and the ability to reach this point in our lives.

To my parents who supported me with an endless limit, and gave me the power to continue my study in peace and love.

To my pleasant sisters who stood by my side, and encouraged me like if I was a Soule of their lives.

To Al-Badrasawi company's members, to my work mates and college mates who pushed me to the right side.

I would like to dedicate this research, hoping that I made all of them proud.

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First and foremost, I want to
Send our Gratitude to God Almighty for giving me the strength, the power and the ability to stand here today. And because of his mercy which took care of me during the long journey in civil engineer, and also during my life to reach our goals.

Secondly, I want to thank Dr. Bassam A. Tayeh for his guidance and encouragement in carrying out this project work, for his caring like If he was a father and also, I want to thank civil engineering - Projects Management department and its staff.

Abbreviations

Euro-MED	Euro- Mediterranean Human Rights Monitor
GRM	Gaza Reconstruction Mechanism
HLP	Housing Land Property
MOI	Ministry of Interior and National Security
MPWH	Ministry of Public Works and Housing
NGOs	Non-Government Organizations
OCHA	United Nation Office for the Coordination of Humanitarian Affairs
OHCHR	United Nations Office for High Commissioner for Human Rights
OQR	Office of Quartet Representative
PCBS	Palestinian Central Bureau of Statistics
PCD	Palestine Civil Defends
PRCS	Palatine Red Crescent Society
UNRWA	United Nations Relief and Works Agency
RADA	Reconstruction and Development Agency

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Chapter 1: Introduction

This chapter represents an introduction of the study of post disaster housing reconstruction, challenges and influencing factors. It also shows the problem statement, aim and objectives, research questions and hypotheses, justification of the research, scope and limitations, assumptions, key concepts, ethical considerations, methodology and the structure of the thesis.

1.1 Background:

Post disaster housing reconstruction is taking a good place in the world's interest due to the repeated natural disasters around such as earthquakes, tsunamis and in other cases it man-made such as the wars, which increased the interest of having a reconstruction after disasters. Thus, some development plans should be prepared for such disasters insect, some temporary construction should be done after catastrophes to help people to have some settlement (Abulnour, 2013). Worth to mention that decreasing the repeated issues after a post disaster reconstruction is a main idea. Artiningsih et al., (2016) showed that Making a formal note as a policy and a feedback to the government to face future disasters is a methodology for a better post disaster controlling.

Gaza Strip, one of the areas which had a disaster of the kind of man-made, 3 wars in 10 years and the biggest one was the third one in July 2014, so the necessity of having a reconstruction appeared to be argent. But (Enshassi et al, 2017) established that financing issues control the housing reconstruction process in the Gaza Strip.

Anyway, issues of the post disaster reconstruction are everywhere, but the differences are in the type of the factors of the challenges, (Ismail et al., 2017) showed that community participation, assessment, funding, and quality of work are the main obstacle factors of the post disaster reconstruction in many areas around Indonesia.

1.2 Problem Statement:

The Gaza Strip has faced war after war, during the last 10 years, Gaza strip had faced around 3 catastrophic wars, but the last war, at the 8th of July 2014 was the most

devastating one, 2147 Palestinians were killed by the rocks, in addition to losing around 17132 residential houses, 62 destructive mosques and a church (OCHA, 2014). The housing reconstruction is needed whenever there are crises or disasters at the residential buildings, and at the same time it does need funds, schedules and every phase that a normal construction needs, but it may need special phases. Owner driven role in the reconstruction process affect the reconstruction more positively than the donors driven, due to the unsuitability of the donors help, both driven owner and donors have their own benefits and success, but in a different way, owner driven specialized by reconstructing by the beneficiaries themselves, but the donor's aspect specialized in reconstructing by international agencies or by the government (Karunasena and Rameezdeen, 2010). And so on, many factors and characteristics or aspects affect the process of housing reconstruction. Construction of houses has its own properties and its own phases. In the world, disaster's impacts can be easily shown by the great amount of damages every year (RADA, 2006).

Damages of the disasters need to be managed, but different phases should be applied and different emphasis (Central Emergency relief organization, 2004). In addition, post disaster reconstruction has their own criteria in implication. But the same stages are existing: Response, Relief, Recovery and reconstruction and then considering the mitigation with preparedness (Kawata, 2001).

Reconstructing in general isn't that easy or could go smoothly. Reconstruction goes through complexity and conflicts due to the requirements of the beneficiaries at the most (Kusky, 2003). Post disaster reconstruction is a hard project with high amounts of needs (Central Emergency relief organization, 2004). Due to its huge amount of the needs of the activities starting with the finishes of disasters (Kawata, 2001).

A study should be done to measure, analyse and collect the main factors of challenges and influences that the Gaza Strip faced when reconstruct after the war of 2014in the Gaza Strip, so a helpful suggestions can be identified to avoid the same mistakes of housing reconstructions .

1.3 Aim and Research Objectives:

The aim of this research is to collect and analyse the main influencing factors of housing reconstruction after the 2014 Gaza Strip's war through a questionnaire and interview methods. To achieve the aim of this study, the following objectives are carried out:

1. Ranking the most influencing (supportive and challenges) factors of the process of post disaster housing reconstruction after the attack on the Gaza Strip in 2014.
2. Proposing an interventions and action plans that support the post disaster housing reconstruction.

By the end of this research, it is hoped that clear factors that affect the housing reconstruction should be exist. For future projects, it would be easier to avoid obstacle factors, so the process of housing reconstruction can go smoothly, and also the supportive factors can be applied to increase the efficiency in the projects.

1.4 Research hypotheses

The following two hypotheses were established in this study.

H1. There is a significant difference among the respondents, statistically at sα ≤ 0.05, toward supportive and obstacles factors that affect the housing reconstruction after the attack on the Gaza Strip in 2014, due to general information and the information about the project that the respondents managed.

H2. There is a significant effect of the influencing factors that affect the housing reconstruction after the attack on the Gaza Strip in 2014, statistically at $\alpha \leq 0.05$ toward the factors.

1.5 Scope and Limitations

This study focuses on the main factors that affect the housing reconstruction positively or negatively, concerning of the Gaza Strip. In the quantity approach the questionnaire had been prepared, a purposive sample had been used due to the uncommon goal between the construction offices, this study focus only on those who worked at the reconstruction projects. The interview had been designed as semi-

structured so the result can be analysed much easier – considering as a quantitative approach.

1.6 Assumptions

There were several assumptions established in this study as follows:

- Managers who have been selected for having interviews provided the right information and data, that helped the study, so transparency can be applied.
- Participants who have been selected to fill the questionnaire have considered as if they had shared the correct information.
- Chosen participants were those who had this experience in reconstruction after the Gaza strip 2014 attack.

1.7 Ethical Considerations

Acceptance of the board of postgraduate studies of the Islamic University of Gaza was the first stage for insuring the manner and ethics in working on this study. Participants also had been promised that their information and data will be secret and will only be used academically. As a last every participant was voluntarily working without any pressure or enticed to participate in the study.

1.8 Research Methodology

The objectives of this research are accomplished as follows:

First Stage: Defining the problem, establishment of objectives and aims, explaining the hypotheses and the mechanism of the methodology.

Second Stage: Literature Review. Literature and previous studies related to the research have been extensively reviewed.

Third Stage: Interview. Face to face interviews with managers who had experience in reconstructing the Gaza Strip. Two basic questions had been asked, what are the most supportive and what are the challenged factors that affect the reconstructing of the Gaza Strip after the attack of 2014.

Fourth Stage: Questionnaire. Had been designed and developed and considered as a quality approach. The result had been collected and analyzed to reach the most influencing factors of post disaster housing reconstruction.

Fifth Stage: Results and discussions. Collected data had been analyzed using suitable statistical analysis tools. Both qualitative and quantitative methods had been used. Hypotheses had been tested and the findings had been summarized.

Sixth Stage: Conclusions and recommendations. Conclusions are summarized from the analyzed data and recommendations for improvement and the study in the future is formulated.

Seventh Stage: Documentation. It includes editing the final text, formatting, and spelling and grammatical review.

1.9 Structure of the thesis

This study was structured into six chapters as follows:

- Chapter 1 (Introduction):

This chapter presents a general introduction to the topic of the thesis. It comprised the background of the study, problem statement, aim and objectives, hypotheses, justification and limitations of the study, assumptions, ethical considerations, methodology of the research and research structure.

- Chapter 2 (Literature review):

This chapter shows an extensive literature about the factors (supportive or challenged) which affect the constructing of the Gaza Strip after the 2014 attack.

- Chapter 3 (Methodology):

This chapter discusses the tools and methods used for collecting data.

- Chapter 4 (Data Analysis and Discussion):

This chapter constitutes the analysis of data collected with the research instruments. It analyses data from the interviews and the questionnaire.

- Chapter 5 (Conclusions and Recommendations):

This chapter states the conclusions and recommendations written based upon analyzing data, connecting them to the problem statement, hypotheses, and objectives of the study. It also includes the recommendation for future studies.

1.10 Chapter summary

This chapter drawn the framework of the entire research study. The initial literature review concentrated on the background. Subsequently, a problem statement was formulated. The aim of the research was to study the factors (supportive or challenged) which affect the constructing of the Gaza Strip after the 2014 attack. Justification, limitations, and assumptions of the study were mentioned. Conclusion and recommendations are being Clearfield. Figure 1.1 shows the research structures

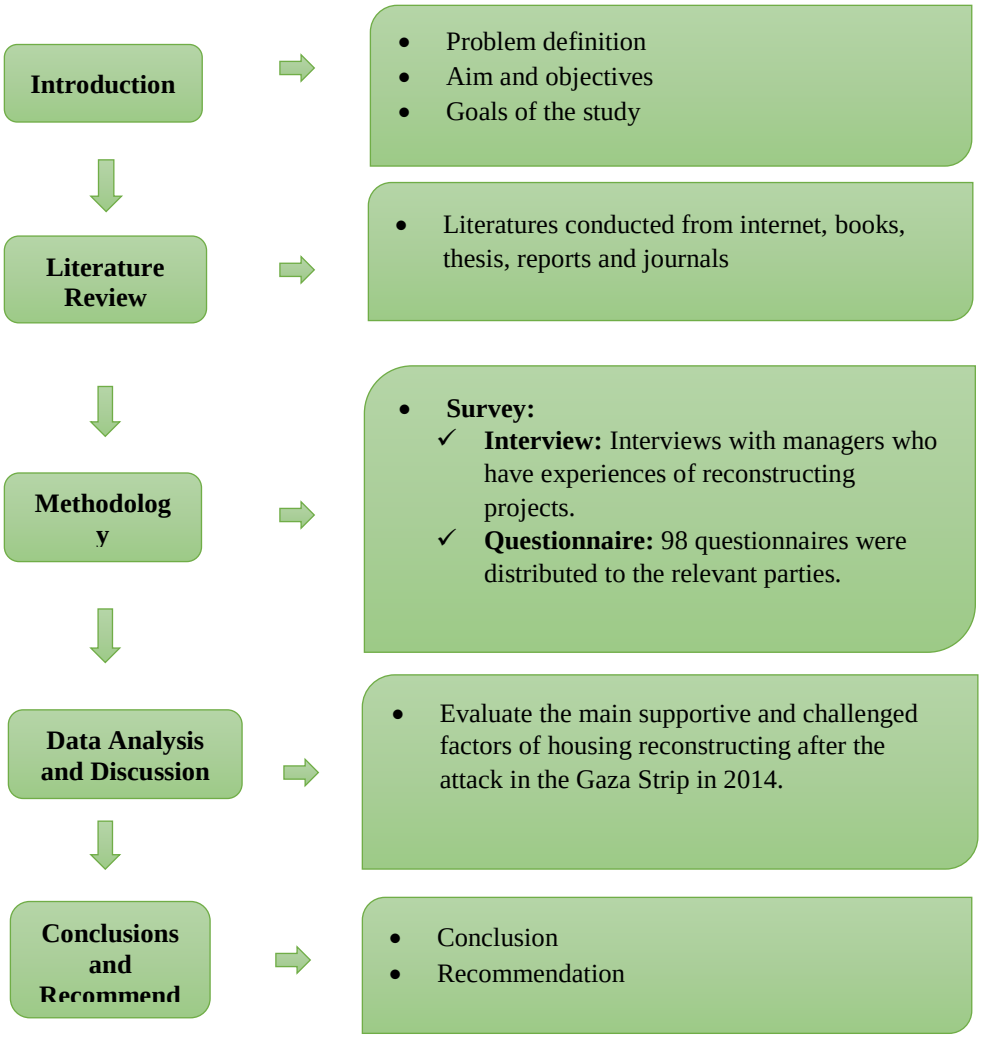

Figure 1.1 the research Structure

Chapter 2: Literature review

2.1 Introduction

This chapter discusses the literature review that has been aimed to establish the meanings of post disaster housing reconstruction, post disaster management, Impact of disasters and the main factors that affect the process of reconstructing positively or negatively. To measure these factors with its affection at the reality of the Gaza Strip's reconstruction after the 2014 war.

2.2 Post disaster housing reconstruction

2.2.1 Post disaster management

Tacking in account the vulnerability and the adaptive capacity as the main factors will result a good managing in the development when rebuilding the houses in Sri Lanka after the Tsunami of 2004 (Ibrahim, 2010). A conclusion of researches established that many factors affects the success of project management when reconstruct after disasters such as the delay, resourcing, poorly funded reconstruction, preliminary assessment, lack of coordination, corruption and Build back better/safer, policies, quality of works, land issues, cost overruns and a shortage of technical staff, community participation (Ismail et al., 2014a).

Reconstruction after disasters is a very complex phase needs a management in high quality to reach a high successful phase (Ismail et al., 2014b). The built environment is a critical zone in defining the management of post disaster housing reconstruction due to its complexity that increases the challenges of the process (Bilau, et al., 2015). Managing a post disaster project needs different participants who have different experience and knowledge, an unplanned group of the project can become as a barrier to the effective project (von Meding et al., 2016).

Planning for Post disaster recovery as a first will enhance the management phase in all the stages, including the reconstruction stage, for example elements that reduce the risks of disaster should be considered in the design and construction phase (Rani et al., 2017). Siri Lanka post-disaster faced a very poor management due to the large number of homeless who need a resettlement, in addition, gab of making differences between policy and responsibility of the government between the international

donors with the local government will make a problem in the management phase (Shaw and Ahmed, 2010).

Management of post disaster by (Maheshiks and Sangasumana, 2017) perspective is about having the mechanism of enhancing the organization and then submitting the laws of admitting sustainability process, in addition of adapting a new method to mitigate the disaster by protecting the area from having erosion. Disaster management will have its efficiency when a good participation can be implied by NGOs and other agencies in the country (National Disaster Management Guidelines, 2010).

2.2.2 Post disaster's impact

Elsevier (2017) described the numerous results and numbers of the natural disasters during the past 20 years, 1.35 million lives had been lost. Losing around 250-300 Billion dollars per year. Barbara (2006) wrote that children have been affected by the wars psychologically more than adults. But the guilt that older people feel after losing their precious people after the war makes them more susceptible to the psychiatric morbidity (Jia et al., 2010).

In addition, of facing high cost when trying to make healthcare to those who has seriously injured or being amputees (Amara and Hendricks, 2009). The war of 2014 made 15 present drops in GPD in Gaza Strip, which is about 460 million (The World Bank, 2015).

Reconstruction in Sri Lanka had the priority to begin, but it was struck by many factors such as climate, hazard from nature, a different participant of organization, assessment of the capacity, cultural and economic issues, stakeholder participant, decision making in comparison with options, safety, accuracy, and infrastructure, Sri Lanka Project was to resettle people after landslide disaster, planning or application had obstacles (Vijaykumar, 2015).

The Philippines storm in 2011 which was called as Sending, had caused a great number of homeless due to the great destruction of the storm, so the government had this plan to make a resettlement and make a permanent housing with the help of stakeholders, but the application showed how complex and hard is it due to the different involvement of stakeholders (Carrasco et al., 2016).

2.2.3 Reconstruction

2.2.3.1 Housing reconstruction

According to (Palestinian Central Bureau of Statistics (PCBS), 2017) in the Gaza Strip, there were 403,259 housing units and 186,156 Building. And according to (General Directorate of Customs Security, 2011) many of housing reconstruction had been done during the last 5 years.

800-1100 housing units should be built annually in the Gaza Strip to follow the previous situations before the war (ministry of public works and housing (MPWH, 2017). Reconstruction process presents two categories housing reconstruction or the infrastructure reconstruction (Hidayat and Egbu, 2010). Reconstruction duration can have approximated 2 years and in some cases, it approximated 4 years, as any other stage of the cycle management of post disaster stage it depends on the country resources (Baradan, 2006).

Other studies established hat evaluating the period of reconstruction after a disaster depends on many factors, and it's a little bit complicated to have a direct number of years, for example, building houses due to some obstacles and constraints, especially the time restrictions that appear when the needs to let the people and the families have their houses as it possible as it could (Iftekhar, 2011).

2.2.3.2 Post disaster housing reconstruction

Housing reconstruction depends on the stakeholders and participants who have the ability to develop and reconstruct by having a good practice to manage any issue of the reconstruction (Bilau et al., 2017). While post disaster housing reconstruction is interested in rebuilding either at the same place as a relocation resettlement or as a rebuilding in other area. Cernea (1999) prefers to resettlement and rebuilding at the original site to decrease any disadvantages of using alternative areas.

NGOs should have trained staff with knowledge so they can make the housing reconstruction and resettlement in an appropriate way, in addition of having expertise of the environmental aspect during the process or the technical training shouldn't be ignored (Shaw and Ahmed, 2010).

2.3 A combination between the challenges and influence factors in the housing reconstruction process

The post disaster reconstruction is the first priority when disasters end. But the regular process of reconstruction isn't working, especially in the great big areas, in such cases, many factors should be adapted etc. Prepared program by the government and legislations as a preparedness for reconstructing after the sudden great disasters (Rotimi et al., 2006).

An effective post disaster reconstruction depends on cultural, political, environmental, economic and social elements (Chang, 2012). The post-destruction, reconstruction of the 2015 Gorkha earthquake in Nepal faced factors which were a combination between positive and negative influences, some of the challenges factors were consist of the absence of local government, weak governance, weak infrastructure, lack of preparedness, knowledge gap and manpower shortage, on the other hand, some other factors played a positive role in the reconstruction process such as the good governance, integrated information, addressing technical issues, public Participation along with short term and long-term strategies to tackle with technical issues (Sharma et al., 2017).

Post disaster reconstruction directly affected by the location of the destructed area due to its effects on the funding amount, less in the technical manpower and resources (Ismail et al., 2017). While the community participation has a major role in the process of housing reconstruction after the disaster it had become necessary to focus on it and collect more information about it when reconstruct (Sadiqi et al., 2011).

Weakness in climate, social and economic studies, participation differences and weakness of institutions, undefined assessment of need and capacity, not giving the priority to mitigate disasters affects or having the appropriate safety, weak of connection between stakeholders in addition to the unrealistic decision making of using alternatives or using the appropriate chances and planning, weak of the community involvement due to the lack of permissions to use public or social infrastructure or to be involved with house designing are the main factors that affected the resettlement of Sri Lanka (Vijekumara and Karunasena, 2016).

Long term reconstruction after disasters is the hardest which is full with obstacles and challenges, arrangement should be identified well due to the many phases and many requirements, especially when planning for resettlement to find out those solutions for long term development (Maheshiks and Sangasumana, 2017).

Post disaster faces a very weak term at the beginning of the planning for having a recovery or a reconstruction due to the less funding from donors, and local government in those areas, mostly faces a very shortage in resources or financing to get up from the crises (Salvatore, 2003).

NGOs can fortunate small projects of reconstructions after disasters, but projects with high volume of requirementsm, projects need more funds from donors, in addition for studying the future and to predict what can or can't be expected when starting reconstructing, focusing on the development ideas, having the appropriate information and knowledge, using modern technology of reconstruction and surveying, and better communication and cooperation between participants of the reconstruction projects after disasters (Subekti, 2008).

The control and monitoring of the government are the key role so the finance can reach their beneficiaries as well as it'd supposed to, otherwise the real amount of funding won't reach the beneficiaries, reconstruction won't be able to be completed and the justice will just disappear due to those who have the ability to steal those funding which come from donors or other resources (Nissanka et al., 2008).

Post disaster reconstruction needs stakeholders as a beginning. Stakeholders need to be in a higher degree of responsibility and have a major effort, in addition to understanding the legislation and policies, improving the transportation, marketing and depending on sustainability mechanism whenever planning starts (Chang et al., 2011).

Delay, Work quality, community participation, funded reconstruction being weak, resourcing, preliminary assessment, lack of coordination, corruption and Build back safer, land issues, policies, overruns of cost and a shortage of technical staff are the challenge factors of the post disaster reconstruction from NGOs perspective (Ismail et al., 2014). Reconstruction stage with permanent houses can be presented in a stage called the post disaster reconstruction (Baradan, 2006).

The 3 M's are common factors can consider as restricting factors in the reconstruction process after a disaster, and the 3 M's are the manpower, the material and the machine any shortage or weakness of the previous will affect the reconstruction process after disaster very badly (Amensty, 2006).

Evaluating the requirements of the reconstruction leads to an efficient reconstruction, in addition For an effective post disaster reconstruction, organizations of the country which have a direct relationship with the reconstruction should have a clear set of responsibilities have a clear relation with the government (Chang et al., 2010).

2.3.1 Challenges factors affect the period of housing reconstruction

Hosing reconstruction is a major part of the reconstruction process, which got affected by many factors as well as any part of the reconstruction. Some of the main issues of post disaster reconstruction are the long period of reconstruction in comparison with the logical period of reconstruction. Not finding a suitable land to be built and also the constraints that affect the construction industry are critical issues (Karunasena and Rameezdeen, 2010).

The Citadel of Bam, Iran had token 8 years of reconstructing, but it's worth it, especially because some kind of disasters happen suddenly without having the ability to have enough preparedness to protect such an important, heritage and treasure for the society area which has been stocked in the memory of the people, and it had been explained how high amount of care it had needed when the area was constructed. (Kitamato et al., 2011).

Post disaster housing reconstruction has a critical pre-reconstruction stage due to its influences by effective communication, transparency and accountability, government role and support, community view, facilitator capacity, community's shares (Ophiyandri, et al., 2013).

Who make decisions, with whom and what, are the influencing resulted from these decisions, all of the previous are a major factors that cause a delay matter when reconstruct after disaster while other researchers proved that the post disaster housing reconstruction's needed time is shorter than ordinary constructions (Khalid et

al., 2017). Tafti and Tomlinson (2018) suggested considering the development beside the humanitarian concerns in post disaster reconstruction, in addition to submitting the justice distributions of a housing recovery.

2.3.2 Other impacts of post disaster housing reconstruction

Being influenced by post disaster housing reconstruction has an adverse relationship to the economic life, etc. Prices in labour, equipment and material were increased when starting the reconstruction after the tsunami in Sri Lanka (Ruddock et al., 2010). Ophiyandri (2013) established that the advantages of reconstruction after a disaster has a psychologically advantages better than being only a reconstruction matter. Selection site and beneficiaries, weak of facilities, huge delays, different environment was considered as negative influencing factors in the reconstruction process, but the certain community was helping the reconstruction project positively, however, making appropriate resettlement for people, worth to handle the effects and the challenge factors (Selvanaygam and K.W.G, 2015).

Reconstruction of houses after wars can open chances for the countries to develop their areas, or in some cases give them the chance to apply the planes of development which were waiting for the right time and the right donors (OCHA, 2016).

Some measured had been evaluated after the reconstruction in the Gaza Strip after war of 2008, and is has been showed that a lot of obstacles had been existed that so, government of the country should have a plane for future cases, to manage such issues very early or to mitigate this risks, in addition hard work of gathering donors and financial resources should be as a priority, without forgetting giving the strength for the government organizations which will allow the safety role and put the perfect legislations and then control and monitor the process of the reconstruction after the disasters (Chatat, 2012).

2.4 Gaza Strip

The Gaza Strip is a small, overpopulated area of the Mediterranean Sea, between Egypt and Lebanon, near to Jordan and Syria, Figure 2.1 shows the location of the Gaza Strip. It can consider one of the most populated areas in the world, with the total area of 365 square kilometres, and a population of about 1 million and 899.291

thousand only in the Gaza Strip and 2 million and 881.687 thousand in the West Bank, according to the Palestinian Central Bureau of Statistics (PCBS, 2017), while the results were explaining that in the Gaza Strip there are 5203 person per 1Km, but in the West Bank there are 509 person per1Km, and that shows how much Gaza Strip over allocated is. Figure 2.2 shows the distribution of the population of the Gaza Strip, (PCBS, 2017).

Figure 2.1 location of the Gaza Strip, (PCBS, 2017)

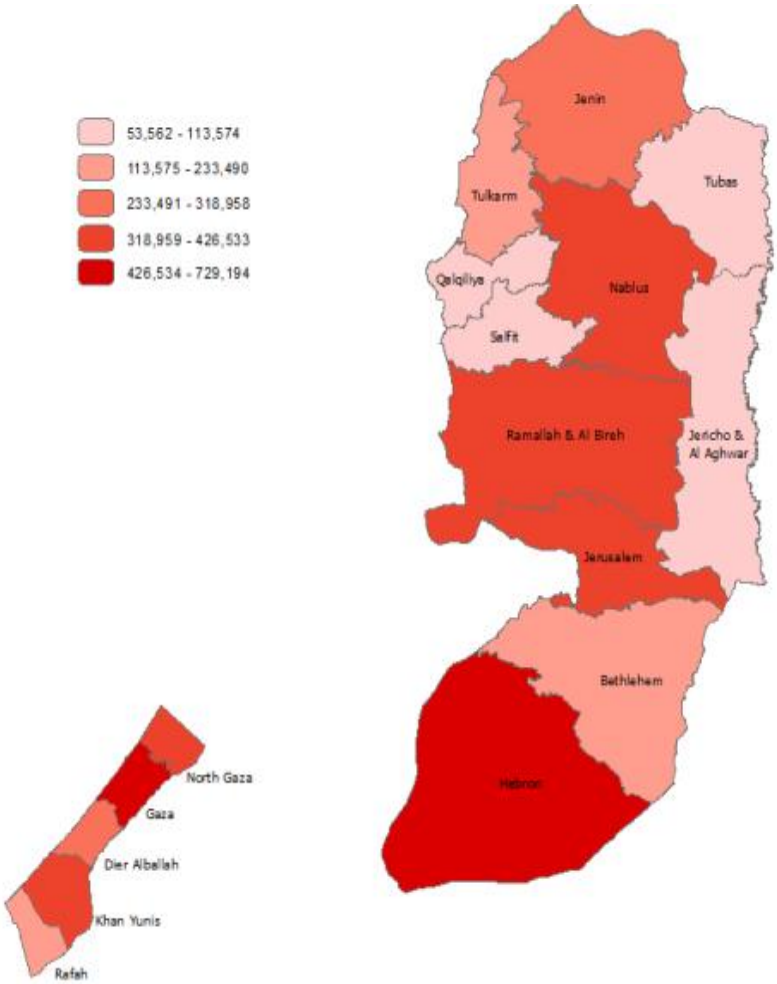

Figure 2.2 Distribution of population of Gaza Strip, (PCBS, 2017)

Nevertheless, the Gaza Strip has been under siege for several years, this has led to the Gaza Strip to be more vulnerable to natural and artificial hazards (Safi et al. 2014).

Gaza Strip in Palestine is a very populated area in comparison with other areas in Palestine even of its small area. Table 2.1 shows a Sample According Some Selected Variables, 2017. (PCBS, 2018), which explains the distribution of the Palestine population as the statics of the Palestinian Central Bureau of Statistics in 2018.

Table 2.1 *Sample According Some Selected Variables, 2017. (PCBS, 2018)*

Variables	Household Percentage Distribution	Average Household Size	Number of Households in the Sample
Palestine	100	5.5	3,739
West Bank	64.5	5.2	2,411
Gaza Strip	35.5	6.1	1,328
Type of locality			
Urban	73.1	5.5	2,732
Rural	17.4	5.4	652
Camp	9.5	5.9	355
Sex of head of household			
Male	89.9	5.8	3,636
Female	10.1	3.3	376

2.4.1 The Gaza Strip and its history with attacks and wars

The Gaza Strip has a long history with disasters and has been attacked many times. The history of disasters started after the end of the world war I, when Britten was the responsible at Palestine as it considered as a weak country and become under the grip of Britten, then the British Mandate in Palestine started. British government allows the Jewish to immigrate to Palestine without condition and then in 1948 Palestine was transferred from being under the grip of Britten to become under the grip of Zionist (Beinin and Hajjar 2014).

Palestine was being divided because of Hamas 'takeover of the Gaza Strip at the year of 2007 and resulted in two areas with two different laws and governments (OCHA, 2017). After a while Gaza Strip was considered as a hostile area and was put under siege and was forbidden to contact or to travel to other countries by the Zionist force, Palestine was already divided because of the Zionist force, it was divided into the occupied lands which was taken over by Zionist and Gaza Strip with the West Bank was to the Palestinian local government (Beinin and Hajjar 2014).

Siege wasn't the only punishment. But war after war and many attacks, the first real war was at the end of 2008. The death toll on the first day was around 225, after two days reached 300, and another 6 days became 660 because of the land invasion (The New York Times, 2008).

Destruction reached the infrastructure of water, sewage, and waste networks, in addition to 36 schools and 7 of the health centre's sanitation offices, warehouses, offices of the Microfinance Department, the Gaza Field Office compound, and neighbouring Gaza Training Centers, 19 health installations need reconstruction all are belong to UNRWA (Zanotti et al., 2009).

Toll in Gaza after the 2008 war was 27 mosques, 67 schools, 34 health centers, 9000 persons had become homeless (Palestine Today, 2011). Israeli forces during the 2008/ 2009 war were unrealistic by destroying the property and houses civilians who don't belong to any part of the war (Human Rights Watch, 2010).

OHCHR (2009) found out how inhuman time was Gaza Strip having because of the Israeli acts during the 2008/2009 war, Gaza faced the murdered of civilians and the destruction everywhere, a lot of people were homeless due of losing their houses under attack of the war. Due to the conflict of 2012 and 2014 at Gaza Strip, Gaza Strip has suffered many crises, especially to its infrastructure and water pollution, with damages and destruction around 30 million dollars (Palestine Water Authority, 2014).

Israel Started a War at Gaza Strip on July 2014 as the third war in 8years. 51 days Gaza was under attack by military. One year and a half separated from the previous war in 2012 (The World Bank, 2015). Reconstruction of the Gaza Strip after the war of 2008 was evaluated in $1.5 Billion by many agencies of aiding the Gaza Strip. Those estimation help the Gaza Strip to have appropriate plans to show it for doors who can assist the Gaza Strip at the recovery stage (Aufret et al., 2009).

2.5 Experience of housing reconstruction of Gaza strip's pervious wars

As Gaza Strip being a stricken area due to the many wars that has been faced during the last few years, the reconstruction had become to be an urgent process too, but the area under recovery, many people, countries, organizations rush to help Gaza Strip's and help it by reconstructing it. But the funding of post disaster reconstruction from donors and organization is the greatest issue (Enshassi et al., 2017).

2.5.1 Housing reconstruction after the (2008 and 2012) Gaza Strip's War

About 15000 shelters were made as a first aim to UNRWA as a response for 20,000 of the families whose homes have been destroyed or damage or by giving a rental subsidy and non-food items (Zanotti et al., 2009).

About 5000 housing units had been constructed after the war of 2008 and 2012 from a total of 150000 housing units as a result of the construction material which entered Gaza Strip during the siege, but the needs of having more constructed housing units are getting bigger and the time is getting longer, which is not acceptable for those who are still homeless (General Directorate of customs security, 2011).

Around 75334 housing units need to be constructed and it considered as a shortage in the reconstruction system in comparison of what it supposed to be in reality world (MPWH, 2012). Housing reconstruction is facing the delay moreover and moreover, 2 years after the war and reconstruction couldn't be more obvious, and that led the people to be homeless for a long time (ICRC, 2009).

Before any war, Gaza Strip showed a weakness in its infrastructure, and after the war of 2008 the situation had become worsen, and most of the aiding boxes weren't including any housing reconstruction for a long time (ICRC, 2014).

2.5.2 Factors of challenges and influencing at the post disasters, housing reconstruction in the previous wars

Some of the main factors that affect the reconstruction after the wars at Gaza Strip, concentrated mainly with the financial resources, due to the ineffective corporation between the donors and the organizations in the Gaza Strip (Enshassi et al., 2017). Electricity should be prepared so the infrastructure can take its priority to be aided and reconstructed as it supposed to (Eran and Elad, 2016).

Opining the border of goods of the Gaza Strip was a great opportunity for the reconstruction process in the Gaza strip after 2011 because all of the needed material for reconstruction was easy to find so the reconstruction process was quicker than it was (MPWH, 2012). Many factors were the reason of reconstruction being slow, according to (MPWH, 2013) the factors were about the following:

- Closure of the Gaza Strip's boarder constantly.
- Repeated Israel attacks and raids.

- Lack of adequate funding resources, implementation of housing projects require very high costs, and the Palestinian economy cannot afford these costs.
- Scarcity of available residential land and rising prices.
- Weak economic situation and an increase in the number of cases falling below the poverty line.

The Gaza Strip has a very low income, a very weak government and highly shortage of resources. Donors for rescue the Gaza Strip is the only solution so the Gaza Strip can survive and have their constructions back, the local government organizations will organize the funds which were given by donors to reach an appropriate reconstruction (Barakat et al., 2009).

Post-disaster reconstruction needs the financial resources as a first, so every stage in the reconstruction can take its period comfortably to finish its life cycle, local experiences, especially at the management stage should be exist, the donors should have the acceptance in financing the reconstruction projects at any stage and country maps with the help of the government should be provided, and one of the most challenged factors in reconstruction in the Gaza Strip after the war is the weakness of the government organization (Chatat, 2012).

2.6 Housing reconstruction after the war of 2014 in the Gaza Strip

The Gaza Strip is one of the areas which depends at department in comparison with other type of housing to live in, and also the Gaza Strip has 334,632 thousand households who have a housing unit, there are 403,259 housing units and 186,156 building. Figure 2.3 Percentage distribution of households in Palestine by type of housing 284 Unit, 2015 (PCBS, 2017).

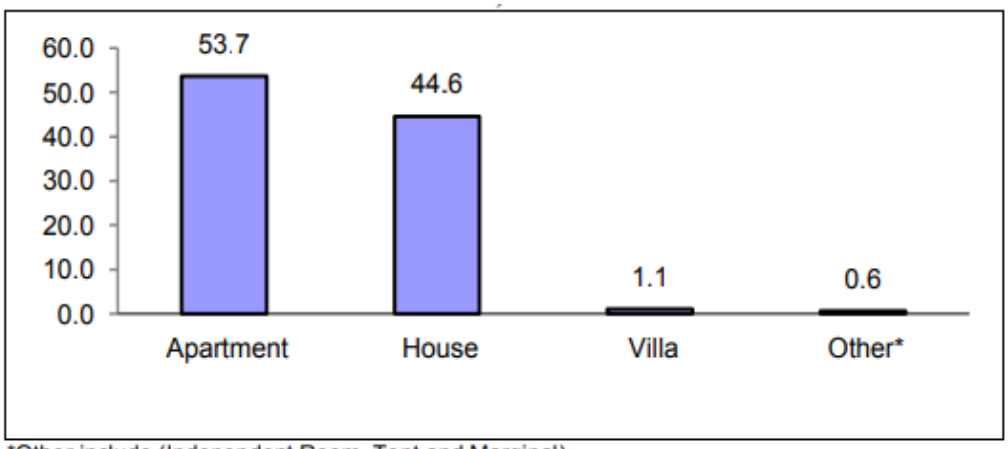

Figure 2.3 *Percentage distribution of households in Palestine by type of housing 284 Unit, 2015 (PCBS, 2017).*

The war results were a catastrophe, nothing in there was safe, not the infrastructure, the structure or even the human being, the following tables show the volume of destruction in the Gaza Strip after the war (Euro-MED, 2014).

Table 2.2 *Houses and mosques destructive in the war of 2014*

Item	Total number	Partial destruction	Full destruction
Destructive houses	31799	17132	14667
Mosques houses	171	62	109

Table 2.3 *Destructive educational centers during the war of 2014*

Item	Volume
Total number of destructive schools	222
Schools belong to the government	141
Schools belong to the UNRWA	76
Colleges (Partial destruction)	6

Table 2.4 *Infrastructures destructive during the war of 2014*

Hospitals	Ambulance	Health Centers	Organizations	Water Stations	Power Plant
10	19	36	372	9	1

In addition, for 3 billion and 6 million dollars was lost from the Gaza Strip economy (Euro-MED, 2014).

Gaza Strip had a great destruction of the infrastructure, such as water, sewage, sanitary sewage or even the electricity facilities some of it was being assessed as a full damaged and other as a partially damaged, however all affected the humanitarian survive in the Gaza Strip badly (Badeea, 2014). Table 2.5 shows the volume of the destruction of 2014 Gaza Strip war (OQR, 2014), and that's why urgent building material should be existing.

Table 2.5 *Volume (quantity) of destruction of 2014 Gaza Strip war*

Item	Volume (quantity)
Housing units destroyed or severely damages	18000
The entire housing stock was destroyed	5%
Partially damaged	44300
The entire housing stock was destroyed	13%
Sewage and water damaged	20-30%
Of the Power plant	60%
Telecommunications and internet infrastructure	Great damaged
Factories and commercial buildings	Great damaged

After the war of 2008 in the Gaza Strip and when the reconstruction of the building of houses was urgent the material of the building needed to be exist and it's supposed to be entered from the border even of the existence of the siege, international organization such as the UNRWA had to wait for a long time to have the approval to

have all of the quantity needs for rebuilding housing's material by importing it through the border from the Israeli government (OCHA, 2014).

22000 and more people were considered as a displaces person, in addition of two-thirds of them are not having any housing support, and the rest of it is either waiting for their turn to start reconstruction or at the middle of reconstruction due to the continues delays (OCHA, 2018). Figure 2.4 shows the distribution and the way of living of those who had their home destroyed through the war of 2014 at Gaza Strip.

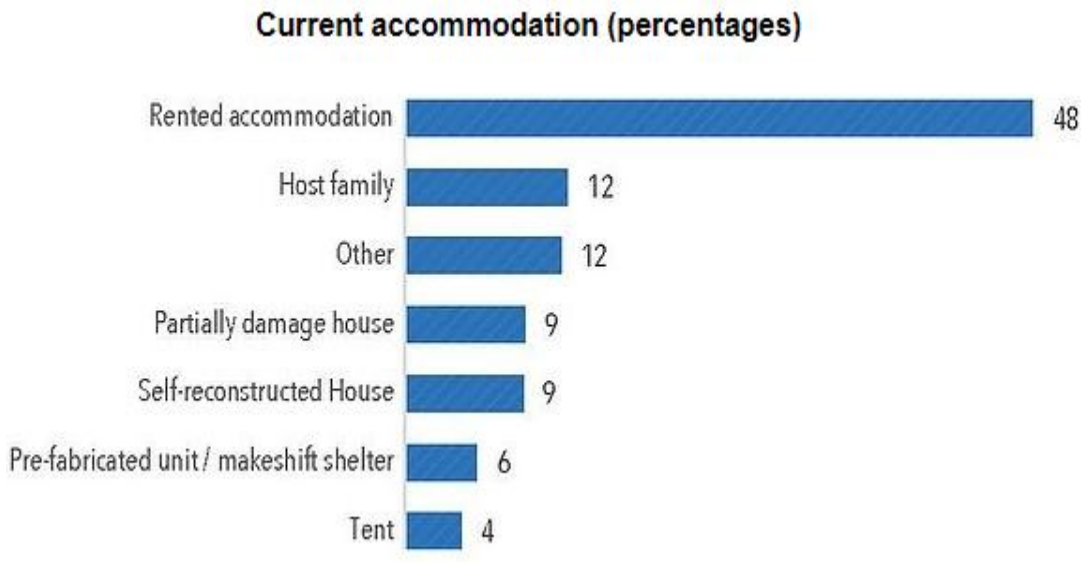

Figure 2.4: *The current accommodation for those who were displaced due to the 2014 war at Gaza Strip (after 3.5 years of the war) (OCHA, 2018)*

The previous figure shows the percentage of the accommodation for the displaced people which were distributed to 7 types: rental houses, living with host families, Tent, in a partial damaged houses, self-reconstructed houses or pre-fabricated unit.

In 2015 PCBS made a survey of the degree of the war affection at the people and the construction houses of the Gaza Strip, the results established that 11.3% of the families of the Gaza city only was be able to go back to their own houses after the war and also other areas as well in different percentages, 58.7% of the Gaza Strip families were forced to leave their houses to different places, 78,4 of them went to their family houses such as carried children, parents, siblings or relatives, and the rest went to shelters such as schools.

2.6.1 War of 2014 (Protective Edge Operation)

The Gaza Strip has been subjected to several wars and Israeli attacks, including the 2014 war in July / August, where the war lasted 51 days. In addition, of suffering many kinds of influences, etc. Buildings, Infrastructure, Society, Culture, health and psychology. Women and children of Gaza alike murdered and massacred in addition to the dangerous impact they face. Women and their new-born child from the 2014 war attack, a poison of a loud heavy metal founded in the mother's hair (Manduca et al., 2017).

Children also weren't that lucky, they were the vast majority of being affected after the war has ended (Manzanero et al., 2017).

Ashour and El-Asia (2014) indicates that the attacked forces at Gaza Strip was attacking the civilians, infrastructure and health facilities. OHCHR (2015) Gaza Strip has been under unfair war with full with destruction and death of civilian people. Figure 2.4 represents a sample of destructive houses in Gaza in the 2014 war. (The New York Times, 2014).

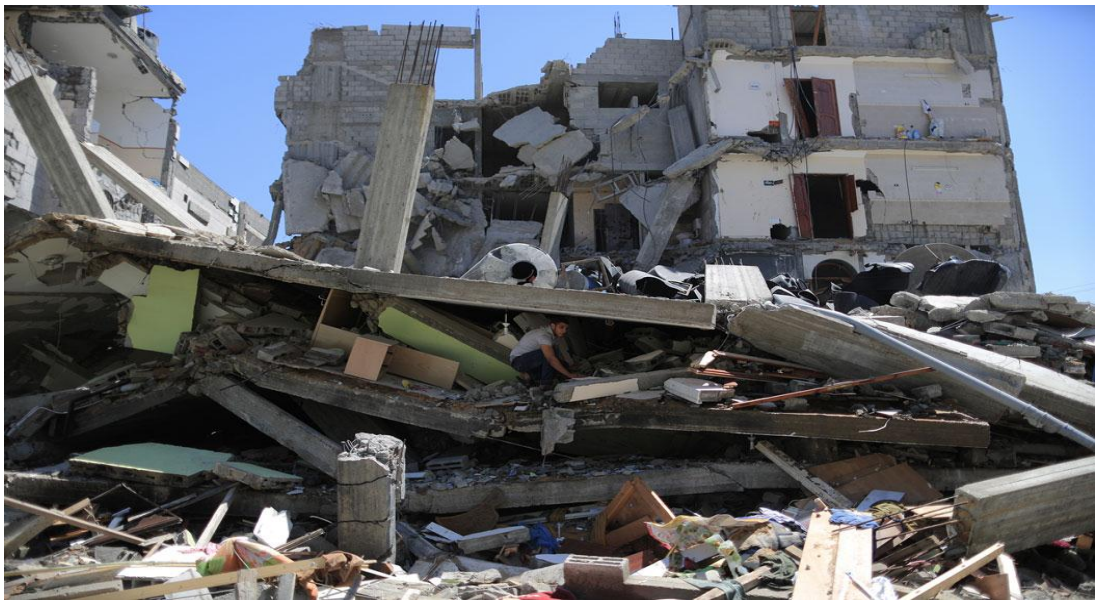

Figure 2.5 *A sample of destructive houses in Gaza in the 2014 war. (The New York Times, 2014)*

Both male and female students were psychologically affected by the war of 2014 but male take the higher degree of being affected (Thabet et al., 2016). Children were

affected psychologically because of the very loud voices of shelling (Thabet et al., 2016).

PCBS (2017) showed an increasing housing density in Palestine in the year of 2015, which is the year after the war. Figure 2.3 average of housing density. 16000 targets were destroyed at the end of the war (The New York Times, 2014). 1060 houses, 1724 were fully damaged (WAFA, 2014).

Table 2.6 *Average of housing density. PCBS (2017)*

Housing Density (Person per Room)	2012	2013	2015
Less than 1	17.0	14.5	12.5
1.00- 1.99	51.1	46.9	46.0
2.00- 2.99	24.3	27.6	28.3
3.00+	7.6	11.0	13.2
Total	**100**	**100**	**100**
Average Housing Density	**1.5**	**1.6**	**1.7**

2.6.2 The role of participants and stakeholders (NON-profit organizations) as a party of aiding crises

Non-governmental organizations (NGOs) are non-profit, voluntary, and independent from the government whose activities relate to development and community issues. And there is no doubt that non-governmental organizations have played a more vital role in the social and economic life of the Palestinian territories than in neighboring and similar countries.

The NGOs sector incorporates magnanimous social orders, cooperatives, affiliations, advancement associations and some other social intrigue groups (De Voir and Tartir, 2009). NGOs have the power to give connection to many parts of the society, such as social parts and cultural parts, it does help to keep protecting cultural heritage and so many (Lewis, 2014).

Funding cycle consists of many stages during the recovery period, depends on the assessment of damages, the amount of loss, then planning for reconstruction will start to evaluate the needed budget (Fengler et al., 2008). Bowman (2009) established that NGOs participation is considered as the main correlation with post-disaster reconstruction from peoples' perceptions.

With the coming of the Palestinian Authority in 1994, there have been fundamental changes in the political and economic aspects in which it operates, which led to a redefinition of its role, and since then the relationship between NGOs and government is oscillating and unstable (Jarrar, 2005).

The Palestinian Red Crescent Society (PRCS) is a Palestinian national institution established in 1968. The Palestinian Red Crescent Society (2006) had clearly identified its role of helping the Palestinian people in many kinds of activities etc.,

- Provide humanitarian assistance and health and social services
- Respect of the human being, peace or conflict time
- Humanitarian, giving the help of the injured people in the battlefield with non-discriminatory. Also, Protection of the lives and health of the population.
- Non-bias, helping all kinds of humanity regardless of the race, religious beliefs or political opinion. The three types of the discriminator:
  - Non-discrimination
  - Proportionality
  - Impartiality.
- Neutrality, helping all the needs of people with no engagement to any differentiate in political, racial, religious or doctrinal nature. It requires real restrain and self-discipline.
- Independence, even about the importance of its role, some independence should be applied so it won't lose its identity.
- Voluntary Consensus, providing the help of anyone needing, without getting paid. Its nonprofit society.
- Unit, providing the help to everyone during its area, while it has branches in many countries.
- Global, All RCS branches have equal responsibilities and duties to help.

ICRC 2014 made a continually reports about the war during and after the war showing the volume of destructive especially when whole areas were deleted. Figure 2.6 shows the volume of destructive at (Hay- Shuja'iya area), whole areas were deleted from the map.

Figure 2.6 *Shows the volume of destructive at (Hay- Shuja'iya area), whole areas were deleted from the map (ICRC, 2014)*

Managing post disaster reconstruction is the key role to have the success in reconstruction, and that by managing the stakeholders as a main part in the project management (Hidayat and Egbu, 2010).

(PCD) The Palestinian Civil Defense plays a key role in managing and joining all organizations in order to reach this goal in dealing with crises in Palestine and in the Gaza Strip in particular because of ongoing wars, but housing reconstruction wasn't one of its roles all about the immediate or mitigate destruction (MOI, 2017).

(PCD) should have more appropriate planes, professionals and should having a special group for handling such crises for more effective success for mitigating risks of disasters and destruction, to reduce the mistakes which happens during the war of 2014 (Sadiq, 2016).

Weak coordination between participants can resulted uncertainty in information and data, due to the different resources of gathering, analyzing, and managing this date (Hristidis et al., 2010).

2.6.2.1 Participants and stakeholders of aiding and reconstructing the Gaza Strip during the war of 2014 (response)

5 years, 3 months and 7 days are the normal period for rescues and response, and that depends on the existence of resources in such areas which have been attacked by any

kind of disasters (Shaw, 2006). Recovery process represents the assessment, collective of information and preparing the experts (Kususmasari et al., 2010).

- **Non-profit organization's role**

Approximately to 66% of Gaza Strip citizens had given food assistance during the war 2014 by NGOs (The World Bank, 2015). OCHA (2014) established that NGOs were those who will make the reconstruction depends on donors' funds, the cluster was hired to assess the damages in Palestine as a first, because of the war and also because of the winter storm that hit Palestine in 2013, the cluster depended at some steps:

- The cluster has the power to determine the needs and the immediate response then send the results to higher managers to submit proposals.
- Higher managers gather the information specify the priority and the needs.
- Make final comments by the cluster and the manager.
- Final submits with defining a time schedule. Figure 2.7 shows a house was assets as a full damaged construction.

Figure 2.7 An assessment for such a house is (full destroyed). (OCHA, 2014)

- **Palestine Red Crescent Society (PRCS)**

The PRCS had a major role in assisting the Gaza Strip during the war by 72% of its mission, immediate help existed, shelters, food, and health care (Alburai et al., 2017).

The major role of PRCS in the 2014 war in Gaza Strip was concentrated (during) the war rather than other periods. According to PRCS report, (2014) their role was as the following:

1. **Primary care**

- A new clinic in the Al-Quds hospital has been opened to provide services to displaced persons who gathered near to the Al-Quds hospital area.

2. **Department of Rehabilitation of Disabled**

- 397 working sessions for children were held in the Hope city of the Palestine Red Crescent Society.

3. **Disaster management unit**

- Huge numbers of shelter's and shelter's requirements were covered by the PRCS etc. Mattresses, blankets, water gallons, toiletries and family food packages which were given for 176612 persons.
- Management of the field hospital of the Palestine Red Crescent Society, which established by the UAE Red Crescent to cover the health needs of the citizens after the war after the destruction of the government hospital of the middle area in the Gaza Strip during the war.

- **UNRWA**

The UN tried to provide a permanent shelter as much as it's possible, but the number of homeless people was high, and also warned about the less handling of the situation by the humanitarian agencies because of the destruction of the infrastructure (OCHA, 2014).

- **United Nation Office for the Coordination of Humanitarian Affairs (OCHA)**

OCHA 2014 stated that 500,000 people were homeless during the war of 2014 including those who were staying with host families which means 28 percent of the total population of The Gaza Strip.

- **Ministry of Education**

Giving its centers with the help of UNRWA as a temporary housing (MOI, 2017).

- **Ministry of health**

Assigning facilities as temporary health centers during the war (MOI, 2017).

- **Ministry of social development**

Providing shelters, and in somehow their centers, transfer to shelters (MOI, 2017)

- **Power authority water and electricity**

Helping shelters to be provided by the basic power of living water and electricity (MOI, 2017)

2.6.2.2 Participants and stakeholders of aiding and reconstructing the Gaza Strip after the 2014 war (recovery)

Post disaster recovery has a direct relationship with the preliminary assessment of the disastrous results, preparedness, mitigation and the reconstruction process (the disaster management cycle) (Palliyaguru, et al., 2010). Some urgent steps should be assigned and applicable towards the recovery stage after the 51 days of war in the Gaza Strip in the July of 2014 (OQR, 2014), those steps are as the following:

- International negotiation with Israel to break the siege so material of rebuilding and destruction can be prepared for the reconstruction process such as aggregate, steel bar and cement.
- Technical tools should be assigned so destructive places can be easily removed.
- For reconstruction, the plane should be done consists of the technical methodology for minimal access of the required material due to the shortage of resources due to the siege issue of the Gaza Strip.
- And for reconstruction government plans for lands should be exist, so the development plans can keep going.
- Repair all of the destructive electrical plans.
- Prepare some additional technical or alternative technical for the electrical plans. Supply from Egypt can be one of those solutions.
- **Non-profit organization's role**

Local authorities and NGOs have the main role to develop strategies to decrease the bad impact of its way to the soil and the environment (Safi, 2015). Donors were agreed to aid Gaza at the conference of aiding Gaza and reconstructing it.

Investments were calculated and was estimated to be around 900 million dollars only for the infrastructure, water sector (Palestine Water Authority, 2014).

- **Palestine red crescent society (PRCS)**

While the 2014 war in Gaza was longer than what PRCS expected, the role of PRCS after the war was less due to the depletion of resources of PRCS from donors, but some of temporarily clinics have become permanent (PRCS, 2014)

- **Palestine civil defends (PCD)**

Ministry of Interior and National Security is planning depending on every organization in the Gaza Strip to build groups of housing every group will has its own center of health, and also housing reconstruction will give the priority for those who deserve more and without any attacks for the regulations or policy to keep on with the development plans for the country, factories and economical facilities will have the priority due to its importance in providing the Raw Material, in addition of making alternative roads to facilitate the reconstruction and the recovery after the crises, and furthermore helping in evaluating the volume of destructive areas to help in assets evaluating the priority of reconstruction (MOI, 2017).

- **Council of ministers and planning ministry**

Coordinate the rebalancing with reconstruction of the society (MOI, 2017).

- **Palestinian police**

Searching for any explosive material, before any reconstruction (MOI, 2017).

- **Ministry of finance**

Contribute to the ministry of planning to make preliminary estimates of the need to reconstruct and rehabilitate (MOI, 2017).

- **Ministry of public works and housing**

Reconstruct and resettlement for those who become homeless after the war (MPWH, 2017).

The basic role of the reconstruction process is by the hand of the ministry of public works and housing (MPWH), in there, a list of names of people who are in need to reconstruct of their houses are exist, giving the priority, giving the hope for those who have the priority, in addition, by providing the mechanism of reconstruction and rehabilitation after 2014 the Gaza Strip war, funds are giving through them and also controlling and monitoring the process of reconstruction (MPWH, 2017).

- **Power authority water and electricity**

Made the appropriate facilities for people who are going to reconstruct their houses (MOI, 2017).

- **United Nation Office for the coordinate of humanitarian Affairs (OCHA)**

Continuously reports about the situation of the Gaza Strip after the 2014 war of Zionist forces on the civilian houses and property reconstruction with a continuous assessment keeping on with analysing the facts in comparison with the reality to give fed up for UNRWA to support the reality with tangible solutions. Figure 2.8 shows assessments by the OCHA called (GRM) means the Gaza Strip reconstruction mechanism which helps the government of Palestine (to control the reconstruction process for houses and infrastructure due to the lack of the material for reconstruction (OCHA, 2014),

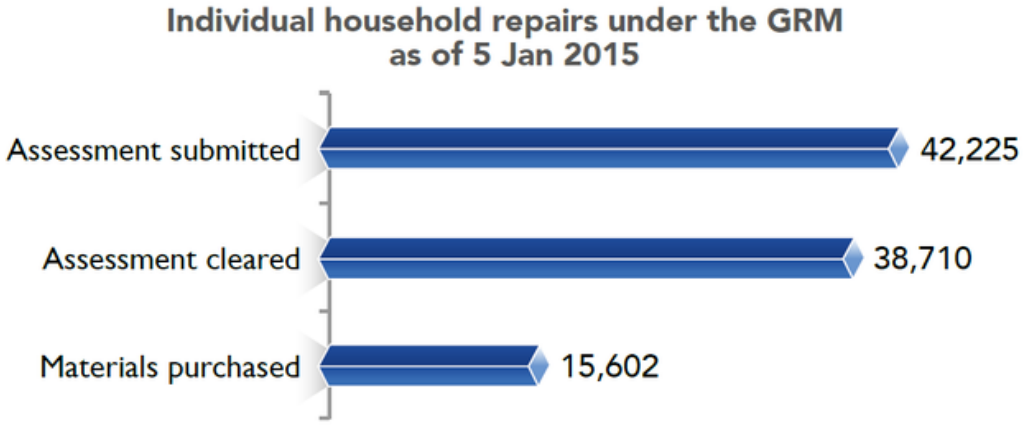

Figure 2.8 Some kind of assessment by OCHA, depending at GRM (OCHA, 2014)

GRM is a temporary way due to the shortage of material and resources for reconstruction, it recognizes the household's needs for the reconstruction resource depending on some kind of priority, the figure above shows the number of the people who were in need for the material to reconstruct, but how much they could help due to a political issue in the Gaza Strip.

- **UNRWA**

By the end of March 2016 only 17% of the destroyed houses were recovered and reconstructed, which were around 3000 facilities of 18000 facilities, but some other facilities were given money to assess them reconstruct by their own, However, around 75000 people are still homeless therefor other houses are trying to be reconstructed by the help of UNRWA. (Shelter Cluster, 2016).

$77.6 million was conducted for providing shelters packages to the homeless people by the UNRWA at 2015, the technical assessment provided by the UNRWA proved that there are 96000 homes at least was destroyed during the 2014 war on the Gaza Strip and the estimated funded was approximately to $720 million., In addition UNRWA made a program to help those houses which were very closed to be reconstructed but it didn't, so some houses and families were selected during the project called a pilot building project, the projects of the reconstruction of infrastructure after the 2014 war on the Gaza Strip including schools, roads and medical centers had its own approval and it was about $37.8 million (OCHA, 2012).

- **Gaza reconstruction committee (Qatar committee)**

After the attack on the Gaza Strip, Qatar made a commitment to help as possible as it can. 98 projects had been done since 2012 until the moment, $362 million were deposited for these goals, 13 projects with the cost of $81 million is taking a place right now in reconstruction projects, 100 housing units at least had been done after the Gaza Strip war of 2014 to resettle those who were deeply in need, those who lost their houses during the attack (Qatar committee report, 2017). Table 2.7 shows the summary of post disaster housing reconstruction after 2014 wars.

Table 2.7 *Post Disaster Housing Reconstruction after 2014 Gaza Strip's War: Challenges and Influencing Factors*

NO	Factors	Sharma et al., (2017)	Bilau et al., (2015)	Ismail et al., (2014)	Ibrahim (2010)	Kitamato et al., (2011)	Rani et al., (2017)	Maheshiks and Sangasumana (2017)	(MPWH, 2013)	von Meding et al., (2016)	Enshasi et al (2014)
A.	Management factors										
1.	The efficiency of management process in the organization	□									
2.	The management of housing reconstruction after disasters should keep going, with the existence of the built environment when plan		□								
3.	The management of housing reconstruction after disasters should consider the delay of the process for different reasons when plan			□							
4.	Adaptive Capacity of the area of housing reconstruction when plan				□						
5.	Tacking in account the vulnerability of the environment of housing reconstruction is a factor for a good management process				□						

NO	Factors	Sharma et al., (2017)	Bilau et al., (2015)	Ismail et al., (2014)	Ibrahim (2010)	Kitamato et al., (2011)	Rani et al., (2017)	Maheshiks and Sangasumana (2017)	(MPWH, 2013)	von Meding et al., (2016)	Enshasi et al (2014)
6.	Being ready for management process when					□					
7.	Risk mitigation should be as a priority when managing housing reconstruction projects						□	□			
8.	Efficiency of the assessment of the requirement for post disaster reconstruction			□							
9.	The existence of the material of the reconstruction								□		
10.	Good cooperation between organization										□
11.	Emergency plans to support the management of the reconstruction									□	
12.	The existence of special management mechanism for such a project						□				
13.	Efficiency of the management of the government	□					□		□		

NO	Factors	von Meding et al., (2016)	Chang et al., (2011)	Bilau et al., (2017)	Ophiyandri et al., (2013)	Subekti, (2008)	Sharma et al., (2017)	Ismail et al., (2014)	MPWH, (2013)	Rani et al., (2017)
B.	**Factors related to participating in reconstruction projects (organization)**									
1.	Differences in experience between the participants	□								
2.	Support sustainable mechanism		□							
3.	Understanding the legislation and policies by engineers		□							
4.	Effort of working hard by every participant		□							
5.	Having a good practice to manage any issue of the reconstruction			□						
C.	**Stakeholders (beneficiaries) characteristics**									
1.	The number of those who are in need for these projects (Beneficiaries)			□	□	□				
2.	Psychological situation				□					
3.	Existence of the information, no weakness of cooperation of the						□			
D.	Technical factors									
1.	Volume of the destructed houses			□	□	□				
2.	Efficiency and the quality of the work when reconstruct							□		

NO	Factors	von Meding et al., (2016)	Chang et al., (2011)	Bilau et al., (2017)	Ophiyandri et al., (2013)	Subekti, (2008)	Sharma et al., (2017)	Ismail et al., (2014)	MPWH, (2013)	Rani et al., (2017)
3.	Efficiency of the infrastructure when start the work of reconstructing						□			
4.	Efficiency of preliminary assessment							□		
5.	Applying safety when reconstruct							□		
6.	Existence of the resources of the reconstruction process such as material, equipment and manpower								□	
7.	Integration of information about the process of these projects						□			
8.	Electricity availability								□	
E.	**Government factors**									
1.	Availability of litigation for those projects									□
2.	Role of the government in controlling and monitoring those projects				□		□			
3.	Finding solutions for the legal issues of the lands								□	
4.	Existence of programs by the government to deal with these projects									□

NO	Factors	Ismail et al., (2014)	Enshassi et al., (2017)	Maheshiks and Sangasumana (2017)	MPWH, (2013)	Rani et al., (2017)	Fengler et al., (2008)	Ophiyandri et al., (2013)	ICRC, (2010)	Iftekhar, (2011)	Rotimi et al., (2006)	Ruddock et al., (2010)
F.	**Economic factors**											
1.	Existence of funds	□	□									
2.	Existence of funds for long-term reconstruction			□								
3.	Volume of the given funds				□							
4.	Volume of the destructed area					□					□	
5.	A period of the need to make a disaster assessment to figure out the volume of funds						□					
6.	Effective corporation between the donors and the organizations in the Gaza Strip		□									
8.	Effective disaster assessment to figure out the appropriate amount of funds						□				□	
9.	Price of material							□				□
10.	Price of equipment							□				□
11.	Price of manpower							□				□
12.	Most of the funds don't include the reconstruction stage								□			

NO	Factors	Tafti and Tomlinson (2018)	Khalid et al., (2017)	Kitamato et al., (2011)	Karunasena and Rameezdeen (2010)
G.	**Period of time**				
1.	Being as a heritage area			□	
2.	Considering the development beside the humanitarian concerns in post disaster reconstruction disaster	□			
.3	Considering the justice when giving the priority to reconstruct	□			
.4.	Finding appropriate land to reconstruct whenever the original land can't be reconstructed				□
.5	Efficiency in defining the responsibilities for every participant in these projects		□		
6.	Patience and not to impose pressure on employees who work at the reconstruction projects by the beneficiaries	□			

Chapter 3: Research Methodology

This chapter discusses the methodology which was used in this research. The adopted methodology to accomplish this study uses the following techniques: the information about the research plan/strategy, population, sample size, data collection technique, questionnaire design and development, interview strategy, statistical data analysis, content validity and pilot study. The methodology in an academic research should describe the mechanism of answering the research questions; justifying the experimental design, and clarifying the analyses result of the process. This chapter should also clarify the materials which were used and prepared in the research, explain what calculations were performed to analyze the results and to mention which statistical tests were used.

3.1 The research aims and objectives

1. Ranking the most influencing of the process of post disaster housing reconstruction after the attack on the Gaza Strip in 2014.
2. Proposing an interventions and action plans that support the post disaster housing reconstruction.

a. Research Strategy

The research strategy is the general plan for how and what data should be collected and how the results should be analysed. The chosen research plan will influence the type and the quality of the collected data (Ghauri and Grønhaug, 2010). To investigate the research questions and hypotheses about factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014, a quantitative and qualitative survey approach has been adopted. The research technique was a chosen as a mixed approach between a questionnaire research and interview one to measure the objectives.

3.2 Research Framework

This study employed qualitative and quantitative data. The researcher designed the research by sixth main steps as described below.

i. First step: Theme Identification (Problem definition)

It was initiated to define the problem, set the objectives and develop the research plan.

ii. Second step: Literature Review

More than one hundred references were reviewed, including journals, conferences, books, official reports and web sites. The literature on post disaster housing reconstruction after the attack at The Gaza Strip in 2014: challenges and influencing Factors, provided the theoretical basis to develop the research framework.

iii. Third step: Pilot Study

The pilot study includes two parts. The first part was undertaken by consulting 5 experts in reconstruction of the housing sector, experts from government institution, experts from consultant offices, and experts from NGO's institutions to pre-test the survey and subsequently modified before a final version was produced. After this, the second part was accomplished by making analysis trial using some of the population samples for validation before the main survey. The questionnaire was modified based on the results of the pilot study and the final list of questions was adopted to be used for the study.

iv. Fourth step: The Main Survey

This study contains the mixed method approach, the two approaches were quantitative and qualitative, so the right factors and the right information can be gathered, because both have advantages and disadvantages. Mixed method approach will strengthen the research. In addition, these mixtures between quantitative and qualitative methods, had been common during the last few years (Byrman, 2006). This mixing, transfer the research to a higher level of understanding and decreasing the confusing factors or information (Creswell, 2003). This research faced a very large number of factors, due to the different situations, organizations, practices or experiences between the respondents who dealt with the reconstruction after the 2014 attack at The Gaza Strip. The quantitative research is represented by a questionnaire and followed by evidence of numbers and statics. The qualitative research is represented by Semi-structured interview so factors can be revised and modified. Any other unusual results will be explained later in the next chapter.

Between the quantitative and qualitative methods, priority can't be defined each one of it has its own criteria to support the research to reach the appropriate results.

a) **A questionnaire** with open-ended questions was distributed to a specific people who have experience in the research topic. Unlike random studies, which deliberately include a diverse cross section of ages, backgrounds and cultures, the idea behind purposive sampling is to concentrate on people with particular characteristics who will better be able to assist with this research subject. The questionnaire designed in one form, and distributed to three categories (UNRWA, UNDP, Qatar committee, Ministries of The

Gaza Strip who have a direct relationship with reconstruction at The Gaza Strip, municipality) in several positions who represent the target group of this research in order to obtain reliable and representative quantitative data. 98 questionnaires were distributed. The purposive questionnaire survey can provide information about factors affecting the reconstruction of the housing sector after the aggression on the Gaza Strip in 2014.

b) **Face to face interview** Semi-structured interviews with those who had a direct relation to the main issues which faced the reconstruction process after the war of 2014 at The Gaza Strip, managers of projects, engineers, managers of housing and work ministry were selected to identify the main influencing factors that support the reconstruction process and what were the main challenges factors. This assists to understand the relationship among the theories and the reality.

v. Fifth step: Results and Discussion

Data collected and analyzed using both descriptive and inferential tools of statistical software Statistical Package for Social Science (SPSS 22).

vi. Sixth step: Conclusion and Recommendations

The final phase of the research included the conclusions and recommendations.

3.4 Research location

The research was carried out in the Gaza Strip in Palestine, which consists of five governments: The Northern government, Gaza government, the Middle government, Khan-Younis government and Rafah government.

3.5 Research period

The research was conducted through six months from the mid of February 2018 to the mid of August 2018. The research started in the mid of April 2018 after the proposal was approved. At the mid of June 2018, the literature review was completed. The questionnaire distribution and collection were completed at the beginning of July 2018. The analysis, discussion, conclusions and recommendations were completed in the mid of August 2018.

3.6 Target population, sampling of the questionnaire, and data collection

The questionnaire survey was conducted in 2018 (July). Research population includes UNRWA, UNDP, Qatar committee, Ministries of The Gaza Strip who have a direct

relationship with reconstruction at The Gaza Strip, municipality) as a target group. Purposive sample was chosen as the type of sample. The purposive sampling technique is a type of non-probability sampling that is most effective when there is a limited number of people that have expertise in the area being researched (Dolores and Tongco, 2007). Purposive sampling may also be used with both qualitative and quantitative research techniques. The inherent bias of the method contributes to its efficiency, and the method stays robust even when tested against random probability sampling. Choosing the purposive sample is fundamental to the quality of data gathered; thus, reliability and competence of the informant must be ensured (Dolores and Tongco, 2007). Purposive sample is differentiating from a convenience sample. A convenience sampling is Statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. The advantages of this type of sampling are the availability and the quickness with which data can be gathered. The disadvantages are the risk that the sample might not represent the population as a whole, and it might be biased by volunteers (Field, 2009). The main assumption associated with convenience sampling is that the members of the target population are homogeneous. That is, there would be no difference in the research results obtained from a random sample, a nearby sample, a co-operative sample, or a sample gathered in some inaccessible part of the population (Ross, 2005). Ninety-eight copies of the questionnaire were distributed to experts in reconstruction of the housing sector. This number of questionnaires were chosen according to the number of experts in this field in the Gaza Strip as well as the easy access to them. Each respondent took about 10 to 15 minutes to fill out the questionnaire. Ninety copies of the questionnaire were returned from the respondents and completed for quantitative analysis. The total of 90 questionnaires were satisfactory completed, making the total response rate (90/98) *(100) = 91.84%. Personal delivery of the whole sample helped to increase the rate of response and thus the representation of the sample.

3.7 Questionnaire design and contents.

Questionnaires are set of questions used to elicit from individuals a broad array of objective information as well as subjective information about their thoughts and perceptions. Questionnaires are an effective data collection mechanism that provides the researcher with the information required. The questionnaire was initially designed based on the extensive literature review of previous studies.

The questionnaire was provided with a covering letter explaining the purpose of the study, the way of responding, the aim of the research and the security of the information in order to encourage a high response. In Appendix A and B there exists a copy of the questionnaire in both Arabic and English languages.

The questionnaire included multiple choice questions which are used widely in the questionnaire. The variety in these questions aim to meet the research objectives, and to collect all the necessary data that can support the discussion, results and recommendations in the research. The questionnaire structure divided into two parts: (i) General information about the response person (ii) factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014. Figure 3.1 shows the research methodology frame.

3.8 Data Sources

3.8.1 Literature study

A literature review illustrates that the researcher is aware of the research goal, shows how the previous studies convenience and how it supports the current research to create new thoughts and ideas for research to find out what others left. The literature was gathered mainly from journals, websites, textbooks, conference, theses.

3.8.2 Interviews

Interviews with some managers who have a direct relation with these projects of housing reconstruction after the attack on the Gaza Strip in 2014 were done.

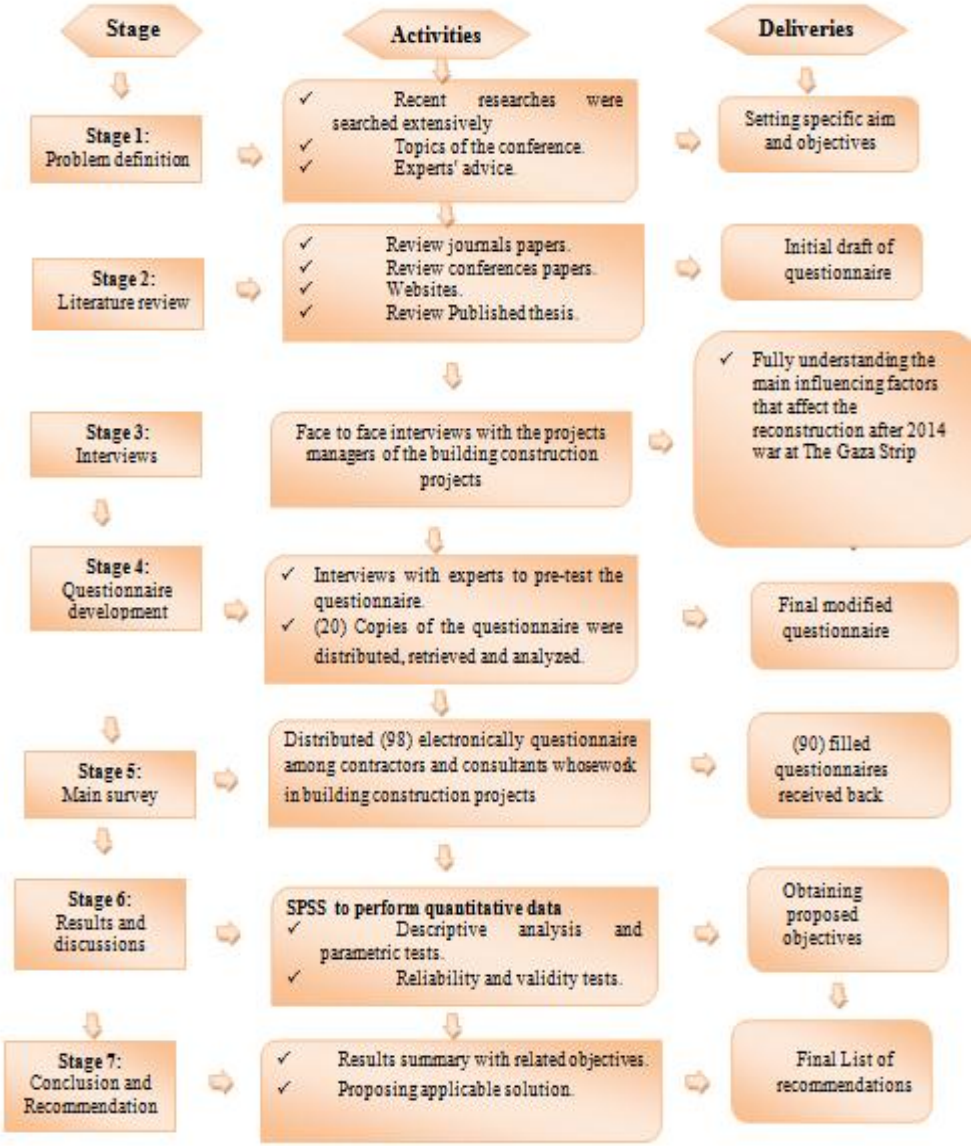

Figure 3.1 *shows the research methodology frame.*

Smith (2012) established that the definition of the interview is an interaction between two or more individuals and a definite purpose is existed in the mind. The interview may be conducted by telephone or can be conducted face-to-face. It contains subjects need to be discussed with people, which is a very useful technique for gathering data which hard to gather by questionnaires. Kumar (2011) stated that flexibility of an interview is appropriate method to gather opinions and information from experts. There are three types of interviews: structured, unstructured and semi-structured.

3.8.2.1 Semi-structured Interviews

Semi-structured interviews provide a list of questions as if it was structured one. Semi-structured one gives the chance to investigate and discuss issues from many angles, by

answering questions with the type of open-ended questions. Furthermore, freedom exists to investigate numerous subject and ideas to raise the desired inquiries of the interviewer. (Longhurst, 2009).

In this research, semi-structured interviews were selected. The respondents were a group of managers of the housing reconstruction projects after the war of 2014 at The Gaza Strip. Factors had the chance to be classified and organized, and then some recommendations had been sitting for future housing reconstruction projects to minimize the obstacle that forbid the process from seeing the light.

3.8.3 Questionnaire

Kumar (2011) explained the questionnaire criteria, a list of questions can be prepared and then respondents recorded answers. Respondents read and understand the questions, and then record answers. It is simple and timesaving way to gather and organize data effectively. Especially when having a large number of respondents. The questions extracted from related researches which have the direct relation with the topic of this study. Pilot study be the help of experts and supervisor was done, the questionnaire had the chance to go to a higher level of reality, and then become ready for distribution. The questionnaire was written in both Arabic and English languages so the chance can be given to the respondents to assist their understanding of the questions.

The questionnaire was arranged in two sections as follows and shown in table (3.1):

Section 1: General Information.
Section 2: Influencing factors that affect the housing reconstruction projects after the attack of The Gaza Strip in 2014.

General information about the Response person

The first section is about the personal characteristics of the respondents. This part mainly designed to provide general information about the respondents in terms of the job title and educational level of the respondent, location, employer, number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008, number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2014, and the cost of the projects in which it worked and specialized in the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014.

Factors affecting the reconstruction of the housing sector

The second section contains 64 items, which aims to determine factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014. These items have been selected after a well review of studies that covered the factors affecting the reconstruction of the housing sector.

These studies (von Meding et al., (2016)/ Bilau et al., (2015)/ Ibrahim (2010) /Rani et al., (2017)/ Chang et al., (2011)/ Rani et al., (2010)/ Maheshiks and Sangasumana (2017)/ Sharma et al., (2017)/ Rotimi et al., (2006)/ Maheshika and Sangasumana (2017)/ Kitamato et al., (2011)/ Tafti and Tomlinson (2018)/ Ophiyandri et al., (2013)/ Ismail et al., (2014)/ Ruddock et al., (2010)/ Khalid et al., (2017)/ Karunasena and Rameezdeen (2010)/ Enshassi et al., (2017)/ (MPWH, 2013).

After answering the first part that related to the respondent's demographic data, respondents were asked to rate each item in each factor on a rating scale (five-point Likert scale) that required a ranking (1-5), where 1 represented *"very disagree"* and 5 represented *"very agree"*, as the case might be.

The numerical rating scale (five-point Likert scale) was chosen to format the items of the questionnaire with some common sets of response categories called quantifiers (they reflect the intensity of the particular judgment involved) (Naoum, 2007). Those quantifiers were used to facilitate understanding as shown in Table (3.1).

Table 3.1 *The used quantifiers for the rating scale (the five-point likert scale) in the items of the questionnaire*

Scale	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Degree	(1)	(2)	(3)	(4)	(5)

The first draft of the questionnaire was revised through three main stages, which are: the face validity, pre-testing the questionnaire in order to ensure all kinds of errors that are associated with survey research are reduced, and pilot study. With each stage, the questionnaire was revised and refined more and more. Regarding details of each stage, it will be discussed in the following parts.

1. Face validity

Face validity was important to see whether the questionnaire appears to be valid or not. It was a "common sense" assessment by experts in the field of reconstruction of the housing sector as well as experts in statistics (Salkind, 2010). The questionnaire was presented to 5 experts by hand delivery and by email at different periods for assessment the validity of the questionnaire. Many useful and important modifications have been made to the questionnaire.

2. Pre-testing the questionnaire

Pre-testing is a very important step in survey research. It is an absolutely necessary step to ensure all kinds of errors that are associated with survey research are reduced. It helps to improve the quality of data significantly. Pre-testing is done on a small sample of respondents from the target population. After the pilot test, the respondents are asked a series of questions regarding the survey as well as the process of data collection during the debriefing session. Such debriefing sessions can help detect any problem with the questionnaire design leading to ambiguity of words, misinterpretation of questions, inability to answer a question, sensitive questions, and many other problems associated with the questionnaire as well as the process of administering the survey. It also provides an opportunity to give feedback to the interviewer to ensure that she/he follows the proper protocol of data collection procedures to ensure objectivity in data collection (Lavrakas, 2008). The pre-testing was conducted in two phases and each phase has been tested with 2 professionals in the reconstruction of the housing sector. The researcher was convinced that choose 2 professionals to accomplish this stage is reasonable number since (Melody, 2008) identify using 10% of the sample in pre-testing stage will be adequate. The first phase of the pre-testing resulted with some amendments to the wording of some words in the questions, in addition to add further explanation to some items to facilitate the understanding of the question. The questionnaire was modified based on the results of the first phase of the pre-testing. After that, the second phase was conducted and it was sufficient to ensure success of the questionnaire, where there were no any queries from any professional and everything was clear. According to that, items have become clear to be answered in a way that helps to achieve the target of the study and to start the phase of the pilot study.

3. Pilot study

After the success of the second phase of the pre-testing of the questionnaire, a trial run on the questionnaire was done before circulating it to the whole sample to get valuable responses and

to detect areas of possible shortcomings (Thomas, 2004). Baker (1994) noted that "a pilot study is often used to pretest or try out a research instrument, he added that a pilot study is an initial investigation to give information that will be necessary when designing a future trial or study. For example, a pilot may be used to:

1. In the pilot study, the researcher may try out a number of alternative measures and then select those that produce the clearest results for the main study.
2. It permits, preliminary testing of the hypotheses that leads to testing more precise hypotheses in the main study. It may lead to changing some hypotheses, dropping some, or developing new hypotheses.
3. It often provides the researcher with ideas, approaches, and clues you may not have foreseen before conducting the pilot study. Such ideas and clues increase the chances of getting clearer findings in the main study.
4. It permits a thorough check of the planned statistical and analytical procedures, giving you a chance to evaluate their usefulness for the data. You may then be able to make needed alterations in the data collecting methods, and therefore, analyze data in the main study more efficiently.
5. It can greatly reduce the number of unanticipated problems because you have an opportunity to redesign parts of your study to overcome difficulties that the pilot study reveals.
6. It may save a lot of time and money. Unfortunately, many research ideas that seem to show great promise are unproductive when actually carried out. The pilot study almost provides enough data for the researcher to decide whether to go ahead with the main study.
7. Especially for students: If the researcher is a student planning to continue beyond the master's degree, the master's research may sometimes serve as a pilot study for later research to be carried out as part of a doctoral program.

There is little published guidance concerning how large a pilot study should be. General guidelines, for example, using 10% of the sample required for a full study, may be inadequate for aims such as assessment of the adequacy of instrumentation or providing statistical estimates for a larger study (Melody, 2008).

The size of the pilot sample depends on how big the actual sample is. A sample of round 30-50 people is usually enough to identify any significant bugs in the system (Thomas, 2004;

Weirs, 2011). According to that, 10 copies of the questionnaire were distributed conveniently to respondents from the target group. All the copies were collected, coded, and analyzed through Statistical Package for the Social Science IBM (SPSS) version 22. The tests that were conducted were as follows:

1. The statistical validity of the questionnaire/ criterion-related validity.
2. Reliability of the questionnaire by Half Split method and the Cronbach's coefficient Alpha method.

   Table 3.2 shows the results of pre testing the questionnaire.

Table 3.2 *Results of pre-testing the questionnaire*

I	Factors	Note	Modified Factors
A.	**Management factors**		
1.	The efficiency of management process in the organization	Selected	
2.	The management of housing reconstruction after disasters should keep going, with the existence of the built environment when planing	Selected	
3.	The management of housing reconstruction after disasters should consider the delay of the process for different reasons when planing	Selected	
4.	Adaptive Capacity of the area of housing reconstruction is a factor for a good management process	Modified	Adaptive Capacity of the area of housing reconstruction when planing
5.	Tacking in account the vulnerability of the environment of housing reconstruction is a factor for a good management process	Selected	
6.	Being ready for management process when it needs	Modified	Plans for housing reconstruction management should be prepared
7.	Risk mitigation should be as a priority when managing housing reconstruction projects	Selected	
8.	Efficiency of the assessment of the requirement for post disaster reconstruction	Selected	
9.	The existence of the material of the reconstruction	Selected	
10.	The good Corporation between	Added	

	organizations		
11.	The good Cooperation between the basic resources of the reconstruction	Added	
12.	Emergency plans to support the management of the reconstruction	Modified	
13.	The existence of special management mechanism for such a project	Modified	Using the regular mechanism in such a project
14.	Efficiency of the management of the government	Selected	
15.	Differences in politics of the reconstruction between different organizations	Added	
B.	**Factors related to participating in reconstruction projects (organization)**		
1.	Differences in experience between the participants specially the engineers	Selected	
2.	Support sustainable mechanism	Selected	
3.	Differences of the working manpower	Selected	
4.	Being aware of the importance of applying sustainability	Selected	
5.	Understanding the legislation and policies by engineers in the area	Selected	
6.	Effort of working hard by every participant	Selected	
7.	Having a good practice to manage any issue of the reconstruction	Selected	
8.	Planning for post disaster risk reduction in the future	Selected	
C.	**Stakeholders (beneficiaries) characteristics**		
1.	Volume of those who are in need for these projects (Beneficiaries)	Selected	
2.	Phycological situation	Selected	
3.	Gab of information due to the weak of incorporation of the beneficiaries	Selected	
4.	Availability of the temporarily houses till the reconstruction finishes	Added	
5.	Fitting between money of donors and the volume of needs	Added	
D.	**Technical factors**		
1.	Volume of the destruction in abuilding	Added	
2.	The amount of landfill resulting	Added	

	from the disaster		
3.	Number of the destructed houses	Selected	
4.	Efficiency and the quality of the work when reconstruct	Selected	
5.	Efficiency of the infrastructure when start the work of reconstructing	Selected	
6.	Efficiency of preliminary assessment	Selected	
7.	Applying safety when reconstruct	Selected	
8.	Existence of the resources of the reconstruction process such as material, equipment and manpower	Selected	
9.	Integration of information about the process of these projects	Selected	
10.	Requirements of the donors don't fit with the local environment	Added	
11.	Existence of the quality and quantity of materials	Added	
12.	Electricity availability	Selected	
13.	Transparency	Deleted	
E.	**Government factors**		
1.	Effective role of municipality	Added	
2.	Availability of litigation for those projects	Selected	
3.	Role of the government in controlling and monitoring those projects	Selected	
4.	Finding solutions for the legal issues of the lands	Selected	
5.	Existence of programs by the government to deal with these projects	Modified	Preparing a reconstruction program by the government
F.	**Economic factors**		
1.	Existence of funds	Selected	
2.	Existence of funds for long-term reconstruction	Modified	Long term reconstruction has many requirements which led to the complexity when plan and develop for reconstruction
3.	Volume of the given funds	Selected	
4.	Volume of the destructed area	Selected	
5.	Period that needs for finding funds	Added	
6.	Period that need to make disaster assessment to figure out the volume of funds	Selected	
7.	Monitoring the funds until it reaches the target	Added	

8.	effective corporation between the donors and the organizations in the Gaza Strip	Selected	
9.	Effective disaster assessment to figure out the appropriate amount of funds	Selected	
10.	Price of material	Selected	
11.	Price of equipment	Selected	
12.	Price of manpower	Selected	
13.	Most of the funds doesn't include the reconstruction stage	Selected	
G.	**Period of time**		
1.	Being as a heritage area	Selected	
2.	Considering the development beside the humanitarian concerns in post disaster reconstruction disaster	Selected	
3.	Considering the justice when giving the priority to reconstruct	Selected	
4.			
5.	Efficiency in defining the responsibilities for every participant in these projects	Modified	Who take the decisions with whom and what sequences results of those decisions
	Patience and not to impose pressure on employees who work on the reconstruction projects by the beneficiaries	Modified	Patience and not to impose pressure on employees who work on the reconstruction projects by the beneficiaries

4. Statistical validity of the questionnaire

In quantitative research, validity is the extent to which a study using a particular tool measures what it sets out to measure. To insure the validity of the questionnaire, two statistical tests should be applied. The first test is criterion-related/internal validity test (Pearson test) which measures the correlation coefficient between each item in the field and the whole field. The second test is structured validity test (Spearman test) that used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level of similar scale (Weiers, 2011; Garson, 2013).

4.1 Internal validity test

Internal consistency of the questionnaire was measured by the scouting sample (the sample of a pilot study), which consisted of 10 questionnaires. It was done by measuring the correlation coefficients (Pearson test) between each item in one field and the whole field (Weiers, 2011; Garson, 2013). The test applied on the factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014. As shown in the table (3.3), the P-values are less than 0.05, so the correlation coefficients of each field are significant at α= 0.05. Thus, it can be said that the items of each field are consistent and valid to be measured what it was set for.

Table 3.3 *The correlation coefficient between each paragraph/item in the field and the whole field.*

No.	Items	Pearson correlation coefficient	p-value
I.	**Management factors**		
1.	The efficiency of management process in the organization	0.685	0.000*
2.	The management of housing reconstruction after disasters should keep going, with the existence of the built environment when planing	0.721	0.000*
3.	The management of housing reconstruction after disasters should consider the delay of the process for different reasons when planing	0.741	0.000*
4.	Adaptive Capacity of the area of housing reconstruction is when planing	0.632	0.000*
5.	Tacking in account the vulnerability of the environment of housing reconstruction is a factor for a good management process	0.522	0.000*
6.	Being ready for management process when it needs	0.546	0.000*
7.	Risk mitigation should be as a priority when managing housing reconstruction projects	0.633	0.000*
8.	Efficiency of the assessment of the requirement for post disaster reconstruction	0.561	0.000*
9.	The existence of the material of the reconstruction	0.639	0.000*
10.	Good Cooperation between organizations	0.693	0.000*
11.	Good Cooperation between the basic resources of the reconstruction	0.772	0.000*
12.	Emergency plans to support the management of the reconstruction	0.772	0.000*
13.	The existence of special management mechanism for such a project	0.707	0.000*
14.	Efficiency of the management of the government	0.619	0.000*
15.	Differences in politics of the reconstruction between different organizations	0.549	0.000*

No.	Items	Pearson correlation coefficient	p-value
II.	**Factors related to participating in reconstruction projects *(organization)***		
1.	Differences in experience between the participants specially the engineers	0.685	0.000*
2.	Support sustainable mechanism	0.540	0.000*
3.	Differences of the working manpower	0.715	0.000*
4.	Being aware of the importance of applying sustainability	0.680	0.000*
5.	Understanding the legislation and policies by engineers in the area	0.694	0.000*
6.	Effort of working hard by every participant	0.629	0.000*
7.	Having a good practice to manage any issue of the reconstruction	0.764	0.000*
8.	Planning for post disaster risk reduction in the future	0.643	0.000*
III.	**Factors related to beneficiaries of reconstruction projects**		
1.	Volume of those who are in need for these projects (Beneficiaries)	0.734	0.000*
2.	Physiological situation	0.741	0.000*
3.	Gab of information due to the weak of incorporation of the beneficiaries	0.786	0.000*
4.	Availability of the temporary houses till the reconstruction finishes	0.721	0.000*
5.	Fitting between money from donors and the volume of needs	0.684	0.000*
IV.	**Technical factors**		
1.	Volume of the destruction of a building	0.762	0.000*
2.	The amount of landfill resulting from the disaster	0.644	0.000*
3.	Number of the destructed houses	0.603	0.000*
4.	Efficiency and the quality of the work when reconstruct	0.535	0.000*
5.	The efficiency of the infrastructure when start the work of reconstructing	0.505	0.000*
6.	Efficiency of preliminary assessment	0.534	0.000*
7.	Applying safety when reconstruct	0.674	0.000*
8.	Existence of the resources of the reconstruction process such as material, equipment and manpower	0.635	0.000*
9.	Integration of information about the process of these projects	0.604	0.000*
10.	The requirements of the donors don't fit with the local environment	0.691	0.000*
11.	Existence of the quality and quantity of materials	0.741	0.000*
12.	Electricity availability	0.719	0.000*
V.	**Government factors**		
1.	The effective role of municipality	0.652	0.000*
2.	Availability of litigation for those projects	0.844	0.000*
3.	The role of the government in controlling and monitoring those projects	0.877	0.000*
4.	Finding solutions for the legal issues of the lands	0.879	0.000*

No.	Items	Pearson correlation coefficient	p-value
5.	Existence of programs by the government to deal with these projects	0.779	0.000*
VI.	**Economic factors**		
1.	Existence of funds	0.675	0.000*
2.	Existence of funds for long-term reconstruction	0.610	0.000*
3.	Volume of the given funds	0.683	0.000*
4.	Volume of the destructed area	0.617	0.000*
5.	A period that needs for finding funding	0.667	0.000*
6.	A period that needs to make a disaster assessment to figure out the volume of funds	0.613	0.000*
7.	Monitoring the funds until it reaches the target	0.701	0.000*
8.	Effective corporation between the donors and the organizations in the Gaza Strip	0.656	0.000*
9.	Effective disaster assessment to figure out the appropriate amount of funds	0.614	0.000*
10.	Price of material	0.546	0.000*
11.	Price of equipment	0.649	0.000*
12.	Price of manpower	0.548	0.000*
13.	Most of the funds don't include the reconstruction stage	0.642	0.000*
VII.	**Period factors**		
1.	Being as a heritage area	0.620	0.000*
2.	Considering the development beside the humanitarian concerns in post disaster reconstruction disaster	0.757	0.000*
3.	Considering the justice when giving the priority to reconstruct	0.723	0.000*
4.	Efficiency in defining the responsibilities for every participant in these projects	0.606	0.000*
5.	Patience and not to impose pressure on employees who work on the reconstruction projects by the beneficiaries	0.777	0.000*
6.		0.638	0.000*

4.2 Structure validity test

Structure validity is the second statistical test that used to test the validity of the whole questionnaire. It measures the correlation coefficient between one field and all of the other fields of the questionnaire that have the same level of rating scale (five-point Likert scale) (Weiers, 2011; Garson, 2013). As shown in table (3.4), the significance values are less than 0.05. Thus, it can be said that the fields are valid to be measured what it was set for to achieve the main aim of the study.

Table 3.4 *Structure validity of the questionnaire.*

No.	Fields	Pearson correlation coefficient	P-value
1.	Management factors	0.690	0.000*
2.	Factors related to participating in reconstruction projects	0.773	0.000*
3.	Factors related to beneficiaries of reconstruction projects	0.564	0.000*
4.	Technical factors	0.697	0.000*
5.	Government factors	0.665	0.000*
6.	Economic factors	0.726	0.000*
7.	Duration factors	0.637	0.000*

5. Reliability of the Research

The reliability of an instrument is the degree of consistency with which it measures the attribute, it is supposed to be measuring. The test is repeated to the same sample of people on two occasions and then compares the scores obtained by computing a reliability coefficient. For most purposes, the reliability coefficients above 0.7 are considered to be satisfactory. A period of two weeks to a month is recommended between the two tests. Due to the complicated conditions that the contractors were facing at the time the questionnaire was being distributed, it was too difficult to ask them to respond to the questionnaire twice within a short period. The statisticians overcame this difficulty by using Cronbach's coefficient alpha and Half Split Method through the SPSS software.

5.1 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the means of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha (Cα) value is between 0.0 and +1 and the higher value reflects a higher degree of internal consistency (Garson, 2013; Field, 2009). As shown in table (3.5), the Cronbach's coefficient alpha (Cα) was calculated for five fields. The results were in the range from 0.660 and 0.864 and the general reliability for all items equals 0.925. This range is considered high, where it is above 0.7. Thus, the result ensures the reliability of the questionnaire.

Table 3.5 *Cronbach's Coefficient Alpha for reliability (Cα)*

No.	Fields	Cronbach's Alpha (Cα)
1.	Management factors	0.791
2.	Factors related to participating in reconstruction projects	0.670
3.	Factors related to beneficiaries of reconstruction projects	0.703
4.	Technical factors	0.660
5.	Government factors	0.864
6.	Economic factors	0.839
7.	Duration factors	0.762
	All items	0.925

5.2 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 field of the questionnaire. Then, correcting the Pearson correlation coefficient can be done by using the 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 correcting correlation coefficient 2r/(r+1) is between 0.0 and +1.0 (Garson, 2013). As shown in table (3.6), all the corrected correlation coefficient values are between 0.813 and 0.896 and the general reliability for all items equaling 0.972. The significance values are less than 0.05, which indicates that the corrected correlation coefficients are significant at α=0.05. Thus, it can be said that the studied fields were reliable according to the Half Split method.

Table 3.6 *Half Split coefficient method*

No.	Fields	Pearson Correlation Coefficient	Spearman Brown Coefficient	Sig. (2-tailed)
1.	Management factors	0.812	0.896	0.000*
2.	Factors related to participating in reconstruction projects (organization)	0.720	0.837	0.000*
3.	Factors related to beneficiaries of reconstruction projects	0.733	0.846	0.000*
4.	Technical factors	0.685	0.813	0.000*
5.	Government factors	0.700	0.824	0.000*
6.	Economic factors	0.773	0.872	0.000*
7.	Duration factors	0.698	0.822	0.000*

No.	Fields	Pearson Correlation Coefficient	Spearman Brown Coefficient	Sig. (2-tailed)
	All items	0.865	0.922	0.000*

6. Final amendment to the questionnaire

After piloting, the questionnaire was adopted and distributed to the whole sample. The questionnaire was provided with a covering letter explaining the aim of the research, the security of the information in order to encourage a high response, and the way of responding. The original questionnaire was developed in English language. The English language questionnaire is attached in (Appendix A). Based on the belief of the researcher that the questionnaire would be more effective and easier to be understood for all respondents if it is in Arabic (native language); hence, the questionnaire was translated in Arabic language, which is attached in (Appendix B).

7. Quantitative data analysis

A quantitative method was adopted in the current research, where quantitative methods of data analysis can be of great value to the researcher who is attempting to draw meaningful result from a large body of qualitative data. The main beneficial aspect is that quantitative analytical approach provides the means to separate out the large number of confounding factors that often obscure the main quantitative findings. Statistical methods play a prominent role in most research that dependents on quantitative analysis of data through converting the ordinal data to numerical scale data by using the numerical rating scale as it mentioned before. This way helps to conclude better results and linking them and comparing with the results of previous research to show the contrast and the extent of progress. Also, statistical analysis helps the researcher to identify the degree of accuracy of data and information about the study. It allows reporting of summary results in numerical terms to be given with a specified degree of confidence (Field, 2009).

8. Measurements

Analysis of the data was undertaken using IBM SPSS Statistics (Statistical Package for the social Science) Version 22 (IBM). The following quantitative measures were used for the data analysis:

A. Descriptive Statistics (Salkind, 2010)

1. Frequencies and Percentile
2. Measures of central tendency (the mean)
3. Measurement of dispersion based on the mean (standard deviation)
4. Relative Important Index
5. Factor analysis
6. Normal distribution
7. Homogeneity of variances

B. The inferential statistics (bivariate) / test of hypotheses (Naoum, 2007):

1. Cross tabulation analysis
2. Pearson product moment correlation coefficient / Pearson's correlation coefficient (a parametric test)
3. One-way Analysis of Variance (ANOVA) test to find out whether there is a significant difference in the mean between more than two groups (a parametric test)
4. Scheffe's method for multiple comparisons

The tabulation, bar chart, pie chart, and graph are the tools which have been used to present the results.

- **Cross-tabulation analysis**

In statistics, a cross tabulation (crosstab) is a type of table in a matrix format that displays the (multivariate) frequency distribution of the variables. They are heavily used in survey research, business intelligence, engineering and scientific research. They provide a basic picture of the interrelation between two variables and can help find interactions between them. In other words, cross tabulation is a tool that allows researchers to compare the relationship between two variables.

- **Relative Importance Index (RII)**

The relative importance index RII technique has been widely used in construction research for measuring attitudes with respect to surveyed variables (Sambasivan and Soon, 2007). Several researches (Enshassi et al., 2010, Enshassi et al., 2012, El-Hallaq and Tayeh, 2016, Albhaisi et al., 2016, Tayeh et al.,2016, Tayeh et al.,2017, Tayeh et al.,2018, Tayeh et al., 2018b) used the RII in their analysis.

$$\bar{X}_W = \frac{\sum W}{AN} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5N}$$

Where:

W = the weighting given to each factor by the respondents (ranging from 1 to 5)

A = the highest weight (i.e. 5 in this case)

N = the total number of respondents

The RII value had a range from 0 to 1 (0 not inclusive), the higher the value of RII, the more the impact of the attributes. However, RII doesn't reflect the relationship between the various attributes.

As such analysis does not provide any meaningful outcomes regarding understanding the clustering effects of the similar items and the predictive capacity, further analysis is required using advanced statistical methods. Factor analysis was used to reduce the items and investigating the clustering effects.

- **Factor analysis**

Factor analysis is a data reduction, statistical technique which is used to reduce a set of variables to a smaller number of variables or factors (Fellows and Liu, 2008). To achieve this aim, SPSS 22 would examine the pattern of inter-correlations between the variables and whether there are subsets of variables that correlate highly with each other. It is used to reduce a large number of related variables to a more manageable number, prior to using them in other analyses such as correlation or multiple regressions (Kaiser, 1974). In order to evaluate the adequacy of the survey data to factor analysis, Kaiser-Meyer Oklin (KMO) test of Sphericity and Bartlett's test were used. The value of (KMO) represents the ratio of squared correlation between variables to the squared partial correlation between variables. It varies from 0 to 1. A value close to 1 indicates that the pattern of correlation was relatively compact and hence factor analysis should give distinct and reliable results. A minimum value of 0.5 has been suggested (Kaiser, 1974). Values of higher than 0.5 were recommended by Laiser (cited in chan, 2008:79).

Generally, there are two types of factor analysis methods: exploratory factor analysis and confirmatory factor analysis. Exploratory factor analysis was often used in the early stages of research to explore the interrelationships among a set of variables, while a confirmatory technique was used in the later part of the research to confirm the specific hypotheses or theories concerning the structure of a set of variables. In

this study, the exploratory factor analysis method was firstly applied by SPSS followed by confirmatory factor analysis to test the hypotheses related to each objective.

- **Normal distribution**

Normal distribution approximates many natural phenomena so well. It has been developed into a standard of reference for many probability problems (Field, 2009).

Parametric statistical tests often assume the data are having normal distribution, because when the data is not normal it produces unqualified results. Normality was assessed by applying the central limit theorem. The central limit theorem states that when samples are large (above about 30), the sampling distribution will take the shape of a normal distribution, regardless of the shape of the population from which the sample was drawn (Field, 2009).

According to that, the collected data of the research follow the normal distribution, where the sample size is N=90 and so parametric tests must be used.

- **Homogeneity of variances (Homoscedasticity)**

Equal variances across samples are called homogeneity of variance. Some statistical tests, for example the analysis of variance, assume that the variances are equal across groups or samples. The assumption of homoscedasticity (homogeneity of variance) simplifies mathematical and computational treatment. Levene's test (Levene, 1960) is used to verify the assumption that k samples have equal variances (Field, 2009).

9. Summary

This chapter described the detailed adopted methodology of the research. It included the primary research framework for the study, details of the research period, location, population, and sample size. The questionnaire design was detailed, including the initial draft that was modified and refined through pilot study. Quantitative data analysis techniques, which include factor analysis, reliability test, and Pearson correlation analysis, were designed to be applied by the instruments of SPSS. For the purposes of testing the research validity, reliability, and adequacy of methods used in analysis, different statistical tests were used and explained in details. All the statistical tests confirmed the reliability and the validity of the questionnaire.

Chapter 4: Results and discussion

4.1 Introductions

This chapter included analysis and discussion of the results that have been collected from field surveys. A total of 90 completed copies had been returned, representing a valid response rate of 91.84%. Data were analyzed quantitatively using IBM (SPSS) version 22 including descriptive and inferential statistical tools. This chapter included the personal information and profile of the respondents, quantitative analysis of the questionnaire, and finally the summary framework of the results.

4.2 Analysis of interviews with the project managers

Interviews were held for managers who has a relation and experience with the housing reconstruction process after the 2014 war in Gaza Strip, so factors can be clarified and organized, to reach some recommendation which can help the future of the housing reconstruction in The Gaza Strip and reduce the obstacles of the housing reconstruction process. Table 4.1 shows a summary of the interviews.

4.2.1 Findings from interviews

Main Factors that consider as obstacle factors for housing reconstruction projects after the attack on the Gaza Strip in 2014

Around 20 obstacles factors identified, 9 of them were repeated between the interviewees and considers as the most influencing factors that forbid the process of reconstructing to be carried out in an appropriate way. Table 4.2 shows the main obstacle factors in the process of housing reconstructing after the 2014 war on the Gaza Strip. Which has also been summarized to many groups and the most effective groups were: financial, management, beneficiaries, technical and governmental groups. Funds don't reach on time or not having the appropriate funds affect the housing reconstruction under the group of financial issue. Not having a plan of reconstructing under the group of the management. Less of special litigations and also the repeated closure of borders of the Gaza Strip and the in addition to the political issues. Lack of quality of work under a technical group when experts in work are less. And due to the great number of the houses destructed in the Gaza Strip.

Table 4.1 *Summary of the interviews*

Question	The main obstacle factors that forbid the housing reconstruction after the 2014 war in the Gaza Strip	The main supportive factors that help the housing reconstruction after the 2014 war in the Gaza Strip
Interviewee A	1- Closure of border 2- Political issues at the Gaza Strip 3- Less quality of work 4- No funds or less funds 5- Destructive buildings are a lot	1- Many workers are available with good prices due to the unemployed people who need any work 2- Cooperation between the participants 3- Build with concrete
Interviewee B	1- Donors don't keep going with their words, and funds don't reach as it supposed to, less funds available 2- Closure of borders 3- Availability of funds in time 4- No enough building material 5- No effective plans	1- Planned programs, implementing during a clear plan 2- Effective planes before starting the work 3- Build back better 4- Justice in distributing the building, when builds depends on the number of the family members 5- Cooperation between participants who work in housing reconstruction
Interviewee C	1- Needs approval from the Israeli side for some building materials so it can reach The Gaza Strip 2- Closure of borders 3- Weak in funds 4- No enough building materials 5- No funds in time	1- A program with a special mechanism for the housing reconstruction 2- Prepared the desired information 3- Self-help modality 4- Build with concrete 5- Availability of workers
Interviewee D	1- Weak funds 2- No strategy planes available 3- Special Mechanism of the process isn't existed 4- Huge number of affected people who need a reconstruction	1- Self-help modality, beneficiaries have the chance to build 2- Building Back Better made an improvement in the Gaza Strip 3- Availability of worker
Interviewee F	1- No enough funds 2- No enough building material 3- Litigation of the government doesn't have that much flexibility 4- Huge volume of the destructive building	1- Build with concrete whatever the building was, which affect the development in the area 2- When building, area depends on the number of the family members

Table 4.2 *The main obstacle factor in the process of housing reconstructing after the 2014 war on the Gaza Strip.*

SN	Main obstacle factors in the process of housing reconstructing after the 2014 war on the Gaza Strip.	Group of affection	% of occurrence
1	Lack funds or less funds	Financial group	100.0
2	No effective plans, nor having a strategy plan	Management group	80.0
3	Huge number of the destructive buildings	Beneficiaries group	80.0
4	Lack of building material	Technical group	80.0
5	Closure of border	Government group	60.0
6	Political issues at the Gaza Strip	Government group	60.0
7	Funds don't reach in time	Financial group	40.0
8	Litigation of the government doesn't have that much flexibility	Government group	20.0
9	Lack of quality of work	Technical group	20.0

Main Factors that support the housing reconstruction projects after the attack on the Gaza Strip in 2014

Around 20 obstacle factors identified. 9 factors were repeated and considered as the most supportive factors for housing reconstruction. Table 4.3 shows the main supportive factors in the process of housing reconstructing after the 2014 war in the Gaza Strip. International Orgnization group, period group, Management and beneficiary group. And that means that to have such a great process in housing reconstruction the care should be oriented to the management of the reconstruction by having a special mechanism of housing reconstruction after disasters in addition of having a plan before the start of the reconstruction and the desire data should be exists and should be true. In addition the period of housing reconstruction has

its own affect a well, rebuild in better mechanism and support the plan of improvement of the country increases the period of reconstructing but affect the housing reconstruction process in the country positively . International organization that concerns of the housing reconstruction in the Gaza Strip affect the process of housing reconstruction mainly by having a good cooperation between organizations and by having expert workers. Table 4.3 shows the main supportive factors in the process in the process of housing reconstruction after the 214 war in the Gaza strip.

Table 4.3 *The main supportive factors for the process in housing reconstructing after the 2014 war in the Gaza Strip.*

SN	The main factors for that support the process of housing reconstructing after the 2014 war in the Gaza Strip.	Group of affection	% of occurrence
1	Availability of expert's workers	International Orgnization group	60.0
2	Build with concrete whatever the building was, which affect the development plan for the country (build back better)	Period group	40.0
3	Effective cooperation between participants in international organizations in the project	International Orgnization group	40.0
4	Implementing during planned program	Management group	40.0
5	Self-help modality, beneficiary can build with his own depends on his wishes after taking the appropriate funds that he needs	Beneficiaries group	40.0
6	Build Back better to go on with the improvement plan for the country	Period group	40.0
7	Justice in distribution chances between beneficiaries, example, areas depends on the number of the family	Beneficiaries group	40.0
8	Prepared the desired information, before start working	Management group	20.0
9	A program with a special mechanism for such a project	Management group	20.0

4.3 Analysis of questionnaire

4.3.1 Respondents Information

The target respondents of the questionnaire survey were (UNRWA, UNDP, Qatar committee, Ministries of the Gaza Strip who have a direct relationship with the reconstruction at the Gaza Strip and municipality) Ninety-eight questionnaires of survey were distributed. This section analyzed the personal characteristics of 90 respondents who returned valid questionnaires for the study.

The section includes the representation of seven (7) questions about the respondent person; job title, Educational level, Location, Employer, Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008, Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2014, and The cost of the projects in which it worked and specialized in the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014. Table 4.4 shows the background information of respondents.

Table 4.4 *Background information of respondents.*

General information	**Frequency (F)**	**Percent (%)**
Job Title		
GM manager	5	5.6
Vice manager	7	7.8
Site engineer	60	66.7
Other	18	20.0
Educational level		
Bachelor	62	68.9
Master	24	26.7
Ph.D.	1	1.1
Other	3	3.3
Location		
North Gaza	8	8.9
Gaza	68	75.6
Middle	10	11.1
South	4	4.4
Employer		
Government sector	72	80.0
Non-governmental organizations	7	7.8
UNRWA	5	5.6
Private sector	4	4.4
Other	2	2.2

Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008		
1 to less than 2 years	3	3.3
2 to less than 3 years	5	5.6
3 to less than 5 years	18	20.0
More than 5	64	71.1
Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2014		
1 to less than 2 years	4	4.4
2 to less than 3 years	4	4.4
3 to less than 4 years	20	22.2
4 to 5 years	62	68.9
The cost of the projects in which it worked and specialized in the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014		
< $1 million	4	4.4
From $1 to less $5 million	12	13.3
From $5 to less $10 million	22	24.4
$10 million and more	52	57.8

- **Analyzing the respondent's information**

Job title, the number and percentage of the respondents according to the job title of the person who filled the questionnaire shown in Table 4.4. It shows that (5) 5.6% of the respondents are General Director, (7) 7.8% of them are Vice manager, (60) 66.7% of them are Site engineer and (18) 20.0% of them have another job title. Respondents' educational level the number and percentage of the respondents according to the educational level of the persons who filled the questionnaire shown in Table 4.4. It shows that (62) 68.9% of them have educational level bachelors, (24) 26.7% of the respondents have an educational level master, (1) 1.1% of the respondents have educational level Ph.D., and (3) 3.3% of the respondents have other levels. Location of institution, the number and percentage of the responding organizations according to their location shown in Table 4.4. It shows that (8) 8.9% of the surveyed organizations in North Gaza, (68) 75.6% of them in Gaza, (10) 11.1% of them in the middle, and (4) 4.4% of them in the south. The employer, the number and percentage of the responding according to the employer shown in Table 4.4. It shows that (72) 80.0% of the respondents work in government institutions, (7) 7.8% of the respondents work in non-governmental organizations, (4) 4.4% of the respondents work in the private sector, and (2) 2.2% of them work with another employer. Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008, the number and percentage of the responding according to the number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008 shown in Table 4.4. It shows that (3) 3.3% of the surveyed work in the reconstruction projects in the

housing sector after the Israeli aggression on the Gaza Strip in 2008 from 1 to less than 2 years, (5) 5.6% for 2 to less than 3 years, (18) 20.0% for 3 to less than 5 years, and (64) 71.1% for more than 5 years. The number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2014, the number and percentage of the responding according to the number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2014 shown in Table 4.4. It shows that (4) 4.4% of the surveyed work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008 from 1 to less than 2 years, (4) 4.4% for 2 to less than 3 years, (20) 22.2% for 3 to less than 4 years, and (62) 68.9% for 4 to 5 years.The cost of the projects in which it worked and specialized in the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014, the number and percentage of the responding according to the cost of the projects shown in Table 4.4. It shows that (4) 4.4% of reconstruction projects at less than $ 1 million, (12) 13.3% of reconstruction projects from $1 to less $5 million, (22) 24.4% from $5 to less $10 million, and (52) 57.8% of reconstruction projects at $10 million and more.

4.4 Factors affecting reconstruction projects

Table 4.5 shows the actors affecting the reconstruction, this section contains 7 factors, each factor contains a number of items, Management factors (15 items), Factors related to participating in reconstruction projects (8 items), Factors related to beneficiaries of reconstruction projects (5 items), Technical factors (12 items), Government factors (5 items), Economic factors (13 items), and Duration factors (6 items).

These statements were subjected to the views of respondents, and the outcomes of the analysis were shown in Table (4.5). The descriptive statistics, i.e. Means, Standard Deviations (SD), t-value (two tailed), probabilities (P-value), Relative Importance Indices (RII), and finally ranks were established.

The results illustrated that the total average means for all items equal 3.82, T-test 22.44 and the P-value equal 0.000 which is less than 0.05. This means that the respondents have strong agreement on the terms relating to the factors affecting reconstruction ،and the results are confidential. The SD was also used to quantify the amount of variation or dispersion of respondent opinions regarded to "the factors affecting reconstruction ". As shown in Table (4.5), the average SD was 0.35, which indicate that the respondent’s results are consistent and

are not spread out over a wider range of values. This means that results are confidential. According to table (4.5)

- P-value = 0.000 < 0.05, and T statistics (22.44) > T critical (1.98), so, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.82) and hypotheses mean (3) of the fields.
- Average mean = 3.82 > 3 (Neutral RII), which means that the respondents have strong agreement on the terms relating to the factors affecting reconstruction.
- SD = 0.35, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, the results are confidential.

4.4.1 Management factors

Table 4.5 *Factors affecting reconstruction (management factors)*

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
Management factors							
A1	The efficiency of management process in the organization	3.87	0.67	77.33	12.20	0.000	8
A2	The management of housing reconstruction after disasters should keep going, with the existence of the built environment when planing	3.73	0.75	74.67	9.32	0.000	11
A3	The management of housing reconstruction after disasters should consider the delay of the process for different reasons when planning	3.91	0.86	78.22	10.09	0.000	5
A4	Adaptive Capacity of the area of housing reconstruction when planning	3.96	0.54	79.11	16.83	0.000	3
A5	Tacking in account the vulnerability of the environment of housing reconstruction is a factor for a good management process	3.88	0.75	77.56	11.15	0.000	7
A6	Being ready for management process when it needs	3.96	0.69	79.11	13.22	0.000	4
A7	Risk mitigation should be as a priority when managing housing reconstruction projects	3.46	0.93	69.11	4.67	0.000	15

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
A8	Efficiency of the assessment of the requirement for post disaster reconstruction	3.82	0.71	76.44	10.95	0.000	10
A9	The existence of the material of the reconstruction	3.61	0.91	72.22	6.38	0.000	13
A10	The good Cooperation between organizations	3.49	1.01	69.78	4.60	0.000	14
A11	The good Cooperation between the basic resources of the reconstruction	3.86	0.73	77.11	11.16	0.000	9
A12	Emergency plans to support the management of the reconstruction	3.99	0.66	79.78	14.17	0.000	2
A13	The existence of special management mechanism for such a project	3.88	0.67	77.56	12.48	0.000	6
A14	Efficiency of the management of the government	4.04	0.63	80.89	15.62	0.000	1
A15	Differences in politics of the reconstruction between different organizations	3.72	0.82	74.44	8.34	0.000	12
	Average	3.812	0.755333	76.222	10.74533		

A- Supportive factors

Management factors contains 15 statements. The findings indicated that "Efficiency of the management of the government" (RII =80.89%; P-value =0.000; T-value ؛15.62= SD = 0.63) has the highest rank in this factor.

(Figure 4.1). Since P-value here equal 0.000 which less than 0.05, and T statistics = 15.62 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.04) and hypotheses mean (3). SD equal 0.63, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Government of the Gaza Strip is very sensitive to the situation and very supportive in making facilities for reconstruction, and that can be seen easily around and by the witnesses of the beneficiaries and the international organizations such giving license easily and with less money and much more facilities, that can help the people of the Gaza Strip. The findings agree with (Sharma et al., 2017). And also fit with (Ophiyandri et al., 2013) who said that government's role and support can have a serious role in the process of reconstructing. Which means that the first influencing factor that can really support the process is the government itself by being strong enough to handle all of the needed phases.

B- Challenged factor

And the next influencing factor indicates that it's a challenged factor due to the reality which explained that the Gaza Strip doesn't have any emergency plans. The results also revealed that "Emergency plans to support the management of the reconstruction" (RII = 79.78%; P-value = 0.000; T-value = 14.17; SD = 0.66) is ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 14.17 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.99) and hypotheses mean (3). SD equal 0.66, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The results show that this challenged factor that affect the housing reconstruction projects is having an emergency plan that can support the management role whenever it's needed for sudden issues, because the Gaza Strip is full with wars and issues, which need immediate execution for those reconstructions. The results also agree with (von Meding et al., 2016) who, supported having a planned management and groups to reduce the barrier which will decrease the efficiency of reconstructing.

And other factors had less influence in their ranking as they had a rank of RII near to the 60s. "Risk mitigation should be as a priority when managing housing reconstruction projects" (RII = 69.11%; P-value = 0.000; T-value = 4.67; SD = 0.93) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 4.67 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.46) and hypotheses mean (3). SD equal 0.93, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The factor of taking risk mitigation into account is not having any priority in the Gaza Strip at the opposite of other countries such as Japan which make Seismic pipettes for its building so loses can be less. Facts of the Gaza Strip explain that this factor needs many criteria and phases, that's why it's not that applied that much at the Gaza Strip, in addition to the less funds that cannot be prepared for more than making a reconstruction, and also in the Gaza Strip there is no any effective cods for such designs, which isn't agreeing with (Ranie et al., 2017) recommendation of having risk mitigation when reconstruct. But engineers in the Gaza Strip wish to have this phase under the basic priorities in the Gaza Strip soon, which will make their job easier.

"Good cooperation between organizations" (RII = 69.78%; P-value = 0.000; T-value = 4.6; SD = 1.01) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 4.6 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.49) and hypotheses mean (3). SD equal 1.01, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The factor of Good cooperation between organizations is a serious issue while the results show that there is cooperation between organizations is weak, and that forbids the process of reconstruction to carry on with its goal. Which the same of (Enshassi et al., 2014) establishment about the basic challenges of the reconstructing is ineffective cooperation. Because this factor can led to an effeciant process with less repeated mistakes.

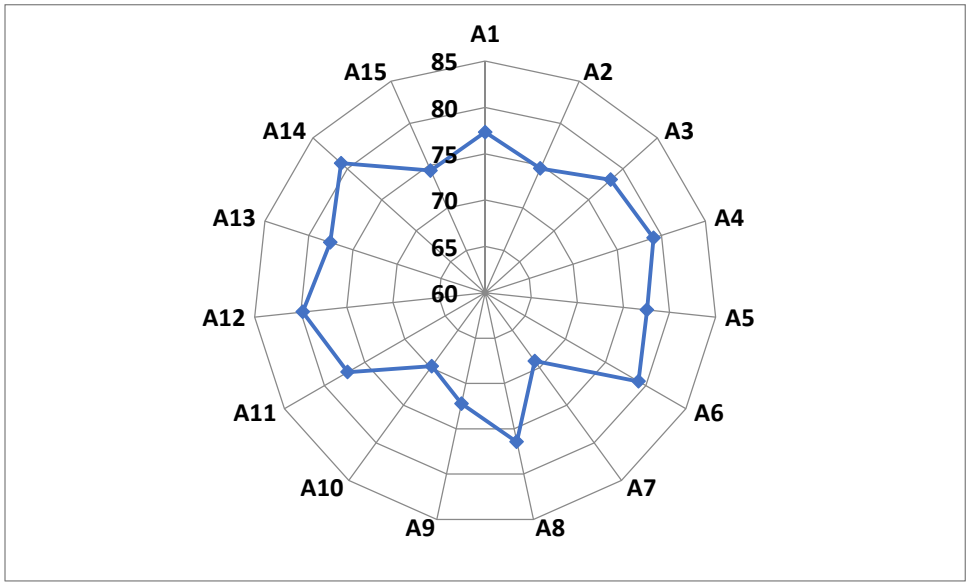

Figure 4.1 RII of statements (A1 to A15)

4.4.2 Factors related to participating (organizations) in reconstruction projects

Table 4.6 *Factors affecting reconstruction (Factors related to institutions participating in reconstruction projects)*

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
Factors related to institutions participating in reconstruction projects							
B1	Differences in experience between the participants specially the engineers	4.14	0.91	82.89	11.98	0.000	1
B2	Support sustainable mechanism	3.62	0.79	72.44	7.50	0.000	8
B3	Differences of the working manpower	3.87	0.75	77.33	10.93	0.000	6
B4	Being aware of the importance of applying sustainability	3.77	0.72	75.33	10.11	0.000	7
B5	Understanding the legislation and policies by engineers in the area	3.97	0.63	79.33	14.65	0.000	4
B6	Effort of working hard by every participant	3.89	0.71	77.78	11.87	0.000	5
B7	Having a good practice to manage any issue of the reconstruction	4.10	0.81	82.00	12.92	0.000	2
B8	Planning for post disaster risk reduction in the future	4.00	0.82	80.00	11.55	0.000	3
	Average	3.92	0.7675	78.3875	11.43875		

A- Supportive factors

Factors related to participating in reconstruction projects contains 8 statements. The findings indicated that "Differences in experience between the participants (engineers for example)" (RII =82.89%; P-value =0.000; T-value = ؛11.98SD = 0.91) has the highest rank in this factor.

(Figure 4.2). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 11.98 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.14) and hypotheses mean (3). SD equal 0.91, it is not far from zero, which means that the respondents

results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The Gaza Strip full of different college majors, and also the existence of the employees mad the chances of having an available employee with differences in experience, skills and knowledge. At the same as (von Meding et al., 2016) who said that different participants with different experience will support the process of reconstructing. Issues and sudden problem can be solved by those different skills

The results also revealed that "Having a good practice to manage any issue of the reconstruction" (RII = 82.00%; P-value = 0.000; T-value = 12.92; SD = 0.81) ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 12.92 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.10) and hypotheses mean (3). SD equal 0.81, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The Gaza Strip has a lot of international organizations, which don't have any random employees, but at the opposite, it does care about its crews and managers, and hiring people in those organizations isn't that simple. Because people who gives funds to those international organizations request to have details about management and the reconstruction process all of the time, and requested to have a very qualified work, so it is more familiar to have a good manages for construction issues by those organizations, agrees with (Bilau et al., 2017) and (Ophindari, 2013).

B. Challenged factors

The results also revealed that "Planning for post disaster risk reduction in the future" (RII = 80.00%; P-value = 0.000; T-value = 11.55; SD = 0.82) ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 11.55 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.10) and hypotheses mean (3). SD equal 0.82, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The Gaza Strip has less quality and less professionalism in their work as its one of the developing countries and it still need much more to carry on with the developed countries.

The Gaza Strip phases of a lot of political issues that forbid it from carry-on with the new methods or the modern technics, that's why planning for risk reduction may need much more time, so it can be applicable in the Gaza Strip, worth to mention that the Gaza Strip depends in their reconstructing at the donors, and in many cases funds can't fit the goal. Agrees with (Ranie et al., 2017).

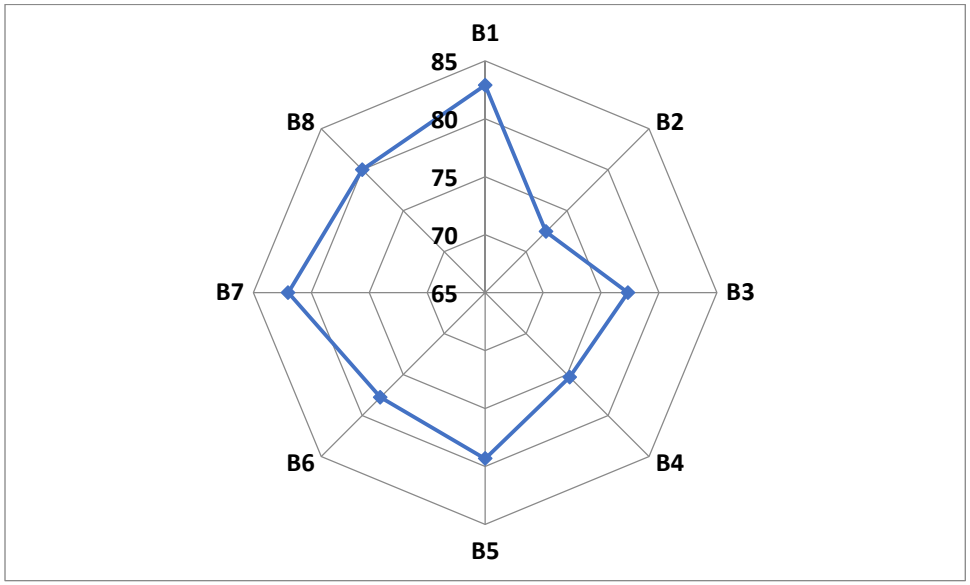

Figure 4.2 *RII of statements (B1 to B8)*

4.4.3 Factors related to beneficiaries of reconstruction projects

Table 4.7 *Factors affecting reconstruction (Factors related to beneficiaries of reconstruction projects)*

Factors related to beneficiaries of reconstruction projects

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
C1	The volume of those who are in need for these projects (Beneficiaries)	4.17	0.86	83.33	12.80	0.000	1
C2	Psychological situation	3.72	0.94	74.44	7.32	0.000	3
C3	Existence of the needed information, no weakness of cooperation of the beneficiaries	3.47	1.12	69.33	3.94	0.000	5
C4	Availability of the temporary houses till the reconstruction finishes	3.68	0.95	73.56	6.80	0.000	4
C5	Fitting between money from donors and the volume of needs	4.12	0.56	82.44	19.10	0.000	2
	Average	3.832	0.886	76.62	9.992	3.832	

A- Challenged factors

The results indicate that all of the factors related to beneficiaries of reconstruction projects in this group are challenged factors, which affect the process of reconstruction negatively. This section contains 5 statements. The findings indicated that the higher rank is "number of those who are in need for the reconstruction projects (Beneficiaries)" (RII =83.33%; P-value =0.000; T-value = ؛12.80SD = 0.86) has the highest rank in this factor.

(Figure 4.3). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 12.80 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.17) and hypotheses mean (3). SD equal 0.91, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Which means whenever there are less destructive buildings which need a reconstruction, a reconstruction can have their process effectively. More funds are needed when more buildings need a construct (Subekti, 2008). And also, whenever there are more needs for reconstructing less satisfying can occur by the beneficiary, due to, the less chance of having the desire reconstruction by the beneficiary (Ratanayak and Rameezdeen, 2010). And while the war of 2014 had resulted thousands of destructive houses, this led to be a very challenged factor.

The results also revealed that "Fitting between money from donors and the volume of needs" (RII = 82.44%; P-value = 0.000; T-value = 19.10; SD = 0.56) ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 19.10 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.12) and hypotheses mean (3). SD equal 0.56, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

One other challenged factor that the Gaza Strip faced during the reconstructing is funding properties, when donors do give conditions for reconstruction that should be done by the acceptance of the culture of the country and with the demands of the beneficiary. An interview with the managers of the ministry of public work and housing confirm that less conditions by donors can increase the efficiency of the reconstruction process. There are some of reconstructed places had been designed and implemented under the conditions of their

donors, which isn't that applicable in the Gaza Strip, and couldn't fit with the demands of the beneficiaries.

And other factors had less influence in their ranking as they had a rank of RII near to the 60s. "Existence of information, no weakness of cooperation of the beneficiaries" (RII = 69.33%; P-value = 0.000; T-value = 3.94; SD = 1.12) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 3.94 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.47) and hypotheses mean (3). SD equal 1.12, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential. The results show that having the right information has less influencing and less effective to the housing reconstruction projects. Which doesn't agree with (Sharma et al., 2017) who supported having the right information from the beneficiaries. Or (Ophiyandri et al., 2013) who stated that ineffective communication will cause an ineffective process when reconstruct.

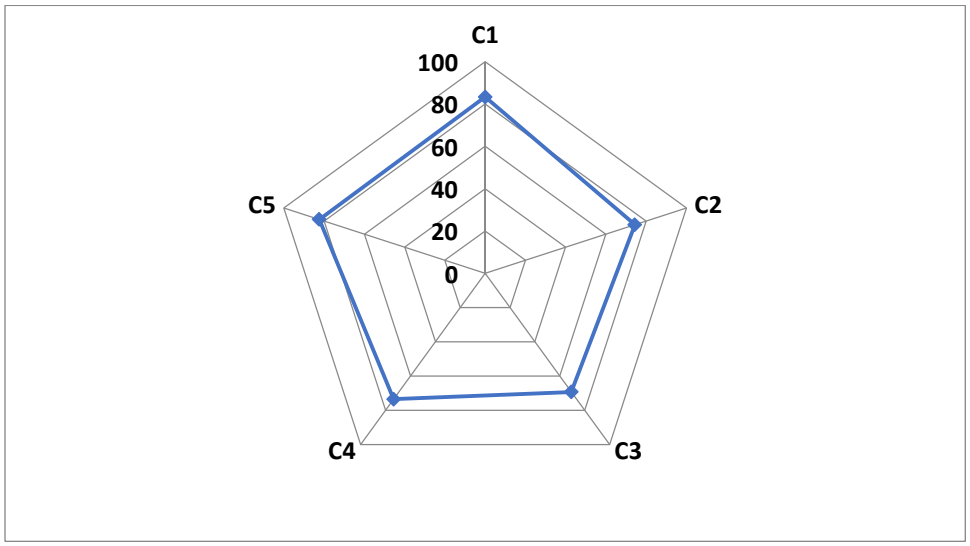

Figure 4.3 RII of statements (C1 to C5)

4.4.4 Technical factors

Table 4.8 *Factors affecting reconstruction (Technical factors)*

Technical factors

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
D1	Volume of the destruction	4.23	0.70	84.67	16.62	0.000	2

	of a building						
D2	The amount of landfill resulting from the disaster	3.76	0.74	75.11	9.70	0.000	8
D3	Number of the destructed houses	4.40	0.72	88.00	18.56	0.000	1
D4	Efficiency and the quality of the work when reconstruct	4.18	0.77	83.56	14.46	0.000	3
D5	The efficiency of the infrastructure when start the work of reconstructing	3.82	0.95	76.44	8.17	0.000	6
D6	Efficiency of preliminary assessment	4.00	0.70	80.00	13.49	0.000	4
D7	Applying safety when reconstruct	3.28	0.97	65.56	2.71	0.000	12
D8	Existence of the resources of the reconstruction process such as material, equipment and manpower	3.64	0.83	72.89	7.41	0.000	9
D9	Integration of information about the process of these projects	3.81	0.73	76.22	10.50	0.000	7
D10	The requirement of the donors doesn't fit with the local environment	3.63	0.87	72.67	6.93	0.000	10
D11	Existence of the quality and quantity of materials	3.89	1.04	77.78	8.08	0.000	5
D12	Electricity availability	3.42	0.97	68.44	4.12	0.000	11
	Average	3.83833333	0.8325	76.77833	10.0625		

A- Supportive factors

Technical factors contain 12 statements. " Efficiency and the quality of the work when reconstruct" RII =83.56 %; P-value =0.000; T-value =14.46 ؛SD = 0.77) has the highest rank in this factor. (Figure 4.4). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 14.46 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.18) and hypotheses mean (3). SD equal 0.77, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The reality indicates that the efficiency and the quality of the work in the housing reconstruction are exists, all of the constructed houses had its own style which also follows

the code of the design of the Gaza Strip, in addition all of the houses had been constructed using the concept of concrete.

" Good preliminary assessments" RII =80..00%; P-value =0.000; T-value =13.49 ؛SD = 0.70) has the highest rank in this factor. (Figure 4.4). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 13.49 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4) and hypotheses mean (3). SD equal 0.7, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Preliminary assessment is the key to the housing reconstruction world, depending on the preliminary assessment, phases can be planned, amount of funds can be calculated, design can be created in an appropriate way. In the Gaza Strip assessment is a very important stage and it has been divided to many categories, beginner assessment and then engineers assessment and then those who take the action at the end, agrees with (Ismail et al., 2014).

B- Challenged factors

The findings indicated that "Number of the destructed houses" (RII =88.00%; P-value =0.000; T-value =18.56 ؛SD = 0.72) has the highest rank in this factor.

(Figure 4.4). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 18.56 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.40) and hypotheses mean (3). SD equal 0.72, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Less numbers destructive houses can lead to more effective work in reconstructing, by giving a higher chance for the buildings to have better rehabilitation, but by the increase of the destructive houses the chance should be divided so justice can reach the beneficiaries. Which the same of what (Subekti, 2008) stated.

The results also revealed that "Vo1ume of the destruction in buildings" (RII = 84.67%; P-value = 0.000; T-value = 16.62; SD = 0.70) ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 16.62 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.23) and hypotheses mean (3). SD equal 0.56, it is not far

from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

When there is partial destruction, then less funded needed, more effective reconstruction happens. And because the Gaza Strip had a great large number of full damaged houses after the war of 2014, that resulted to be a very challenged factor that needs more funds, more time ad more quality of work.

And other factors had less influence in their ranking as they had a rank of RLL near to the 60s. "Applying safety when reconstructed" (RII = 65.56%; P-value = 0.000; T-value = 2.71; SD = 0.97) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 2.71 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.28) and hypotheses mean (3). SD equal 1.12, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Applying safety isn't that influencing at the reconstruction process as the results show, and that disagree with (Ismail et al., 2014). In the Gaza Strip safety doesn't take a priority as in other countries. From the prospective of engineers in the Gaza Strip the safety should be applied when reconstructing, but applying safety in the Gaza Strip faces a hard time in housing reconstruction, it isn't having any priority.

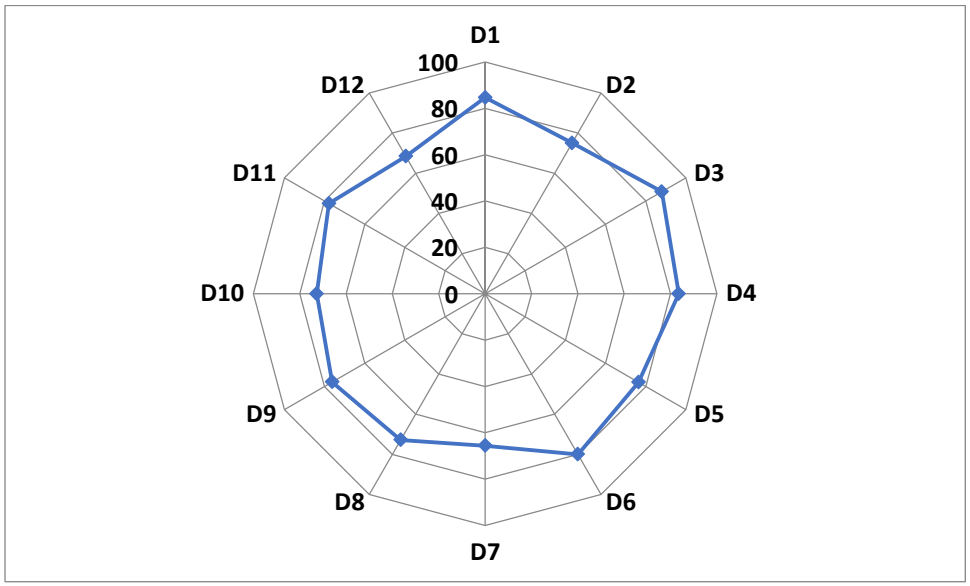

Figure 4.4 *RII of statements (D1 to D12)*

4.4.5 Government factors

Table 4.9 *Factors affecting reconstruction (Government factors)*

Government factors

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
E1	The effective role of municipality	3.71	0.88	74.22	7.69	0.000	2
E2	Availability of litigation for those projects	3.43	1.03	68.67	4.00	0.000	5
E3	The role of the government in controlling and monitoring those projects	3.56	1.07	71.11	4.92	0.000	4
E4	Finding solutions for the legal issues of the lands	3.64	0.88	72.89	6.96	0.000	3
E5	Existence of programs by the government to deal with these projects	3.87	0.74	77.33	11.15	0.000	1
	Average	3.642	0.92	72.844	6.944	3.642	

A- Supportive factors

Government factors contains 5 statements. The results also revealed that "effective role of municipality" (RII = 74.22%; P-value = 0.000; T-value = 7.69; SD = 0.88) ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 7.69 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.71) and hypotheses mean (3). SD equal 0.88, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Another role of the government is the role of municipal, integration in format and services between local government organization leads to effective reconstruction process in the projects. From reality, international organizations had established that municipalities had a great role in facilitating the process of housing reconstruction.

B- Challenged factors

The findings indicated that "existence of programs by the government deal with these projects" (RII =77.33%; P-value =0.000; T-value =11.15 ؛SD = 0.74) has the highest rank in this factor. (Figure 4.5). Since the P-value here equal 0.000 which less than 0.05, and T

statistics = 11.15 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.87) and hypotheses mean (3). SD equal 0.74, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

When having a program by the government, a lot of phases of those projects of reconstruction can go smoothly, which what (Rotimi et al., 2006) established in their study, such making facilities as ease license for constructing houses. But the Gaza Strip's government doesn't have these qualifications, and there is no special mechanism for such projects in the Gaza Strip.

"Role of the government in controlling and monitoring those projects" (RII = 71.11%; P-value = 0.000; T-value = 4.89; SD = .86) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 4.89 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.44) and hypotheses mean (3). SD equal .86, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

The government's role is very weak, especially in monitoring and controlling the process, which decrease the effeminacy in reconstructing because they depend on international organizations to finish the work. Ophiyandri et al., (2013) established that the government role to support the reconstructing process as a challenged factor.

And other factors had less influence in their ranking as they had a rank of RLL near to the 60s. "Availability of litigation for those projects" (RII = 68.67%; P-value = 0.000; T-value = 4.00; SD = 1.03) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 4.00 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.43) and hypotheses mean (3). SD equal 1.03, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential

Legislations by the government in the Gaza Strip don't have any efficiency, because legislation for these kind of projects in particular aren't exist and aren't having any special mechanism. Disagree with (Rotimi et al., 2006).

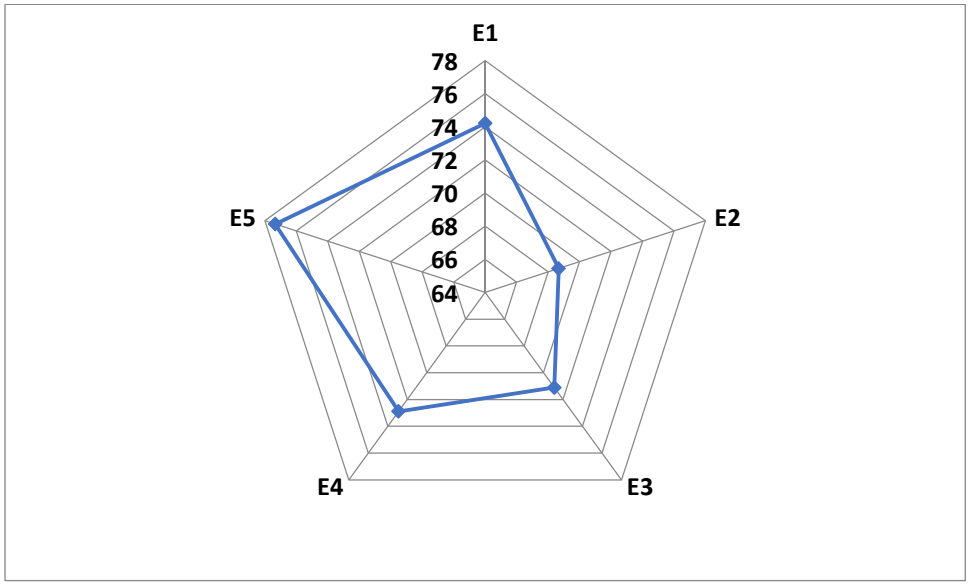

Figure 4.5 RII of statements (E1 to E5)

4.4.6 Economic factors

Table 4.10 *Factors affecting reconstruction (Economic factors)*

Economic factors

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
F1	Existence of funds	3.82	1.12	76.44	6.98	0.000	7
F2	Existence of funds for long-term reconstruction	4.01	0.84	80.22	11.40	0.000	5
F3	Volume of the given funds	4.04	0.81	80.89	12.29	0.000	4
F4	Volume of the destructed areas	4.14	0.79	82.89	13.80	0.000	2
F5	A period that needs for finding funding	3.90	0.85	78.00	10.06	0.000	6
F6	A period that needs to make a disaster assessment to figure out the volume of funds	3.57	0.87	71.33	6.15	0.000	9
F7	Monitoring the funds until it reaches the target	3.71	0.85	74.22	7.93	0.000	8
F8	Effective cooperation between the donors and the organizations in the Gaza Strip	4.12	0.60	82.44	17.85	0.000	3
F9	Effective disaster assessment to figure out the appropriate amount of funds	4.23	0.72	84.67	16.26	0.000	1
F10	Price of material	3.43	0.81	68.67	5.09	0.000	13
F11	Price of equipment	3.44	0.86	68.89	4.89	0.000	12
F12	Price of manpower	3.48	0.82	69.56	5.50	0.000	11
F13	Most of the funds don’t include the reconstruction stage	3.56	0.77	71.11	6.88	0.000	10

Average						

A- Supportive factors

Economic factors contain 13 statements. The findings indicated that "Effective disaster assessment to figure out the appropriate amount of funds" (RII =84.67%; P-value =0.000; T-value =16.26 ؛SD = 0.72) has the highest rank in this factor.

(Figure 4.6). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 16.26 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.23) and hypotheses mean (3). SD equal 0.72, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Assessment is the key to reach the efficiency in reconstructing, assessment lead to the appropriate amount of funds needed. Fengler et al., (2008) confirmed the importance of assessment is to approximate the appropriate funds. And also (Aufret et al., 2009) supported the idea of the importance of having an effective assessment to have affected reconstructing.

B- Challenged factors

The results also revealed that "Volume of destructive areas" (RII = 82.89%; P-value = 0.000; T-value = 13.80; SD = 0.79) ranked in the second position. Since p-value equal 0.000 which less than 0.05, and T statistics = 13.80 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.14) and hypotheses mean (3). SD equal 0.79, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Rotimi et al., (2006) established that the area of destruction is the key role of having efficient reconstructing. Areas will determine the appropriate funds. Less destructive areas mean less funds mean less work and more effective process of reconstructing. In the war of 2014 in the Gaza Strip huge amount of areas had faces destructions, which affect the amount of funds due to the increase demands.

And other factors had less influence in their ranking as they had a rank of RLL near to the 60s. "Price of material" (RII = 68.67%; P-value = 0.000; T-value = 5.09; SD = 0.81) was

ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 5.09 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.43) and hypotheses mean (3). SD equal 0.81, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Material's prices on the Gaza Strips increase inconstantly, due to the political issues, that's why alternative should always been exists. Which disagrees with (Ruddock et al., 2010) and (Ophindari et al., 2013).

"Price of equipment" (RII = 68.89%; P-value = 0.000; T-value = 4.89; SD = 0.86) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 4.89 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.44) and hypotheses mean (3). SD equal 0.86, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Equipment's prices on the Gaza Strips increase inconstantly, that's why alternatives solutions are always exists. That's why the prices of the equipment aren't that efficient. Which means the process of housing reconstructing can go smoothly . Which disagrees with (Ruddock et al., 2010) and (Ophindari et al., 2013).

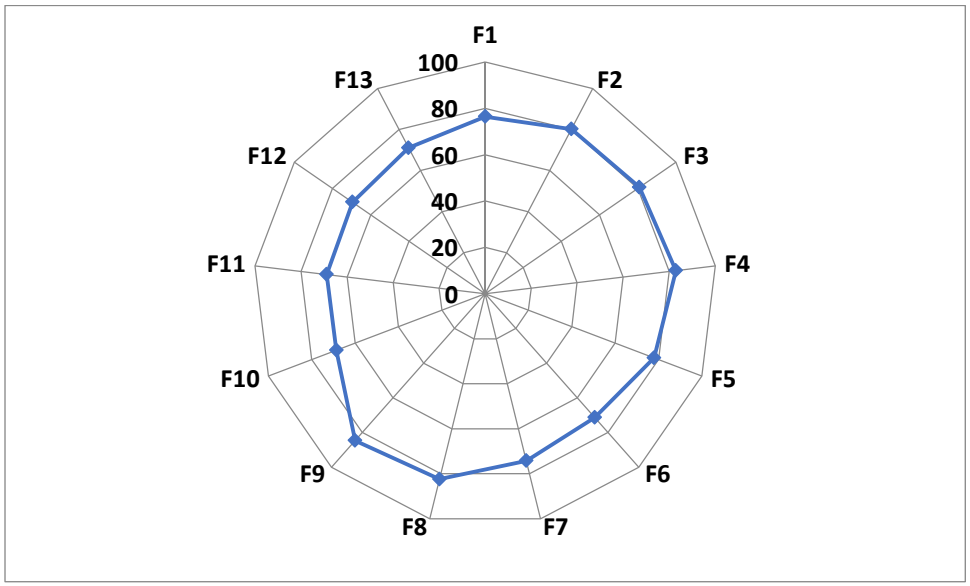

Figure 4.6 RII of statements (F1 to F13)

4.4.7 Duration factors

Table 4.11 *Factors affecting reconstruction (Duration factors)*

Duration factors

No.	Items	Mean	Std. dev.	RII (%)	T value	P value Sig.	Rank
G1	Being as a heritage area	3.79	0.95	75.78	7.85	0.000	4
G2	Considering the development beside the humanitarian concerns in post disaster reconstruction disaster	3.76	0.89	75.11	8.05	0.000	5
G3	Considering the justice when giving the priority to reconstruct	3.94	0.78	78.89	11.43	0.000	2
G4	Finding appropriate land to reconstruct whenever the original land can't be reconstructed	3.87	0.77	77.33	10.72	0.000	3
G5	Efficiency in defining the responsibilities for every participant in these projects	4.10	0.74	82.00	14.20	0.000	1
G6	Patience and not to impose pressure on employees who work in the reconstruction projects by the beneficiaries	3.60	1.10	72.00	5.18	0.000	6
	Average	3.82	0.35	76.40	22.44	0.000	

A- Supportive factors

Duration factors contains 6 statements. The findings indicated that "Efficiency in defining the responsibilities for every participant in these projects" (RII =82.00%; P-value =0.000; T-value =14.20; SD = 0.74) has the highest rank in this factor. (Figure 4.7). Since the P-value here equal 0.000 which less than 0.05, and T statistics = 14.20 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (4.10) and hypotheses mean (3). SD equal 0.74, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

One of the effective factors that can reduce the period of reconstruction, so can the time be more effective when reconstructing is defining the responsibilities for each participant. Khalid et al., (2017) stated that defining who take the decisions, with whom and what sequences resulted of those decisions. Agrees with Tafti and Tomlinson (2018).

The results also revealed that "Considering the justice when giving the priority to reconstruct" (RII = 78.89%; P-value = 0.000; T-value = 11.43; SD = 0.78) ranked in the second position.

Since p-value equal 0.000 which less than 0.05, and T statistics = 11.43 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.94) and hypotheses mean (3). SD equal 0.78, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential.

Karunasena and Rameezdeen (2010) established that submitting justice distributions of housing recovery can save time. The people of the Gaza Strip had different chances, depending on equity not equality, every beneficiary had his own chance of registration for housing reconstruction.

B- Challenged factors

"Finding appropriate land to reconstruct whenever the original land can't be reconstructed" (RII = 77.33%; P-value = 0.000; T-value = 10.72 SD = 0.77) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 10.2 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.87) and hypotheses mean (3). SD equal 0.77, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential. The Gaza Strip faces an issue during the assessment that the land which has been destructed doesn't belong to the people who live in there, and also in other cases land in suitable to be constructed, due to many legal issues or land issues, which affect the reconstruction project's process.

"Being as a heritage area" (RII = 75.78%; P-value = 0.000; T-value = 7.85 SD = 0.95) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 10.2 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.79) and hypotheses mean (3). SD equal 0.95, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential. The Gaza Strip had some of a heritage areas which had the same attack, in these cases reconstructing isn't the same of regular places, reconstructing should be more safe, that's why being as a heritage area consider as a challenged factor which need more time, money and quality of work. Doesn't agree with the recommendation of (kitamato et al., 2011).

"Considering the development beside the humanitarian concerns in post disaster reconstruction" (RII = 75.11%; P-value = 0.000; T-value = 8.05; SD = 0.89) was ranked in the last position in this factor. Since the P-value equal 0.000 which less than 0.05, and T statistics = 8.05 > T critical (1.98). So, there is a statistically significant difference attributed to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.76) and hypotheses mean (3). SD equal 0.89, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. So, it can be said that results are confidential. Tafti and Tomlinson (2018) stated that development beside humanitarian concern increases the period time in reconstruction projects, which has the same results in this study, such as build in concrete whatever the house was before the destruction.

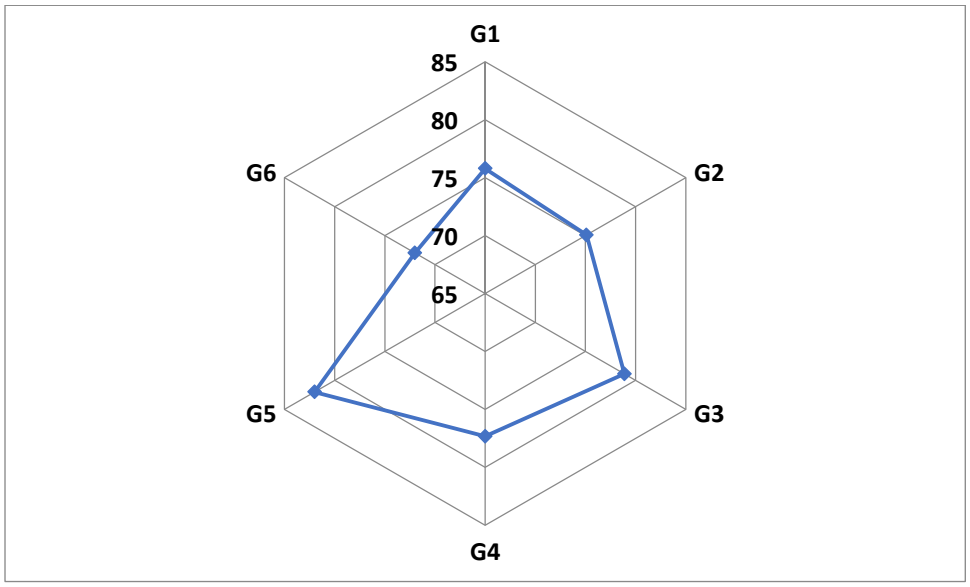

Figure 4.7 RII of statements (G1 to G6)

4.4.8 Summary of factors affecting reconstruction in the housing sector

Table (4.5) showed the respondent's opinions according to factors affecting reconstruction. The mean for all statements equals 3.27, the average RII equals 65.40%, the average P-value = 0.009; and the T-value = 2.71. The neutral value of RII is (3/5) *100 = 60%, where (5) refers to the rating scale that was used and (3) refers to the average of that rating scale as mentioned before. Based on all of that, and as shown, the total RII 65.40% is over than the neutral value of RII 60%. In addition, "critical value" of t (tabulated t), at degree of freedom (df) "[N (the whole sample) 1] = [60-1] = 59 and at "significance level = 0.05", equals 2.00, while the value of t test equals 2.71. As shown, the value of t test (2.71) is greater than the critical value of t (2.00). Also, the total P-value of the all items equals 0.009, which is less than the significance level 0.05. Hence, there is a statistically significant difference attributed

to the respondent's opinions at the level of $\alpha \leq 0.05$ between the statistical mean (3.27) and hypotheses mean (3) on the average of all statements. SD equal 0.75, it is not far from zero, which means that the respondents results are consistent and are not spread out over a wider range of values. It can be said that results are confidential.

Table 4.6 illustrates rank of the factors. As shown in Table, Political factors are the highest factor with an average RII (75.47%), and Design factors are the last factor with an average RII (61.89%) (Figure 4.8).

The results show that the most group of factors that affect the efficiency of the housing reconstruction projects, is the role of the international organizations. But the most obstacle groups which forbid the reconstruction process form taking it place of efficiency is the role of the government.

Table 4.12 *Rank of the factors*

Factors	Average RII	Rank
Factors related to participating in reconstruction projects (International organizations)	78.39	1
Duration factors	76.85	2
Technical factors	76.78	3
Factors related to beneficiaries of reconstruction projects	76.62	4
Management factors	76.22	5
Economic factors	76.10	6
Government factors	72.84	7

Factor Analysis results of the management factor

Questionnaire responses were checked using the statistical package for the social sciences (SPSS) version 22.0 to ensure completeness, consistency, and reliability prior to data processing. The data gathered using the first part of the survey was a factor-analyzed to examine the interrelationships among the 15 statements in an attempt to reduce the number of statements into a small number of factors. First data's suitability was assessed using a measure of sampling adequacy. Table (4.13) shows the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity. KMO test is used to predict if data are likely to factor well. Kaiser (1974) recommended accepting values greater than 0.5 as acceptable. For these data, KMO = 0.594, which fall into the region of being superb; so, we would be confident that factor analysis is appropriate for these data. Bartlett's test of

sphericity tests the null hypothesis that the original correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate. A significant test indicates that the correlation matrix is not an identity matrix; therefore, there are some relationships between the variables that may be included in the analysis. For these data, Bartlett's test is highly significant (P-value < 0.000), and therefore the factor analysis is appropriate.

Table 4.13 KMO and Bartlett's Tests for Sampling Adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**0.594**
Bartlett's Test of Sphericity	Approx. Chi-Square	750.155
	DF	105
	P-value	0.000

Table (4.14) lists the eigenvalues associated with each linear component (factor) before extraction, after extraction and after rotation. Before extraction, SPSS has identified 15 linear components within the data set. The eigenvalues associated with each factor represent the variance explained by the particular linear component and SPSS displays the eigenvalue in terms of the percentage of the variance explained (so, factor 1 explains 29.563% of total variance). It is clear that the first few factors explain relatively large amounts of variance (especially factor 1) whereas subsequent factors explain only small amounts of variation.

Table 4.14 Total Variance Explained

Statement	**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	4.434	29.563	29.563	4.434	29.563	29.563	2.967	19.783	19.783
2	2.618	17.456	47.019	2.618	17.456	47.019	2.443	16.287	36.070
3	1.480	9.867	56.886	1.480	9.867	56.886	2.011	13.405	49.475
4	1.409	9.392	66.278	1.409	9.392	66.278	1.987	13.248	62.723
5	1.283	8.553	74.831	1.283	8.553	74.831	1.816	12.108	74.831
6	.879	5.861	80.692						
7	.729	4.862	85.554						
8	.569	3.794	89.348						
9	.425	2.836	92.183						
10	.349	2.329	94.513						
11	.271	1.804	96.317						
12	.218	1.456	97.772						
13	.156	1.042	98.814						
14	.101	.670	99.484						
15	.077	.516	100.00						

. The eigenvalues associated with these factors are again displayed with the percentage of variance explained in the column labeled "Extraction Sums of Squared Loadings" In the final part of the table (labeled "Rotation Sums of Squared Loadings"), the eigenvalues of the factors after rotation are displayed. The rotation has the effect of optimizing the factor structure and one consequence of these data is that the relative importance of the five factors is equalized. After extraction, factor 1 accounts for 19.783% of variance (compared to 16.287%, 13.405%, 13.248% and 12.108% respectively).

A principal component analysis was then conducted to reveal the presence of five distinct factors. To obtain interpretable results from these three factors, a varimax rotation was also performed.

Factor's Interpretation

The five-factor solution accounted for about 74.831% of the total variance Table (4.9). The factors were then examined to identify the number of items that were loaded on each factor. The five-factor solution, with respective loading scores is presented in Table (4.9) Reliability scores (Cronbach's alpha), for the factors range from 0.752 to 0.845 indicating adequate internal consistency. The results were assessed and numbered in a descending order of the amount of variance to determine the underlying features. Each factor was subjectively labeled in accordance with sets of individual items.

The first factor accounted for 19.783% of the total variance and comprises 5 items relatively high factor loading (> 0.60).

The second factor accounted for 16.287% of the total variance and comprises 5 items. The majority of the items had a relatively high factor loading (> 0.60).

The third factor accounted for 13.405% of the total variance and comprises 1 item. The majority of the items had a relatively high factor loading (> 0.60).

The fourth factor accounted for 13.248% of the total variance and comprises 2 items. The majority of the items had a relatively high factor loading (> 0.60).

The fifth factor accounted for 12.108% of the total variance and comprises 2 items. The majority of the items had a relatively high factor loading (>0.60).

Table (4.15) showed the five-factor's solutions. The number in front of each statement represents the sort of the statement in the original questionnaire.

Table 4.15 The five-factor solution

Factor	Corresponding items	Variance %	Eigenvalue	Cronbach's alpha
1	A3, A6, A9, A12, A13	19.783	4.434	0.845
2	A2, A10, A11, A14, A15	16.287	2.618	0.832
3	A7	13.405	1.480	0.752
4	A1, A8	13.248	1.409	0.711
5	A4, A5	12.108	1.283	0.801

4.5 Hypothesis related to respondents' profiles (respondents' analysis)

There is a statistically significant differences attributed to the demographic data of the respondents at the level of $\alpha \leq 0.05$ between the means of their views on the subject of factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014

This hypothesis was to analyze the differences among opinions of respondents toward factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014due to job title, Educational level, Location, Employer, Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2008, Number of years of work in the reconstruction projects in the housing sector after the Israeli aggression on the Gaza Strip in 2014, and The cost of the projects in which it worked and specialized in the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014. One-way Analysis of variance (ANOVA) test was used to find whether there were statistically significant differences between the opinions of respondents or not. Also, Scheffe's method (multiple-comparison procedure) was used. All used tests are parametric tests based on the normal distribution.

4.5.1 The analysis considers job title

ANOVA (F-test) provides a parametric statistical test of whether the means of several groups (more than two) are equal or not (by using the F-ratio). The critical value of F at degree of freedom (df) = [(K-1), (N-K)] at significance (probability) level (α) = 0.05 (Field, 2009). Thus, ANOVA was used to test the differences between the opinions of respondents with respect to their job title (GM manager, Vice manager, Site engineer, and other job title).

It should be noted that the analysis of variance, popularly known as the ANOVA, can be used in cases where there are more than two groups. When we have only two samples, we can use the t-test to compare the means of the samples, but it might become unreliable in case of more than two samples. If we only compare two means, then the t test (independent samples) will

give the same results as the ANOVA (Field, 2009). According to the results of the test as shown in Table (4.16), the P-value for the Levene's test is greater than 0.05 in each field of the seven fields as well as all the fields together. Thus, the variances of the groups are not significantly different (the groups are homogeneous). Regarding to F- test, the significance values for the first (Management factors), the fifth (Government factors), the seventh (Duration factors) fields, as well as all the fields together are a significant (P-value < 0.05). Also, the values of F-test in these fields as well as all the fields together are greater than the critical value of F (2.710). Thus, there is statistically significant difference attributed to the respondent's job title at the level of $\alpha \leq 0.05$ between the means of their views on the subject of factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014 in favor of (GM manager).

Table 4.16 One-way ANOVA results regarding the job title of the respondents

Field	Test of Homogeneity of Variances		F-test	P-value (Sig.)	GM manager	Vice manager	Site engineer	Other
	Levene Statistic	P-value (Sig.)						
Management factors	2.525	0.063	2.957	0.037	3.93	4.10	3.73	3.92
Factors related to participating in reconstruction projects	1.361	0.260	1.151	0.333	4.22	3.96	3.87	3.95
Factors related to beneficiaries of reconstruction projects	2.833	0.043	2.197	0.094	4.48	3.68	3.81	3.75
Technical factors	3.484	0.019	2.285	0.085	4.11	4.06	3.83	3.72
Government factors	1.704	0.172	8.709	0.000	4.64	4.31	3.42	3.82
Economic factors	0.163	0.921	1.559	0.205	4.16	3.86	3.81	3.65
Duration factors	7.308	0.000	8.878	0.000	4.06	4.00	3.97	3.26
All fields	2.135	0.102	2.828	0.043	4.16	4.00	3.79	3.75

*Critical value of F at degree of freedom (df) = [(K-1), (N-K)] = [(4-1), (90-4)] =[3,86] and at significance (Probability) level 0.05 equals "2.710". *. The mean difference is significant at the 0.05 level.*

4.5.2 The analysis considers Educational level

According to the results of the test as shown in Table (4.17), the P-value for the Levene's test is smaller than 0.05 in each field of the seven fields as well as the all fields together. Thus, the variances of the groups are a significantly different (the groups are inhomogeneous). Regarding to F- test, the significance values for the first (Management factors), the fourth (Technical factors), and the fifth (Government factors) fields, are a significant (P-value <

0.05). Also, the values of F-test in these fields are greater than the critical value of F (2.710). Thus, there is a statistically significant difference attributed to the respondents' educational level at the level of $\alpha \leq 0.05$ between the means of their views on the subject of factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014 in favor of (Ph.D.).

In other hands regarding to F- test, the significance values for the other fields are not significant (P-value > 0.05). Also, the values of F-test in these fields are smaller than the critical value of F (2.710). Thus, there is no statistically significant differences attributed to the respondents' educational level at the level of $\alpha \leq 0.05$ between the means of their views on the subject of factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014.

Table 4.17 One-way ANOVA results regarding t educational level of the respondents

Field	Test of Homogeneity of Variances		F-test	P-value (Sig.)	Bachelor	Master	Ph.D.	Other
	Levene Statistic	P-value (Sig.)						
Management factors	1.254	0.291	7.637	0.000	3.69	4.03	3.86	4.33
Factors related to participating in reconstruction projects	4.378	0.015	1.213	0.310	3.91	3.89	3.87	4.37
Factors related to beneficiaries of reconstruction projects	5.921	0.004	0.179	0.911	3.84	3.78	4.20	3.80
Technical factors	6.318	0.003	2.873	0.041	3.89	3.65	4.25	3.91
Government factors	3.227	0.045	8.760	0.000	3.40	4.20	4.40	3.80
Economic factors	3.430	0.037	0.455	0.715	3.77	3.85	4.23	3.89
Duration factors	10.568	0.000	2.397	0.074	3.94	3.58	4.00	3.67
All fields	3.249	0.044	0.823	0.485	3.78	3.86	4.09	4.02

*Critical value of F at degree of freedom (df) = [(K-1), (N-K)] = [(4-1), (90-4)] =[3,86] and at significance (Probability) level 0.05 equals "2.710". *. The mean difference is significant at the 0.05 level.*

4.5.3 The analysis considers location

According to the results of the test as shown in Table (4.12), the P-value for the Levene's test is greater than 0.05 in each field of the seven fields as well as all the fields together. Thus, the variances of the groups are not significantly different (the groups are homogeneous). Regarding to F- test, the significance values for the fifth (Government factors), the sixth (Economic factors) the seventh (Duration factors) fields, as well as all the fields together are a

significant (P-value < 0.05). Also, the values of F-test in these fields as well as all the fields together are greater than the critical value of F (2.710). Thus, there is a statistically significant difference due to location at the level of $\alpha \leq 0.05$ between the means of their views on the subject to factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014.

In other hands regarding to F- test, the significance values for the other fields are not significant (P-value > 0.05). Also, the values of F-test in these fields are smaller than the critical value of F (2.710). Thus, there is no statistically significant differences due to location at the level of $\alpha \leq 0.05$ between the means of their views on the subject to factors affecting the reconstruction of the housing sector after the Israeli aggression on the Gaza Strip in 2014.

Table 4.12 One-way ANOVA results regarding location

Field	Test of Homogeneity of Variances		F-test	P-value (Sig.)	North Gaza	Gaza	Middle	South
	Levene Statistic	P-value (Sig.)						
Management factors	0.923	0.433	1.320	0.273	4.00	3.78	3.92	3.65
Factors related to participating in reconstruction projects	0.412	0.745	2.256	0.088	4.02	3.94	3.90	3.40
Factors related to beneficiaries of reconstruction projects	4.765	0.004	1.629	0.189	4.07	3.81	3.96	3.30
Technical factors	2.884	0.040	1.335	0.268	3.98	3.84	3.81	3.52
Government factors	3.790	0.013	4.820	0.004	4.20	3.48	4.16	3.90
Economic factors	2.940	0.038	2.710	0.049	3.87	3.78	4.09	3.32
Duration factors	0.076	0.973	4.596	0.005	3.89	3.90	3.80	2.83
All fields	1.999	0.120	2.819	0.044	3.98	3.80	3.94	3.44

*Critical value of F at degree of freedom (df) = [(K-1), (N-K)] = [(4-1), (90-4)] =[3,86] and at significance (Probability) level 0.05 equals "2.710". *. The mean difference is significant at the 0.05 level.*

Chapter 5: Conclusions and Recommendations

This chapter explains the conclusion of the study, and also extract the recommendation for the most important factors that affect the process of housing reconstruction projects after the attack on the Gaza Strip in 2014. So, some advices can consider for future reconstruction to minimize the obstacles that affect and forbid the process of housing reconstruction to finish in an appropriate way.

5.1 Summary of the research

A study had been done to investigate the most important influencing factors. (Challenged and supportive) factors, which will show some recommendation that can help the future housing reconstruction after a disaster in the Gaza Strip. This research concerned with the results of the housing reconstruction after the attaches at the Gaza strip in 2014. A literature was concerned with this aim. Some interviewed with expertise in these fields who worked on such projects had been done. And then 98 questionnaires, 90 questionnaires were collected and analyzed. Mixed approach was used (quantitative and qualitative method to reach the most realistic cleared factors that was being faced during the housing reconstruction in the Gaza Strip after being attacked in 2014.

5.2 Outcomes

Two major objectives were identified so it can fit with the aim of the projects and findings were conducted, by analyzing the results of the interviews and questionnaires. The outcomes were found as follows:

5.2.1 Outcomes related to objective one

The objective was: Identifying the most supportive factors in the process of housing reconstruction in the Gaza Strip after the attack in 2014. And the findings were as the following:

The most important supportive factors, according to the expertise's interview in the housing reconstructing were:

Availability of expert's workers, effective cooperation between participants who works in the international organization in the process of housing reconstruction, existence of the phase of plan, Self-help modality, beneficiary takes the funds build by he wishes, build-back better which helps the development plan of the country, justice in distribution the chances between

the beneficiaries, Build with concrete instead of old mechanism, existence of a program of housing reconstruction with special mechanism and the existence of the information and data that support the projects.

The most important supportive factors, according to the questionnaire results in the housing reconstructing were:

Management factors:

The efficiency of the management of the government

Factors related to participants in the reconstruction process (organizations)

Differences in experience between the participants especially the engineers in the international organizations and Having a good practice to manage issues by the organizations.

Technical Factors

Efficiency and quality of the work and preliminary assessment.

Government Factors

Effective role of the municipality.

Economic Factors

The effective disaster's assessment can approximate the needed funds.

Duration Factors

Defining the responsibilities and the duties for each participant and Justice in distributing chances for housing reconstructions.

5.2.2 Outcomes related to objective two

The objective was: Identifying the most Obstacles factors in the process of housing reconstruction in the Gaza Strip after the attack in 2014. And the findings were as the following:

The most important obstacle factors, according to the expertise's interview in the housing reconstructing were:

Less funds, reduce the ability of reconstructing, the huge volume of the destructive buildings which needs to be reconstructed, no strategy plans for such projects, forbids the housing reconstruction to keep going with its target, shortage of building material in the Gaza Strip, closure of borders, limits the chances of reconstructing, political issues limit the ability of having appropriate reconstructing, funds don't reach the target on time, less quality of works and no enough legislation for such a project, and if so it doesn't have the flexibility.

The most important obstacle factors, according to the questionnaire results in the housing reconstructing were:

Management factors:

No emergency plans of the government for the housing reconstruction.

Factors related to participants in the reconstruction process (organizations)

No planning for post disaster risk reduction.

Factors related to participants (Beneficiaries)

Number of the beneficiaries, huge number of those who re I need to the housing reconstruction and the weak fitting between the donors funds and the real demand for these funds.

Technical Factors

Number of the destructed houses.

Government Factors

The role of the government in controlling and monitoring those projects isn't effective and Existence of special program can deal with these projects.

Economic Factors

Weakness in Funds.

Duration Factors

Finding appropriate land in these cases when the original lad can't be constructed and considering the development beside the humanitarian concerns in post disaster reconstruction disaster affects the efficiency of works due to the amount number of needed requirements.

5.3 Conclusion of the objectives

The findings show that the factors related to the international organizations have the most affection on the process of the housing reconstruction with RII 78.39%, international organization has the main role in reconstructing, international organization collects funds, distribute chances and reconstruct, from there the importance of this group can be observed. And this is similar to the results of the interview, which established that international organization is the key to the success of the housing reconstruction in the Gaza Strip. Less funds, not appropriate funds or no funds reach in time is the most huge problem that the Gaza Strip faces. All of the factors of the economic group are challenged factor to the Gaza strip's housing reconstruction, no supportive factors had included in the group due to the poor situation that the Gaza strip lives through. The differences between interview's result and the

questionnaire's results aren't the big, a few differences were found due to the reality than interview had drawn their results from, at the opposite of the questionnaire were the results were In addition the Gaza Strip is facing the same issues for a long time now as shown in the next paragraph.

A comparison between the housing reconstruction after the attack at the Gaza Strip in 2008 and in 2012.

The results also showed that no much progress had been made after the housing reconstruction in 2008 and 2012. Shortage of materials, inconstantly prices of equipment and materials, ineffective corporation between organizations and donors all are the same challenged factors in 2014 as well.

Political issues, shortage of funds, closure of borders and the less of the flexible litigations of the government still as the same problem as in 2014 housing reconstructing. Which means no serious actions had been considered to reduce the obstacles, or to increase the efficiency in housing reconstructing to help the Gaza Strip.

5.3 Recommendation

Depending on the previous findings, which depends on the objectives of the research, some recommendations are drowning under. The recommendations explain the most influencing factors that affect the process of housing reconstruction in the Gaza Strip.

Table 5.1 Summary of the Recommendation

Finding	Recommendations
For the most Important Influencing factors, some of it should be improved, and for those challenged factors modifiacation and editing should be applied. The following are some of the most impotrant factors that supposed to but he light at: 1- Existence of expertise workers 2- Increase the ability of having emergency plans as a response first and then as a recover prepared plan. 3- Effective cooperation between participants in the international organization in the process of housing reconstruction.	1- A training courses for workers for any institutions should always have been done. Or institutions can always keep working with those workers who had been working with before and showed the experiences in their work, instead of trying less expertise in every single phase. 2- A mechanism or a program should be prepared and exist for facilities the corporation between engineers and the participant's workers in the organizations. 3- A program should be applied that can connect the international organizations together, with easy way to contact, and distribute information together.

Finding	Recommendations
4- Self-help modality, beneficiary takes the funds build by his wishes.	4- Increases the chances of the self-help modality, by having a special application program by the international organizations, with having special application programs. Give he beneficiary the chance to choose his desire of having a reconstruction type.
5- Justice in distribution the chances between the beneficiaries.	5- Prepare a special program by programers to distribute the chances with equity, without making any mistakes, and also assessment of disaster should have a great chance to be pplied propriatly.
6- Differences in experience among the participants, especially the engineers in the international organizations.	6- Hiring engineers should depend on experience and knowledge of such a project, meeting with the employees should always done and training course so knowledge can be distributed.
7- Efficiency of the management of the government.	7- The local government should make courses and meetings to find out some mechanism that should be applied to support the housing reconstruction project so it can go smoothly, in

Finding	Recommendations
	addition, it can put special plans of reconstruction with special criteria rather than the normal construction
8- Build back better.	8- Build back better should have a chance to be applied by organizations as a priority, improving a program and training courses that can always put the plan of improvement of the country as a priority.
9- Less funds, reduce the ability of reconstructing**.**	9- Those organizations who interested in gathering funds, such as NCR or any international organizations should increase its effort by having some mechanism or program that can increase the funds to reach the appropriate amount that are needed.
10- Shortage of building material in the Gaza Strip.	10- Some actions should be taken, for example, some materials can be storage if it's applicable in huge stocks.

Finding	Recommendations
11- Less quality of works.	11- No need to hire those who do not have enough experience in such a project, such projects can't handle losses or mistakes due to the limited funds.
12- Risk mitigation when reconstruct should be as a priority, especially in the managing phase in the housing reconstruction project.	12- Future design or future plans should include risk reduction, which will lead to less destructive volumes in buildings. Some special codes should be considered.
13- Good corporation between organizations which works on the same projects on housing reconstructing.	13- Finding a special program that facilitates the cooperation between organizations which have the same works.
14- Emergency plans to support the management of the reconstruction.	14- Increase the ability of having emergency plans as a response first and then as a recover prepared plan. Plans always should be prepared before any disaster happens.

For any future study, researchers can make a special investigation for the ministry of public works and housing, so some recommendations can be applied directly to the ministry. And also factor analyses for the previous worker can be done again to decrease the number of factors for efficiency.

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Appendex A

Islamic University of Gaza
Faculty of Engineering
Master's Degree in Construction Management

A questionnaire about

Post Disaster Housing Reconstruction after the attack at The Gaza Strip in 2014: Challenges and Influencing Factors

First and foremost, thanks for giving us a part of your time, to answer this questionnaire. You have been chosen to answer this questionnaire because u have been qualified with the required sample. The required sample are those who worked at the projects of housing reconstruction after The Gaza Strip war in 2014.

This questionnaire considered as a complementary part to obtain a master's degree in the construction management engineering. This research goals are to study and analyse the challenges and influencing factors of post disaster housing reconstruction after 2014 Gaza Strip's war, so it would be possible to use this measure sand lessons when reconstruct in the future. **Some goals had been sat which clear commensurate with the questionnaire topic, as the following:**

1. Measure the most important factors that consider as an obstacle of the process of post disaster housing reconstruction after the attack of The Gaza Strip in 2014.
2. Measure the most important factors that consider as an Influencing factor that support the process of the post disaster housing reconstruction after the attack of The Gaza Strip in 2014.

This questionnaire consists of the following parts:

Part I

Biography of the respondent.

Part II

Challenges and influencing factors of post disaster housing reconstruction after 2014 Gaza Strip's, consist of the following:

1- Influencing factors that affect the housing reconstruction projects after the attack of The Gaza Strip in 2014.

Post-Disaster housing Reconstruction /

- It's a reconstruction of the destroyed residential buildings caused by a natural disaster or human action, to resettle people in their homes as a treatment and rehabilitation stage to follow up the process of continuing to live after disasters as they were prior to the disaster or better as a stage of development of housing to implement Development plans in their community.

The information contained in this questionnaire will be used for this research and will not be used for any other purposes.

We thank you for your contribution.

Researcher: Abeer Alfaseeh
Supervisor: Bassam Tayeh

Part I: Curriculum vitae (CV) of the respondent

1- Administrative center for those who fills out the questionnaire:

□General manager

Deputy director

□Engineer site

□Other

2- Scientific specialization of winning it fills out the questionnaire:

□Medium College

□ Bachelor

□ Master/doctor

□ Other

3- Type of organization

□Government organization

□Non- Government organization

□ UNRWA

□ Private

□ Other

4- Company location:

□ North

□Gaza city

□Middle

□ South

5- **Number of the years spent on housing reconstruction projects after the war in 2008 and the 2012 war on the Gaza Strip:**

□from one year to less than 2 years

□from 2 years to less than 3years

□ from 3 to less than five years

□More than five

6- Number of years spent on housing reconstruction projects after the war 2014 on the Gaza Strip:

□ from one year to less than 2 years

□ from 2 to less than three years

□ from 3 to less than 4 years

□ from 4 to five years

7- Number of projects related to the reconstruction of housing in Gaza Strip implemented by the person who fills out the questionnaire:

□ Less than a million

□ from 1 to less than 5 million

□from 5 to less than 10 million

□ 10 million or more

Part II: Influencing factors of post disaster housing reconstruction after 2014 Gaza Strip's war

Please evaluate your opinion on a scale of 5 points on the following criteria in terms of their importance:

I	Factors	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
		5	4	3	2	1
A.	**Management factors**					
1.	The efficiency of management process in the organization					
2.	The management of housing reconstruction after disasters should keep going, with the existence of the built environment when planning					
3.	The management of housing reconstruction after disasters should consider the delay of the process for different reasons when planning					
4.	Adaptive Capacity of the area of housing reconstruction when planing					
5.	Tacking in account the vulnerability of the environment of housing reconstruction is a factor for a good management process					
6.	Being ready for management process when it needs					
7.	Risk mitigation should be as a priority when managing housing reconstruction projects					
8.	Efficiency of the assessment of the requirement for post disaster reconstruction					
9.	The existence of the material of the reconstruction					
10.	Good Cooperation between organizations					
11.	Good Cooperation between the basic resources of the reconstruction					
12.	Emergency plans to support the management of the reconstruction					
13.	The existence of special management mechanism for such a project					
14.	Efficiency of the management of the government					
15.	Differences in politics of the reconstruction between different organizations					

B.	**Factors related to participating in reconstruction projects (organization)**					
1.	Differences in experience between the participants specially the engineers					
2.	Support sustainable mechanism					
3.	Differences of the working manpower					
4.	Being aware of the importance of applying sustainability					
5.	Understanding the legislation and policies by engineers in the area					
6.	Effort of working hard by every participant					
7.	Having a good practice to manage any issue of the reconstruction					
8.	Planning for post disaster risk reduction in the future					
C.	**Stakeholders (beneficiaries) characteristics**					
1.	Volume of those who are in need for these projects (Beneficiaries)					
2.	Phycological situation					
3.	Gab of information due to the weak of incorporation of the beneficiaries					
4.	Availability of the temporarily houses till the reconstruction finishes					
5.	Fitting between money of donors and the volume of needs					
D.	**Technical factors**					
1.	Volume of the destruction in abuilding					
2.	Volume of the destructed areas					
3.	Number of the destructed houses					
4.	Efficiency and the quality of the work when reconstruct					
5.	Efficiency of the infrastructure when start the work of reconstructing					
6.	Efficiency of preliminary assessment					
7.	Applying safety when reconstruct					
8.	Existence of the resources of the reconstruction process such as material, equipment and manpower					
9.	Integration of information about the process of these projects					
10.	Requirements of the donors don't fit with the local environment					
11.	Existence of the quality and quantity of materials					
12.	Electricity availability					
D.	**Government factors**					
1.	Effective role of municipality					

2.	Availability of litigation for those projects					
3.	Role of the government in controlling and monitoring those projects					
4.	Finding solutions for the legal issues of the lands					
5.	Existence of programs by the government to deal with these projects					
E.	**Economic factors**					
1.	Existence of funds					
2.	Existence of funds for long-term reconstruction					
3.	Volume of the given funds					
4.	Volume of the destructed area					
5.	A period that needs for finding funds					
6.	A period that need to make disaster assessment to figure out the volume of funds					
7.	Monitoring the funds until it reaches the target					
8.	effective corporation between the donors and the organizations in the Gaza Strip					
9.	Effective disaster assessment to figure out the appropriate amount of funds					
10.	Price of material					
11.	Price of equipment					
12.	Price of manpower					
13.	Most of the funds doesn't include the reconstruction stage					
F.	**Period factors**					
1.	Being as a heritage area					
2.	Considering the development beside the humanitarian concerns in post disaster reconstruction disaster					
3.	Considering the justice when giving the priority to reconstruct					
4.	Finding appropriate land to reconstruct whenever the original land can't be reconstructed					
5.	Efficiency in defining the responsibilities for every participant in these projects					
6.	Patience and not to impose pressure on employees who work at the reconstruction projects by the beneficiaries					

Appendex B

الجامعة الاسلامية- غزة
عمـادة الدراســات العليــا
كلية الهندسـة – قسم إدارة التشييد
استبيان

العوامل المؤثرة على إعادة الاعمار في قطاع الاسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014

السلام عليكم ورحمة الله وبركاته،

أتقدم لكم بفائق التقدير والاحترام وجزيل الشكر والامتنان لمساهمتكم بجزء من وقتكم للإجابة على هذه الاستبانة.

فقد تم اختياركم للإجابة على هذا الاستبيان إذ تنطبق عليكم معايير الفئة المستهدفة، وهي الفئة التي عملت في أحد مشاريع إعادة الاعمار في قطاع الإسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014.

تعتبر هذه الاستبانة جزءاً من البحث التكميلي لنيل درجة الماجستير في إدارة التشييد، حيث يهدف هذا البحث لدراسة العوامل المؤثرة على اعادة الاعمار في قطاع الاسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014، لكي يصبح من الممكن أن يتم أخذ هذه العوامل في عين الاعتبار عند العمل على مشاريع الاسكان والاعمار في المستقبل علماً بأن هذه البيانات المتضمنة داخل هذا الاستبيان سيتم استخدامها لخدمة هذا البحث ولن يتم استخدامها لأي غرض آخر.

أهداف الدراسة

- تحديد المعوقات التي تقف عقبة أمام عملية إعادة الاعمار في قطاع الاسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014.
- تحديد العوامل التي تدعم عملية إعادة الاعمار في قطاع الاسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014.
- **هذا الاستبيان يتكون من جزئيين:**

الجزء الأول: معلومات عامة حول الشخص الذي يقوم بتعبئة الاستبيان.

الجزء الثاني: العوامل المؤثرة في عملية إعادة الاعمار في قطاع الاسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014.

الباحثة: عبير الفصيح
المشرف: د. بسام تايه

الجزء الأول: معلومات عامة حول المستجيب

المسمى الوظيفي

مدير عام	نائب مدير
مهندس موقع	غير ذلك

المؤهل العلمي

بكالوريوس	ماجستير
دكتوراه	غير ذلك

موقع المؤسسة

شمال غزة	مدينة غزة
الوسطى	الجنوب

جهة العمل

مؤسسات حكومية	مؤسسات غير حكومية
وكالة UNRWA	خاص
غير ذلك	

عدد سنوات العمل في مشاريع اعادة الاعمار في قطاع الإسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2008 وعام 2012

من 1 الى أقل من 2 سنة	من 2 الى أقل من 3 سنوات
من 3 الى أقل من 5 سنوات	5 سنوات فأكثر

عدد سنوات العمل في مشاريع اعادة الاعمار في قطاع الإسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014

من 1 الى أقل من 2 سنة	من 2 الى أقل من 3 سنوات
من 3 الى أقل من 4 سنوات	من 4 الى 5 سنوات

تكلفة المشاريع التي عملت فيها والمختصة بإعادة الاعمار في قطاع الإسكان بعد العدوان الإسرائيلي على قطاع غزة عام 2014

أقل من 1 مليون دولار	من 1 الى أقل من 5 مليون دولار
من 5 الى أقل من 10 مليون دولار	10 مليون دولار فأكثر

الجزء الثانى :العوامل المؤثرة فى عملية إعادة الاعمار فى قطاع الاسكان بعد العدوان الإسرائيلى على قطاع غزة عام 2014.

	العوامل الإدارية	موافق بشدة	موافق	محايد	غير موا فق	غير موافق بشدة
.1	اتسام العملية الإدارية في المؤسسة المنفذة للمشروع بالفعالية					
.2	تأقلم مشاريع إعادة الإعمار مع البيئات المبنية مسبقا عند التخطيط					
.3	الأخذ بعين الاعتبار عوامل التأخير المفاجئ والتأجيل عند عملية التخطيط					
.4	التكيف مع المنطقة المراد إعادة اعمارها عند عملية التخطيط					
.5	الأخذ بعين الاعتبار مواطن الضعف في البيئة المراد إعادة اعمارها في عمليات الإدارة والتخطيط					
.6	الجهوزية والاستعداد لعمليات ادارة اعادة الاعمار في المؤسسات عند الحاجة المفاجأة لها					
.7	الأخذ بعين الاعتبار عمليات تخفيف المخاطر والتأثر بالكوارث مستقبلا عند إدارة مشاريع إعادة الاعمار					
.8	فعالية وكفاءة عمليات التقدير لمتطلبات المشروع قبل التنفيذ					
.9	توافر الموارد الأساسية بشكل كافي في مشاريع إعادة الإعمار					
.10	فعالية عملية التنسيق بين الجهات ذات العلاقة بالمشروع					
.11	فعالية عملية التنسيق بين الموارد الأساسية اللازمة لإعادة البناء					
.12	وجود خطة طارئة لدعم عمليات ادارة إعادة الاعمار في قطاع الإسكان في المؤسسات الحكومية					
.13	إدارة مشاريع الطوارئ بآليات متخصصة تتناسب مع الاستجابة مع الكوارث					
.14	فعالية المؤسسات الحكومية بإدارة عمليات إعادة الإعمار في قطاع الإسكان					
.15	اختلاف سياسيات الإعمار وأهدافه بين الجهات المعنية في عمليات إدارة الاعمار					
	عوامل خاصة بالمؤسسات المشاركة في تنفيذ إعادة الإعمار في قطاع الإسكان	**موافق بشدة**	**موافق**	**محايد**	**غير موا فق**	**غير موافق بشدة**
.1	اختلاف المشاركين (المهندسين) في خبراتهم وتجاربهم ومعلوماتهم في مشاريع إعادة الاعمار					
.2	دعم الاستدامة					
.3	اختلاف وتنوع القوى العاملة التقنية المشاركة في مشاريع إعادة الاعمار					
.4	الوعي التام لـ تطبيق مفهوم الاستدامة					
.5	الفهم التام للوائح القانونية والسياسية للمنطقة الجاري العمل عليها					
.6	الحماسة والجهد والانتماء للعمل من قبل المشاركين المنفذين لعمليات إعادة الاعمار					
.7	الخبرة الكافية لمواجهة المعرقلات أثناء التنفيذ					

8.	الالتزام بوجود خطط للتخفيف من آثار الكوارث مستقبلا					
عوامل خاصة بـ (المستفيدين) من عمليات إعادة الإعمار في قطاع الإسكان		**موافق بشدة**	**موافق**	**محايد**	**غير موا فق**	**غير موافق بشدة**
1.	حجم الفئة المستفيدة من عمليات إعادة الإعمار					
2.	الحالة النفسية للفئة المستفيدة من عمليات إعادة الإعمار					
3.	عدم دقة المعلومات نتيجة عدم فعالية التواصل بين المشتركين في عملية التقييم والتحليل والادارة.					
4.	توافر منازل سكنية مؤقتة للمتضررين أثناء عمليات إعادة الإعمار					
5.	تناسب المنحة المالية المقدمة مع حاجة المستفيد					
العوامل الفنية		**موافق بشدة**	**موافق**	**محايد**	**غير موا فق**	**غير موافق بشدة**
1.	حجم التضرر للمنشئات					
2.	حجم الردم الناتج من الحرب للمناطق المراد إعادة إعمارها					
3.	حجم المنشئات المتضررة التي تحتاج إعادة إعمار					
4.	جودة العمل					
5.	جودة البنية التحتية					
6.	كفاءة وفعالية التقييم الأولي قبل البدء بعمليات اعادة اعمار الاسكان					
7.	تطبيق مفهوم الأمان					
8.	توافر المصادر الرئيسية لمشاريع *الانشاءات مثل المواد*، المعدات و العمالة					
9.	توافر المعلومات المتكاملة حول هذا النوع من المشاريع					
10.	متطلبات بعض المانحين ووضعهم لمعايير لا تتناسب مع البيئة التي حصلت بها الكارثة					
11.	كفاية مواد البناء كماً ونوعاً					
12.	توافر الكهرباء					
العوامل الحكومية		**موافق بشدة**	**موافق**	**محايد**	**غير موا فق**	**غير موافق بشدة**
1.	فعالية دور البلديات					
2.	وجود التشريعات الخاصة بإعادة الاعمار					
3.	كفاءة دور الحكومة في مراقبة عمليات إعادة الإعمار					
4.	وجود حلول للمشاكل القضائية على الأراضي المراد اعادة اعمار الاسكان فيها.					
5.	توافر برامج فعالة للتعامل مع إعادة الاعمار من قبل الحكومة					
العوامل الاقتصادية		**موافق بشدة**	**موافق**	**محايد**	**غير موا فق**	**غير موافق بشدة**
1.	توافر تمويل لمشاريع إعادة الإعمار					

2.	توافر المنح المالية اللازم الداعمة لإعادة الإعمار على المدى الطويل					
3.	حجم التمويل اللازم لمشاريع إعادة الاعمار.					
4.	حجم المنشأة المتضررة					
5.	المدة الزمنية في جمع المنح المالية اللازمة لدعم إعادة الاعمار					
6.	المدة الزمنية في تقييم الأضرار لتحديد المنحة المالية الازمة					
7.	وجود رقابة على وصول المنحة المالية للمتضررين كما يجب					
8.	التعاون الفعال بين الجهة المانحة والجهة المنفذة للمشروع					
9.	التقييم الفعال الدقيق المُحدد لقيمة المنحة المالية					
10.	سعر العمالة اللازمة لتنفيذ المشاريع الإنشائية					
11.	سعر المواد اللازمة لتنفيذ المشاريع الإنشائية					
12.	سعر المعدات اللازمة لتنفيذ المشاريع الإنشائية					
13.	المنح المالية القادمة للمؤسسات لا تتضمن إعادة اعمار المنشئات في مضمونها					
عوامل المدة الزمنية		**موافق بشدة**	**موافق**	**محايد**	**غير موا فق**	**غير موافق بشدة**
1.	وجود منشئات تاريخية أو التراثية يؤثر على المدة الزمنية اللازمة لإنهاء المشروع					
2.	الأخذ بعين الاعتبار خطط التنمية المجتمعية لهذه المنطقة تؤثر على الوقت اللازم لإعادة الاعمار					
3.	الأخذ بعين الاعتبار التوزيع العادل بين الناس لإعادة اعمار مساكنهم يؤثر على الوقت اللازم لإعادة الإعمار					
4.	ايجاد البيئة أو الأرض المناسبة لإعادة اعمار الاسكان في حال الفشل في اعادة الاعمار في المنطقة الأصلية يؤثر على الوقت اللازم لإعادة الإعمار					
5.	الفعالية في تحديد المهام والالتزامات للعاملين على المشروع تؤثر على الوقت اللازم للإنهاء المشروع					
6.	صبر المتضرر وعدم ضغطه على الجهات المسؤولة أو الاستعجال بالحصول على تعويضه					