

Impacts of Infrastructural Development on the Livelihood of Local People: A Case Study of Sultan Bahu Bridge, Jhang



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CERTIFICATE

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Acronyms

ECO	Economic Over Head Capital
GOP	Government of Punjab
GMR	Ghar Maha Raja
NATO	North Atlantic Treaty Organization
PIDE	Pakistan Institute of Development Economics
SOC	Social Over Head Capital
SBB	Sultan Bahu Bridge
S K	Shoor Koot
UNO	United Nation Organization
WDR	World Development Report
USA	United States of America

Glossary

Aarti

Middleman

Amdaad

Help

Bhaiwala

Sharing of animals

Bella

Dry place in the river

Baradari

Kin base family system

Dhaa

Cutting of land by river and becoming part of it

Gunna

Sugar cane

Kanaak

Wheat

Mandi

Market

Tandor

A place to bread making

Thulla

A place where the level of ground is higher than normal

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Dedication

This piece of research work is dedicated to all those people who help me to complete it

Abstract

Development of infrastructure played significant role in livelihood of local communities in the developed as well as in developing world. The purpose of this research was to investigate the both positive and negative impacts of development project on the livelihood of the local community. In case of negative impacts of infrastructure project, an important question emerges i.e. what kind of coping mechanism are adopted by the local community to sustain their livelihoods? The study had taken “Sultan Bahu Bridge” (SBB) on the bank of river Chanab, located at Ghar Maha Raja near Shoor Koot district Jhang. This is a development project which was constructed for better transport connectivity of Ghar Maha Raja to through road and bridge to main cities of Pakistan. This study used the qualitative method for analysis. Twenty-five semi structure and unstructured interviews were conducted through informal interviews. The respondents were selected from five stakeholders which are farmer, labors, businessmen, shopkeepers, and employees. The impacts of Sultan Bahu Bridge were found different on various group of the people. Respondents from Ghar Maha Raja were more satisfied with the construction of the bridge. The more affected group of the people were farmers from right bank. The development project like SBB affected all assets of the livelihood. This development project has adverse impacts on the coping mechanism and it decreased the resilience level of the local people against flash flooding. The overall perception of the people about SBB from Ghar Maha Raja were positive but the people from adjacent communities have considered this project as negative for them. It is suggested that the negative impacts could be minimized by making spillways and provided the alternative location for settlement. Furthermore, when even there is any infrastructure project, planner should consider its positive and negative affect and design it accordingly to minimize negative impacts.

Key word: *Infrastructure Development, Coping Mechanism, Sultan Bahu Bridge Pakistan,*

CHAPTER I

Introduction

1.1. Positive Impacts of Infrastructure Development

Infrastructural development plays a key role in bringing the economic and social development in the world (Ghosh, 2011; Looney 1989). Infrastructural development is the life blood for industrial Growth (Groots et al., 1999; Wanmali and Islam 1997). Jochimsen (1996) defines infrastructures are the sum of all material institutional and personal facilities and data which is available at a place. It contributes to provision of inputs for production and services in case of suitable allocation of suitable inputs it helps to enhance economic activities at maximum level. Ahmad and Cynthia (1992) gives the four conditions which explains the infrastructure first one is that infrastructure consist of services or facilities which help to create economic activity. Second is that services of infrastructure are public goods which have multiple economic impacts. Third is that these services cannot be imported and fourth one is that the investment incur on these services are indivisible.

There are three types of infrastructure in which material, personal, and intuitional infrastructure (Jochimsen, 1996). In this study impacts of infrastructural development would be intending to study. Biehl (1986) defines material infrastructure includes all kind of material goods in form of transportation, education, health facilities, all equipment of water and energy provision, roads bridges sewage and disposal facilities and the administrative facilities for conservation of national resources are material infrastructure. Term infrastructure coined armed forces after the World War II by military officials and they had used this term for their military purposes (Youngsn, 1967). After that it was loosely used by economists in economic literature with different names. Social infrastructure, economic infrastructure, soft infrastructure, hard infrastructure, material infrastructure, physical and institutional infrastructure are different names which are used in literature (Ahmad & Cynthia, 1992).

A bunch of research scholars elaborates that infrastructure help to enhance the economic growth. Infrastructure development considered as the prerequisite for economic uplift. It has positive impacts in gross Domestic production country and it can help to increase per capita income of

people which is important part of livelihood (Latif, 2010; Chakravorthy & Mazumder, 2009). Developments of infrastructures like roads health facilities electricity sewage and social services have profound effect in reduction of poverty and increase the income and consumption pattern which positively effects of livelihood people (Faridi, 2015; Imran & Naizi, 2012; Latif, 2010). There are different types of infrastructure facilities which can help to bring the growth prosperity which is necessary for sustainability of livelihood.

Negative Impacts of the Infrastructure Development on Livelihood

However, a bulk of literature shows the negative impacts of infrastructural development which harm the livelihood of local community (Kumar, 1997; Scudder, 1970; Supplla & Gray, 1977). Infrastructural development in urban and rural areas has increased the frequency of floods to local community and local people are more exposed to hazards (Konrad, 2003). Infrastructure development plays a major role in developing some areas while other areas remain underdeveloped, so infrastructural development helps to create regional disparities (Rondinelli, 1982). Development of road and bridge infrastructures has negative ecological and social impacts and it has changed the tradition way of livelihood (Perz et al, 2012). The development of physical infrastructure like dams and bridges help to create the conflicts. The construction of these projects divides the people in two parties one has benefits and remaining face adverse effect so it to creates conflict (Scudder, 1970).

Chamber, (1992) defines that livelihood means all the capabilities assets and activities which are needed for survival of human life. Livelihood is considered as sustainable when it has capacity to bounce back and recover from the adversity without external dependence. Livelihood of an individual or community consists of five assets. Parts of livelihood are physical capital, human and natural capital, financial capital and social capital (Carney, 1998). Members of local community utilize these assets to fulfill their consumption needs and maintain their level of assets to invest in future needs (Islam at el, 2014). Freudenberg (1986) explains that social impacts are very important component of livelihood. It includes the consequences of the project on the local community and theses are used in policy making about any development project. Social impacts of development project on livelihood of any community means the results or outcomes on the human population of any public private action that brings change in a specific community. How the member of local community live, work and relate to one another organize to meet their need and coping mechanism

of hazards (Glasson, 2009). The analysis of impacts on livelihood can help to detect the needs of diverse group of people in community who are facing the adverse effects of development project. It helps to detect the changes in economic conditions lifestyle culture health system (Lockie et al, 1999). Different kind of impacts which are faced by the local community on their livelihood in which displacement of locals from their ancestral lands, high level of unemployment due to development project (Adjei 2007). Fraser (2014) argued that due to unplanned infrastructural development in rural settings have disastrous effect on local community livelihood and it has increased the risk to expose from hazard. This study will examine the relationship between infrastructural development project and livelihood. When a project is installed at specific place how its outcomes affects the livelihood assets of local community.

Statement of the Problem

It is evident in literature that development of infrastructure leads to economic development in a country. Infrastructural development provides the different kind of positive impacts in the world. Reduction in poverty, increase in production which improves the gross domestic production, it provides the employment for the local people. Infrastructural development is most important pillar which provides bases for sustainability of livelihood. However, it is very clear that infrastructural development creates some negative effects. The whole world is suffering from negative impacts in form of climatic changes, air pollution rises in temperature and rise in sea level. When a development project is started in a specific area at one level it to sustain the livelihood but also it has some negative effects. So, the focus of this research is to study the positive as well as negative impacts of infrastructural development project on the livelihood of specific community. For this purpose, development a project is taken as a case study which name is Sultan Bahu Bridge project. This Bridge was constructed in 2014 at River Chenab and Jhelum near GharMaha Raja Shoor Koot District Jhang. This research will study that what is the role of SBB project on livelihood on local community. GharMaha Raja community is facing flash flooding since last thirty years which affects the livelihood of GharMaha Raja community. The aim of the study is to investigate the role of SBB in making the disaster of flooding in that area. This research will also find out the different kind of coping mechanisms of GharMaha Raja community against flooding and survival of negative impacts of this project. This research intends to investigate the impacts of sultan Bahu Bridge on the different components of livelihood of local community of GharMaha Raja.

Key Terms

Following are the key term adopted in the study:

Infrastructure

Infrastructures are the sum of all material institutional and personal facilities and data which is available at a place. It contributes to provision of inputs for production and services in case of suitable allocation of suitable inputs. It helps to enhance economic activities at maximum level (Jochimsen, 1996). This research will to use the same concept in further procedure of inquiry.

Material Infrastructure

Material infrastructure or physical infrastructure includes all kind of material goods in form of transportation, education, health facilities, all equipment of water and energy provision, roads bridges sewage and disposal facilities and the administrative facilities for conservation of national resources are material infrastructure (Biehl, 1986). This study using the concept bridge infrastructure and its role in creation of different kind of impacts on the local community of GharMaha Raja.

Local Community

Macqueen et al (2001) local community defines as a group of population having different characteristics connected with each other by social ties having a shared perspective and sharing same risk, living in same geographical location. GharMaha Raja is the local community which is facing the diverse kind impacts of development project in their area.

Livelihood

Chamber (1992) defines that livelihood means all the capabilities assets and activities which are needed for survival of human life. Livelihood considered as sustainable when it has capacity to bounce back and recover from the adversity without external dependence.

Locale

Locale of this study is GharMaha raja. This is town of Tehsil Shoorkoot district Jhang. Jhang is historical place and famous city of Pakistan. This city is situated at the river Chenab Total

population of District is 2.8 million in which 76% of people are living in rural areas while 24% are living in urban areas (Government of Punjab, 1998). Sultan Bahu Bridge is two kilo meters away from GharMaha Raja. The town of GharMaha Raja is located at right bank of river Chenab it relates to Shoor Koot by forty kilo meters. It is 90 km away from District Jhang and sixty kilo meters away from head Trimmo. It is the place which hit by flash flood every year since last thirty years (Figure 1). Total population of the GharMaha raja is about twenty-nine thousand and literacy rate is very. Main occupation of people is agriculture. Main crops of that area are sugar cane, cotton, and wheat (Government of Punjab, 1998). Sultan Bahu Bridge project was approved by Ministry of planning and development in 2010. It was constructed downstream of River Jhelum and Chenab and it is located 45 Km away from Jhang. The purpose of bridge was to connect the GharMaha Raja to Shoorkoot. Total estimated cost of the project was 32,374320 rupees. The completion was 2013 but due to delay in work this project was completed in 2016 with total cost of 49,195262. 8 km flood protection band was constructed, and which was broken due to flash flood in Ghar Maha Raja in 2014.

Figure No.1. Map of the Study Area



Source: Government of Pakistan (2017).

Research Questions

This research intends to answer the following questions:

- I. What is perception of local people development project in their area?
- II. How the livelihood of local community is affected by Sultan Bahu Bridge project?
- III. What types of coping mechanism adopted by local community for survival of livelihood?

Research Objectives

The overall objective of study is Impacts of Infrastructure development on local people livelihood a case study of Sultan Bahu Bridge. The specific objectives of study are as follow;

- I. To examine the consequences of SBB on local people livelihood.
- II. To investigate the nature of coping mechanism of right bank local community against flooding.

Significance of Study

There are various studies which investigate the impacts of infrastructure development on livelihood. There is a lot of literature at regional level and international level which advocates the adverse impacts of infrastructure development specially road and bridge infrastructure. In Pakistan there are few studies which are related to impacts of bridge infrastructure development project on livelihood of local people. This study will add new literature about the impacts of bridge infrastructure development in field of disaster management in Pakistan perspective. This research will produce some viable recommendations to reduce the negative impacts of a development project.

Thesis Outline

Chapter I give an overview of the study. Chapter II presents details regarding different aspects of infrastructure development history and modern trends the world. This chapter describes the positive views about the infrastructure development in literature and negative aspects of infrastructure development. Chapter III includes research methods and methodology for data collection. Sampling technique, tools of data collection, process of data collection and analysis are also described in this

chapter. Chapter IV explains results and discussions about the impacts of infrastructural development and different methods of flood coping mechanism of Ghar Maha Raja community and also the perception of the people about a development project in their area. Finally, Chapter V is about conclusion of the study, policy recommendation, findings, limitations of the study and area for future investigations.

CHAPTER II

Review of Literature

Introduction

This part of research thesis includes the overall history of the infrastructure after that positive impact of the infrastructural development in the different part of world. It also includes the negative impacts of infrastructure development on the livelihoods of the communities.

History of Infrastructure in world

According to Fiedorowicz and Rzepka (1997) the term infrastructure firstly used by “NATO staff officials. The aim was to describe the technical and logistical arrangement which mad possible motilities of army”. After this term was included in economic and social literature and it was defined used enormously with different contexts. He further describes that infrastructure is the part of country economy or assets and investment which are directly participating in production or provides base for preconditions for production and functioning of economy and social life.

Rees (1984) have a glance on the history of infrastructural development that after World War II there is high level of progress in development of infrastructure. In 1957 the treaty of Room was concluded that European Economic Communities have a common market. For this purpose, long motorways had been constructed to connect the one region to other. War affected areas had seen vast level of infrastructure development during the time of 1960 to 1970. After 1970 different kind of technologies especially high-speed passenger services introduced. High level of investments made in development of infrastructure. It shows the interest of government in this sector. However, he argued that due to this infrastructure development twelve million people are unemployed which is more than great depression of 1930. Infrastructures are divided in two part hard infrastructures and soft infrastructures Hard infrastructures includes roads Bridges, motorways, hospitals and the soft infrastructures includes the banking credit extension, seeds provision, transport, communication and marketing for rural produce. It is said that in developing countries infrastructure development plays a significant role in sustainability of livelihood. Hard infrastructure provides framework for soft infrastructure take place which are important for livelihood of people (Wanmali and Islam, 1977; Groots et al, 1999).

Positive Impacts of Infrastructure Development

Bhatia (1999) defines infrastructure these facilities consists of all facilities and activities which are helpful to sustain growth in production and income generation for the country. Infrastructural development takes place in society when there is positive relation between Gross Domestic Product (GDP) and per capita income of country. In most of developing countries these facilities are not enough to enhance the production. It is responsibility of government to develop the infrastructure in a particular area or community. Different kinds of physical infrastructure like electricity, water, railway, and airport and sea port are constructed in India. Indian railway is main contributors in Indian economy. Railway have provided forty percent in carrying the all transportable in country. Due to road infrastructure transportation of goods has increased. Although all economic benefits but infrastructures creating many environmental problems and high level of growth in overall development sector however there has been gap between requirement and availability with economy need. At one these infrastructural facilities are fulfilling basic need of people which essential for important for livelihood but on another hand these facilities damage the livelihood permanently (Ghosh, 2011).

Robert (1989) describes the role of infrastructural development in his study he argues that infrastructure is the way to enhance the growth in country. Somehow, he agrees with Harsh man's theory with some point but point of disagreement is the consensus that infrastructure is a limiting factor without infrastructure development process is not possible. However, he further argued that this is not only factor which determine this process. Away from these facts a bunch of scholars who argue about the infrastructure that role of infrastructure to reduce tension between supply and demand of infrastructure. However, the argument from many scholars that infrastructure has followed on influence country macro-economic and social process. If few changes made in infrastructure it has some effects on industry. About infrastructure some economists which have moderate views that infrastructure is the part of level of socioeconomic development. While some other scholars think there is reciprocal relationship between changes induced in infrastructure and socioeconomic development.

Perz (2012) said that this is government's responsibility to build and upgrade the infrastructure. It can bring remote areas to main stream. Investment in economic and social sector where natural

resources are valuable infrastructure could and reduce the poverty. However, infrastructure development has diverse kind of effects on local community's livelihood. He further argued that road infrastructure has significantly reduced the level of poverty but in contrast it has negative ecological impacts. It has been observed that road avoidance and isolation are the common issues. There is different kind of adverse effects of road infrastructure on local communities like change in traditional livelihood pattern local culture disruption and much legal issue recorded. Beddhaded and Prabir (2004) divided infrastructure in three parts on bases of component analysis. These categories are physical, social and financial infrastructure. It is possible to increase in production and enhance the quality of life. He divided role of infrastructure in two parts Economic overhead capital (ECO) and social overhead capital (SOC) includes work projects road bridge airports water, ways, distribution system and water treatment plants.SOC includes public health police, fire protection and communication system. The relationship between infrastructure and livelihood patterns is complex. One hand it enhances the productivity but also on another hand it produces many adverse effects like unequal income distribution. Unequal distribution of infrastructural facilities which may leads to regional disparities.

According to Ujjayant & Joy (2008) argues that it is widely accepted infrastructure has most important role in growth in economic development. World development Report (1994) shows that infrastructure helps a country to increase the production and reduce in poverty. In developing countries public sector provide eighty percent investment of infrastructure seven percent private sector twelve percent Multinational Corporation and government pay three percent investment in infrastructure in developing countries. There is strong evidence that provision of infrastructure is high in open economies and it is low in closed economies. Ehrlich & Szilagyi (1980) argued about the infrastructure that it is the integral part of policy of Hungary government. In the Hungry development of infrastructures like road motor ways were constructed but there is no major development of livelihood noted in country. The reason is low productivity in production sector

According to Klaesi (1994) the infrastructure like a road railway, airports see ports dams, power plants, housing and school including infrastructure. However most of the scholar from planning for infrastructure argued that there is no need of infrastructure for development in development country. The reason is that infrastructure should be started for economic development not for getting loan. The role of infrastructure and economic stability means that all people have safe and

clean water, supply for all provision of all kind of goods for people reasonable, supply of energy. Improvement in livelihood means that every child should go to school, every family has home for shelter, provisions of roads for transports, education for every member of society, possible through infrastructure development. If it does not take place, then the no need for more infrastructure development. When 1\$ maintenance is not done then community bear 4\$ loss so this is the reason which create serious problem in Africa. Design of development project can play a role in reduction of poverty. World Bank (1994) recommended that role of government varies in nature of projects and government should be limited in policy regularization. Private investment should be encouraged in financing construction and operation of project.

Bougheas *et al.* (2011) concluded in their study that it is not confirmed that road infrastructure and telecommunication infrastructures bring the development, but most important thing is efficiency of the infrastructure. Efficiency of project could positively affect the livelihood patterns. It is possible only when there is increase in specialization and it effects the growth. So, infrastructure is technology that reduces the cost of production as well as and enhance production. This is only possible when specialization take place. According to Robles (1998) role of government in economic growth is not clear. One side it provides goods, services, property rights and training to people. On another hand they use the public sector funds inefficiently degrade the economic process. Rent seeking, nepotism, and corruption is very common in developing countries These are the cause due to livelihood of people in developing courtiers is not sustainable. It is the responsibility of government to eradicate these problems and ensure the transparency in infrastructure development.

Boggle (1977) emphasizes on this point that before starting the infrastructural development projects at rural areas. It is important to evaluate that either project is beneficial or harmful for local communities. Infrastructure development at rural areas has two major roles. First it enhances the quality of life secondly it effects the local production system. For example, the efficient transport system can provide to access to health, education and social services. However, shortfall of these facilities creates underdevelopment. Looney and Winterford, (1992) argues that there is strong relationship between the infrastructures and growth of livelihood. He argues that the main issue of country like Pakistan is that there no consensus on issue that role of infrastructure development. There is need to develop as well as improve the infrastructures like transport infrastructure. The

role of infrastructure in socio economic development is different with respect to specific place. Hirschman unbalance growth strategy is crucial here the expansion in infrastructure could give the wide range of newly profit in business. After a few intervals of time it become more sustainable and bring high rate of investment in economy and result of this process is relative expansion in social overhead capital.

Negative Impacts of Infrastructure Development

Kumar (1997) said that hazards and disaster occur due to complex interaction of physical and humane systems. Large level of development projects which disturb the natural environment. All developed countries of world have such kind if development infrastructure which cause the collision between natural system and industrial development. In results of this poor development the livelihoods of people have danger to face the extreme level of flooding earthquakes droughts and climatic changes. Developed world utilize the natural resources it induces the climatic changes in atmospheric hydrological and biological systems, so these changes posed some serious threats for humans in this world. Now developing countries like Nepal are becoming the disaster prone.

Scudder (1970) analyses the impacts of Kariba dam project on local community. The dam was constructed to bring the development in Kariba community, but it had some adverse effects on local people livelihood. This project reduced the productivity of local people and displaced the local inhabitants. Before the Kariba project most people cultivate their land from flood water. Due to construction of dam they have no water to cultivate land. In decade of 1960 to 1962 the natural flow of water in river was disrupted. It increased the chance of flooding by ten times on the river side of dam and flood water level was 10 feet. In 1963 to 1964 due to rain the opening of gates of dam the farmer who cultivate their land in delta had bear high losses. This project was one-dimensional project and local people were treated badly and due to dam a lake formed which was by product of dam and due to lake local people faced the problem of soil erosion.

Supplla and Gray (1977) elaborate that western communities think that there are many positive effective of coal mining. It provides the cheap energy to industrial sector, but it has many adverse effects on local people communities where these industries take place. Coal mining in Saun Juan community Mexico the grazing fields of animals were destroyed by three-time community 13600-acre productive land lost production. In Saun Jaun community there is 80000-acre fit water was

required for the gasification and coal mining. It was major loss of aqua fire of local community. These infrastructure development projects started for two communities but started only in Saun Jaun community. Due to short water supply fire protection department was unable to perform duties.

Shughart (2006) expose the causes of hurricane Katrina that it was failure of government. There are three main reasons of it. First is the levee constructed by the government were at wrong place and material used for construction was not good. Second it is due to delay in evacuation of people from danger areas which were at risk. Third is the bureaucratic negligence about the flooding and hurricane because they have no incentives for spread of awareness and build the capacity to cope the problem. Dues to frequent disaster of flooding affected the livelihood of the local community very badly. Barker (2005) elaborates that infrastructure development has affect the coastal areas due to collapse of environment due to wrong decision about development projects. The current adverse impacts are the result of the collision between the economic development and natural environment. There are many factors which play role in environmental degradation in coastal areas. This results in from the economic and political policies which follow the colonial system. Socioeconomic transition and economic development have affected the people of coastal areas. Overfishing and population growth induced destruction of natural beaches. Inefficient management system helped to increase the poverty in coastal areas. Another major cause is that infrastructure development decisions are taken at the central level. The local people representation in not due to this the communities where traditional management system took place it is badly hurt. In Indonesia where all decisions are taken by feudal system but due to central government decision local traditional system has been destroyed.

According to Han *et al.*, (2000) with high rate of economic development, rapid infrastructure development and excessive ue of natural resources has got the industrial achievement. However, it has disastrous impacts on local communities either living in large cities or coastal areas. The development projects have multiple negative environmental and social impacts which harmed the livelihood of local communities. China started infrastructure development program 1950 and enhance it 1970. This development process left adverse effects like rise in seal level storm river flooding salty water and soil erosion. In coastal city of China Bohai sea is become most polluted body of water. In 1955 almost 2.8 billion-ton pollutants were dumped in surroundings of large

cities like Beijing. In 1985, typhoon strikes 10 times in China. Many cities which record one-meter high flood waves which cause economic losses in Tianjin city. In 1980 northern coast of Shandong peninsula due to not careful excavation 960,000 tons of sand was transported for industrial needs so people of coastal area bear different kind of economic losses.

Storey (2012) points out that urban pollution is a major issue of China, Vietnam and East Asia countries. The reason behind this problem is vast level of economic development. Due to economic development many social development and social conflicts are raising unplanned settlements and have not basic facilities like sewerage facilities. This is failure of government and lack of importance given to environmental issues. Erikson (2008) said that there is a strong relationship between economic activity and social and environmental damages. Humane needs to get the natural resources have shoot up from carrying capacity. Another reason for environmental degradation is lack of interest of researchers they have very low interest to study the environmental hazards in the world. Daylay (1996) explains that disasters have some political causes which help to generate the disaster. In case of USA where electoral factor of presidential election plays a role in disaster making process. Natural disaster killed 62 million people from 1900 to till now these deaths are more than World War second while most of deaths occur during time of 1950 to 1990. More than one million deaths occurred during the 1990 just in one year. Government spends money on public sector but with respect to their specific to their policies and political pressure. In less development countries government spend less because they know when disaster happened the international humanitarian aid they will get.

According to Parker (1995) due to a larger level economic development in England the exposure to flash flood has been increased. This development causes different kind of adverse effects on livelihood of people. A main reason for this phenomenon is economic development in urban areas and physical process like population growth has provided the ground for hazards in country. Although in 1974 near Dtachet river development process was started and people were instructed to raise their house level to avoid the flood water. This technique played a significant role to cope the flooding. The main cause of damages done by the floods is under designed infrastructure which generate the unplanned development. To prevent from this flash flooding there is need to controlled infrastructure development in cities and rural areas and avoid the new settlements near to river. Desai (1958) said that it is impossible that a development project started in community it should

against the interests of community. Before starting any project in community all departments involve in project should explain the importance its value to local community. Always note the valuable suggestion and desire of local people and new techniques applied with consultation of local people and spending on disaster prevention is affected by political policies.

Rondinelli (1982) explains the cause of infrastructure development projects which have adverse effects on local communities' livelihood. These projects have rigid complex design management procedure and analysis of project creates many problems in performance of project. When manager of the project forced to change the design of project due to some external pressure it threatens the success of project. Success of project could be determined by after completion of project it should evaluated through government of local organization. Fraser (2014) argued that due to unplanned infrastructure development in urban and rural areas both has increased the vulnerability to disaster local community. It has disrupted the livelihood of community. Politicized decisions of infrastructure development, informal setting of population and policies of government are the main reasons for this development of infrastructure. He further argued that people who are living in the villages their mostly livelihood depend upon natural resources so if unplanned infrastructure hit their natural resources of livelihood. Ostrom *et al.* (1993) explains why infrastructure like road bridges and irrigation system do not repay the benefits to local communities in developing countries due to six reasons. Lack of inefficient maintenance system these infrastructure are not properly designed the designer of project does not know about the local community and culture and location of the project. Financial resource is not properly utilized. Material used in construction process is not appropriate corruption in financing the project are the main factor which revoke a project to provide the positive outcome to local community.

Kemp (2008) describes that losses of flooding due to infrastructure are very high it has affect the land large ports; production facilities gas pipeline and mostly hitting the economic structure in America. Daylay (1996) explains the reason for this disaster is how and where we live and structure we build are capable to protect us in disaster or these structures have increased the vulnerability to floods. One main reason for this all these disastrous infrastructures is that decision making processes. Second is funding mechanism, and third is planning of project creates vulnerability to local community. Srinivasan (2001) illustrates that while assessing the social impacts of infrastructure development of dams and bridges it is necessary that researcher must include the cost

of benefits and the losses of bear due to this project. In developing countries, it is fact in development of infrastructure projects like road, bridges, air ports industrial zone. The construction contracts in selecting the location of development project are decided by politicians who decide on the bases of their own interests. Due to these reasons' infrastructure development creates the marginalization in Thailand (Daylay, 1996). According to Brody et al. (2009) that there are two types of coping mechanisms approaches used in America to cope with disaster of flooding. First are structural and second are nonstructural approaches. Structural approach includes the construction of big dams, reservoirs widening the stream channels. The non-structural approaches of mitigation of flooding are planning the tools methods to aware the people creating the early warning system training through education.

Research Gap

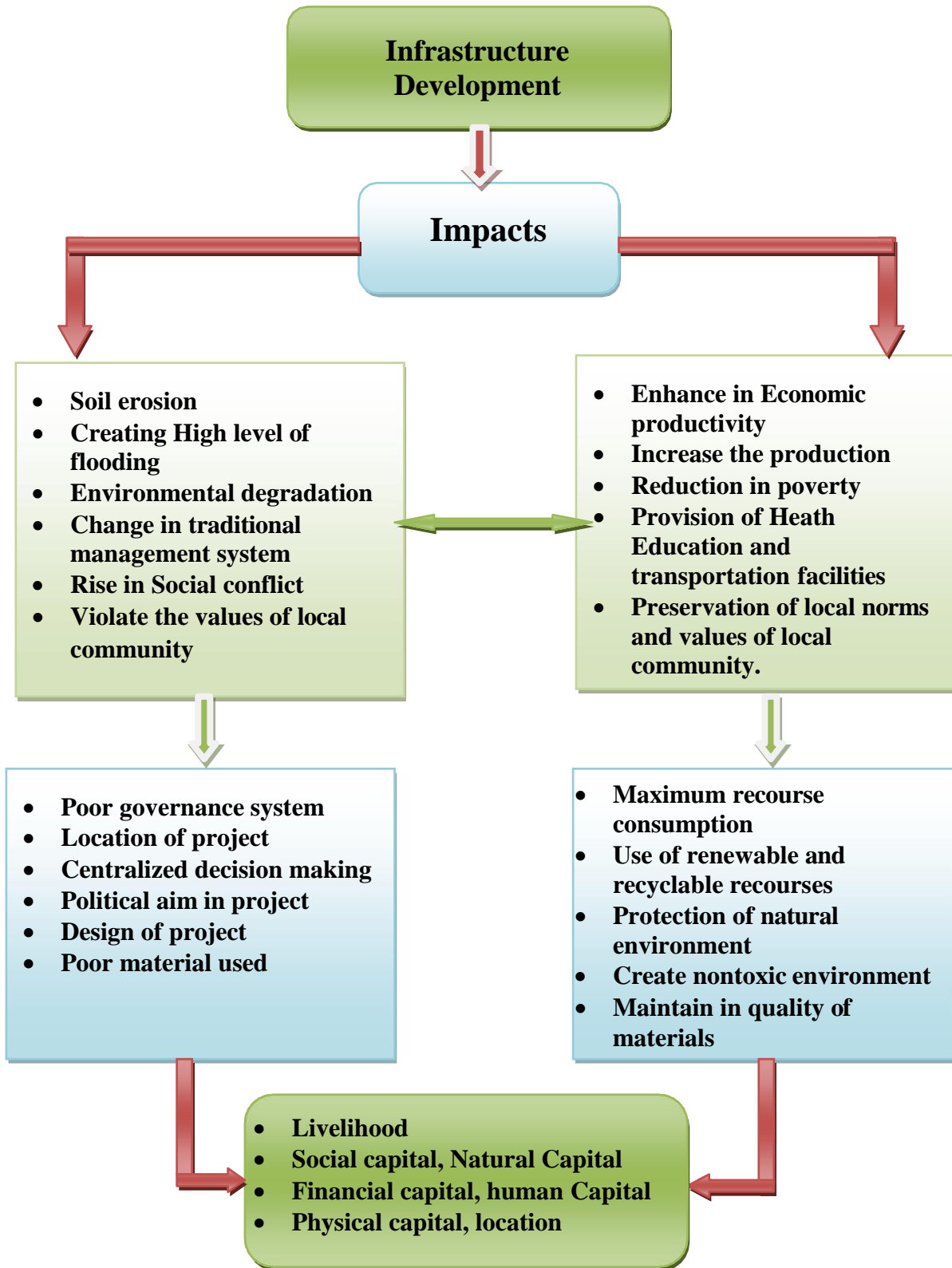
There are many studies in this research which argues about the positive impacts of infrastructure development on livelihood of people. It enhances the level of production and reduces the level of poverty. These studies are mostly quantitative in nature and results are obtained from analysis of secondary data. These studies mostly conducted in developed and developing countries. Few studies are conducted in Pakistan (Bogle, 1977; Ehrlich and Szilagy, 1980; Rees, 1984; Bhatia, 1999; Ghosh, 2011; Robert 1989; Looney and Winterford, 1992). There are few studies about the functioning, implementation and problems in implementation of infrastructure facilities. All kind of Infrastructure facilities should be efficient and properly implemented. They can provide the positive impacts (Perz, 2012; Bougheas et al, 2011; World Development Report, 1994; Robles, 1998; Rondinelli, 1982). Although infrastructure development facilities provide different kind of benefits but Enormous studies which argue about the negative impacts of infrastructure development. The developments of infrastructure facilities reduced the resilience against the flooding and effect the livelihood of local people. Many studies support that infrastructure development induced a negative change in traditional management system disrupt the ecological environment which affected the livelihood negatively. These studies have thrown light on the negative impacts of infrastructure development but no one of them is showing the negative impacts of bridge infrastructure development project on livelihood of local community. (Parker, 1995; Fraser, 2014; Ostrom et al, 1993; Kemp, 2008; Daylay, 1996; Daylay, 1996)

Most of these studies are conducted at international and regional. Very little literature related to negative impacts of bridge infrastructure facilities which harm the livelihood of local community. This research will add new knowledge about the positive and negative the impacts of infrastructure specially bridge infrastructure on livelihood of local community in Pakistan.

2. Conceptual Framework

In conceptual framework of study through different ways the researcher has tried to show that how infrastructure development project affects the livelihood. In first box on the top show infrastructure development and box right below shows impacts. Two boxes which are on right side show the positive impacts and causes of infrastructure on livelihood of the people. Two boxes on left hand first of them show the negative impacts and box right below of it show the causes of infrastructure development which creates negative impacts on livelihood. The box below in middle shows the livelihood and its parts and it indicates how different part of livelihood is affected through infrastructure development project (Figure 2).

Figure 2. Conceptual frame is given.



CHAPTER III

Methodology

This section contains methods, research design, and target population, tools of data collection, sampling and sampling frame.

3.1. Methods and Methodology

Kothari (2004) explains that research methodology is the way to solve the research problem systematically and scientifically. Research methodology is not just to point out the research method but the logic behind it. Research methodology has some specific method which are being used in context of research and explain why researcher is using method and why he is not using other method.

This study is qualitative in nature. According to Kumar (2009) research design is the plan and organized investigative research strategy which is conducted to answer the research question. This is a complete program of research in which researcher makes outline what he will do and how he will do the data analysis. In this study explanatory research design was used for inquiry. Babbie (2013) elaborates that explanatory studies deals with the question of ‘why’ researcher investigate the situation and answer the questions. Through this research design a researcher could explain the phenomenon is happening in a community.

Tool of Data Collection

According to Kothari (2004) research methods are the techniques that are used to conduct the research is known as research method. There are two types of data; primary and secondary. Bryman (2015) explains that primary data is the information which is gathered by the researcher from the interviews focus group discussion. Secondary data for this study is collected from research articles and reports. For this study Primary data was collected through unstructured and unstructured structured interviews, key informant and Focus Group Discussion.

Focus Group Discussion

According to Kumar (2009) Focus Group Discussions are based on attitude opinion and perceptions about an issue or problem and it allows the researcher and group member to openly discuss the issue. Group size was eight to ten in focus group discussion. In this research focus group discussion method was used for the UDCs of employees, shopkeepers' labors and farmers. There were total five Focus Group Discussions were conducted in the study in adjacent communities around the Ghar Maha Raj. In the table 2 the detail of the focus discussion group discussion are mentioned.

Table 2: Number of Respondents in Each UDC for Focus group discussion

Name of locality	Ghar Maha Raja	Rasheed Pur	Niako Kara	Ghulam Abad	Ahmad wala	Total
-						
Focus Group Discussion	01(7 person)	01(5 Persons)	01(5 persons)	01(6 persons)	01(5 persons)	5

Key informant

A key informant is the member of that community in which research supposed to be conducted. For this study researcher has a connection which these members of the society because they are all part of local community and which researcher wants to study (Marshall, 1996). The five students of local community are key informants because these people already know the problem and they have rich information about research topic.

Interviews

Qualitative interviews are the tools which allow the respondents to answer the question freely and more comprehensively new question may arise during answering a question. Unstructured and semi structured interview were used in study. In unstructured interviews researcher starts conversation with the respondent and during that he asks the question to respondent. There are Seventeen unstructured interviews were conducted in Ghar Maha Raja and Rasheed Pur Basti Ghulam Abad and adjacent communities. Semi-structure interviews were conducted for the employees and businessmen. In Semi-Structure interview researcher has check list so he asks the question to

respondent. There was total of thirteen semi structure interviews were conducted from different localities which are mentioned below.

Table 3. Number of Respondents in Each UDC for unstructured and semi structure Interviews

Name of locality	Ghar Maha Raja	Rasheed Pur	Basti GhulamAbad	Naiko Kara	Ahmad Wala
-					
Unstructured interviews	05	03	03	4	2
Semi Structure Interviews	05	02	02	1	3
Total	10	05	05	05	05

Unit of Data Collection

Unit of Data Collection are the sources through which data is collected. Unit of Data Collection could be individual, household or an organization. Unit of Data Collection for this study are divided in following major groups.

a. Farmer

This is first unit of data collection which includes people who own the land and cultivate it, the people who cultivate the land on share, and the people who rent the land.

b. Labor

Labor are the people from Ghar Maha Raja who work on daily wages.

c. Shopkeeper

Shopkeepers are the people who own their stores These could be the eatable items, shops or cloth shops.

d. Businessman

These respondents are the people who do business of wheat sugarcane rice cotton.

e. Employees

The employees include people who are doing their job in Shoorkoot and Jhang.

3.2 Sampling

The way of selecting group of people from given population is called sampling. Quality of a good sample is that it is representative of whole population (Kumar, 2009). In this study probability sampling will be used to collect the sample. Further in probability method cluster sampling was used. Sampling population was divided in to sub-clusters. Simple random sampling will be used to collect the sample.

3.3.1 Cluster sampling

Kumar (2009) describes that in cluster sampling researcher divides the population on the basis of visible characteristics these groups are called clusters. The formation of cluster from population is based on the geographical proximity or the visible characteristics. In this research cluster sampling was applied on different stages which depend on the characteristics of the population. Two stage cluster sampling was used in study. At first stage clusters was made on the basis of geographical proximity in which each cluster was indicating the identified area from where UDCs was accessed. After having identified locales in the first stage, study's units of data collection were sampled in the second stage. These UDCs are divided into different categories (shopkeepers, businessmen, laborers, employers and farmers). Simple random sampling was used to select the sample from sub-cluster of UDCs.

Data Analysis

Qualitative analysis covers exploring the meanings of people's word, actions and trying to explicit the knowledge hidden in them (Ryan, 2006). Sometimes, this knowledge is expressed itself and sometimes the researcher must explain to the readers (Ryan, 2006). Ryan (2006) further explains that analysis is a process of coming up with findings from the data. The whole exercise of processing the qualitative analysis needs that data should be well organized, properly scrutinized, selected, described, interpreted deeply, theorized, discussed and reported in efficient manner.

Thematic Analysis

The basic component of thematic analysis of data is identified, describe, and analyze the themes from the basic specific data set. Further, in two ways data could be analyzed thematically. First one is inductive way and second is deductive way of analysis. In inductive method codes are given at

first step to data set without any pre-establish coding frame. Braun and Clark, (2006) explained that thematic data analysis give the maximum answer to research questions. Those are raised in the research while coding or before that. In deductive way, data analysis depends upon the analyst driven approach. Basic purpose of applying thematic data analysis is to interpret and describe the data more briefly then to previous studies which were done before this research.

Transcription

Transcription means to convert the spoken and behavioral expression of language into text form. There are various ways to transcribe the data. In this research, the data set is transcribed by specific transcription conventions in different tools of qualitative analysis of data. In this study, data set was transcribed by specific transcription conventions. This transcription was carried out word for word false starts (confused set of words), utterances (hmm or ahs), pitch of voice and its frequency emphasis or stress and body expressions were left out. This was only done to produce coherent and comprehensive textual representation of views of respondents in simple form.

Familiarization

Qualitative data have different forms like interviews, discussions, tap recording, observational notes and documents. When a researcher collects the data in various forms from the field and observe and record them very carefully (Ziebland and Mays,2000). In this research, all the interviews and focus group discussions red more than one time, in view of recordings to be familiar with them. Braun and Clark (2006) said that research means the research for hidden patterns in the data. Data should be red again and again.

Indexing and Coding

The purpose of this step is to give the initial codes to data and tagging of data with initial codes is called indexing. This process is applied in all form of data which have different shapes (Ziebland and Mays, 2000). The meaning of coding is to give the conceptual meaning to data (Boytiz, 1998). This process starts when researcher have known about the data and understand what is interesting and important in data set (Braun and Clark, 2006). Basically, coding process depends on the themes which are presented from the data. It also depends on the aim of content (Braun and Clark, 2006). In this piece of research this process was done manually. For the purpose of coding, line by line

coding method was used. It consists of one code to one phrase. It gives the proper detail of each line within transcript.

Memo Writing

In the memo writing researcher write down his opinions and thoughts while coding and characterizing the themes. Memo writing is known as pre-writing or free writing. In this process, group of codes are divided in to their components to help the researcher to elaborate the hidden meaning (Strauss, 1987). In this study, researcher started write memos very earlier. Coding process and re-reading transcript of interviews to convert them into final step of identification and description of themes was done also.

Identifying and Characterizing Themes

In a qualitative research them is an idea that gives important aspect of research questions (Braun and Clark, 2006). Themes represent the responses from the patterns and meanings of data. According to Braun and Clark (2006) the researcher connects the theme to suitable research questions. In this research, identification and characterization process was started in beginning and ends at the final stage. In first step, the potential themes were noted through the process of coding and produced the final report. Researcher given some codes to transcript of interviews and apply more than one code. For separate thematic chart was made for each code. Each chart consists of code and sub codes.

In this way, possible thematic categories were established, and codes were arranged to show the themes in the best style. After the process of identification coding and classifying themes, these were described in a memo shape which shows the relation between each theme on a thematic structure. In this research all the themes have been selected from this thematic structure and these are described in more detail in the findings and discussions section.

Data Verification

Data verification is mostly used in qualitative researches. Several methods are used to check the qualitative data. Triangulation is one of the most important methods in it. It is technique in which data is extracted from social phenomena, experience of event. In this research, data was cross checked by triangulation method. The data was collected from original settings which helped the researcher to connect the missing links, which were merged by during the interviews of

respondents. Some statements of the respondent were cross checked through key informant and focus group discussion.

CHAPTER IV

Data Analysis and Discussion

The chapter consists of all the positive and negative along with the local coping technique of the studied communities.

Impacts of Sultan Bahu Bridge

After the extensive field work, I have noted some positive impacts of Sultan Bahu Bridge in Ghar Maha Raja community and people are getting benefits from this project. Some positive impacts are given below.

Transportation Facilities

Sultan Bahu bridge provide the much better facilities to people of Ghar Maha Raja town. Before the construction of Sultan Bahu Bridge (SBB) people normally use boats to cross the river which was very dangerous and difficult journey. It consumes more than four hours heavy traffic could not access to cross river and they were forcing to go from the Mulloh Moar or cross from Head trimmo which is forty km away from the Ghar Maha Raja. A historical place and Sophie Shrines of Sultan Bahu is located at GMR. This is the place which is visited by thousands of peoples in a day. Before the SBB the main hurdle during the time was to cross the river and people were struck in traffic in many hours. But now SBB has shrunken the distance between Shoor Koot and Ghar Maha Raja. The distance between Shoor Koot and GMR which was covered in four to five hours now it is covered in one hour or half an hour.

This bridge not only give the smooth road to people of GMR but also the people who are coming to Chowk Azam and layah they have direct road which connect them Shoor Koot and main Multan Road.

” A respondent said that now if we want to go in Shoor Koot it is an easy task and we can go on rickshaws with families for Eid shopping or at any festival. This is all due to this SBB, but it was impossible before this bridge.”

Business Opportunities

According to responsive of the people business is gradually increased in GMR. Small scale business like Khuddi work small tea stall and hotels and new shops of household items are opened

in few years. Small fruit mundi and cotton and wheat rice is increased in that area small farmer can sale their agricultural product and get much better rate then they have got at their houses. The rates of property are gone higher than ever before the land which has no value few years back now it is being sold with very high rates.

Facilities to Employees and Daily Wages Labor

Sultan Bahu Bridge facilitated all kind of people whatever they belong to any field of life. The employees from GMR who are working in Jhang , Shoor Koot , Kabirwala in government or private sector they have not direct access to come back home at daily basis. An employee said

“I’m working in traffic police in Shoor Koot in police now I come back home after completion of shift but few years back when SBB was not constructed yet it was difficult for all employees of GMR to return home at same day. Now we can get back home at any time.

So SBB proved a blessing for employees.

Secondly the beneficiaries of SBB are the skilled labors and daily wages labors, carpenters’ masons. All these people daily travel to Shoor Koot and work there they return back to home at daily bases. The wages of these people increase one of respondent said that

“Now I earn at daily bases eight hundred to one thousand but when I am working at GMR I was earning two to three at daily”

Due to find the work opportunities in big city like Jhang and Shoor Koot the wages of these poor labors increased by three folds.

Facilities to Farmers and Shopkeepers

SBB provides the benefits to small shopkeepers of GMR who have find access to buy direct vegetable and fruits from Sabzi Mundi of Shoor Koot. Prices of food item are lower in mundi and they have quick access to transport. The shopkeepers like clothes and Hozurri stores owners they have found a quick transport of Multan Faisal Abad and Lahore. During the flood time GMR was disconnected to whole country so normally the rates of prices high during that time because shopkeepers does not find supply of goods. Now due to SBB even when floods came the whole town is not disconnected and supply of goods and services remains consistent. So SBB provides the direct access to all kind of shopkeepers to the main market for goods.

Somehow the farmers of GMR are provided the direct access to main market to send sale their agricultural products. One respondent said that before this bridge we were force to sale our rice wheat and gunna (sugar cane) to middle man because the transport of agricultural good was so difficult. Now we can sale our goods at main Mundi. Secondly farmer can get the fertilizer and seeds from the main market. One of most important benefit is that this Bridge is that farmer who want to want to transfer their family of different they can evacuate easily during flood time.

Negative impacts of Ghar Maha Raja Bridge

Infrastructure played a vital role in bringing the economic as well social development in world. Infrastructure is like the life blood for the development. If we see in all over the world that infrastructure facilities increase the economic opportunities which help to sustain the livelihood of the people. However, a coin has always two sides infrastructures development created a major negative impact and the whole world is witnessed of it. SBB project have so many positive impacts but it has affected the livelihood of GMR so badly. During the extensive field work some negative impact being noted which are given below.

Financial capital losses

Financial losses include all the economic losses which beard by the community of GMR are The people of GMR are very traditional and Agriculture is main source of livelihood. Majority of the population is directly or indirectly engaged with agriculture. The width of the SBB is too short and water of two river Indus River and Jhelum River pas through this bridge. Two km back side of SBB the water flow in twelve kilo meters but width is one and half kilo meter. Now water with high speed and bigger volume return and disrupt the livelihood of all people in that area. People said that before the construction of SBB flood comes but water get back in a few days it was like a blessing for us. But after the construction of GMR water comes with higher volume and it does not get back and remain in field which decompose all the crops. This is the most fertile part of land in the world and every kind of crop could grow here. Farmers of Ghar Maha Raja grow different kind of cash crops like wheat rice sugar cane rice sunflower different kind of vegetables. These cash crops made them economically more stable. Now due to unpredictability of water farmer only two crops in a year. These two crops are not enough to sustain their livelihood and meet the agricultural and household expenses.

People borrow from the middle men on this guarantee that they will return money after cultivation of the wheat crops but when farmers were ready to cultivate the wheat water came and destroyed their crops. So, they have no option to borrow more and most of farmer are still getting loan from middle men. Farmers have not enough money to buy the fertilizer from the market. The female members of community who are widows they are facing saver problems most of them are illiterate and they do not own the land, but they have animals on share of with other people they are forced to sale their animals. So SBB project specially made people more vulnerable to face to financial crisis.

Natural Capital Losses

Natural capital consists of all components of our eco system. In GMR community the sustainability is very important, but it is sad fact that natural capital is disturbed very badly due to SBB. This is the flood prone area of the Pakistan and natural capital of people has diverse kind of challenges one of them the cultivated and agricultural land is becoming the regular part of the river. So due to this phenomenon people are much worried about their lands. Most of the families are become unemployed permanently and they have nothing to do. Some people said that when flood come they have nothing to earn livelihood and so they sale their trees in that area to someone. This is very dangerous trees are the lunges of eco system and they can reduce the intensity of the flood, but these poor people have nothing to sale and they forced to do so. Now air pollution is increasing day by day in that area.

Many small farmers sale their lands at very low price due to fear of river flood and they are shifting in the big cities like Jhang Multan and Shoor Koot. The female members of community who have animals like cow, goat and buffalo, so they do not own land. They have to arrange the fodder for their animals, so they cut the natural gross from the river side. But due to change in direction of river this gross is diminishing day by day. Secondly if waters come it does not go back and decompose the natural gross which is fodder for the animals. Some of people who graze the animals at bellas they are worried because these places are becoming regular part of the river. It is clear from the responsive of the local community that natural capital is at a stake in that area due to the Sultan Bahu Bridge.

Human Capital Losses

Human capital is most important part of the livelihood it consists of the humans and their abilities. Human capital losses mean different kind of threats which could harm the human capacities for example their physical mantle health. People said that when flood comes few years back in GMR and adjacent communities the level of water, so the people could move in the water. Now with the development of SBB project the level of water become so higher it can reach ten to fifteen foot normally so people cannot move in it. It is always been a danger for them in flood time. Secondly during the flood there is danger of insects which could harm anyone which might be male female or a child. Now after flood due to retention of water in all that area people face skin diseases and malaria this is a major threat to human capital. Females have serious challenges to face in GMR community.

A female respondent said that many of the females face the psychological and many other serious health issues.

The reason is that they have not just look after themselves but also, they are supposed to protect the all the assets and children. So many females physically participate in making of flood protecting band and they work day and night. The major problem face by pregnant member they must consult with the female doctors, but they could not get this in the flood. During the field work I have met with many families who have lost their children males' females members during the flood. The reason is that these people were not expecting such a great volume of water at there. With the passage of time so many young people who were engaged with agriculture they are now unemployed and in future they could be bigger threat to peace of the GMR community.

Social Capital Losses

Social capital is important not only for the individual but also for the community. The adjacent small communities were selected for the field work their social capital is affected badly by the SBB project in different ways. Social capital consists of individual social relations their trust honor and people repute in the community. The forced relocation of poor farmers from their native homes and live at a new place this affected their family terms and family sentiments. High level of water created by SBB forced to send their family to some relatives' homes or other homes. One of respondent said that it is hard time for us to send my daughter and wife to other people home at any cost I will not allow my daughter to go other people home.

Some people are whose land is gone in to the river they are forced to work at rich framer and feudal. These families have much prestige be the when they own the land and they were living life in a much better way. Now they are living in state of misery they have their honor and prestige is due to the SBB project. People are just screaming that this development project destroys our whole life and we are forced to live in these conditions. So many farmers who give loan to people before SBB now they are getting loan permanently from middlemen for cultivation. A social prestige which these people made by investing their whole life a single project destroys it completely.

Physical Capital Losses

Physical capital includes all physical assets which their houses might be, animals' crops are considered as physical capital. Floods always at any place at the world mostly hit badly to physical capital of people. The situation in GMR community is more saver because people of that area are mostly poor normally they have mud houses some people build cemented homes yet. So high level flood always destroys the houses of these poor and they have nothing to rebuild their homes some time they lost their home but also with animals. It is more dangerous situation for these poor people.

A female respondent told me that she earns their livelihood by 'Tandoor' whenever floods comes it destroy it so land take a month to get dried and we remains on to two months unemployed due to it.

Due to the construction of the Head Trimmo the Heavy traffic is shifted to this road of GMR. The streets of the city are short and in one year many accidents occur and hit the house of the people and it break the one part of the home.

Coping Mechanism

Whenever a natural or manmade calamity is faced by the people at any place they have their different strategies to reduce the adverse impacts of this calamity. In the traditional communities in developing world they have some basic methods to bounce back against the any kind of disaster. In GMH community mostly people are using the traditional coping mechanism against the recent flash flooding created by the SBB project in their area. The traditional coping mechanism of these people is that they normally know the water level of the river. They build their houses at high place so the

water could not enter in their homes. They made a high place which called in local language 'Thulla' whenever the flood water comes they shift their animals at this place.

Now when the SBB is completed people said that water comes at these places and most of the time water enters in to their houses. In that situation they sometime shift their families like children and females to safe place and male stay at home to protect their houses. When they feel that water will destroy everything then they shift they animals at a safe place. Secondly the people who are living in a community of twenty to thirty houses the members of whole community made band and the width of the streets in community is very short. Because when water comes they make a band in the opening of the street and water goes out the streets. Some people said that when the flood comes in that area they normally use to sit on the roofs of their houses and sometime the whole family spent two to three days at the roof.

The females who are widows they normally shift their children and animals to a safe place this portion of that population is more vulnerable because no male is in the home so female before the flood shifted to secure place. Some member of community like carpenters etc they follow the same trend to cope with this bad situation. The people who have resources they relocate for one or two months to Shoor Koot or safe place when flood decreased they come back to their home. A length of eight-kilometer protective band is constructed round the bridge many poor farmers who have not relocate they shift their animals and families at the protective band. It is a difficult time for the females who have not their male member at the home, so they normally build the small protective band around their homes with help of their children.

Community Cooperation Mechanism

One of the most effective way in which they cope with flash flooding is community cooperating mechanism. Most of the respondent said that before the SBB project the flood was a blessing because it has low intensity and left a layer of nutrients which like a fertilizer to land so whole community benefits from it. But now intensity and volume of water is more than three folds, so it is more destructive. Whenever water comes all the people together and shifts their family at safe place then they work like a team and make the band around where they feel the water could come through this area. Females also work as like their male members. Naiko Kara is four-hundred-year-old community most of the people said when flood water come they shift their families and animals to Hozori Graveyard these people believe that water cannot enter in to this graveyard.

The hard time starts when the water level become low and people get back to their homes broken homes, destroyed agriculture fields and even they have not clean water to drink. One of the respondents described the post flooding coping mechanism that they normally cooperate with each other if a man has Kanaak (wheat) they give to other for the food. Some family have agricultural seeds of any crops they give to other. These are very strong religious people and they said we have nothing in Flood, but God give us.

Some people sale their animals and rebuild their houses because shelter is most important for them. Some people who are poor they work with the big farmer at daily wages to earn their livelihood. The small farmer who have nothing to sale except their animals they sale the trees in their fields and buy the food items. Some farmers take a loan from the middle men, bank or feudal. The female who are handicaps they sale their gold item or sale the animal sometime the community member helps them to get rid from this hard time and start of new life after the flood. After the flood these communities work as a family and cooperate with each other and this is the main source of their survival in this flood prone area.

Government Aid

Aid is very affective coping tool to reduce the negative impacts of different kind of hazards.aid plays a vital role to bounce back with natural calamity. This is very clear with the responsive of the people that flood occurring due to SBB. Government give the alert to leave that area, but they did not give the alternative place to settle for some time and not they monitor properly the people in the flood time. Many of the respondents said that the aid which is provided by the government during the flood is mostly wasted due to few reasons first one is the food item are thrown from the plan and the food packet are leaks and torn. Secondly so many people are hungry, and they want to get something but when food is distributed through plan people tries to get food, but they waste it during this process.

“One of the respondents said that due to complex distribution mechanism of government aid generate the conflict between the members of the community. Aid distributed on the base of favoritism nepotism and political influence. So, this process is making more vulnerable to the people due to this complex process of distribution.”

Aid through rescue facilities is provided by the provincial government and local government institutions. This aid is beneficial, but most of the people were not satisfied with all distribution process at town and village level due to inefficiencies of local government.

4.2.3 Non-Government Organization Aid

Role of nongovernmental organization during the flood relief activities and after the flood is ambiguous. People argue that NGOs employees come here and deceive us. A respondent said that last year a few people from the organization and they said we are going to build the free toilets for the people if you want to make it then this is entry fee is two thousand for each family all the families paid them. Once they get it but they never come back. Most of the people from these big NGOs come and make some picture with the locals and go back to the city. Majority of the population have shown their complete distrust in the nongovernmental role in flood coping mechanism in GMR community.

Perception of the people about the Sultan Bahu Bridge

Perception of the people is means that views of the people about some development project. In the community of GMR different respondents from different groups have diverse perception about the development project in their area. The people from the adjacent communities have described as this project of destruction which made losses in every field of life for them. They said our agriculture system is destroyed which is main source of livelihood for them. They said that poor people become poorer due to this development project. Some people said that the development of this for the army and they are continuously using it. Many respondents argued that this bridge is made of the destruction. And no one consult to the local community that this bridge should be here or at any place. After the completion three-time impact base survey have conducted but no relief activity which could help to minimize the losses in occurred in that area. So majority is displeased with this project

Majority of the farmers said that we were very happy our fields were green, and they were getting the maximum output from this part of land. But with construction of this destructive project we are hand to mouth now and no one is here to hear them. The whole structure of this native community is changed due to the SBB project.

“One respondent said the unemployment rate is increasing in this area and young and unemployed members of community are nothing to do so there is chance of that these people could indulged in immoral activities which is harmful for this community.”

Some members of the community are happy that they have got permanent jobs and find the better source of livelihood in the community of GMR. In town of GMR the average income of the labor and skilled labor was low, but they have got work in Shoor Koot they are earning much better than before. For the employees this bridge is proved as a blessing and they said that this bridge should be here and this is very beneficial for the employees.

Discussion

It is quite evident that Infrastructure development played a very key role in bringing the world at a high level of economic and social development. Different kind of infrastructure has multiple effects the life of people. It provides the basic needs of human life. As Bhatia (1999) describes that infrastructure facilities provided multiple benefits. Physical infrastructure facilities like road railway, airport, increase the productivity level in India. So due to this the life of people become more comfortable and the thing the human kind imagine time now they got it physically. Sultan Bahu Bridge development project that was intending to build that it will connect the people and make the life of community of Ghar Maha Raja easier and comfortable. The intent of the Central and Punjab government was to develop the project which could save the people of GMR from the adverse impacts of flash flood which made the local community more flood prone every year. Basic purpose of the any development project is to give the facilities to people which could help to improve the livelihood. Sultan Bahu bridge is infect for the blessing for specially for the people of GMR town. Because the community had hurdles to move any place of Pakistan, but this bridge connect a small town to the main highway of Pakistan secondly it connects the people to big cities Like Jhang Fasil Abad and Multan.

One of the main ways in which it has improved the livelihood of people of GMR is that it helps to increase the income of different groups of population of the town. According to Beddhaded and Prabir(2014) that infrastructure facilities not only increase the employment opportunities due to the quality of life of the people is increased. So, the People of the town are more satisfied especially labor employees and the businessmen of that area. SBB provide the major relief in small portion

that it stops the water and intensity of flood water hit the GMR. East side SBB and the construction of the protective band around the east side of GMR town. This help to stop the destruction from the flash flood.

It is clear from the literature that infrastructure brings the development in the whole world and it improve the livelihood of people. But if we look on the other side of the picture then we see that nothing in this world is free and everything every phenomenon or development process which is occurring has some cost. People around the world are bearing the negative impacts of infrastructure development. These impacts are in different form like climate change, Global warming gradual rise in sea level and melting of glaciers in different parts of world. So, this is the cost we the human are paying for this unplanned development.

Due to development project in community of Ghar Maha Raja have some negative impacts on the livelihood of the local community. People are facing adverse situation in that area and one of the respondents said. We are living in this land from generation to generation but never seen the that kind of flood in adjacent small communities of GMR. As Shughart (2006) describes in the reasons of hurricane Katrina that delay in evacuation and the placement of the project were among major reasons for the disaster. There are few reasons for that faulty design of the project which played a vital role in making more destructive for the people. First one is that the length of the SBB is to short there are only eighteen pillar of the bridge and the length between is also short. So, the whole water of the two biggest river of the Pakistan which is river Jhelum and river Chenab. The water of these rivers down flows from Head Trimmo to GMR. The width of the river is ten to twelve kilometers, but this passes only two-kilometer area from SBB at GMR. Secondly the concrete walls have been made both side of the bridge and spillways are not built for flood season. So water hit the bridge and walls of the bridge and turn back. This water makes the destruction around forty to fifty-kilometer area.

The location of a development project and planning of the project are the critical factor for the sustainability of the development project (Parker (1995) Shughart (2006). The SBB should not be here it could be made at the near the Kharan wala which is ten killmeter away from GMR. Secondly the location of the GMR and the adjacent communities is really important in a ways. That the land they own is most efficient land in Pakistan but also due to this location the communities are

suffering from flash floods which harm their livelihood completely. Due to the construction of this bridge the intensity of the water is increased.

According to Han et al, (2000) poorly planned development project creating poverty by disrupting the traditional way livelihood of local communities. One decade back the water level remains low in flood but now level of water cross to the ten to fifteen fit. This increase in water level increases the intensity of the losses to the livelihood assets. The intensity of the losses is more for the poor and less for the rich. The big farmer has hundreds of acres of land secondly, they have more money if the flood hit them they can grow crop immediately. The reason is that they get the aid from Government and secondly, they have their own money. In small farmers have few acres of land when the face the flash flood they lost everything, and they have nothing to do after flood. Secondly, they have not access to the aid provided by the government. Scudder 1970 explains the impacts of Kariba dam project which destroyed the livelihood and disrupt the Coping mechanism of the local community. In the same way the due to SBB project the livelihood of the local community is disrupted and their coping mechanism of flood is also destroyed and the whole community is become handicapped.

Table 3. The overall impacts and perception of the local communities

	GMR	Naiko-kara	Basti Ghumlam Abad	Rasheed Pur	Ahmad Wala
Impacts of Development project	Most of the respondents argued that SBB enhance business, transport facilities and created employed for locals	Group of farmers are facing severe losses due to SBB.	Employees shopkeeper are satisfied but farmers and labor facing losses in form of permanent loss of life and their land	Agricultural land becomes regular part of river. Agricultural labors are permanently unemployed.	Employees and labors having find the opportunities to work. But former having losses of agricultural crops
Coping mechanism	Band of the SBB is main source which save this community. But Government aid is the main source of coping the flood	People normally move to Hozori Graveyard and shift their families and animals at there. They get loan from the local businessmen for coping the flood	People shift their families to another safe place. Community members cooperate each other and support	People are poor normally they shift their families to protected band. they sale their animal or work with big farmer to support their family.	Farmers sale their trees in their land some people send their young males to work in near big city some time they receive government aid.
Perception of people about the development	Respondent from Ghar Maha Raja are more satisfied with the positive impacts of SBB	Mostly respondent perceive this project of destruction due to their losses of livelihood assets	People having negative perception in this community	Most of the respondents from this area said that this bridge is not suit for them	Respondent from this community perceive this project as a main cause of flooding in their area.

Table 4. Impacts of Infrastructure development on the different parts of livelihood of Ghar Maha Raja and Adjacent communities.

	Physical capital	Human capital	Financial capital	Social capital	Natural Capital
GMR	Most of the respondents argued that SBB enhance business, transport facilities and created employed for locals	Improvement Health facilities due SBB people are more satisfied	Income of Employees shopkeeper and businessmen increased, and they are satisfied but farmers and labor facing losses in form of permanent loss of life and their land	There is no effect on the social capital of Ghar Maha Raja.	Prices of land are much higher Employees and labors having find the opportunities to work. But due to noise and transport issue creating some problems
Basti Ghulam Abad	Physical capital is harmed during the flood time	Due to transport facility people are getting health facilities from Shoor kot and jhang	By comparison of five year before construction of SBB Incomes of the families reduced	People are poor normally they have to support their families to. They sale their animal or assets of family and they forced to do this	Farmers sale their trees in their land which is cause environmental degradation
Naiko Kara	Most of respondent's homes were demolished due to flash flooding	Mostly respondent said there is danger of infectious has been increased due to flooding in that area	People having less income after the construction of SBB project	Most of the respondents from this area said that social of whole community is not harmed	Respondent from this community perceive this project as a main cause of flooding in their area.
Rashed Poor	Due to SBB project people lost their homes and their animals	Many families lost their dear ones due to flash flooding	Due to destruction of crops and homes the income of the people are low	Social capital is harmed	Agricultural land has become he regular part of river so it affect negatively

Table 05: Poverty status of the Ghar Maha Raja Communities

By the field work in which semi structure and structured interviews researcher observed the following poverty status in Ghar Maha Raja and Adjacent communities. After conducting the field work and data analysis researcher observed that the town of GMR has some positive effects because of connectivity and generation of employment plight of condition somehow improved. However adjacent communities are facing more intensive flooding due this loss is occurring, so poverty level could be increased due to these factors.

Poverty status	Before the Construction of SBB	After the construction of SBB
GMR	Poverty in Ghar Maha Raja was high before the construction of SBB project. Chance of flooding was high all time. This own population faced physical and financial losses	After the construction of SBB and construction of protection Band the chance of flooding is low. People are well access to sale their agricultural products to main market of District Jhang and small businesses increased in that area poverty level decreased
Basti Ghulam Abad	Before construction of SSB there were less chance to enter water in main community crops production was moderate	Due to flash flooding all the dispensaries and school are destroyed. people sold their animals so poverty level increased
Naiko Kara	People used to get four crops in one season. After that they cultivate vegetable. Which given them a lot of support	After the construction of SBB project people are getting single crop due to danger of flooding they does not cultivate the vegetable which is the major source of income .so it hit badly to income of local people which enhance the poverty level
Rashed Poor	Before the construction of SBB flooding happen once in a year and people survive with this. The flooding made the land more fertile	After the completion of the project and protection band there is no specific time of flooding it happen any time in year and intensity is very high. soil erosion started in this area which hit negatively crop production, so this affected the income of people negatively and level of poverty increased

CHAPTER V

Conclusions

The location of the bridge is inappropriate. Another major factor which played this project more destructive is the poor planning of the project. Intensity of the water is increased which losses of livelihood. Fault in planning leads to destruction of the people livelihood. Government aid is distributed to political and baradari base so poor are not given government aid. The traditional flood coping mechanism is disrupted due to this bridge Intensity of the losses is more for the poor and less for the rich. Awareness about the flood resilient crops is not among the farmers. The people of that area are not politically aware to fight for their rights in courts. People of GMR town are much satisfied but the people around the adjacent communities of GMR like Rasheed pur Naiko Kara Basti Ghumlam abad are not satisfied with this bridge.

Suggestions

- Protected band length should be increased
- The people are ready to relocate Government should give the land in district Jhang, Layyah or any suitable place.
- New seeds varieties which are more resilient to impacts of flood should be introduced and given to local community.
- There is immediate need of the time that government should make the passages (daraas) both side of the bridge that will help to pass the water and water will not come back at a low intensity.
- The banks and private loan forum give the interest free loans to handicap widows' families and small farmers.
- Government should make more transparent and easy procedure to distribute the aid in the local community.

Limitations of the Study

Few limitations of the study are that the First one is that due to cultural constraints interaction with female respondent was not allowed in GMR. The finding of this study may not be generalized on

other development project constructed different areas of Pakistan, because every area of furniture manufacturing has its own features. This is a student research which is focused on specified objectives to achieve within limited time and resources. There were time limitations and somehow traveling and residence issue faced by researcher. The focus of the study was only the bridge and road infrastructure in a specific area.

Area for Future Investigation

The area of the study can be enlarged to draw a better picture of impacts of infrastructure development on the livelihood of a local community. This study discusses only the impacts of a development project and perceptions and coping mechanism of people. But there is very important area need more important the why and how the resilience level of the community is affected by the development project. What is the role of government and bureaucracy and governance system in this phenomenon? A study could be conducted for the for the quantification of the impacts of this project.

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Appendix: 1

Farmer

Name: _____

Occupation: _____

Age: _____

Date: _____

Time: _____

Q#1 what you think about sultan Bahu bridge project?

Before the SBB project was built does someone consult to local people of Ghar Maha raja?

Q#2 How this project helps to facilitate the people?

How it is helping to make the more destructive flooding?

Q#3 Before this project what were the conditions of transportation of goods and agricultural crops and transportation system?

Q#4 when flood come you shifts the family at safe place what are your conditions at that time?

When flood water goes what are the condition of family and how you manage it?

Q#5 what were condition of land, business or income before this project?

What are the conditions of land productivity now?

Q#6 what are the major crops of that area?

What are the crops hit by flood how much loss you bear if flood comes?

Q#7 when flood come how do you manage the flash flooding?

How whole communities behave and cooperate with each other?

Q#8 Does the traditional coping mechanism of flooding is affected due to this bridge?

What are the effects of this bridge on the resilience against the flooding?

Q#9 what you think that does this bridge should be constructed here or at any location?

How this bridge design helps to make traffic accidents?