



## RESEARCH PAPER

## OPEN ACCESS

## A study of housing reconstruction program in post war conflict affected areas of Hindukush region, District Swat Pakistan

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Article published on April 30, 2018

**Key words:** Conflict affected area, Housing and infrastructure reconstruction process barrier, District Swat, HKR, Pakistan).

### Abstract

Housing is the basic human need which provides shelter, privacy, safety and shelter in harsh weather. This study was carried out during 2012-16 in order to investigate housing reconstruction programme in 2009-10 conflict affected areas of Hindukush region District Swat, Pakistan. Near half (48.2%) of the dwelling units were damaged due to operation against militant in 2009-10. Out of 265 damaged sampled housing units about half of the houses, 47.9% were completely damaged while the remaining 52.1% were partially damaged. Three quarter (74.5%) of the houses were fully reconstructed or repaired and the rest of the damaged houses, 25.5% were partially repaired or reconstructed after the conflict. Vast majority of the respondents (81.4%) could not afford to buy the construction materials for their damaged houses. Slightly above the quarter (26.4%) of respondent stated that their damage was between Rs 0.8 to 1.5 Million per household. Only 63% respondents were assisted with some financial aid by government or other organization. The assistance ranging from 100,001 to 800,000 rupees per family depending on the circumstances. Some 61.7% respondents were unsatisfied from the financial aids given to them, because they were not consulted when decision was made about the financial aid. The percentage of the respondent whose houses were improved due to reconstruction process was 42.6% and the rest 57.4% did not made any improvement in their houses. The reconstruction process was slow due to time consuming procedure and difficult terrain. After the conflict 78.9% respondent said that housing condition was suitable for living because they themselves built. About 79.3% of the respondent were satisfied from the security of the area while a small number of respondents, 20.7% said, the area is still unsafe due lack of restoring normal situation, uncertainty, lack of empowerment and incomplete dwelling units.

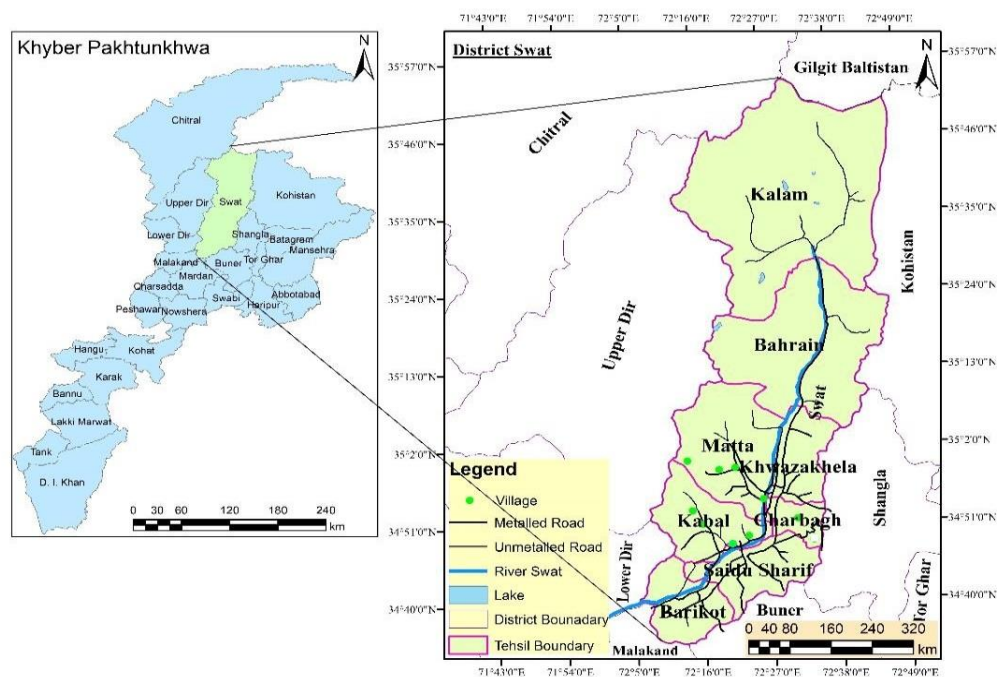
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## Introduction

After giving a brief introduction about the study and the study area the research paper is divided into three parts. Part first explain the research methodology followed by the result and discussion given in part two. Finally the suggestion and conclusion is given the last section along with tables, plates and references. Housing is the basic human need which provides shelter, privacy, safety and shelter in harsh weather. Everybody dreams for a decent housing for spending time in comfort and avail different facilities and services. Moreover, housing is a socio-economic

and status symbol. It is an asset which can be sold out at the time of need. Besides, it is an asset for securing all essential necessities of life linked with human health, education, safety and security, social and family stability. Dwelling is a collective wealth of a person and his family, essentially a social center for family, relatives and friends, a source of pride, glory and cultural identity as well.

Housing is one of the major steps towards the recovery, rehabilitation and development after any sort of natural or man-made disaster (Turner, 1968).



**Fig. 1.** Location map of District Swat.

The aim of the research is to evaluate housing recovery and reconstruction programme and to find out the factors affecting the quality of reconstruction with the following research objectives:

- To find out the mismatch between housing supply and demand and pace of reconstruction in the conflict affected area;
- To highlight the effects of lack of participation and consultation of stakeholders on the quality and supply of housing;
- To know the impact of lack of availability of developed sites and trained man power on the reconstruction of housing and

## Study Area

The study area is situated in the sub range of Hindu Kush Mountains ranging from varying height in elevation from 600 meter in the south to 6000 meter in the north above sea level, the highest peak of the study area is Palaksear (6261 m) above sea level (Ahmad and Sirjudin, 1996). It lies between  $34^{\circ}$ - $34^{\circ}$  to  $35^{\circ}$ - $55^{\circ}$  North Latitude and  $72^{\circ}$ - $08^{\circ}$  to  $72^{\circ}$ - $50^{\circ}$  East Longitude. The total area of the district is 5,337Km<sup>2</sup> and total population of the was 12,57,602, the average household size was 7 person, the average density of the area is 236 person per Km<sup>2</sup> and the average annual growth rate of population was 3.9% of the

study area (GoP, 1998), while the present population increased to 1,051,968, to form a total 2,309,570 population, living in 198,000 housing units.

Administratively the district is divided into 7 tehsil and 65 union councils (GoP, 2017). Climatically the district lies in the temperate zone having moderate summer and severe winter, the hottest months of the year are June and July with a temperature of 30°C and 16°C. The coldest months of the year are January and February with a temperature of 11°C and -2°C. The average annual precipitation in district Swat ranges from 22 mm to 138mm. About 20 percent of the land area of district Swat is forested. The government has declared these forests as “Protected Forests” (Mulk, 2003). The location map of district Swat shown in Fig. 1.

### Research methodology

Secondary data was collected from 2012 to 2016 from the district administration and relevant line department such as, the population census organization, Local Governments & Rural Developments Departments of Khyber Pakhtunkhwa (LG & RD), Provincial Management Authority (PDMA) & Provincial Reconstruction Rehabilitation and Settlement Authority (PaRRSA), National Disaster Management authority (NDMA), District government/ Tehsil Municipal Administration (TMAs), General Topographical sheets, Google earth maps, Books, Research Articles, projects and internet browsing.

Primary data was collected from the sample villages of the study area. The study area consist of seven tehsils namely Barikot, Babozai, Charbagh, Kabal, Khwazakhela, Matta and Bahrain of these three tehsils namely Kabal, Charbagh and Mattawhich were severely affected due to war were purposefully selected for this research. From the selected tehsils, nine union councils out of twenty-eight union council were selected randomly. From each union council, one village with estimated cluster of 5% households were selected for household survey making a total of 550 households. Field observations, focus group discussion (FGD). Global Positioning System (GPS) visualizer software was also used to record each

household location in term of X-Y Coordinates. The collected data from the field through household questionnaire , interview with key resource person, observation, using of GPS and reviewing the literature was arranged and analyzed through computer software Statistical Packages for Social Scientist (SPSS) for analysis and results presentation in the form of statistical tables, graphs, charts, maps and diagrams based on percentage and frequencies. GPS visualizer was used for showing the exact location of the respondent household on the Google Earth map.

### Result and discussion

Housing is very important sector of economy on which industry and employment depend. At the same time it is a social good provide shelter, privacy and comfort to the family and individual. Due to the war conflict of Swat about 48.2% (265/550) dwelling units were damaged due to operation against militant in 2009-10 (Table-1). Out of 265 damaged housing units about half of the houses, 47.9% were completely damaged while the remaining 52.1% were partially damaged (Table-2). About 4/5<sup>th</sup> of the damage houses 77.0% (204/265), were rebuilt by the people themselves and the rest 1/5<sup>th</sup> of the damage houses 23.0% (61/265) were not rebuilt, due to various reasons, such as lack of financial help from the government and shortage of resources (Table-3). The houses were rebuilt by the people themselves, no technical support was given by the Government or any other organization. Out of total damaged households, 74.5% (152/204) were fully reconstructed or repaired and the rest of the damaged houses, 25.5% (52/204) were partially repaired or reconstructed after the conflict (Table-4). 81.4% (166/204) of the respondents could not afford the construction materials for their damaged houses (Table-5).

**Table 1.** No of dwelling units damaged due to the conflict of 2009-10 of district Swat.

Damage dwelling units	Frequency	Percent
Damage	265	48.2
Un damage	285	51.8
Total	550	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 2.** Extent of damage house in the conflict affected area of district Swat.

Extent of damage	Frequency	Percent
Fully damage	127	47.9
Partially damage	138	52.1
Total	265	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 3.** Rebuilding of damage houses in the conflict affected area of district Swat.

Rebuilding of damages housing Units	Frequency	Percent
Rebuilt	204	77.0
Not built	61	23.0
Total	265	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 4.** Current status of housing repair in the conflict affected area of district Swat.

Status of repair	Frequency	Percent
Fully repaired	152	74.5
Partially repaired	52	25.5
Total	204	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 5.** Respondent affordability of material for construction/ repairs in conflict affected area of district Swat.

Affordability of material	Frequency	Percent
Affordable	38	18.6
Un affordable	166	81.4
Total household	204	100.0

Source: Field Survey Conducted in September to December 2016.

The area is located in the mountain where the transportation, labour and material cost is very high. There is acute shortage of land for housing which resulted in the highest cost of the land and land development. Some time it is beyond the reach of the purchasing power of the local people (Table-6,7,8,9,10). About 26.4%, (70/265) respondent stated that their damage was between Rs. 800,001 to 1500,000 per household (Table-11). Only 63% (167/265) families were assisted with some financial aid by government or any other organization ranging from Rs. 100,001 to 800,000 rupees (Table-12,13). Most of the aid received by the respondents, 89.2%

(149/167) was not on demand basis rather it was supply oriented so the respondents were not benefited to have the item and amount according to their own needs (Table.14). The aid was not sufficient for the reconstruction process of houses, some 61.7% (103/167) respondents were unsatisfied from the financial aids given to them, because they were not consulted when decision was made about the financial aid (Table-15).

**Table 6.** Labour cost for the housing repair in the conflict affected area of district Swat.

Labour cost category in rupees	Frequency	Percent
UptoRs. 50,000	52	25.5
Rs. 50,001- 100,000	60	29.4
Rs. 100001- 400000	92	45.1
Total household	204	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 7.** Money spent on the transportation of material in the conflict affected area.

Transport cost categories	Frequency of household	Percent
Rs 5000- 50,000	58	28.4
Rs 50,001- 100,000	104	51.0
Rs 100,000 & Above	42	20.6
Total household	204	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 8.** Money spent on the land purchase for the house extension or construction in the conflict affected area of district Swat.

Category of land cost	Frequency	Percent
Rs 100000- 200000	6	24.0
Rs 200001- 400000	12	48.0
Rs 400001- 700000	7	28.0
Total household	25	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 9.** Expenditure land development for the house reconstruction/ repairs in the conflict affected area of district Swat.

Categories of money spent on land development	Frequency/ Respondent	Percent
Rs. Less than Rs. 20000	49	24.0
Rs. 20001- 50000	59	28.9
Rs. 50001- 100000	64	31.4
Rs. 100001 & Above	32	15.7
Total household	204	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 10.** Money spent on the miscellaneous item in the conflict area of district Swat.

Expenditure categories	Frequency	Percent
UptoRs. 50,000	48	23.5
Rs. 50,001- 100,000	75	36.8
Rs. 100,001- 400,000	81	39.7
Total household	204	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 11.** Financial loss of house due to war in the conflict affected area of district Swat.

Damage/ Financial loss	Frequency of respondent	Percent
Rs. 100,000 – 200,000	13	4.9
Rs. 200,001- 300,000	22	8.3
Rs. 300,001- 500,000	52	19.6
Rs. 500,001- 800,000	58	21.9
Rs. 800,001- 1500,000	70	26.4
Rs. 1500,001 & Above	50	18.9
Total household	265	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 12.** Availability of financial aids for the reconstruction in the conflict affected area of district Swat.

Availability of aid	Frequency	Percent
Yes	167	63.0
No	98	37.0
Total	265	100.0

Source: Field Survey Conducted in September to December 2016

**Table 13.** Financial aid received by the household for the reconstruction of house in the conflict affected area of district Swat.

Financial aid categories (in rupees)	Frequency	Percent
Rs. 10,000 - 50,000	22	13.2
Rs. 50,001- 100,000	19	11.4
Rs. 100,001- 200,000	67	40.1
Rs. 200,001- 400,000	51	30.5
Rs 400,001 & Above	8	4.8
Total household	167	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 14.** Demand based aid to the affectees of conflict affected area of district Swat.

Nature of aid	Frequency	Percent
Demand base	18	10.8
Not on demand base	149	89.2
Total	167	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 15.** Satisfaction level from the received financial aid in the Conflict affected area of district Swat.

Satisfaction level	Frequency	Percent
Satisfied	18	10.8
Unsatisfied	103	61.7
Neither satisfied Nor dissatisfied	46	27.5
Total	167	100.0

Source: Field Survey Conducted in September to December 2016.

The satisfaction level of the respondents of the conflict affected areas of district swat, which were unsatisfied, was mainly due to less amount which did not fulfill their needs. They were 55.3% (57/103) and the remaining 44.7% (46/103) were not satisfied because for them it was not sufficient to fulfill their requirements (Table-16). Many of the respondents of the conflict affected areas were unsatisfied, because they were not consulted when decision was made about the financial aid. So it was supply oriented not demand based. Majority of them 70.6% (187/265) were not satisfied the decision made (Table-17). The percentage of the respondent whose houses were improved due to reconstruction process was 42.6% (113/265) and the rest 57.4% (152/265) did not made any improvement in their houses (Table-18). The houses were improved by addition of rooms, kitchen, veranda, guest room, kitchen etc (Table-19).

**Table 16.** Reason for lack of satisfaction in conflict affected area of district Swat.

Reason for lack of satisfaction	Frequency	Percent
Less amount	57	55.3
Requirement not fulfilled	46	44.7
Total	103	100.0

Source: Field Survey Conducted in September to December 2016

**Table 17.** Satisfactions from Govt/ NGOs and others interaction or consultation process in the conflict affected area of district Swat.

Satisfaction level about consultation	Frequency	Percent
Satisfied	12	4.5
Unsatisfied	187	70.6
Neither satisfied nor dissatisfied	66	24.9
Total	265	100.0

Source: Field Survey Conducted in September to December 2016.



**Table-18.** Additional improvement of houses in conflict affected area of district Swat.

Improvement	Frequency	Percent
Improved	113	42.6
Not improved	152	57.4
Total	265	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 19.** Form of addition improvement of housing in conflict affected area of district Swat.

Improvement form	Frequency	Percent
Addition of room	43	38.1
Addition of kitchen	12	10.6
Addition of veranda	14	12.4
Addition of guest room	9	8.0
Addition of room, kitchen and veranda	24	21.2
Addition of any other	11	9.7
Total	113	100.0

Source: Field Survey Conducted in September to December 2016.

The reconstruction process was slow in due to time consuming procedure and difficult terrain. After the conflict 78.9% (434/550) respondent said that housing condition was suitable for living because they themselves built (Table-20). About 79.3% (436/550) of the respondent were satisfied from the security of the area while a small number of respondents 114/550 (20.7%) said that the area is still unsafe due lack of restoring normal situation, uncertainty, lack of empowerment and incomplete dwelling units (Table-21,22,23). During the process of reconstruction and repair of houses, majority of the respondents used trained manpower. These people were informally trained not specifically given train for this purpose. Out of 204 respondent 180 respondents used trained manpower for the reconstruction or repair, while the remaining respondent used untrained manpower for the repair work (Table-24).

**Table 20.** Opinion on housing condition for living by respondent in conflict affected area of district Swat

Housing condition	Frequency	Percent
Suitable	434	78.9
Not suitable	116	21.1
Total	550	100.0

Source: Field Survey Conducted in September to December 2016.

**Table 21.** Safety of the area in conflict affected area of district Swat.

Safety	Frequency	Percent
Safe	436	79.3
Un safe	114	20.7
Total	550	100.0

Source: Field Survey Conducted in September to December 2016

**Table 22.** Reason for safety in conflict affected area of district Swat.

Reasons for safety	Frequency	Percent
Clearance of area and normal situation	231	53.0
Improved security	73	16.7
Establishment of govt rit and VDC	63	14.5
People empowerment	69	15.8
Total	436	100.0

Source: Field Survey Conducted in September to December 2016

**Table 23.** Reason for uncertainty in conflict affected area of district Swat.

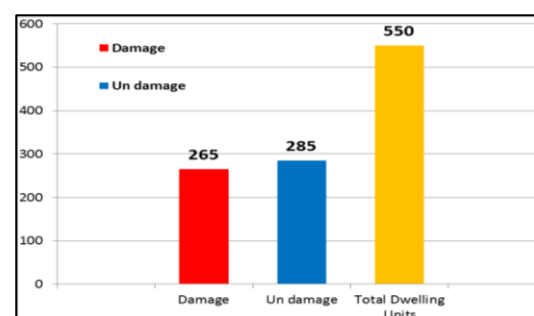
Reasons for feeling unsafe	Frequency	Percent
Lack of clearance	45	39.5
Lack of security, Peace, fear and Uncertainty	43	37.6
Lack of empowerment	21	18.4
Dwelling unit not yet built	5	4.4
Total	114	100.0

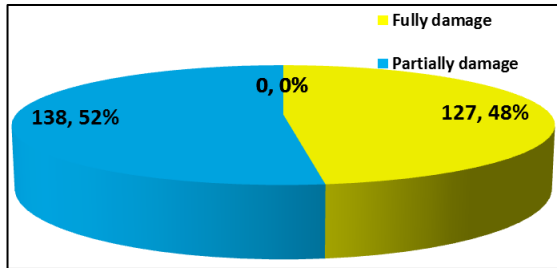
Source: Field Survey Conducted in September to December 2016

**Table 24.** Use of trained manpower for the repair and reconstruction of the house in the conflict affected area of district Swat.

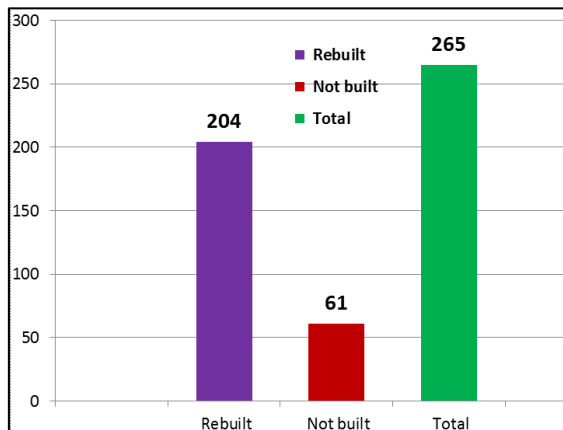
Man power	Frequency	Percent
Trained	180	88.2
Un trained	24	11.8
Total	204	100.0

Source: Field Survey Conducted in September to December 2016.

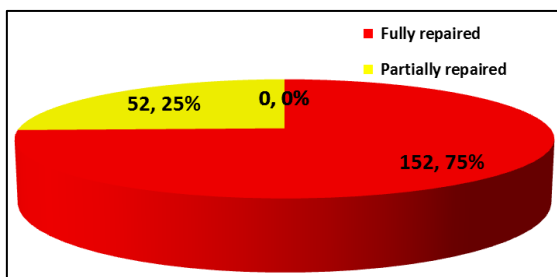
**Graph I.** No of dwelling units damaged due to the conflict of 2009-10 in district Swat.



**Graph II.** Shows number and percentage of extent of damage house in the conflict affected area of district Swat.



**Graph III.** Show number of rebuilding of damage houses in the conflict affected area of Swat.



**Graph IV.** Current status of housing repair in the conflict affected area of district Swat.



A. District Swat: Damage houses Village Koz Shawar  
B. Damage house in village Peochar



C. Damage house in village Chuprial D. Damage house in village Shahdehrai.



E. Rebuilt of war damaged houses F. Under construction of damage houses



G. Temporary shelters in the research area H. Shelter house with stone and bamboo construction material

### Suggestion

The research reveals that community participation is a useful tool for rehabilitation and reconstruction to make housing reconstruction programmes successful, affordable and sustainable with some of the following suggestions:

1. The government should encourage the researcher, academia, and civil society organization to conduct a proper survey for damaged houses.
2. The local communities must be involved in the whole process of rehabilitation.
3. Sufficient financial aids must be given to the affectees for the reconstruction of their dwelling units and rehabilitation of livelihood.

4. Technical support in the form of training of reconstruction of houses and infrastructure is provided through the local technical training institution.
5. Low cost construction material must be supplied people on some subsidize rates.

### Conclusion

It was concluded from study that 48.2% (265/550) dwelling units were damaged in the military operation, of which almost half were completely damaged and the remaining half were partially damaged. After the operation 74.5% housing unit were fully reconstructed. Land, construction material, labour and transport cost was the main difficulties faced by the respondent during the reconstruction process. Government aid was not sufficient for full reconstruction of the dwelling units. At the same time stakeholders were not consulted for the estimation of required help for reconstruction and rehabilitation. The research reveals that community participation is a useful tool for rehabilitation and reconstruction to make housing reconstruction programmes affordable and sustainable.

### Acknowledgment

This paper is part of PhD Thesis of first author. Second and third authors are supervisor and co-supervisor of this Ph. D research. We thank all those most importantly the people of the conflict affected area who took time to share their views and offer suggestion in household interview. We hope the use of finding will improve the lives of people and will repay them for their time.

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