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Infrastructural Projects, Land Use Conflicts and Socioeconomic Impacts Nexus: A Case Study of Diamer Bhasha Dam Project, Pakistan

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Muazzam Sabir. Infrastructural Projects, Land Use Conflicts and Socioeconomic Impacts Nexus: A Case Study of Diamer Bhasha Dam Project, Pakistan. Economics and Finance. Université Paris Saclay (COMUE), 2018. English. NNT: 2018SACLA003. tel-01862810

HAL Id: tel-01862810

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NNT : 2018SACLAA003

**Infrastructural Projects, Land Use Conflicts and Socioeconomic
Impacts Nexus:
A Case Study of Diamer Bhasha Dam Project, Pakistan**

Thèse de Doctorat de l'Université Paris-Saclay
préparée à AgroParisTech (l'Institut des sciences et industries du vivant et
de l'environnement)

École doctorale n°581: agriculture, alimentation, biologie, environnement et
santé (ABIES)

Spécialité de Doctorat: Sciences Economiques

Thèse présentée et soutenue à Paris, le 22 Février 2018, par
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Scientific Productions of Thesis

Published in International Journal

Sabir, M., A. Torre, and H. Magsi. 2017. "Land-Use Conflicts and Socio-economic Impacts of Infrastructure Projects: The Case of Diemer Bhasha Dam in Pakistan" *Area Development and Policy*. <http://dx.doi.org/10.1080/23792949.2016.1271723>

Published in Book

Sabir, M. and A. Torre. 2017. "Different proximities and conflicts related to the setting of big infrastructures: The case of Diemer Bhasha dam in Pakistan", in (eds.) Bandyopadhyay, S., Torre, A., Casaca, P., and Dentinho, T. *Regional Cooperation in South Asia, contemporary South Asian Studies*, Springer International Publishing. <http://www.springer.com/series/15344>

Submitted in International Journal

Sabir, M. and A. Torre. 2017. "Infrastructural Project Loopholes and Land Use Conflicts Nexus Based on National and Regional Dailies. The Case of Diemer Bhasha Dam in Pakistan" Submitted in "Journal of Environmental Planning and Management".

Presented in Conferences/Seminars

Sabir, M., A. Torre, and H. Magsi. 2017. Different proximities and conflicts related to the setting of big infrastructures: The case of Diemer Bhasha dam in Pakistan. 2017 New York International Academic Conference on Business & Economics New York, USA, 11th–13th June 2017.

Sabir, M. and A. Torre. 2017. Infrastructural Project Loopholes and Land Use Conflicts Nexus Based on National and Regional Dailies. The Case of Diemer Bhasha Dam in Pakistan. 25th Pacific Conference of the RSAI Sustainable & Resilient Regional Development, Tainan, Taiwan, 17th–20th May 2017.

Sabir, M. and A. Torre. 2016. Land Use and Socioeconomic Conflicts: Socioeconomic relations and local perceptions in the case of Diemer-Bhasha Dam Project, Pakistan. RSA Annual Conference, Building Bridges: Cities and Regions in a Transnational World, Graz, Austria, 3rd–6th April 2016.

Sabir, M. and A. Torre. 2016. Diemer Bhasha Dam Project: Land use conflicts and socioeconomic impacts review: A case study of Diemer Bhasha dam project, Pakistan. Doctorales de L'ASRDLE, l'Institut d'Auvergne de Développement des Territoires à Clermont-Ferrand, France, 17-19 Février 2016.

Sabir, M. and A. Torre. 2016. Proximities & conflicts related to setting of big infrastructures: A case study of Diemer-Bhasha dam project, Pakistan. Développement territorial : systèmes

alimentaires et fonciers ou Gouvernance des systèmes et des territoires innovants, Journée des Doctorants Proximités, 28 Juin 2016.

Sabir, M. and A. Torre. 2015. Diemer Bhasha Dam Project: Land Use Conflicts, Technical Issues, International Concerns and Options for Pakistan. Doctorales de L'ASRDLF, Université Paris-Est, France, 2-4 Fevrier 2015.

Poster Presented

Sabir, M. and A. Torre. 2015. Land Use Conflicts and Socioeconomic Impacts A Case Study of Diemer Bhasha Dam Project Pakistan. Journées ABIES 2015. 14-15 April 2015, AgroParisTech, Paris, France.

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General Introduction

Conflicts over land use occupy a central position in different disciplines like geography (Campbell et al., 2000), sociology (Castro and Nielsen, 2001; Stephenson, 1981), political sciences (Humphreys, 2005; Burton, 1993) and economics (Mann and Jeanneaux, 2009; Deininger and Castagnini, 2006). This research deals with land use conflicts arising due to infrastructural projects like dams and their socioeconomic impacts on affected population mainly in developing countries. It gives qualitative analysis of conflicts by taking into account several issues in infrastructural project activities, historical and geographical disputes between local people and Government and also among the local people, as well as socioeconomic losses of affected people.

Conflicts always differ with respect to their economic constraints, social, political and institutional structure, stakeholder's interest, history behind the conflict, geographical location and environmental situation (Jones et. al., 2005). They exist due to construction or extension of big projects or any other development due to change in land use which goes against the interests of some actors in the form of negative social, economic and environmental externalities. They are expressed in different forms around the world depending upon the region, characteristics of actors and their interests and vary from tensions to violent conflicts including protestations, legal action, and road blockage and in some cases could go to armed conflicts between different groups and death of people. Such types of conflicts in most countries also slow down the pace of development.

Land use conflicts can be seen in developing as well as developed countries both, depending upon the conditions and circumstances, and could vary from tensions to violent conflicts. Land use conflicts are opposition to decisions that leave a part of population unsatisfied (Darly and Torre, 2013) and which could arise between different stakeholders including local communities, institutions and also at regional, national and international level. Several negative impacts emerge due to big infrastructures like population displacement, loss of economic opportunities and social and environmental hazards.

The thesis mainly deals with issues of conflicts related to infrastructural projects like dams and their impacts on community, especially in developing countries. It highlights the loopholes in the form of poor planning and governance, mismanagement, corruption and cronyism in different project activities which are the main source of conflict among different actors. These project activities include measurement and categorization of land, land rights on the basis of history and culture of local area and ultimately land rate compensation decisions on these bases. Our study further analyzes the conflicts and impacts of such projects on socioeconomics of local affected people. These socioeconomic problems include displacement of local people and poor resettlement plans, ineffective employment opportunities and livelihood. It also discusses the environmental impacts of these projects.

Infrastructural Project Impacts

Construction of infrastructural projects like roads, railways, dams and airports have vital position in the development of a country. Big projects like dams are important for both developing and developed countries in many ways like irrigation water availability and especially for developing countries in electricity generation and flood control. Such projects are the main contributors in enhancing the pace of development in a country. They play a significant role in fulfilling the energy and irrigation demand of a country, produce a large number of employment opportunities and contribute huge revenue in the economy. Hydropower is also a clean source of electricity which is environmentally important and viable source of energy. But such projects have also negative externalities and significant source of conflicts.

Mainly, big infrastructures like dams have social, economic and environmental impacts which are source of conflicts among different actors (Chakravorty, 2016). These socioeconomic impacts have always been very hard on local affected people in the form of landlessness, loss of economic and livelihood opportunities which appear in many ways and dimensions. Further, negative environmental and ecological impacts of large dams include GHG emission, obstruction to fish migration, loss of diverse ecosystem, loss of architectural heritage, geological hazards and extinction of biodiversity (Sun, 2013; Williams and Porter, 2006).

Absence of national resettlement policy, non-availability of employment opportunities and human rights violations lead to landlessness, economic impoverishment and social instability (Magsi and Torre, 2013; Sun, 2013). Indirect impacts of dam construction include unemployment as less than half of the population can keep their original profession. Although such projects create temporary employment opportunities in the form of laborers (Moran, 2004) but such opportunities increase at first but cannot sustain after construction (Huber & Joshi, 2015). Another source of conflict is lack of information dissemination regarding most of the project activities and limited or no participation of all stakeholders in all project activities (Mann and Jeanneaux, 2009).

Large hydropower projects have severe impacts on environment and architectural heritage which several studies highlighted in developing and developed countries (Moran, 2004; Magsi and Torre, 2013; Sun, 2013). These impacts generate several conflicts depending upon concerned stakeholders. Larger the hydropower project greater the impacts are on river ecology and riverside communities (Williams and Porter, 2006). Further environmental impacts include loss of diverse ecosystem, obstruction to fish migration, extinction of biodiversity and deforestation etc. Moreover, loss of architectural heritage and geological hazards are also significant impacts of big infrastructures like dams.

Conflicts due to Infrastructural Projects

Infrastructural projects like dams always have elements of tensions and conflicts of different types among different stakeholders. Several factors are involved in generation of these types of conflicts depending upon stakeholders' concerns, geography, history, culture, property rights and management of the project. Land acquisition and property rights, compensation, displacement and resettlement, employment and livelihood are major socioeconomic factors which generate conflicts along with environmental impacts.

Land acquisition is one of the main project activities before start of construction of big projects. Land acquisition and compensation are significant reasons of conflicts in several dimensions and among different stakeholders. Land conflicts in such projects could arise not only between authorities and affected people but also among different groups of affected population. In many countries such projects are brought on tribal, rural or remote areas where local people are illiterate, unaware of their rights and mostly have no legal rights to lands (Moran, 2004; Flood, 1997; Zhu & Simarmata, 2015). Land acquisition act in countries like India, Pakistan and Bangladesh cannot be challenged however affected people can challenge only compensation (Awasthi, 2014). Tenure reforms are formed on the bases of biasness and favoritism especially in developing countries which fail to protect the informal land rights (Rigon, 2016). Further, historical inequalities and local culture also favors specific group of people which is also a significant source of conflict (Marx, 2016; Sabir et al., 2017). Political favoritism and mismanagement by land managers are major source of conflicts due to lack of formal allocation of land or unfair allocation of formal land (Admasu, 2015; Campbell et al., 2000).

Such problems open ways for mismanagement, corruption and cronyism which are the main issues in land valuation for compensations and raise conflicts among different stakeholders (Swain and Chee, 2004; Magsi and Torre, 2012). Property rights loopholes, illiteracy and ignorance about rights encourage the powerful stakeholders to pressurize the local affected people and use force against them in different ways. Like in case of Chotiari Water reservoir Pakistan no reliable assessment of compensation was made, only families supported by landlords were offered compensations and people who denied low compensations or took legal action in court ended up without any decision (Magsi, 2012). Moreover, social and emotional attachments to land are also hard to evaluate (Dams & Development, 2000).

Opposition to project and tensions also escalates due to displacement and resettlement and employment and livelihood (Oppio et al. 2015). Pressurization and use of force in case of displacement and resettlement is common in infrastructural projects like dams in developing countries. Moreover, delayed and out of culture resettlement are also prominent issues in such projects. In projects like Bakun dam 70 percent compensation was offered in case of Government resettlement areas, cancellation of compensation in case of refusal and police force was used to remove the protesters (Swain and Chee, 2004).

Planning decisions related to land use leave several negative impacts on environment and community and generate land use conflicts (Kaya & Erol, 2016) which are mainly the expressions of unsatisfied part of population against these decisions (Darly and Torre, 2013). The increasing population, urbanization and development demands more infrastructural projects like dams when it comes to need for water for irrigation and energy around the world especially in developing countries. Such infrastructural project has negative consequences, leads towards opposition which can be described as conflicts among different stakeholders and conflicts among different land use types. Land use planning could deal with conflicts among different land use types through conflict resolution among stakeholders (Zhang et al, 2012). However, it is hard to negotiate all land use conflicts and such conflicts are rarely resolved and just settled by public policy, mainly through its enforcement (Yusran et. al., 2017), as suggested by Ostrom and Nagendra (2006) that not all types of governance lead towards complete resolution of conflicts.

It has to be noticed that land use conflicts are not just confined to developing regions but they appear all over the world depending upon the region, characteristics of actors and nature of conflicts. The ultimate reason of conflicts will always be disagreement among two or more groups irrespective of the region but the opposition among actors exists in several ways. In developing world most of these projects are brought in rural and remote areas where people are illiterate and unaware of their rights. In these areas the impacts of the infrastructural projects are severe on socioeconomics of local affected people in the form of landlessness, loss of livelihood and ultimately they face the severe economic conditions. Moreover, mismanagement and corruption are also common in such projects which also serve as catalyst in conflict generation. Although such projects have worse impacts on environment but these are of least concerns of local affected people. On the other hand conflicts and in some cases violent conflicts are observed in developed regions, mainly on environmental and social concerns of actors. Different forms of environmental and social impacts are observed which cause conflicts including destruction of wet lands and biodiversity, disturbance due to development near residential areas etc.

Case Study Selection: Diamer Bhasha dam

Several conflicts due to infrastructural projects exist around the world depending upon stakeholders' interests, socioeconomic and environmental conditions and geographic location. Conflicts related to projects like dams are not just limited to developing countries but also exists in developed countries based on different issues. In order to deal with the question of conflicts related to infrastructural projects like dams the case study of Diamer Bhasha dam project in Pakistan is selected.

Diamer Bhasha dam project has great importance in the economy of Pakistan. Pakistan is suffering from severe electricity shortage with a shortfall of about 6000 megawatt (Dawn, April 18, 2017). Moreover, Pakistan is also a water stressed country with per capita annual water availability of 1017 cubic meters. The water storage duration of Pakistan is 30 days

against the 120 days according to international standards. Pakistan is an agricultural country and scarcity of irrigation water is severely hurting the agriculture of Pakistan. One of the major reasons is lack of storage reservoirs in Pakistan (The Nation, September 15, 2017). Diamer Bhasha dam is significantly important at this stage for Pakistan economy as on completion it will contribute 4500 megawatt of electricity. Regarding irrigation, availability of about 6.4 MAF (Million Acre Feet) of annual surface water is another significant contribution of Bhasha dam. Moreover, it will also be helpful in flood control in Pakistan, which creates havoc every year, and be a source of employment on large scale.

Although this project is carrying several benefits in the form of electricity generation, irrigation water and employment there are some heavy costs to pay like displacement of local people and other socioeconomic losses. 32 villages including 4,228 households are going to be displaced due to this project, affecting seriously the livelihood and ultimately living standard of affected people. It will submerge about 2,660 acres of agricultural land (GOP, 2014). Moreover, the project is generating many conflicts and has several impacts on the community relating to land acquisition/management, socioeconomics and environmental hazards. Land acquisition/management is the major source of tensions and conflicts in the area. It deals with conflicts related to land rate compensations, land measurements, land category decisions and conflicts over land rights due to historical settlements of different groups in local area.

Land management and compensation is a multifaceted process and considerable source of tensions and conflicts among different stakeholders. Land compensation issues can take many dimensions like little or lower compensation (Awasthi, 2014; Li et al. 2015), political favoritism for selected people (Magsi & Torre, 2012), use of police force against the protestors (Swain & Chee, 2004) and threatening the people to hold the protests by withholding the social benefits (Huber & Joshi, 2015). It has been noticed that people hesitate to take legal action in violent atmosphere (McMichael, 2016). In the case of Diamer Basha project there have been a lot of mismanagement and corruption in land measurements which led towards conflicts between authorities and affected people. Another conflict between them is on the basis of manipulation of land category. Three land categories including cultivated, cultivable and barren land are decided on the basis of which compensation will be provided. But local people protested against this decision as they claimed that their cultivable lands are considered as barren in order to reduce the compensation rate. Moreover, conflicts also have grown to historical settlements of affected people which divide them into two major groups over land rights.

In infrastructural projects like dams living standard of affected people is a very sensitive issue which depends upon planning of several other project activities. Geographical and social changes due to such large projects makes it difficult for affected people to maintain their original living standard (Sun, 2013; Moran, 2004) and lead towards household dependencies, poverty and bribes (Magsi, 2012). Several people are displaced around the world, suffering from landlessness (Scudder, 2005; Dams & Development, 2000). Such

projects also bring unemployment and increase the social disorder among the affected communities (Brown et al. 2009). Proper information about project activities and participation of all stakeholders in decision making is often ignored. In the case of Diامر Bhasha Dam the Government's resettlement plan includes construction of three model villages, Thak Das, Harpan Das and Kino Das. A residential plot of one Kanal is supposed to be provided free of cost to each affected household. The project is supposed to generate several employment opportunities during construction and capacity building programs are arranged for local people to use employment opportunities effectively. However, several tensions and protest demonstrations is seen among local stakeholders regarding resettlement and livelihood.

Keeping in view the above mentioned issues this research addresses the following questions:

- 1. How do infrastructural project activities lead to conflict generation and affect the socioeconomics of local population and what are the possible measures to improve them?**
- 2. What is the link between history, culture and geography of local area and the project evolution; what are the intensity of conflicts, their impacts and possible mitigation measures?**
- 3. To what extent socioeconomic and environmental issues in infrastructural projects like dams are source of conflicts in developing and developed countries?**

Methodology of the Thesis

In order to address the questions related to conflict issues and their impacts both primary and secondary sources were included as a source of data collection. To examine the conflicts and the socio-economic profile of the affected population some random field interviews were conducted with local population. Finally, another 61 interviews were conducted with experts and stakeholders during a three-month stay in the project area. These experts and stakeholders are from different backgrounds including Water & Power Development Authority (main Government agency to carry out this project), Planning Commission (Government Organization), Private Consultants for Bhasha Dam & other related projects, District Administration & Police, Diامر Poverty Alleviation program (NGO), Local Leaders/representatives, Legal Advisors, Journalists and Social Workers.

Among secondary sources different national and regional dailies and other available literature published by public or private organizations were selected as main source of information. These kinds of secondary sources were frequently used by the researchers (see Torre et al, 2014; Awakul & Ogunlana, 2002; Mahato & Ogunlana, 2011; Mann & Jeanneaux, 2009; Ali & Nasir, 2010) in order to cross check the information from different sources and

to carry out better analyses (McCarthy et al., 1996; Deininger & Castagnini, 2006). We crossed and combined them with the field interviews.

Among the dailies/newspaper, four national and three regional dailies were accessed online for the period of 2006 to 2016. About 289 articles were studied in order to collect information on factors under consideration. Each article was saved by using variables including name of journal, article's title, date of publication, short summary of issue/issues described by the article. Each article usually describes one main issue or conflict; however some articles deal with two or three issues. National dailies are found in English language but regional dailies are in Urdu language. After reading the articles from regional dailies, their summary were translated to English in order to properly analyze the information on specific issue from national and regional daily point of view.

Moreover, Government organizations publish literature related to financial information of the project, brochures and developmental portfolio with the passage of time to show updates on different project activities. These activities include mainly benefits and developmental plans of the project, its geographic information and financial requirements including main donors. This literature also contains the information regarding economic activities in the project area, number of villages and households and ethnic groups gathered through survey conducted by WAPDA in the project area. Research conducted by private researchers on Diamer Bhasha Dam and NGO reports were also considered as source of additional information in this article.

Plan of the Thesis

The thesis is structured into four major parts (chapters) which provide qualitative analysis of conflicts due to infrastructural projects like dams especially in developing countries. The chapters are independent articles which addresses the questions mentioned in the previous section.

The first chapter highlights the conflicts arising due to land use and infrastructural projects in developing countries (in general) and analyzes the conflicts and socioeconomics impacts especially about the construction of dams, using observations on a peculiar case study, the Diamer Bhasha dam, in northern Pakistan. It describes the negative influences on society, like displacement of local population, resettlement, social, economic concerns and land use conflicts. For this chapter the primary data is the major source of information which is collected through the interviews, conducted from experts and stakeholders of different backgrounds which include public authorities, private consultants/experts and local stakeholders. Moreover, secondary source of information is also considered and information on desired factors is collected from different national and regional dailies as well as from other published literature through public and private organizations. This part provides the impacts of Diamer Bhasha Dam project on local population and the territory, e.g. unfair land acquisition, improper displacement, compensation, resettlement and

employment issues. It further puts emphasis on geopolitics, international concerns and financial issues being faced due to the project. Finally, it concludes and recommends some strategies for better governance and the way ahead for upcoming studies on similar issues.

The second part is devoted to examine the loopholes and conflicts in different ill-conceived project phases/activities of the Diamer Bhasha Dam project in Pakistan. This part is mainly based on national and regional dailies and includes land acquisition, resettlement, livelihood and compensation. The study goes deep into the root causes of these conflicts by highlighting the poor planning and governance in the form of mismanagement, corruption and favoritism in different project phases, gap between local people's intentions/actual requirements for resettlement and livelihood opportunities and Government's provisions, mistrust of locals due to ignoring them in the project activities and problems of historical settlements in the project area. It further analyses these conflicts and loopholes and discusses its impacts on living standard of affected people and development of area. Finally it gives policy measures and recommendations for incoming projects on infrastructural development in the form of skill development of affected people in different areas, enhancement of developmental projects in local area and participation of all stakeholders in all project activities.

The third chapter highlights the conflicts arising due to land use and especially construction of dams, using observations on a peculiar case study: the Diamer Bhasha dam project in Pakistan. Land conflicts are recognized as a result of mismanagement of infrastructural development projects. Several issues have been discussed related to infrastructural projects in Asia and South Asia, like corruption, mismanagement, cronyism and adverse socioeconomic impacts. This part deals with the conflicts arising due to Bhasha dam project, the network of actors involved and how these actors are engaged with each other. It further discuss the different type of conflicts among different actors, their impact on the local people and ultimately on the project. Keeping in view this case study, it goes into the concept of conflicts and proximity, e.g. types of proximity and the role they play in conflict generation, conflict resolution and modes of conflict prevention. Different kinds of ethnic groups, their social issues and geographical problem are also discussed along with geopolitical problems of this project. Contiguity problems due to geographical proximity as well as mechanisms of conflict resolution through organized proximity are also discussed. Finally, in the light of this analysis and discussion, it gives some recommendations related to better governance and the way ahead for upcoming studies on similar issues in setting of new projects like Dams construction in developing countries.

The last part presents the comparative review of different studies in developing and developed countries related to land use conflicts due to infrastructural projects like dams. Developmental projects like dams have consequences both positive and negative which generate conflicts with view of conflicts among land use types and conflicts among stakeholders. This chapter goes into the literature of previously conducted studies of land use conflicts especially related to infrastructural projects. It is based on secondary source of

information including previously published literature and national and regional dailies and highlights the social, economic and environmental impacts of infrastructural projects mainly dams. It then discusses the two case studies one from developing country “Bhasha dam project, Pakistan” and other from developed country “Sivens dam project, France” and highlights the different issues and conflicts among different actors. Further, it analyzes the individual and common issues of these case studies in the light of above mentioned literature with a comparative point of view. Lack of participation of all stakeholders is significant source of conflicts in both cases on ecological issues in case of Sivens dam project and on socioeconomic issues in case of Diamer Bhasha dam project.

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Chapter 1

Land-use conflict and socio-economic impacts of infrastructure projects: the case of Diامر Bhasha Dam in Pakistan

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Published in "Area Development and Policy"

Abstract

This article examines the conflicts arising from the Diامر Bhasha Dam project in northern Pakistan. Conflicts arising from the impacts of the dam on the local population and territory and steps to resolve some of them are identified. These impacts relate to unfair land acquisition, improper displacement, inadequate compensation, resettlement and future livelihoods. The completion of the project depends on the arrangement of project finance, resolution of conflicts among different actors and the consent of all stakeholders. In the light of this case, strategies for improved infrastructure project governance are identified.

Keywords: Conflict, territorial disputes, dam construction impacts, compensation, public participation

Introduction

Dams have negative social impacts including population displacement and relocation (Williams & Porter, 2006), a variety of other social, economic and environmental problems and land-use conflicts (see Chakravorty, 2016; Magsi & Torre, 2015; Oppio, Corsi, Mattia, & Tosini, 2015; and Sun, 2013, for the Three Gorges Dam in China; Moran, 2004, for hydroelectric dams in Turkish Kurdistan; and Bui, Schreinemachers, & Berger, 2013, for hydropower development in Vietnam). Worldwide up to 80 million people have been displaced by dam construction (Scudder, 2005; WCD, 2000), sometimes leading to greater social conflict, disorder, unemployment and landlessness (Brown, Tullos, Tilt, Magee, & Wolf, 2009).

One of the major reasons for conflicts related to infrastructural projects like dams is differences in the attitudes, expectations and participation of different stakeholders (Awakul & Ogunlana, 2002; Mahato & Ogunlana, 2011; Swain & Chee, 2004; Tilt, Braun, & He, 2009). Demands for compensation and the compensation governments offer always differ. Sometimes compensation is low compared with resource losses or paid late (Awasthi, 2014; Li, Huang, Kwan, Bao, & Jefferson, 2015). Sometimes housing or compensation is not provided in accordance with relocation plans, on occasions due to corruption, mismanagement and cronyism (Awasthi, 2014; Swain & Chee, 2004). Different studies emphasize different forms of compensation such as monetary compensation, alternative short-term employment and social security assistance, as affected people may still suffer from uncertainties about competing in the labour market and adapting to a new life even with improvement in land compensation (Hui, Bao, & Zhang, 2013; Qian, 2015). Sometimes informality gives rise to social and legal problems (Lombard, 2016), and compensation issues ignite when affected communities hold no legal land titles, especially in tribal areas (Flood, 1997; Moran, 2004).

Some studies of conflicts caused by hydroelectric and other projects identify meaningful public participation/consultation in decision-making as an effective conflict-resolution mechanism (Lombard & Rakodi, 2016), and its absence as a source of opposition to the project, lost economic and social opportunities, mistrust in the government, tensions and conflicts (Diduck, Pratap, Sinclair, & Deane, 2013; Li, 2015; Magsi & Torre, 2012; Mann & Jeaneaux, 2009; Slee et al., 2014). Public participation that accommodates interests, resolves conflicts, includes veto players and establishes fairness of process positively influences the quality of implementation (see Drazkiewicz, Challies, & Newig, 2015, for German case studies).

In Pakistan, dam construction was not always favoured by all political parties, especially in relation to water issues. Regular debates have become social taboos, and facts about water are invariably contentious. Pakistan is a water-stressed agricultural and developing country lacking the water for irrigation and energy generation which dams provide (GOP, 2013). As a result, dam construction has become a major focus of government policy. Although their importance for the national economy cannot be ignored, the Tarbela and Mangla dams as well as the Chotiari water reservoir displaced large number of families (Iqbal, 2004). Although the government claimed that they provided benefits and raised the living standards of the affected population, most of these projects led to poverty, low living standards (Magsi & Torre, 2014) and social instability. In fact, less than half of the displaced population was able to retain their original profession, and government land compensation was inadequate.

In an examination of dam projects, the World Commission on Dams (WCD) was critical of lack of government accountability, corruption, embezzlement and inequality of benefits (WCD, 2000), and set out two principles for the resettlement of displaced persons. First, all stakeholders should be consulted from the outset. Second, the displaced population should be better off after the project than they were beforehand.

This article examines the land-use and political conflicts arising from the Diamer Bhasha Dam project in Pakistan. The next section introduces the project and the methodology. In the third section attention focuses on displacement, compensation, resettlement and livelihoods of the affected population and also on a number of associated territorial conflicts, compensations and other socio-economic values. The fourth section concludes and advances some policy recommendations.

1. Case Study Presentation and Methodology

1.1. Case Study Description: Diamer Bhasha Dam project, Pakistan

The Diamer Bhasha Dam is a megaproject designed to address water and electricity shortages in Pakistan. The project is named after Diamer, a district in northern Pakistan in the province of Gilgit Baltistan (GB) and Bhasha, a village in Kohistan in the province of Khyber Pakhtunkhwa (KPK). In KPK in 2009 the literacy rate was 47%, 38.1% of the population was below the poverty line and the growth rate was 4.6% (Comprehensive Development Strategy, KPK, 2010). The province has strong agricultural skills, a diverse climate and landscape, and a variety of tourist resources. According to the 1998 Census, Kohistan district had a population of approximately 472,570 people and a literacy rate of

11.08%. Bhasha is a village of Kohistan and part of this project. The government has acquired some land in the village, but no households are affected as the major portion of the dam is located in Diامر district of GB province.

GB, which was formerly known as the northern area of Pakistan, borders KPK to the west, Afghanistan to the north, China to the east and Indian-administered Jammu and Kashmir to the south-west. In 2010 the literacy rate was 38% (GOGB, 2010), while in Diامر it was about 10%.

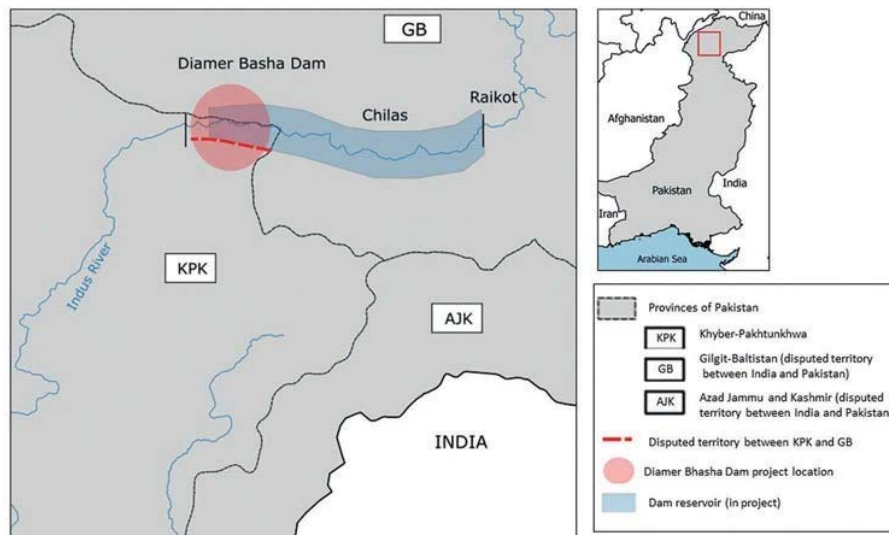


Figure 1. The study area.

Diامر is the district where the Karakoram Highway enters GB from KPK¹. The district capital is Chilas (Figure 1). The project is mainly located in Diامر district. Most of the land is being acquired in this district, and almost all its inhabitants will be affected socially and economically. In all there are 12,039 households, of which about 4228 will be directly affected. The initial occupational status of the affected households is set out in Table 1.

The Diامر Bhasha Dam project was included in the Water and Power Development Authority’s (WAPDA) Water Vision 2025 in Pakistan. Considered a priority, project feasibility studies started in 2001 (Dawn, 27 April 2006) when the Kala Bagh Dam project was tied up in interprovincial politics. In June 2008 a detailed engineering design was completed, and the cost of the project was estimated as US\$13.684 billion. In July 2012 the project was approved. To fund the project the government has approached the Asian Development Bank (ADB), the World Bank and USAID. Funding has, however, not yet been agreed. The project is at the land-acquisition stage, and construction of the dam has not started.

Table 1. Economic activities of the local actors

Occupation	Occupational status of affected population (%)
Agriculture/Farming	33.5
Unskilled workers (Construction mostly)	10.5

Skilled Workers	16.6
Government Service	19
Business	15.1
Private Employment (in for example agricultural enterprises)	4.7
Security forces	0.6

WAPDA Survey, 2006-07

The dam is located on the River Indus², about 315 km upstream of Tarbela Dam and 40 km downstream of Chilas city in GB (Figure 1). It is designed so that the right abutment and right power house are in GB and the left bank and left power house are in KPK. The Diamer Bhasha Dam is a roller compacted concrete (RCC) dam with a maximum height of 272 m. The project will cover an area of 110 km², and the reservoir will extend 100 km upstream (GOP, 2013).

1.2. Arguments for and against the project

From the outset debate about the pros and cons of the dam have raged. For the public authorities this project is expected to contribute 4500 MW of electricity per year, generate annual revenue of US\$2.216 billion and significantly reduce electricity shortages. The dam can impound a reservoir of 8.1 million acre feet (MAF) with a live annual storage of 6.4 MAF of surface water, and will also extend the life of Tarbela Dam by 35 years, increasing its annual electricity-generation capacity. The dam project is expected to generate employment during construction and subsequently in agriculture, industry and commerce (GOP, 2013). The project also includes an upgrading of hospitals in Gilgit and construction of schools in other districts (The Express Tribune, 26 December 2010).

In spite of the national economic benefits, the project involves costs of population displacement, resettlement, livelihood renewal and conflict between different actors. The dam will, for example, inundate about 32 villages, affecting 4228 households (30,350 people) and will submerge 2660 acres of agricultural land, affecting the major occupation of the area as well as the living standards of its inhabitants (GOP, 2014).

The construction of the dam has faced strong local resistance. Anti-government protests and demonstrations took place, and roads and especially the Karakoram Highway were blocked due to arguments over, for example, the level of compensation, the non-payment of compensation, the selectivity of compensation payments and corruption. In the case of selective compensation to certain groups, contractors working on the construction of model villages for the resettlement of affected people and project colonies were threatened, with construction stopping for almost one year. Threats were made to bulldoze structures in the project area. In relation to other issues to do, for example, with the measurement of land affected, people took legal action. These court cases are still pending, causing distrust of the government (Pamir Times, 22 October 2015; Mir, 14 June 2012).

The most serious incident involved the death of three people and injuries to others when police opened fire on protesters complaining about land compensation (Gilgit Baltistan

Tribune, 19 February 2010; Mir, 14 June 2012). After several meetings this matter was resolved by increasing the compensation paid. In another incident about four people died and several others were injured. In this case the dispute was between people from the provinces of KPK and GB which both lay claim to an 8 km-long stretch of territory along the boundary between the two provinces. Security forces were deployed to separate the two sides. At the moment the matter is with the courts. If it is not resolved it may delay the project and lead to another bloody clash (Dawn, 6 May 2016; Muhammad, 28 December 2013).

1.3. Data and Methodology

The aim of this study is to identify and examine the conflicts between different actors, their causes and resolution. Following the recommendations of Rucht and Neidhardt (1999) and Torre et al. (2014), that analysis must draw on different sources of information. Primary and secondary data were collected on the socio-economic characteristics of the affected people, the conflicts that occurred and the underlying issues relating to compensation, displacement, resettlement, the awareness of the population of ways of investing compensation payments, education and livelihoods, as well as various conflicts generated by this project. To examine conflicts and the socio-economic profile of the affected population, interviews were conducted. It should be noted that the area comprises a number of valleys in a mountainous and not easily accessible area. Not without difficulty, another 61 interviews were conducted with experts and local stakeholders during a three-month stay in the project area (Chilas and other valleys), Islamabad (the capital of Pakistan) and Lahore (Table 2).

Table 2. Interviewees

Background of the Interviewee(s)	Number of Interviewee(s)
Water & Power Development Authority (main Government agency carrying out this project)	10
Planning Commission (Government Organization)	7
Private Consultants for <i>Bhasha</i> Dam & other related projects	9
District Administration & Police	6
Diamer Poverty Alleviation Program (NGO)	5
Local Leaders/representatives	10
Legal Advisors	5
Journalists & Social Workers	9

Among the secondary sources, data from the national and regional daily regional press (DRP) for the period from 2006 until 2016 was used (see in the supplemental data online) to identify conflicts and related issues, as in other studies (Ali & Nasir, 2010; Awakul & Ogunlana, 2002; Mahato & Ogunlana, 2011; Mann & Jeaneaux, 2009; Torre et al., 2014). Reference to a variety of sources permitted cross-checking (Deininger & Castagnini, 2006; McCarthy, McPhail, & Smith, 1996). In addition, material from the government and public

and private organizations was used. This included information released online by WAPDA to disseminate information about the project, its characteristics, land acquisition, resettlement plans, development plans and financial information. Survey data prepared by WAPDA and financial information from the Planning Commission of Pakistan provided information about economic activities and population characteristics. In addition, material prepared by private and non-governmental organizations (NGOs) was consulted.

An important distinction exists in the project area between population groups on the basis of their ancestry, cultural heritage and common history. This distinction separates as 'original settlers' (locally called 'owners') who first settled in this area and 'latecomers' (locally called 'non-owners') who have different rights to land and natural resources. These two groups are further categorized as upper and lower caste (see Table 3). This distinction rooted in customary law and traditions is accepted by all social and cultural groups and by

Table 3. Social Status of respondents in the study area

Groups	Social Status	Caste	Number (%)
Shin	Original settlers (called owners)	Upper	39.5
Yashkun	Idem Owner	Upper	24
Kamin	Idem Owner	Lower	11
Dom	Late comers (called non-owners)	Lower	1.4
Gujar	idem Non-owner	Lower	6.5
Mruts	idem Non-owner	Lower	7.4
Others	idem Non-owner	Lower	10.2

Source: WAPDA (2015) Report on Diامر Bhasha Dam, Accessed in 2015 (Unpublished Report).

government. Almost all land (except for land purchased by any group) and natural resources are entitlements of the 'original settler'. These assets include forests, water, pastures, barren land and non-timbered forest (termed as 'common land'). The government has no rights over common land in GB, and can only acquire it by paying compensation. When the government decided to pay compensation for common land, 'latecomers' demanded a share. According to customary law, latecomers are 'non-owners', have no common land rights and cannot claim compensation, except for land they have purchased.

In this paper, another clear distinction is made between tensions and conflicts. Following a well-known proposition in game theory (Rapoport, 1960; Schelling, 1960), a tension between various parties designates an opposition without the engagement of the protagonists, whereas a conflict emerges with the engagement of one of the parties. An engagement is defined as the implementation of a credible threat (Schelling, 1960), which may take many different forms: bringing a matter to the attention of the public authorities, civil servants or political representatives; bringing the matter to the attention of the media, press, radio or television; assault or verbal confrontation; or putting up signs forbidding access, fences and gates. Indeed, we assume that the emergence of a conflict follows an explicit engagement of the actors. A conflict, in other words, arises when a tension turns into a declared confrontation through the engagement of one or several parties (Torre et al., 2014).

2. Results and Discussion

2.1. Socio-economic Impacts

Despite the economic importance of, and need for, the Diamer Bhasha Dam, the project has had major socio-economic impacts and generated important conflicts relating to land acquisition, land measurement, land rights, resettlement and employment.

According to WAPDA, the total land to be acquired by the government for the Diamer Bhasha Dam project is 37,419 acres, of which 18,357 acres are private land and 19,062 acres are government land. The government has already acquired 8098 acres of private land, of which 7936 acres are in GB and 162 acres in KPK (GOP, 2014). After severe conflict over land compensation, a committee was formed to enhance land compensation and settle the matter. This committee mainly included local representatives, religious leaders, district managers, federal ministerial representatives and WAPDA. After a series of meetings the committee decided on land compensation rates for cultivated, cultivable and barren land for different areas. After these negotiations, there have been no protests over land compensation since 2010. At the time most of the experts and stakeholders settled on land compensation rates that accorded with market rates, although some of them were of the view that these rates were not sufficient to resettle the affected population and maintain their living standards.

Many studies identify land compensation as a significant source of conflict in dam construction projects. The problems include the payment of little or no compensation for land and other resources (Flood, 1997), compensation for politically favoured people (Magsi & Torre, 2012), discursive threats through anti-protest narratives, material threats involving withholding social benefits (Huber & Joshi, 2015), and police action to take out protesters (Swain & Chee, 2004). In an atmosphere of intimidation and violence, moreover, people hesitate to take legal action (McMichael, 2016).

The land to be acquired for the Diamer Bhasha Dam project consists of different valleys. At present there is a huge gap between land compensation rate decisions and actual land acquisition: the acquisition of land has not been completed, and compensation has not yet been paid in all cases. However, the government has adjusted the interest rate for persons who will be compensated later. Some people enjoy considerably higher land compensation

rates as they own land near the project site (Hommes, Boelens, & Maat, 2016). Land rents near the project site have started increasing in some areas, mainly in Chilas (which is the major urban area with commercial activities) because of the project, but the amount of compensation had already been fixed by the government. Another significant reason for the increase in land rates is that most of the people who have been compensated so far started moving towards these areas.

Monetary compensation and increases in compensation may not be sufficient to improve or even maintain the living standards of the local population. The outcome is highly dependent on future security programmes including social security, workforce training, the availability of permanent job opportunities and an ability to invest compensation payments. The majority of the experts and stakeholders consider that the affected people lack the information and education required to invest compensation payments well. Instead of making long-term investments or setting up a private businesses, the money is 'wasted' on daily household expenses, so that the affected population will end up in a similarly miserable condition as people affected by other projects in the past (Qian, 2015).

According to the government's resettlement plan for 4228 households, three model villages, Thak Das, Harpan Das and Kino Das, are to be established with all facilities (schools, hospitals etc.). Each household is to receive a residential plot of 1 kanal³ free of cost. The government assured local people that genuine demands regarding alternative residence and rehabilitation arrangements will be fulfilled (The Nation, 2 April 2014). The construction of Harpan Das was supposed to have already been completed with the first batch of affected people resettled. But, according to WAPDA⁴ construction work is still in progress, raising questions about the government's resettlement plan.

Several reasons explain the ineffectiveness of the government's resettlement plan. A lack of funding and disputes over the land for the model villages is the main reason for delay in the preparation and allocation of residential plots to affected people. The government is paying cash compensation early. Because of the delay, people tried to buy land in other areas. But, because of lack of awareness, they lost money to fraudulent property dealers. This problem is particularly severe for latecomers as they do not have common land rights. Original settlers, conversely, can avail themselves of common lands for their livelihood. As in other cases, the most common consequence of resettlement is poverty and social instability (Sun, 2013).

The future security, well-being and employment of the affected people is also a sensitive issue, as large projects require a large number of temporary, unskilled workers who lose their jobs at the end of the project (Moran, 2004). Furthermore, many affected people cannot keep their original profession (Sun, 2013; Swain & Chee, 2004), and the scope for long-term employment and skill development is limited as economic opportunities increase at first but cannot be sustained after construction (Huber & Joshi, 2015). For the purpose of employment of Bhasha Dam affectees, the government started several capacity-building programs, so that the affected people could be employed as skilled labourers on the project site, and that these skills could also be useful even after the completion of the project.

There are several controversies concerning impacts on the livelihood of the affected population. In particular, government training programs appear to be devoted to lower

category jobs. Affected people with compensation do not want lower-category jobs, as a sudden and easy fortune from monetary compensation makes them reluctant to seek employment (Qian, 2015). Although educational attainment in this area is very low, the development of schools in the model villages and project-related economic development will probably raise educational standards. In fact, all the experts and stakeholders consider the impact on education to be positive.

A project NGO is engaged for effective implementation of plans by mobilizing local communities, monitoring resettlement, and devising community food security and livelihood schemes. Most of the experts consider that this project will have positive impacts by overseeing and dealing with employment and resettlement programme deficiencies.

According to WAPDA, the Council of Common Interests (CCI) unanimously approved this project on 18 July 2010 for reasons of national consensus (The Nation, 19 July 2010). The consensus meeting was attended by the Prime Minister of Pakistan, chief ministers of four provinces and representatives from GB. The scope of the discussion was limited as this body had either to vote in favour of or against the dam. The Minister of Planning and Development claimed that there was national consensus in favour of the Diamer Bhasha Dam project. All political parties back the government's decision (Iqbal, 6 November 2013).

Information dissemination and consultation with the public are considered as important steps in projects of this kind (Diduck et al., 2013; Li, 2015; Mann & Jeaneaux, 2009; McMichael, 2016; Patel, 2016; Slee et al., 2014). Some studies highlight participation in decision-making about the redistribution of resources and water-based territorial rights (Hoogester, Boelens, & Baud, 2016). Some of the experts considered that workshops with stakeholders, interviews, tribal meetings, seminars and cadastral surveys provided sufficient information dissemination in relation to land compensations and employment opportunities. The local population was encouraged to participate in a 27-member committee comprising mainly local leaders and religious leaders. Equal participation of all groups (original settlers and latecomers) was, however, ignored, and in some areas such as land measurement, land category decisions and compensation for common land there was no proper information dissemination and public participation.

Although most of the experts and stakeholders pointed to a lack of information dissemination and public participation, after the resolution of the matter of compensation, the affected people including original settlers and latecomers are in favour of the project. Getting the consent of the local population during the initiation of any new infrastructure project can minimize the intensity and scale of land-use conflict (Huber & Joshi, 2015; Magsi & Torre, 2015).

2.2. Main conflicts: land use issues

Flaws in handling the issues considered above led to three types of major observed conflicts: first, between the government and affected people over acquired land measurement and land categorization; second, among affected people over land ownership; and third, related to boundary conflicts between GB and KPK. Only the first two are considered in this section.

In Pakistan land is managed by local land administrators called patwari, charged by the government to maintain land ownership records. As this is a tribal area, and there were no previous land ownership records and no land registration, all market transactions were verbal. The interviews revealed that most of the conflicts were due to incorrect measurement. Any land transaction conflict used to be dealt with by local leaders. Corruption, mismanagement and cronyism could lead to incorrect measurement. The limited accessibility and reliability of patwaris' records also leaves space for corruption and unofficial changes in land records.

Current official land administration system procedures are also very complicated, leading to delays in court decisions which have affected land markets at national and international levels (Ali & Nasir, 2010). Aspects of land rights change have been addressed (Anafo, 2015), especially related to informal land rights (Zhu & Simarmata, 2015). Admasu (2015) showed that informal land markets and unfair allocation of formal land are major sources of land-use change, causing conflicts due to political favouritism and mismanagement by local land managers. In general, political alliances among land managers to gain control of critical water and land resources influence resource conflicts and demand attention (Campbell, Gichohi, Mwangi, & Chege, 2000).

Another prominent conflict between the government and affected people in the case of Diamer Bhasha Dam project was related to the categorization of acquired land in some places. As already mentioned, three land categories (cultivated, cultivable and barren land) were established as the basis for compensation. Reports suggest that fertile land was said to be barren to reduce the amount of compensation (Singh, 2012), leading to land category manipulation conflicts between the government and the affected population, mainly in Kino Das, which was selected as site for a model village with the same name. People claimed that the government classed cultivable land as barren to reduce the compensation rate.

Corruption and bias in the distribution of compensation were also seen in some cases. According to some local experts and stakeholders, some of the developmental facilities (schools and hospitals) for Diamer district are going to be built in other districts. Moreover, the Home Secretary of GB is subject to a corruption investigation regarding the distribution of land compensation that puts the Diamer Bhasha Dam project on weaker ground (Dawn, 31 January 2012).

Among other land disputes, one of the most important was between the original settlers and latecomers over compensation for common land. This serious socio-economic dispute focuses on several areas, mainly in Thak Das (another model village site) and Chilas. Original settlers take the view that under customary laws latecomers have no right to compensation for common land taken for the project. However, latecomers comprise the majority of the population, creating a serious land acquisition problem for the government. Legal rights to land are not only a source of conflict between different actors but also affect livelihoods, especially where most of the affected people or communities have no legal land rights (Flood, 1997; Moran, 2004), where tenure reforms involve bias and favouritism and fail to protect informal land rights (Rigon, 2016). Historical inequalities which disadvantage specific groups of people are considered prominent sources of conflict (Marx, 2016).

The common land compensation conflict is, however, not over amounts of compensation but over its distribution between original settlers (who arrived first in this area and claim the ownership of the entire land in the light of local tradition and the history of early settlement) and latecomers. Conflict over compensation in Thak Das and Kino Das is the major reason why the government could not acquire land and start model village construction. Corruption involving resourceful persons who tried to register common land to secure compensation was also noticed. Moreover, the boundary dispute between GB and KPK that resulted in four deaths and several injuries was also mainly over compensation for common land (Dawn, 6 May 2016).

2.3. Geopolitical conflicts, international concerns and finances

The project also involves several territorial disputes between GB and KPK and also between Pakistan and India, as GB is a disputed territorial entity. The territorial conflict between GB and KPK is over an approximately 7 km stretch of territory on the left bank of the Indus, connecting Bhasha Village (KPK) to Chilas (GB). According to some local leaders of Diamer district (GB) who are dealing with this issue in court, this area historically belongs to GB according to the map of Kashmir. Before the announcement of the Diamer Bhasha Dam project this area comprised common pastures under control of GB. After decision about the dam project the territory was claimed by KPK on the grounds that the official map of the region identifies it as part of KPK. The rival claims relate to the problem of compensation, although if this territory comes under KPK, it will obtain a share of the royalties from electricity generation. Moreover, India claims that GB is a part of India. According to Indian sources, Pakistan's control over the territory does not justify any infrastructural project without the consent of local people and, in a larger context, of India (Singh, 2012).

Time and limited physical resources have added another complex dimension to the project. The dam itself depends on finance from various donor agencies. Initially, in 2008, China was going to provide major funding along with 17,000 workers who had worked on the Three Gorges Dam. The ADB initially offered to provide US\$2.5 billion of the US\$5 billion requested by Pakistan, but it had some reservations relating to the passing of a consensus resolution by the National Assembly and the territorial dispute between KPK and GB.

The National Savings Directorate suggested that the government of Pakistan issue some Rs. 200 billions of security bonds to help finance the project (Kundi, 2012), but no concrete steps have been taken. Initially, the World Bank also promised to lend money, but on 2 July 2011 it refused due to the territorial dispute and because of Indian concerns. The Pakistan government subsequently sought to convince the World Bank to provide finance. For example, in August 2013 the Finance Minister claimed that a No Objection Certificate from India was not necessary (Kiani, 2013); the World Bank has, however, made no commitment.

The World Bank's refusal to provide finance drove Pakistan to seek to convince the United States to provide financial support for the project. The United States was reluctant and suggested that Pakistan focus on smaller projects to meet its energy needs. Moreover, US officials stated that they needed congressional approval (Singh, 2012). Although USAID and Middle East donors have shown some interest in the project, no breakthrough has yet been made. Although construction activities were scheduled to begin in 2012–13, with

completion anticipated in 2022–23, the project has not started for want of funds from donor agencies (GOP, 2013). The Minister of Planning, Development and Reform asked WAPDA to prepare for ground breaking by December 2016, but WAPDA replied that it was impossible before mid-2017 (Yousafzai, 2016).

3. Conclusions and Recommendations

Infrastructural conflicts arise when a tension or opposition turns into a declared confrontation via the engagement of one or several parties (Torre et al., 2014). In the case of the Diamer Bhasha Dam project, conflicts arose between various actors (local and non-local) over territory and resources. These conflicts had several dimensions. First, this infrastructural project provokes severe socio-economic impacts, relating to the resettlement and livelihoods of local populations, and, more specifically, primarily to inadequate or inequitable compensation, the period for payment of compensation and awareness of the proper longterm use of compensation and, secondarily, to proper capacity-building programmes. Second, these conflicts relate to proper information dissemination and participation of affected people through their representatives/leaders. Although the government managed to deal with opposition relating to compensation in 2010 after violent conflicts, a number of still remaining tensions need attention. These tensions relate to the measurement of land, land category definition and internal disputes between original settlers and latecomers, which all highlighted local mismanagement, corruption and favouritism. Other significant conflicts relate to compensation and royalty payments between KPK and GB, rival territorial claims of Pakistan and India. Because of these local and international conflicts, the ADB and World Bank have reservations about the provision of finance. This study suggests that land measurement data should be made public, at least to all local leaders and representative committees, and that their proper participation is vital. A governance mechanism and strategy is required to facilitate and enhance negotiations among stakeholders, clarify and reduce conflicts related to land measurement, land category manipulation, and especially conflicts between original settlers and latecomers. Political efforts and transparency are required to satisfy all stakeholders and secure social acceptance avoiding cronyism, bias, corruption and mismanagement.

There are certain gaps in the assessment of the negative socio-economic impacts of the Diamer Bhasha Dam project. Some people have started suffering from these impacts, and experts and stakeholders are anticipating further problems. For resettlement purposes, the government must acquire land for the model villages and complete construction as soon as possible, as some people lost compensation payments when purchasing land from fraudulent property dealers. The government's current capacity building programmes and employment provision are positive steps, but there are some deficiencies. These programmes need to do more for indirectly affected people, while people in receipt of cash compensation need improved awareness of investment opportunities in, for example, the transport of project construction materials and of land transactions. The stipends and time periods for these training programmes should also be increased.

In this regard, the involvement of NGOs, media and other representatives would improve local governance by helping people express opinions and defend their rights, but most of all

improve their knowledge, understanding of the main principles and consequences of project, their capacity to participate in public debate, and their ability possibly to shape the direction of development.

In this case and in others, governments must prevent corruption, mismanagement and cronyism in order to end conflicts through complete information dissemination and public participation in the form of involvement of local leaders, religious leaders, NGOs and other representatives at each step of the project. Strong political efforts are required to bring together all stakeholders to find the optimum resolution of land ownership and territorial conflicts, enhancing or sharing compensation payments and obtaining social acceptance. The right attitude of a decision-maker could also help find compromises for resolving conflicts (Kamruzzaman & Baker, 2013), especially as these conflicts are also one of the reasons why the government could not complete land acquisition and start the project.

Government's capacity-building programmes should be modified and improved further by improving awareness, skills and common negotiation capacities among the affected population. Indeed, local people/stakeholders always need to negotiate not only over their rights to land and developmental compensation but also over employment/business opportunities to ensure their future economic security and to resolve conflicts among themselves and with government and public bodies. The enhancement of the negotiating capacity and empowerment of local people/stakeholders, capacity in order to protect their rights and render possible new infrastructure construction. These steps imply increases in the individual capabilities of local actors and also their ability to decide, act and launch joint/common actions.

Notes

1. The Karakoram Highway is the world's highest paved international road connecting Xin Jiang in China with GB in Pakistan across the Karakoram mountain range.
2. The Indus River is one of the longest rivers in Asia, flowing through Indian-controlled Jammu and Kashmir, GB in Pakistan, and discharging into the Arabian Sea after flowing through the whole of Pakistan.
3. A kanal is a land measurement unit in Pakistan and most parts of India. It is equivalent to approximately 5400 square feet, 1 acre = 8 kanals
4. See <http://www.wapda.gov.pk/index.php/projects/hydro-power/ongoing/diamerbashadam/item/370-land-acquisition/>

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Chapter 2

Infrastructural Project Loopholes and Land Use Conflicts Nexus Based on National and Regional Dailies. The Case of *Diamer Bhasha Dam* in Pakistan

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Submitted in “Journal of Environmental Planning and Management”

Abstract

Conflicts related to land use, especially infrastructural projects, happen in different forms depending upon their intensity and have severe impacts on affected people in different ways. The article deals with the conflicts arising among different actors due to Diamer Bhasha Dam project in Pakistan. In order to assess these conflicts we use different sources of data, mainly national and regional dailies, as well as interviews with experts and stakeholders. We examine different conflicts between affected people and governing bodies and also among different groups of local affected people over land and property rights. The article further goes into compensation, resettlement and livelihood issues, poor planning, corruption and mismanagement of governing bodies and their impact on affected people. Finally it provides policy measures and recommendations in the form of capacity building of affected people in different areas, more developmental projects in local area and public participation in different project activities.

Keywords: Conflicts, infrastructural projects, compensations, livelihood, corruption

Introduction

Infrastructural projects often bring conflicts between different actors, due to land use changes which are complicated in nature in several ways. They impact the different actors socially, economically and in some cases lead to strong protestations, violence, and even to the death of some local actors. Those conflicts are rarely resolved and just settled by public policy, mainly through its enforcement (Yusran et al. 2017). They vary in types and expressions and are mainly based on violation of livelihood, land acquisition and property rights, and ignorance of population needs and wills. Informal settings and lack of legal rights further sparks the conflicts (Lombard 2016). Moreover, historical settlements and inequalities among the local people on the basis of these settlements make land acquisition and compensation issues more complicated not only between local people and Government but also among the local population (Sabir, Andre, and Magsi 2017).

Dam construction is known as a major cause of infrastructural conflict (Magsi and Torre 2015; Moran 2004; Bui, Schreinemachers, and Berger 2013). Land acquisition, displacement and resettlement, livelihood and compensations are core issues during dam construction projects, causing negative social impacts, tensions and conflicts (Oppio et al. 2015; Sun 2013; Williams and Porter 2006). Around the world several people are displaced (Scudder 2005; World Commission on Dams 2000), which led to landlessness, unemployment and social disorder (Brown et al. 2009). Compensation issues are significant as they fail to

uphold the living standard of local people mainly due to late or lower compensation (Awasthi 2014; Li et al. 2015), high resettlement cost and different expectations and demands of local people. Land use planning decisions have potential of generating conflicts due to negative impacts on environment and community (Kaya and Erol 2016).

The studies show that proper compensations of the damages caused depend upon local people's awareness to use this amount properly, as there are significant chances of losing that compensation amount in different ways (Sabir, Andre, and Magsi 2017). Employment opportunities for local people are an important issue and it becomes always difficult to keep the original profession of affected people in such kind of infrastructural projects (Moran 2004). Poor planning and inappropriate opportunities regarding employment by ignoring local people's actual requirements leads to poor living standard of local people. Lack of skills and training in other employment areas or business activities may end up at worse consequences.

Another sensitive issue related to these projects is resettlement of affected people, without proper planning, which could create landlessness and poverty. Ignoring resettlement or mismanagement in the form of delayed or out of culture resettlement may end up at worse situations like poor living standard, tensions and conflicts at different scales and among different actors. Another significant issue related to resettlement is local people's migration towards developed areas because of delayed resettlement and losing compensation amount in some cases due to lack of awareness of new areas.

Pakistan is a water stressed country with continuously diminishing availability of water for irrigation. Situation becomes worse with increase in population growth rate and shortage of electricity and gas. Under such circumstances government is focusing on dam and water reservoir projects and launched big projects during the last 15 years. Then, the history of consequences of infrastructural projects like dams and water reservoirs is no different than discussed previously. Different projects like *Tarbela Dam*, *Mangla Dam* and *Chotiari Water Reservoir* displaced a lot of people (Iqbal 2004). Their resettlement and livelihood was supposed to be in such a way that their living standard should have been better off than their previous situation but in fact many people are suffering from poverty and low living standard (Magsi and Torre 2014).

The goal of this article is to examine the loopholes and conflicts in different ill conceived project phases/activities of the project of *Diamer Bhasha Dam* in Pakistan. The research is mainly based on national and regional dailies and includes land acquisition, resettlement, livelihood and compensation. Our investigations allow us to go deep into the root causes of these conflicts by highlighting the poor planning and governance in the form of mismanagement, corruption and favoritism in different project phases, gap between local people's intentions/ actual requirements for resettlement and livelihood opportunities and Government's provisions, mistrust of locals due to ignoring them in the project activities and problems of historical settlements in the project area. The article further analyses these conflicts and loopholes and discusses its impacts on living standard of affected people and development of area. Finally it provides policy measures and recommendations for incoming projects on infrastructural development.

1. Case Study and Area profile of Diامر Bhasha Dam Project

This section is devoted to the description of the situation of Diامر Bhasha Dam. It is divided into two parts. The first part provides the information related to local area, economic activities in the region and social and demographic characteristics of people. The second part gives the main plan and objectives of the project and estimated benefits by the government. Finally it highlights the current issues related to the project and main conflicts between different actors.

1.1. Area Profile

Diامر Bhasha Dam is located on the boundary of two different provinces *Gilgit Baltistan* (GB) and *Khyber Pakhtunkhwa* (KPK). Diامر is a district in *Gilgit Baltistan* and Bhasha is a village of district *Kohistan* in *Khyber Pakhtunkhwa*. Total stated area of *Khyber Pakhtunkhwa* is 74,521 km² with about 17 million populations. District *Kohistan* contains area of 7492 Km² and population of the district according to 1998 census is 472,570 (Pakistan Bureau of Statistics 2016). This province gives diverse climates for different activities like tourism and has strong potential for agriculture (Comprehensive Development Strategy KPK 2010).

Gilgit Baltistan is also called northern areas of *Pakistan* which is connected to *China* to east, Indian Administered *Jammu and Kashmir* to south west, *Afghanistan* to north and *Khyber Pakhtunkhwa* to west. Total area of *Gilgit Baltistan* is 72,971 Km² with population approximately 1000,000 (GOGB 2010). Diامر is a district of *Gilgit Baltistan* with 0.2 million of estimated population and has an area of 10936 Km². *Chilas* is the capital of this district (Ali 2013 August 16).

Most of the project activities are located in the Diامر district of *Gilgit Baltistan*, including most of the land acquisition and displacement of local population. Bhasha village in *Khyber Pakhtunkhwa* is contributing small portion of land but no household is going to be affected in that village. Total number of households in the area includes 12039 in which directly affected households are 4228 dispersed in 32 villages in the form of different ethnic groups, local traditions and values. Moreover, the affected households and villages are located in a tough mountainous area with great difficulty to access especially in rainy season due to landslides and road blockage.

Table 4: Occupational status of local actors

Occupation of local actors	% share of Occupational Status
Agriculture/Farming	33.5
Unskilled workers (Construction Mostly)	10.5
Skilled Workers	16.6
Government Service	19
Business	15.1
Private Employment (in enterprises, e.g. Agriculture)	4.7
Security forces	0.6

1.2. Case study description

The feasibility study of *Diamer Bhasha Dam* was started in the year 2001. “Water and Power Development Authority (WAPDA)”, Pakistan, is the main agency carrying out this project (Dawn, April 27, 2006). The location of the dam is proposed about 40 Km downstream of Chilas and 315 Km upstream of *Tarbela* dam on the Indus River. It is roller compacted concrete dam with maximum height of 272 m, located in such a way that it’s left bank and left power house are in *Khyber Pakhtunkhwa* and right abutment and right power house are in *Gilgit Baltistan*. The project is covering an area of 110 Km and reservoir will extend 100 Km upstream of the dam (GOP 2013). The estimated cost of the project was US \$ 13.684 Billion approved in July, 2012 and its expected donor agencies include Asian Development Bank (ADB) and World Bank (WB). The construction of the project has not started yet as project is as its land acquisition stage.

The project on its completion has significant benefits in electricity generation and irrigation water storage. It will generate the 4,500 MW of electricity which can cover the gap between demand and supply of electricity in Pakistan in a substantial way and be a source of US \$ 2.216 Billion revenue generation. It will store considerable quantity of water with live storage of 6.4 MAF (Million Acre Feet) annual surface water worth of US \$.63 billion. Among other benefits the dam will increase the life of *Tarbela* Dam by approximately 35 years, increasing annual electricity generation by 1,111 GWh worth of US \$ 118.3 million. Regarding employment, the project will create opportunities during construction and many skilled and unskilled workers will be preferred for employment. It will create indirectly the capacity of employment in agriculture, industry and commercial sector (GOP 2013). Many developmental schemes are also included in the project like upgradation of hospitals in *Gilgit* and construction of schools in other districts of the region (The Express Tribune, December 26, 2010).

In spite of the importance and benefits of the project related to electricity generation, irrigation water and employment, there are some heavy costs to pay in the form of displacement of local people and their other socioeconomic losses. 32 villages including 4,228 households are going to be displaced due to this project, affecting seriously the livelihood and ultimately living standard of affected people. It will submerge about 2,660 acres of agricultural land (GOP 2014).

Given these major changes, there are many oppositions among different actors over construction of the project, which varies from tensions to violent conflicts. These different conflicts have various expressions: people took legal action against Government, roads were blocked to intensify the protests and even in some cases people threatened the contractors to bulldoze the structures in project area and project work was stopped for one year (Pamir Times, October 22, 2015; Mir, June 14, 2012). Moreover, there have been death of three affected people and several injured when security forces opened fire on protesters while protesting for compensations (GB Tribune, February 19, 2010; Mir, June 14, 2012).

The conflicts are not just restricted to local affected people of *Diamer* district but also extend between GB and KPK and also between Pakistan and India over territory. The territorial conflict between KPK and GB is over a 7 Km long territory which connects *Bhasha*

village with Chilas. According to local leaders of Diamer district, this disputed territory historically belongs to Diamer district and it was under their control, used as common pastures. Conflict started after the announcement of project when people from Bhasha village claimed that territory, as according to current official map of Pakistan the area belong to KPK. This territorial dispute caused the death of 8 people and several injured when both sides clashed over this conflict (Dawn, May 06, 2016; Muhammad, December 28, 2013). The major reason of the conflict is compensation from disputed land and share of royalty between KPK and GB, if land will be entitled to KPK. Moreover, India claims GB and which is currently considered as disputed territory between Pakistan and India. According to Indian sources, Pakistan cannot carry out any infrastructural project on disputed territory without the consent of local people and India (Singh 2012).

2. Data and Methodology

The article deals only with conflicts among the local population and also between local population and Government in Gilgit Baltistan, and does not take into consideration institutional territory disputes. It examines and analyses the different factors related to the construction of Diamer Bhasha dam, and the conflicts among different actors due to this project and impacts on affected people.

In fact we describe conflict as tension which turns into a declared confrontation through engagement of one or more parties (Torre et al. 2014). Tensions are defined as an opposition without engagement of declared clash, which turns into conflicts after engagement of one or more actors. This engagement is defined by the implementation of a credible threat (Schelling 1960), which in our case may take different forms like legal actions, mediatization (bringing the issue to the attention of the media, press, radio, television...), bringing the matter to the attention of the public authorities, protestations, assault or verbal confrontation, putting up signs (signs forbidding access, fences and gates...).

Several land use conflicts and their impacts on affected population and infrastructural projects are studied in the literature. In order to identify the conflicts in an area and their impacts on affected population and project both primary and secondary sources of information are used, as recommended by Rucht and Neidhardt (1999) and Torre et al. (2014). In the article, we used two main sources of information.

Primarily, for the purpose of data collection on selected factors/issues, different national and regional dailies and other available literature published by public or private organizations were selected as main source of information. These kinds of secondary sources were frequently used by the researchers (see Torre et al,2014; Awakul and Ogunlana 2002; Mahato and Ogunlana 2011; Mann and Jeanneaux 2009; Ali and Nasir 2010) in order to cross check the information from different sources and to carry out better analyses (McCarthy, Mc-Phail, and Smith 1996; Deininger and Castagnini 2006). Furthermore, random field interviews were carried out with local affected people, stakeholders in the affected area and also with some experts related to Diamer Bhasha Dam or other infrastructural projects. Finally, the field interviews helped to identify prominent

factors causing conflicts and their impacts on affected population and project. These factors include living standard, compensation amounts, awareness to use compensation amounts, Government’s resettlement plan, and impact on livelihood/employment, capacity building programs, information dissemination and public participation in the project, corruption and mismanagement in project activities and land conflicts between affected people and Government.

Among the dailies/newspaper journals, four national and three regional dailies were accessed online for the period of 2006 to 2016. About 289 articles were studied in order to collect information on factors under consideration. Each article was saved by using variables including name of journal, article’s title, date of publication, short summary of issue/issues described by the article. Different issues and percentage number of articles addressing these issues, separately in national and regional dailies (with respect to total number of articles discussing these issues) were given below. Initially selected list of issues from literature and then interviews were searched in the articles with key word “Bhasha dam”, which led to selected issues mentioned in the table below. Each issue mentioned in the table is drawn from the analysis of national and regional dailies which is the main source of information in results and discussion. However, information from interviews and some additional materials is also used to supplement the results and discussion.

Table 5: Percentage number of articles discussing different issues

Issues in Dailies	% Number of Articles Appeared in National Dailies	% Number of Articles Appeared in Regional Dailies
Impact on Living Standard	52	48
Resettlement Plan	86	14
Impact on Livelihood/Employment	43	57
Public Participation	76	24
Corruption/Mismanagement in Compensation	40	60
Land management Conflicts (Land measurement, land category decision and land rights due to historical settlements of local people)	61	39

Each article usually describes one main issue or conflict; however when some articles deal with two or three issues they are separated in various items, all reported in the table. National dailies are found in English language but regional dailies are in Urdu language. After reading the articles from regional dailies, their summary were translated to English in order to properly analyze the information on specific issue from national and regional daily point of view.

Moreover, Government organizations, mainly Water and Power Development Authority (WAPDA), publish literature related to project's financial information, brochures and developmental portfolio time to time in order to show updates on project activities. These activities consist of main features, benefits and developmental plans of the project, its geographic information and financial requirements including main donors. This literature also contains the information regarding economic activities in the project area, number of villages and households and ethnic groups gathered through survey conducted by WAPDA in the project area. Research conducted by private researchers on Diamer Bhasha Dam and NGO reports were also considered as source of additional information in this article.

3. Results and Discussion

The study of the oppositions and conflicts based on National and regional dailies bring important information regarding Diamer Bhasha Dam construction project. It highlights the fact that various expressions of conflicts have been observed during different phases of the project, including different protest demonstrations, road blockage in order to intensify the protests, legal actions against Government, to threaten the contractors and to bulldoze the structure in the project area and worst of all death of some affected people for land compensations (GB Tribune, February 19, 2010; Mir, June 14, 2012).

But most of all, the analysis of press releases reveals that the project leaves negative impacts on affected population and sometimes generates several conflicts among different actors, related to the main items identified in Part II. Our study on national and regional dailies discusses issues mentioned in table 3, which are having negative impacts on local people and project. We will describe them now, according to the main items of the table. Main results of our study are based on the study of press articles, but we also used additional information from interviews to fill the information gaps, provided the fact that a few articles point the main issues but do not developed them in details, which is permitted by the results of our interviews and other documents as well.

According to our study most of the articles discuss the impact of the project on living standard of area as positive; however few articles focus on living standard of local people due to this project and describe it negatively. Most of the other issues are connected to living standard of local people and the project in one or the other way like ineffective resettlement plans, negative impact in livelihood of affected people, lack of their participation in project activities, corruption and mismanagement related to compensations and conflicts related to land. These conflicts are related to mainly measurements of land, manipulation of land category and historical settlements of local tribes and land rights on this basis.

Table 6: Percentage number of issues discussed negatively in national & regional dailies

Issues in Dailies (Discussed Negatively)	Number of Articles (in National Dailies)	Number of Articles (in Regional Dailies)
Land management Conflicts (Land measurement, land category decision and land rights due to historical settlements of local people)	19 (25%)	12 (16%)
Worse Impact on Living Standard	2 (7%)	0 (0%)
Ineffective Resettlement Plan	13 (36%)	5 (14%)
Negative Impact on Livelihood	4 (11%)	12 (34%)
Lack of Public Participation	8 (22%)	7 (19%)
Corruption and Mismanagement in Compensations	13 (20%)	25 (38%)
Total	59	61

3.1. Land management conflicts

Big infrastructures are always engaged with conflicts related to land, which are of different types and vary in nature. In such kind of projects, in developing countries most of the communities lack legal rights (Lombard 2016; Anaafo 2015; Flood 1997) and informal settings lead to conflicts due to political favoritism and mismanagement (Zhu and Simarmata 2015; Admasu 2015). Political alliances among different stakeholders to gain control of land resources cause conflicts (Campbell et al. 2000). Moreover, most of the tenure reforms fail to protect land rights under informal settings (Rigon 2016). Different types of conflicts are also embedded in structural and historical inequalities affecting unfairly specific groups (Marx 2016). Land acquisition and land compensation is a complex process and significant source of tensions and conflicts among different stakeholders. Land compensation issues can take many dimensions like little or lower compensation (Awasthi 2014; Li et al. 2015), political favoritism for selected people (Magsi and Torre 2012), use of police force against the protestors (Swain and Chee 2004) and threatening the people to hold the protests by withholding the social benefits (Huber and Joshi 2015). It is often noticed that people hesitate to take legal action in such kind of violent atmosphere (McMichael 2016).

Total land required for the Diamer Bhasha Dam project is 37,419 acres, which include both private and public land. Government is contributing 19,062 acres while 18,357 acres have to be acquired from two provinces, Gilgit Baltistan and Khyber Pakhtunkhwa. So far 7,936 acres of land are acquired from Gilgit Baltistan and 162 acres from Khyber Pakhtunkhwa (GOP 2014). Our study reveals that land management is the major source of tensions and

conflicts locally. It deals with conflicts related to land rate compensations, land measurements, land category decisions and conflicts over land rights due to historical settlements of different groups in local area. Conflicts due to land rate compensations are analyzed from interviews while rest of the conflicts is explained in the light of both national and regional dailies and from interviews.

There had been severe conflict over land compensation in the form of protest demonstrations and attack on Government building in 2010, which caused the death of three people and several people were injured when police opened fire on protesters. Government negotiated and increased the compensation rates after this incident and there has been no conflict seen after these negotiations. However, most of the local people are still not satisfied with this compensation amount and according to representatives of local people, compensation rates are accepted with a fear of further clash with Government. Compensation amount seems according to market rate but insufficient for resettlement. Moreover, some people benefit from increase in land rates as they possess land near project site (Hommes, Boelens, and Maat 2016). Land rates in the area also started increasing after project activity but compensation amount is already fixed.

The project is located in a tribal area, where there was no land record previously. All the land transactions were verbal and any conflict over land was handled by local leaders. The Government agents first time prepared the land record in order to estimate the compensation amount. There have been a lot of irregularities in land measurements. Issues of wrong measurements like less land measurement, allotment of more land to favored persons or by taking money under the table are seen. The land record of Government agents (Patwaris) has limited accessibility and reliability creating chances of corruption, as official procedures in the present land administration system are too complicated, leading further to delay in court decisions (Ali and Nasir 2010). However, in case of irregularities in land measurements project people took legal action against Government.

Another conflict between Government and affected people is on the basis of manipulation of land category. Three land categories including cultivated, cultivable and barren land are decided on the basis of which compensation will be provided. But local people claimed that their cultivable lands are considered as barren in order to reduce the compensation rate. This conflict is significant in an area called Kino Das, which is site selected for model village. Due to this dispute people took legal action and Government could not acquire land and start construction of model village yet.

Conflicts over compensation and land acquisition are not just limited to Government and affected people but also relied on the historical settlements of affected people which divide them into two major groups. People who first time arrived and settled in this area are distinguished as original settlers, also called "Owners". They claim all lands and natural resources which consist of pastures, barren lands, forests, non-timber forests and water (termed as "common lands"). Government accepts their local law and decided to provide compensation for this kind of public land/common land which is required for the project. However, there are other people who arrived and settled in this area later, which are distinguished as late comers, also called "non-owners". They cannot claim the above

mentioned common lands, however they can purchase the land for their residential or business purpose.

When Government decided to provide compensation to owners for common lands non-owners claimed their share which according to customary law they are not eligible to, as they have no right over common lands. This situation led to conflict between owners and non-owners and is worse in an area called Thak Das which is also a site for model village. Due to this conflict Government could not acquire land for model village and construction is not started yet. This conflict is also affecting the project as non-owners protested against Government for favoring the specific tribes (owners), threatened the contractor and project work was stopped for almost one year.

3.2. Living standard

It is commonly assessed that in case of infrastructural projects like dams living standard of affected people is a very sensitive issue which depends upon planning of many other project activities. In most of the cases affected population suffer from poverty and worse living standard (Moran 2004; Swain and Chee 2004). Geographical and social changes due to such large projects make it difficult for affected people to maintain their original living standard (Sun 2013; Moran 2004) and lead towards household dependencies, poverty and bribes (Magsi 2012). As many other infrastructural projects, Diamer Bhasha Dam project is claimed to bring economic prosperity and to improve the socioeconomic status of the region. However, some articles issued from national dailies discussed the negative impacts on living standard of affected people and claim that people under this situation may not be able to maintain same living standard. It is interesting to notice that we did not find any article concerned with this question in selected regional dailies, as if it was a hidden question, which is impossible to address to local population.

Information from interviews highlights the worse impacts of project on living standard of affected population. In addition it focuses on the specific group of “non-owners”, who is going to be affected more than others due to lack of their legal right on common lands and their ethnic inferiority in the area. In more general terms, on our case study living standard of local people is depending upon several other project activities, effectiveness of which determines the fate of local people. Such activities include resettlement plan, livelihood opportunities, participation of local people and elements of corruption and mismanagement in these project activities.

3.3. Ineffective Resettlement Plan

In every infrastructural project resettlement of affected people is one of the critical steps, whose effectiveness is strongly linked with standard of living of affected people. Several people are displaced around the world, suffering from landlessness due to such kind of projects like dams (Scudder 2005; World Commission on Dams 2000). Sometimes, land transaction by affected people in areas other than their origin becomes inevitable due to ineffective resettlement plans of Government or for the purpose of permanent settlement to more developed areas in quest of better education for their children and more developed

opportunities. This migration and settlement may not always end appropriately due to lack of their awareness to new areas and property dealings. In the case of Diemer Bhasha Dam it is claimed by the Government that resettlement plan is according to Asian Development Bank's safeguard policies, which includes construction of three model villages, Thak Das, Harpan Das and Kino Das. A residential plot of one Kanal is supposed to be provided free of cost to each affected household and genuine demands of local people are under consideration.

This issue appears to be very sensitive regarding our investigations, because of ineffective resettlement plan, which opens opportunity for fraud and protestations. Given the press releases and our own interviews onsite, it appears that several problems are found in Government's resettlement plan. First, residential plot of one Kanal may not be sufficient for large families and the design of model villages is not according to culture of local people. Second, government had to conduct another survey in the local affected area, due to miscalculation of number of affected people which appeared more than originally calculated. This also leaves a question mark over sufficiency of residential plots for all families. Moreover, there is delay in construction of model villages, as land devoted for construction of model villages is disputed.

As discussed in land management conflicts the disputes causing the delay in resettlement are of two types, be there related to land category manipulation or to conflict between owners and non-owners due to historical settlement. There is also a gap between compensation payment and land provision for resettlement, as compensation is being paid early while land for resettlement is delayed due to disputes. Moreover, some people, especially non-owners who got compensation early, tried to migrate to other areas mainly because of delayed resettlement, common land right deprivation, ethnic inferiority and in search of areas with more developmental opportunities. As a result, many people among them lost compensation amount in land transactions due to lack of awareness and in the hands of fraud property dealers. There have been more protest demonstrations over residential plot for resettlement and compensation from common lands from non-owners who lost compensation in land transactions in other areas.

3.4. Negative Impact on Livelihood

Livelihood opportunities are important related to infrastructural projects and several studies discussed the worst consequences of these kinds of issues (Qian 2015; Hui, Bao, and Zhang 2013). Such projects bring unemployment and also increase the social disorder among the affected communities (Brown et al. 2009). They leave fewer chances of long term employment and skill development, as economic opportunities first increases but could not sustain after construction (Huber and Joshi 2015; Moran 2004). Another question about job opportunities is that whether affected people need skilled or unskilled job or not, because with cash compensation, on one hand people could waste money in luxuries lives as sudden wealth through monetary compensations makes affected people reluctant to seek jobs (Qian 2015). On the other hand they could try to invest in business which is highly dependent upon their awareness to invest as most of the people could not keep their original profession (Sun 2013; Swain and Chee 2004). Kaya and Erol (2016) stated that there

is need to focus on local people's exact interests to resolve conflicts rather than on symbolic benefit.

In the case of Diemer Bhasha dam project, Government claimed several employment opportunities in the project area for better livelihood of local people. In this regard it established capacity building institutes for the purpose of skill development of affected people, which will be helpful during and even after construction of the project. The project is also likely to improve tourism in the area, which will also bring employment opportunities. In more general terms, development of the area is supposed to create several different types of jobs for local people.

But press releases and interviews reveal that Government's capacity building programs in order to provide employment opportunities suffer from several deficiencies. Skill development through capacity building programs is to cover lower category jobs, probably during construction. Although these skills could have positive impacts even after construction, local people need training and guidance in business investment, because a large part of people with cash compensation in hand will not prefer lower category jobs and are likely to waste money in luxuries lives or in business. As a matter of fact some of the people who were so far compensated lost money in business investment, due to lack of awareness. Another source of tensions and conflicts is due to status and the attached rights of affected or non-affected people. Affected people prefer some of the employment opportunities especially related to public sector, which of course cannot be granted to everyone and subject to competition among only affected people. Considering non-affected people eligible to apply for those jobs is a serious source of tension among affected people and is taken as an element of favoritism and mismanagement.

3.5. Lack of Public Participation

Proper awareness of the project among all stakeholders and their participation in all project activities is of great importance (McMichael 2016; Patel 2016). A lack of involvement may lead to mistrust over Government, loss of economic opportunities and conflicts (Li 2015; Mann and Jeanneaux 2009; Diduck et al. 2013; Slee et al. 2014; Magsi and Torre 2012; Vignon and Lecomte 2004). Several studies emphasized on participation of all stakeholders including Manwan dam in China, Lesotho Highlands Water Project in Southern Africa (Tilt, Braun, and He 2009) and Pak Mun Dam in Thailand (Awakul and Ogunlana 2002). It is often considered as a conflict resolution mechanism (Lombard and Rakodi 2016), including accommodation of interest, inclusion of veto players and fairness of process proved positive influence for different cases in Germany (Drazkiewicz, Challies, and Newig 2015). Moreover, resource redistribution and territorial rights on the basis of water by participating in decision making are also brought to light (Hoogester, Boelens, and Baud 2016). In short, taking all the stakeholders in decision making process right from the start of the project is supposed to minimize land use conflicts (Huber and Joshi 2015; Magsi and Torre 2015).

A national consensus for Diemer Bhasha Dam was reported in the Journals, according to which all the provinces voted in favor of the project. Moreover, at local level the project was introduced to all stakeholders in the form of seminars, workshops and cadastral surveys.

Local people, especially notables from the region, participated in different project activities, including land compensation decisions. However, public participation in the project area is still questionable in some dimensions, like participation in all project activities and participation of all stakeholders. Local people, especially poor or uneducated ones, are ignored in participation in several important project activities, which is one of the major reasons of tensions and conflicts in this area. Such project activities include mainly measurement of land, land category decisions, land rights decision on the basis of historical settlements of different groups of local people and land compensations. The subsequent conflicts are in the form of legal actions in the court, threatening the contractors and also death of some people while protesting for land compensations. Non-owners are part of affected people who, according to local law are not allowed to take part in decision making which created serious conflicts not only between owners and non-owners but also with Government over compensation from common lands.

3.6. Corruption and Mismanagement in Compensations

Corruption and mismanagement are some of the basic elements of conflicts in big infrastructures and lead to worse consequences. Different studies discussed the corruption and mismanagement in different project activities (Awasthi 2014; Swain and Chee 2004) which led to opposition to the project, mistrust in Government, tensions and conflicts (Magsi and Torre 2012; Mann and Jeanneaux 2009; Slee et al. 2014).

Although Government ordered to carry out different project activities in a transparent and unbiased way some issues are identified in National and regional dailies in our case, including corruption, mismanagement and favoritism related to different project activities. To be more precise, the articles reported corruption and mismanagement in land record preparation and different compensations for same quality of land. During land measurements there has been corruption/mismanagement in the form of allotment of more land to politically favored persons or by taking money under the table. Some of the Government agents misguided the local people by showing more land rates hence in order to show them more compensation, which created tensions among local people on payment of original compensation rates or according to some stakeholders even less than original compensation rates. This conflict has gone to legal actions in the court. In some cases before the announcement of the project activity, some of the land in project area was purchased by people who were politicians and worked for Government and then sold it back to Government on higher prices, when project was announced and land acquisition started.

In case of common lands some powerful people tried to register common lands under their names. Another source of conflict is Government's favoritism to owners in case of compensation from common lands, where non-owners cannot even take part in decision making. Moreover, corruption and favoritism are also observed in case of some of the employment opportunities in local area, where non-affected people are being preferred for jobs reserved for affected people. Finally diversion of developmental funds towards non-affected areas is also a source of tensions among different stakeholders. As the project area is least developed and as a step to improve the living standard of local people different developmental projects were assigned in the form of schools, hospitals etc. It has been

noted, in this case, that some the developmental projects were diverted towards other non-affected areas.

4. Conclusion and recommendations

Infrastructural projects bring conflicts in various forms, not only between governing bodies and affected people but also among the affected population due to competition over territorial and other resources, mainly on the basis of historical settlements and inequalities among different groups of people. Diامر Bhasha Dam project is not an exception. It is subject to several conflicts, expressed in different forms from time to time, like protest demonstration, legal action in court, road blockage, threatening to damage the property and clash between protesters and security forces. Such tensions and conflicts are results of mismanagement and corruption, poor planning in different project phases like livelihood, resettlement and land management in the form of land measurement, land category manipulation and historical settlements of locals and inequalities among them.

The main conflict started from land compensation, which caused death of few people and injured several during clash between security forces and local people, which was settled by increasing the compensation to some extent by Government and with fear of further bloody clash by local people. Other conflicts, like land measurement and land category manipulation, are mainly due to poor planning, wrong land measurements and corruption of Government agents involved in land measurements. Another big conflict is based on historical settlements and inequalities between owners and non-owners, which originated from territorial rights of common lands and compensations from them. Corruption, biasness and favoritism were also observed in the form of allotment of extra land to some powerful people and by taking money under the table during land measurements and also when some people tried to register common lands under their names.

For the moment, the project is still blockaded, and the conflicts and damages are already high. To address these issues, we claim that transparency should be required in land acquisition processes right from the start of the project. Proper information dissemination about the project activities and participation of local people, media and NGOs must be encouraged in order to ensure transparency and avoid corruption and mismanagement in conflicts like land measurements and land category decisions. Credible information about historical rights between owners and non-owners is required for the eligibility for compensation on common lands. All these issues require participation of all stakeholders, especially non-owners, in decision making. In addition political efforts are also required to satisfy all stakeholders by sharing compensations.

Another major issue related to project planning includes resettlement of affected people, which seems ineffective as land for construction of model villages is disputed and has not been acquired yet completely. Moreover, some people are likely to sale the property in model villages which will be allotted to them and resettle according to their culture in local area, or to buy property and in some cases move to developed areas for the purpose of better economic and educational opportunities for their children. Most of these people lost

compensation amount in business investment and also in buying property in other areas in the hands of fraud property dealers, due to their lack of awareness or experience. It appears then that local people are highly in need of capacity building in business and land transactions.

Capacity building plans arranged by Government to adjust local people in different employment programs are devoted to lower category jobs which local people might not prefer. They also prefer public sector jobs which are of course limited and cannot be granted to everyone. Government must ensure merit and local people should be preferred for these jobs. Although there are some developmental projects approved for local area but Government should enhance and speed up these developmental schemes like schools, hospitals and other infrastructures in order to attract some of the affected people who decided to migrate to other areas and lost compensation amount.

All these factors point the fact that a higher capacity building of local people is needed in common negotiations for land resources and other economic opportunities, so that people can understand the project, express their opinion and defend their rights. In this regard the role of NGOs could be highlighted for capacity building of local people. Further participation of local people, NGOs and media in project activities and public debate could make the land acquisition process transparent, protect the rights of local people regarding resettlement and employment and ensure the proper compensations especially developmental compensations in local area.

There is a need for enhancing the capabilities of local people, by proper means of education, in the sense of Sen's works (1999), providing them more individualistic foundations in order to make them free to choose from a range of action possibilities offered by their environment and to increase the level of social justice (Nusbaum 2000). But most of all, empowerment approaches are required (Lincoln et al. 2002), in order to help these populations (be there individuals or groups of people) to improve their own competences and capabilities, and to increase their social integration, particularly through experience-based learning. It is expected that, on this basis, they could take part to the process at his different stages, and be able to be informed, involved, and active in the setting of the new development plans.

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Chapter 3

Different proximities and conflicts related to the setting of big infrastructures

The case of *Diamer Bhasha* dam in *Pakistan*

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Published in Book "Regional Cooperation in South Asia", Contemporary South Asian Studies.
Springer International Publishing, 2017 (<http://www.springer.com/series/15344>)

Abstract

Land use conflicts are recognized as the result of mismanagement of infrastructural development projects. Several issues have been conferred related to infrastructural projects in Asia and South Asia, like corruption, mismanagement, cronyism and adverse socioeconomic impacts. The paper focuses particularly on land use conflicts related to *Diamer-Bhasha* dam project in northern Pakistan. Keeping in view this peculiar case, it goes into the concept of conflicts and proximity, e.g. types of proximity and the role they play in conflict generation, conflict resolution and modes of conflict prevention. We provide the different types and expressions of conflicts due to *Diamer-Bhasha* dam project, their impact on local population and the territory, e.g. unfair land acquisition, improper displacement, compensation, resettlement and livelihood issues. Contiguity problems due to geographical proximity as well as mechanisms of conflict resolution through organized proximity are also discussed. Finally, we conclude and recommend the strategies for better governance and the way ahead for upcoming studies on similar issues.

Keywords: Conflicts, Territory, Proximity, Displacement, Compensations

Introduction

Land due to infrastructural projects has been subject to conflicts in several parts of the world and greatly influenced the socioeconomic position of different actors (Oppio et al. 2015; Magsi & Torre, 2013) through compensation issues, displacement of local population, ineffective policies of resettlement (Williams & Porter, 2006) and negative influences on their livelihood (Barron et. al, 2004). About 80 million people around the world have been displaced due to infrastructural projects like construction of dams (Scudder, 2005; WCD, 2000). This situation led to socioeconomic disturbance in the form of unemployment and landlessness etc. (Brown et. al, 2009). Several studies discussed the resettlement problems due to infrastructural projects like Hydropower Development in *Viet Nam* (Bui et al. 2013), Three Gorges Dam in *China* (Sun, 2013) and their Socioeconomic Impacts like Hydroelectric Dams in *Turkish Kurdistan* (Moran, 2004).

A significant source of conflict due to infrastructural projects like dam is the behavioral difference and varying expectations among different stakeholders, which are often centralized at various governance levels. Land acquisition and related activities of the project could be much more difficult due to local values and traditions. Social and cultural differences among different stakeholders raise several issues, tension among different

actors and ultimately conflicts. One of the important dimensions of conflicts is over compensations (in the form of monetary compensation, employment alternatives, social security assurance, etc.) which are either due to directly geographical disagreements or to difference in values and opinion and lack of understanding among actors over land use. Studies like Qian, 2015; Hui et al. 2013, emphasized that even single land compensation have been improved, people still suffer from uncertainties like competing in labor markets and adapting a new life.

In order to ease the tensions and conflicts, various studies on water projects put emphasis on identification of network of actors, participation of stakeholders and especially participation of affected people in decision making like in *Manwan Dam* (upper *Mekong* River in southwestern *China*), *Lesotho Highlands Water Project* in *Southern Africa* (Tilt et al. 2009) and *Pak Mun Dam* project in *Thailand* (Awakul & Ogunlana, 2002). Big land use issues like poverty, malnutrition, displacement, flawed resettlement and unemployment have been evolved by lack of coordination between stakeholders (Mahato & Ogunlana, 2011). On the other hand several aspects of corruption, mismanagement and cronyism have also been noticed (Swain & Chee, 2004; Magsi, 2012; Awasthi, 2014).

Conflicts arising over land use, by anyway, require careful approach by policy makers. Policies concerning land can hardly be “unbiased” in terms of conflict management, and should carefully treat sensitivities and unfairness, in order to handle the violent conflict in a better way (Vignon and Lecomte, 2004). As, because of such reasons many projects in developing countries are facing resistance, because of violation of land acquisition, compensation rights and negligent treatment of stakeholders (Magsi & Torre, 2012). However, studies like Draskiewicz, et al. 2015 for different case studies in *Germany* showed concrete results and significantly positive influence under factors like conflict resolution, fairness of process, accommodation of interests, inclusion of Veto players etc.

In Pakistan, planning about water related issues was not always supported by all political parties. As a matter of fact the water availability for irrigation and other purposes is continuously declining, and the Country lacks facilities related to irrigation and other purposes, which dams provide (GOP, 2012-13). Pakistan is already one of the world’s most water stressed countries and this condition is becoming more and more alarming due to increasing population growth; in addition to that, it is also facing electricity and gas shortage (Daily Times 2015, March 27). Looking at the circumstances, Government has set its priority to invest on developmental projects, especially dams. Previously, several developmental projects *Tarbela* and *Mangla* Dams and *Chotiari* water reservoir had caused dislocation of a lot of families even though their value for overall economy cannot be ignored. Despite of all the claims of the Government to provide benefits and raise living standard of local affected people, many of these projects caused poverty and low living standard (Dawn 2008, November 17). These issues comprise social instability and government’s unpromising claims about human benefit from developmental project.

This article highlights the conflicts arising due to land use and especially to construction of dams, using observations on a peculiar case study: the project of construction of *Diamer Bhasha Dam* in *Pakistan*. We identify the conflicts arising due to this infrastructural project,

the network of actors involved and how these actors are engaged with each other. We then discuss the different type of conflicts among different actors, and their impact on the local people and ultimately on the project. The main focus of this study is to analyze the different conflicts in terms of geographical and organized proximity. Different kinds of ethnic groups, their social issues and geographical problem are also discussed along with geopolitical problems of this project. Finally, in the light of this analysis and discussion, we provide some recommendations related to the setting of new projects like Dams construction in developing countries.

1. Case study: *Diamer Bhasha Dam project in Pakistan*

This part provides the information concerning *Diamer Bhasha* Dam case study, including geographical area and economic activities as well as presentation of social characteristics of local people. Moreover, it gives the plan, key features of the project and estimated (by Government) benefits. Significance of the project and some main issues in the form of socioeconomic impacts and conflicts between different actors are also highlighted.

1.1. Area profile and economic activities

Diamer Bhasha dam is one of the major projects in *Pakistan* to deal with water and electricity shortage which is named after *Diamer* (a district in northern areas of *Pakistan* called *Gilgit Baltistan*) and *Bhasha* (a village in *Kohistan* in the province of *Khyber Pakhtunkhwa*).

Khyber Pakhtunkhwa (KPK) is a province of *Pakistan* with about 17 million populations and 74,521 km² of total stated area (Pakistan Bureau of Statistics, 2016). The province has strong agricultural potential, offers a diverse climate and landscape for variety of tourism activities (Comprehensive Development Strategy KPK, 2010). *Kohistan* is a district of KPK and according to 1998 census whole population of the area is about 472,570. Total reported area of district *Kohistan* is 7492 km² (Pakistan Bureau of Statistics, 2016). *Bhasha* is a village of *Kohistan* and part of this project, which is why; it is named as *Diamer Bhasha* Dam Project. The government has obtained some land from this village for the project, but there is no effect on any household in this area, as a main part of the dam is located in the *Diamer* district of *Gilgit Baltistan*.

Gilgit Baltistan (GB) officially known as the northern areas of *Pakistan* has an area of 72,971 km². This region is connected with *Khyber Pukhtunkhwa* province of *Pakistan* to the west, *Afghanistan* to the north, *China* to the east and *Indian* administered *Jammu and Kashmir* to the south west. The estimated population approaches approximately 1,000,000 (GOGB, 2010). *Diamer* is a district of *Gilgit Baltistan* which has an area of 10936 km². The region has an estimated population of 0.2 million. The capital of the district is *Chilas* (Ali 2013, August 16).

Major portion of the dam project and activities are located in *Diamer* district of *Gilgit Baltistan*. Most of the land acquisition and all the people who are going to be affected socially and economically are from *Diamer* district. Total number of households in this area is 12039 in which directly affected households are about 4228. They are dispersed into 20

different valleys and more or less 32 villages in the form of different ethnic groups with different local values, traditions and caste system. These valleys are located geographically in a tough mountainous area, difficult to access due to rough terrain. During some months of rainy season, situation becomes even worse because of landslides and it is extremely difficult to access these areas by road. However, people in the valleys over the mountains connect with each other by rough paths (there are no proper roads). In winter, people living in valleys over mountains, has to migrate to lowers parts of this district like *Chilas* etc. due to extreme cold. As a local tradition people especially owners prefer to live in valleys during summer because according to local law land of whole area is entitled to owners.

The occupational status of the affected households in project area is as follows:

Table 7. Economic activities of the local actors

Occupation of local actors	% share of Occupational Status
Agriculture/Farming	33.5
Unskilled workers (Construction Mostly)	10.5
Skilled Workers	16.6
Government Service	19
Business	15.1
Private Employment (in enterprise, e.g. Agriculture)	4.7
Security forces	0.6

WAPDA Survey, 2007-08

1.2. Case study description

The project of *Diamer Bhasha* Dam was included in the water vision 2025 of Water and Power Development Authority (WAPDA), in *Pakistan*. Government started its feasibility study in the year 2001, considering it as priority (Dawn 2006, April 27); as the *Kala Bagh* dam project was knotted in inter provincial politics. The estimated cost of the project was US \$ 13.684 Billion approved in July, 2012 and detailed engineering design was completed up to June, 2008. To complete the funding needs of this project, intentions of the Government are towards different donor agencies, i.e. Asian Development Bank (ADB), World Bank and USAID, etc. However, there has been no assurance of funding from donor agencies so far. The project is at its land acquisition stage and construction of dam has not been started yet.

The dam is located on the River Indus, about 315 km upstream of Tarbela Dam and 40 km downstream of *Chilas* city. It is supposed to be in such a way that right abutment and right power house are in *Gilgit Baltistan* and left bank and left power house are in *Khyber Pakhtunkhwa*. It has maximum height of 272 m and is roller compacted concrete (RCC) dam. The project would cover an area of 110 Km² and the reservoir would extend 100 km upstream of the dam (GOP, 2012-13).

This project is supposed to have a contribution of 4500 MW of electricity, US \$ 2.216 billion per annum revenue generation and to supplement the current shortage of electricity in a considerable way. It could hold a reservoir of 8.1 MAF (Million Acre Feet) and with live storage of 6.4 MAF annual surface water worth of US \$.63 billion. Moreover, this dam will contribute in increasing the life of Tarbela dam by 35 years with increasing its further annual electricity generation capacity by 1111 GWh worth of US \$ 118.3 million (GOP, 2012-13). Construction of *Diamer Bhasha* Dam clearly comes into view as an important sign towards water and energy shortage of *Pakistan*.

According to government this dam will create employment during construction and subsequently in agriculture, industry and commercial sector (GOP, 2012-13). Many skilled and unskilled workers in *Diamer* district will be given preference for employment. The project also includes up gradations of hospitals in *Gilgit* and construction of schools in other districts of the region (The Express Tribune 2010, December 26).

In spite of the importance of this project in the country's increasing electricity and water demand, benefits from the dam is also carrying some heavy costs in the form of low living standard of affected people, conflicts among different actors and instability in the region. The dam will swamp about 32 villages and 4228 households. 30,350 people are going to be affected due to this project. It will affect the major occupation of the area and living standard of the people by submerging the 2660 acres of agricultural land.

Construction of this project has faced tough local resistance and there have been protests on small and large scales. A number of issues have been seen resulting from tensions between local people, local resistance against the project and conflicts. Affected people staged several protests demonstrations against Government and people blocked the roads, especially Karakoram Highway, in an attempt to intensify their protests. Even in some cases people threatened the contractor working on site and project work had been stopped for almost one year. People also threatened to bulldoze the structure in the project area. Moreover, there is legal action of affected people over Government about land measurements, but cases are still pending in court (Pamir Times 2015, October 22; Mir 2012, June 14).

However, the most painful incident of the project so far is the death of people for some reasons. Three people died and several were injured when police opened fire on protesters, who were protesting for land rates and compensation rights (GB Tribune 2010, February 19; Mir 2012, June 14). This matter has been resolved after several meetings by increasing compensation. In another incident 7 to 8 people died and several were injured because of boundary issues between two provinces. People from both *Khyber Pakhtunkhwa* and *Gilgit Baltistan* claim 7 to 8 km long territory over the boundary of these two provinces, which led to clash between both sides and death of people. Security forces had been deployed at that moment to stop the conflict and the matter is still in court. This boundary issue might lead to delay in project and there is fear of another bloody clash if this matter has not been resolved soon (Dawn 2016, May 06; Muhammad 2013, December 28).

2. Methodology

2. 1. Conflict analysis

The study focuses on proximity analysis of conflicts between different actors at different levels. In order to fulfill this objective, network of different actors and conflicts among them have been identified through various interviews of affected people and Government agencies etc. Finally the data have been collected on various conflictual issues among different actors including differences of their culture and values, their engagement with each other, land acquisition and compensation and ethnicity in the area etc. Both primary and secondary sources were included as a source of data collection on desired issues. Primary source include interviews with experts of different backgrounds and local stakeholders. 61 interviews have been conducted during a field work of three months, mostly from the project area (*Chilas* and other valleys) and some other parts of *Pakistan*.

Table 8 List of interviewees

Background of the Interviewee(s)	Number of Interviewee(s)
Water & Power Development Authority (main Government agency to carry out this project)	10
Planning Commission (Government Organization)	7
Private Consultants for <i>Bhasha</i> Dam & other related projects	9
District Administration & Police	6
Diamer Poverty Alleviation program (NGO)	5
Local Leaders/representatives	10
Legal Advisors	5
Journalists & Social Workers	9

Source: The Authors

Secondary sources include daily regional press and public and private published literature. This source of information has been used by some studies (Admasu, 2015) and it is also a better source to cross check the information and carry out better analysis (Torre et al, 2014; Awakul & Ogunlana, 2002; Mahato & Ogunlana, 2011; Mann & Jeanneaux, 2009; Ali & Nasir, 2010). This source of information is essential for obtaining information in some dimensions, particularly to realize the public view when two parties are in disagreement.

Moreover public and private literature between project related information, were also collected as next secondary source in order to attain more widespread results. Public literature includes different brochures and financial information released by WAPDA online, from time to time to give updates on project activities. These project activities include geographical information, main features, benefits, plans about land acquisition and resettlement etc. Further data and information through field survey of WAPDA is also

obtained which contain economic activities in project area, ethnic groups, number of households in each village and their ethnic attachments etc.

It is essential to take into consideration the different ethnic groups in the study area on the basis of their common ancestry, local traditional laws and common history. A major distinction among ethnic groups is on the basis of their rights to access the land and natural resources. This distinction is known as “original settlers” termed as “Owners” (who settled first time in this area) and late comers termed as “Non-owners” (who arrived late in this area after owners). Further there is also distinction of upper caste and lower caste. Most of the “non-owners” belong to lower caste but “owners” are divided into upper caste and lower caste. According to traditional law, which is accepted by Government also, all public lands (forests, water, pastures, barren land and non-timber forest which are termed as “common lands”) belong to mostly owners. Non-owners can claim the land, only they purchase for their residence and business.

Table 9 Social Status of the respondents in the study area

Ethnic Group	Social Status	Caste	Number in %
<i>Shin</i>	Owner	Upper	39.5
<i>Yashkun</i>	Owner	Upper	24
<i>Kamin</i>	Owner	Lower	11
<i>Dom</i>	Non-owner	Lower	1.4
<i>Gujar</i>	Non-owner	Lower	6.5
<i>Mruts</i>	Non-owner	Lower	7.4
<i>Others</i>	Non-owner	Lower	10.2

Source: WAPDA Report on Diامر Bhasha Dam, Accessed in 2015

People of each ethnic group recognize most of the people of their own group in the specific area and always marry within their own ethnic group. They can easily recognize the ethnic characteristics of a person and respond accordingly. They prefer to live within their own ethnic group that is why a specific area is dominated by a specific ethnic group with respect to population.

2. 2. Proximity relations

Concept of proximity was elaborated in the framework of either regional science renewal or birth of economic geography, leading towards two major categories of proximity i.e. geographical and organized proximity (Torre & Gilly, 1999; Torre & Wallet, 2014).

Geographical proximity relates to spatial differences between economic actors not only through physical factors but also social constructions like transport infrastructure or telecommunication technologies. It expresses the physical distance between two entities and also includes parameters like Km, time, price and some other perception of the actors. Geographical proximity plays central role in generation of conflicts and it can be undesirable and desirable. It is undesirable or unwelcomed when different categories of users disagree on land use in three ways: Superposition (when different users desire to use single piece of land for different purposes), Contiguity (when individuals disagree on the boundaries between their respective properties) and Neighborhood (a situation in which undesirable effects are diffused into air, water or under the effect of gravity over to actors located in

proximity) (Torre & Zuideau, 2009). Under desirable proximity land users seek proximity to other social or economic actors or to natural or artificial resources. It can be of two types: Permanent geographical proximity leads to location or relocation of actors in an area which is likely to provide what they need and temporary geographical proximity, which does not call for location or relocation of activities as it can be done through trips and visits of varying duration and momentarily face to face interactions.

Organized proximity concerns about different ways and means by which different actors are close to each other in non-spatial terms. Such proximity refers to arranged nature of human activities. Organized proximity is based upon two ideas: The logic of belonging, in which two or more actors belong to similar relationship or network, whether their relation is direct or intermediate. It may depend upon sector in which they are operating, such as engineers or researchers who belong to same network etc. Logic of similarity corresponds to mental adherence to common categories. People can be connected through common projects, same cultural or religious values or symbols, social norms and common languages etc. It makes easy the interaction among various individuals, researchers etc. who did not know each other before but share the same reference.

Geographical proximity can benefit in conflict resolution by avoidance and imposed solutions and necessitated by cooperative solutions i.e. give and take solution and concerted solution. But it should always be combined with organized proximity. Organized proximity is zero when solution of avoidance is adopted, less affective when solution is imposed and increases significantly when give and take and concerted solutions are activated. Thus temporary geographical proximity and organized proximity are complementary and enables the actors to find the process of negotiation and compromise (Gallaud & Torre, 2004). Further, among the modes of conflicts prevention involvement of third party could also play an important role to promote negotiations and to adopt non-judicial rout. The solutions could involve technical acts, compensation in the form of financial, natural and technical, land use planning, eliminating the activity or moving it somewhere else etc. (Torre et al. 2014).

3. Results and discussion

3. 1. Main conflicts: Land use issues

The project has a number of small and large scale impacts on the area and the affected people. These impacts of the project are creating conflicts among different actors in different dimensions i.e. between different groups of affected people at local and provincial level and between Government and affected people. When the project started passing through its different phases, various actors engaged in a variety of conflicts.

Issues among local population and Government started arising on the basis on cultural differences when Government agents/outsideers came to this area for project activities. Although there is great element of hospitality among local people they usually do not accept outsideers (Government agencies) interfering their social and economic life. There is lack of understanding between local people and Government due to social and cultural differences.

Although Government hired some local people to deal with local population and project activities but according to opinion of some experts these efforts are not enough and Government should have hired local experts and NGOs etc.

Moreover, people were not properly informed about different project phases and activities and Government also ignored their proper participation in different project activities. According to WAPDA the *Diamer-Bhasha* dam project is approved by council of common interest for national consensus in 2010 (The Nation 2010, July 19) and according to minister of planning and development all political parties are backing up the project (Iqbal 2013, November 06). However, the consensus meeting was attended by Prime Minister of *Pakistan*, Chief Ministers of four provinces and representatives from *Gilgit Baltistan*. So, there was not much scope under discussion because this body was either to vote in favor of dam or against it. It has also been observed that consultation with affected people has not been taken place at local level about the construction of the dam (Singh, 2012).

Some of the experts and stakeholders we interviewed discussed that there was proper information dissemination about land rate compensations and employment opportunities in the form of workshops of stakeholders, interviews and tribal meetings, seminars and cadastral surveys etc. Public was encouraged to participate in the project in the form of a 27 member committee including mainly local leaders and religious leaders etc. However, lack of information dissemination and at some places wrong information dissemination by Government agents about over-evaluation of people’s lands has been noted. So people expected more compensation and this situation led to conflicts when Government announced original land rates as compensations.

Table 10 Consent of affected people

Consent of Affected People	Response of Experts in Percentage (%)	
Information Dissemination	Yes	25%
	No	64%
Public Participation	Yes	23%
	No	57%

Source: Authors’ Calculation

Majority of the experts argued against these views, as there was no proper information dissemination and public participation especially on the basis of equal participation of all actors such as owners; non-owners etc. in major project activities i.e. land measurement, land category decisions and ownership of lands at provincial level and also on the basis of different ethnic groups etc. Several other conflicts arose on the basis of these project activities, among the affected people and also between affected people and Government.

Government negotiated the land rate compensations with local people after deadly conflicts in 2010, in which three people died and several were injured in clash with forces (GB Tribune 2010, February 19; Mir 2012, June 14). Although these negotiations seem successful and no conflict has been seen over land rates after 2010, according to some stakeholders the representative committee of local people was forced to accept the land rates with fear of further casualties of local people if another clash with forces becomes inevitable. After negotiations with local people three land categories have been decided, including cultivated

land, cultivable land and barren land. Compensations for private lands and common lands are being provided on the basis of these land categories. People, in some areas, are claiming that their cultivable lands have been shown as barren lands in order to reduce the compensation rate. According to expert views, because of this land category conflict, land for resettlement of affected people could not be acquired, which in return is causing delay in resettlement, socioeconomic disturbance and ultimately delay in project.

Conflicts between Government and affected people are also on land measurements and land record preparation. This is tribal area and there had been no record of land/area hold by people for all types of lands including residential, agricultural and commercial etc. All the land transactions and conflicts over lands were handled by local leaders. After decision of this project activity, Government agents (land administrators) called “*Patwaris*”¹, first time prepared the land record. According to experts and stakeholders there have been corruption, mismanagement and favoritism reported over land measurement. Conflicts arose between local people from *Gilgit Baltistan* and Government over less land measurement, as local people were not satisfied for land/area measured by Government agents. Their records have limited accessibility and reliability indicating the room for corruption and un-official change in land records. In the literature, land right change, informal land rights, political favoritism and mismanagement by local land managers have been addressed as main source of conflicts (Anaafo, 2015; Zhu & Simarmata, 2015; Admasu, 2015).

Territory conflict on much larger scale has also been observed in this project. Territorial conflict (boundary issues) between *Gilgit Baltistan* and *Khyber Pakhtunkhwa* is over about 7 Km long area on the left bank of *Indus River*. Almost, all of the experts and stakeholders reported violent conflict over this issue, 7 to 8 people died and several were injured. The majority of the experts and stakeholders reported this issue mainly because of the compensation. But if this territory comes under *Khyber Pakhtunkhwa*, there will be share in royalty from electricity generation after construction of dam; otherwise *Gilgit Baltistan* will get the whole royalty.

Table 11 Major Conflicts

Conflicts	Response of Experts in Percentage (%)	
Land Measurement Conflicts	No	0%
	Yes	75%
Land Category Conflict	No	2%
	Yes	51%
Ethnic Conflict	No	8%
	Yes	82%

Source: Authors’ Calculation

Another important dispute started among the affected people, mainly between the two main ethnic groups (i.e. owners and non-owners) over compensation for common lands. This significant issue is affecting seriously socioeconomic of local people and is based on

¹ Local land administrator and government official who keep the record regarding land ownership.

several places, mainly in *Thak Das* (Site for the model village with the same name) and *Chilas*. Majority of the non-owners have less land, limited work opportunities and low income. The amount, most of the non-owners are going to receive for acquisition of their personal lands will not be sufficient for their resettlement. Due to this project activity when Government decided to provide compensation for common lands, non-owners claimed their share from compensations, which according to local law are not eligible. This issue of compensation from common lands started conflicts between actors of different ethnic groups and Government. Violent conflicts have been seen over these issues. Non-owners threatened the contractors working on site and project work had been stopped for one year.

Almost all the lower caste groups, most of the times, are not allowed to take part in decision making activity. This is also a conflicting point between owners and non-owners. Among the two distinguishing groups, Kamin and Dom, Kamin are already owners and getting their share in compensations from common lands. On the other hand Dom and also the Kamin provide the services to the upper caste owners, so owners compensate the Dom also from common lands, which leaves no conflicts between these actors. So lack of ability to take part in decision making is not a problem for both Kamin and Dom. However, lack of decision making ability of other non-owners is creating conflict, mainly for the purpose of no share from common land compensations.

3. 2. Proximity analysis of Diamer-Bhasha Dam Issues/conflicts

Proximity analysis is a useful tool to analyze the conflicts between different actors. It helps to identify the network of actors and the cooperative and conflictual behaviors among them. It also proposes conflict resolution mechanisms. In case of *Diamer-Bhasha* dam project, both organized and geographical proximity have been seen and studied.

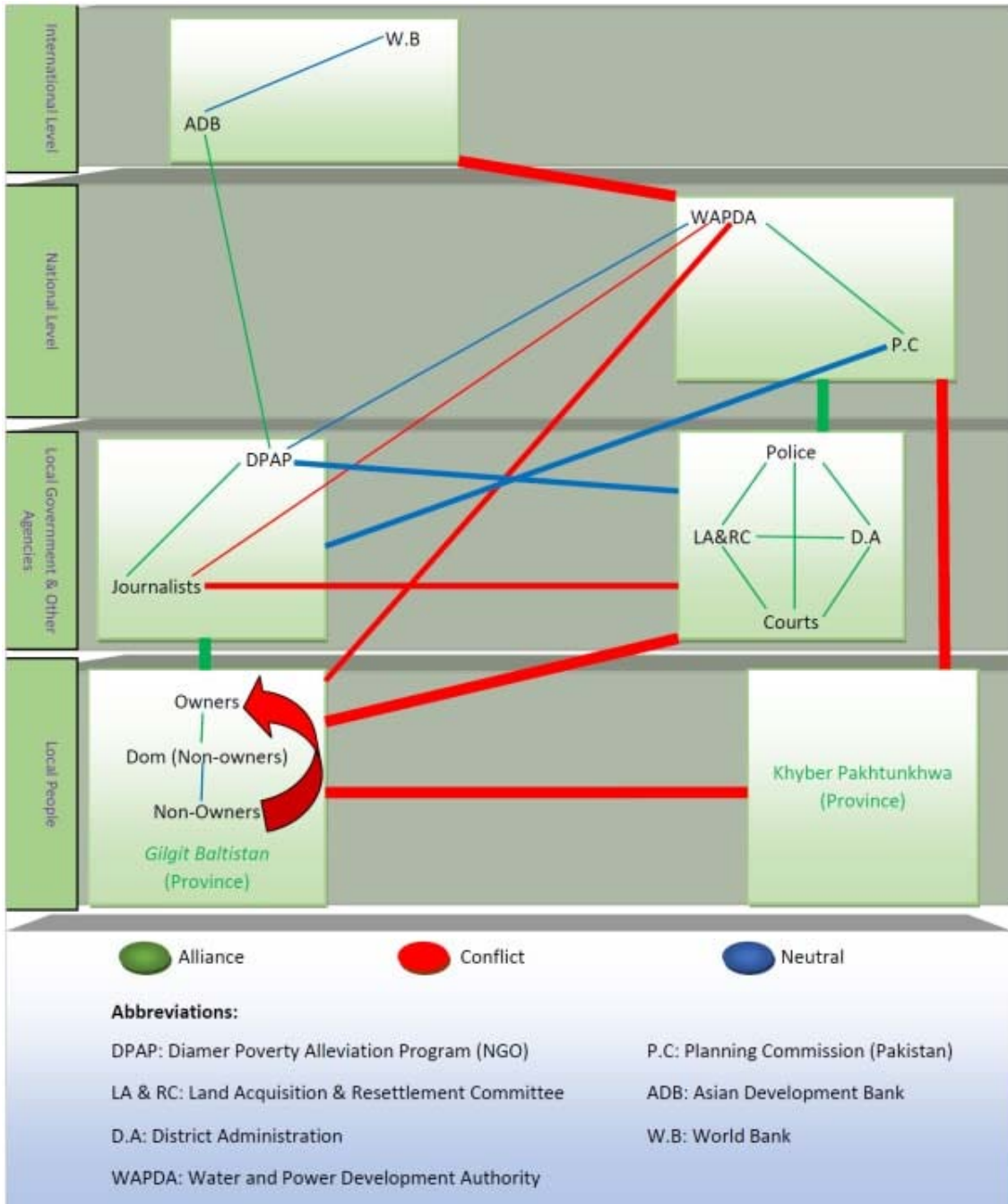
Geographical proximity played an important role in conflict process. We found undesirable geographical proximity in the form of “contiguity” which is the basis for conflicts between local actors and Government agencies. It has been observed in case of land measurements by Government agents, as people are not satisfied with the land/area measured. Most of them claim more land than announced by Government after measurement. Moreover, contiguity and superposition of interests have also been observed in case of provincial territory conflict, when people of both provinces (i.e. *Gilgit Baltistan* and *Khyber Pakhtunkhwa*) are not satisfied over the boundary, which led to severe conflicts, mainly over compensation and also on royalty after the construction of dam.

Another crucial cause of conflicts, lack of organized proximity, has also been observed among different actors, at different levels. Two types of significant conflicts, i.e. among the affected people and also between affected people and Government agencies, would never have occurred if there were proper understanding and coordination.

First, this lack was observed among two main groups of affected people, *Shin*, *Yashkun*, *Kamin* and *Dom* on the one hand, and on the other *Gujar*, *Mruts* and “*Others*”. All of these groups are on same platform of the project, having some similar goals against other external actors (Government agencies), including payment of cash compensation from Government, construction of model villages for resettlement and ultimately development of this area due

to this project. Due to different values, history and local traditions, there exists lack of interaction and understanding among these groups, mainly on the property rights and decision making leading towards delay in project activities and ultimately conflicts.

Figure 2: Network of actors in the case of *Diamer Bhasha* dam



Source: The Authors

Secondly, a lack of organized proximity has also been observed between local actors (affected people) and Government agencies. Although both parties are in favor of the project, yet there exists conflict over land category between both parties in addition to

cultural differences, lack of understanding and trust among each other. Further, in case of land category conflicts, both parties agree on use of land but disagree on structure/category of land on the basis of which compensation has to be provided.

If we enter a bit more into the details, it appears that logic of similarity has been observed between owners as well as between most of the lower castes (non-owners). It is also true for other actors working at local and national level i.e. Government agencies. Although they belong to different areas and backgrounds they are bound to same administrative rules and operational goals.

On the other hand, logic of belonging can be observed between upper caste owners and *Dom* (Lower caste non-owners). Although they differ in values and traditions from owners they are normally being compensated by the upper castes on the basis of services they provide to upper caste owners, which leads to no conflict over demand for compensation from common lands. Further, Logic of belonging is also an important aspect for the property right conflict related to land category conflict as different groups of actors working at local level made alliances against Government agencies. Moreover, there exists an alliance network expanding from local actors (from *Gilgit Baltistan*) to other agencies working at local level i.e. journalists and DPAP. This alliance is against Government agencies/actors working not only on local level but also at national level, on all types of property rights issues and also on cultural differences. This logic of belonging can also be seen at local level and international level between DPAP and ADB.

4. Conclusion

Big infrastructures like dams are vital need of the time in order to overcome the energy and water shortage problems. Such projects bring also, along with them employment opportunities and put the country on the path of progress to attain the level of development. But they also carry some heavy costs for directly affected local people in the form of socioeconomic disturbance and low living standard, tensions and conflicts among various actors. These conflicts could take several expressions in the form of legal actions, bringing the matter to the notice of the public authorities, mediatisation (bringing the matter to the attention of the media), assault or verbal confrontation, putting up signs and even in some brutal cases death of people (Torre et.al, 2014).

It is suggested that government should avoid management weaknesses, corruption and conflicts from infrastructure projects (Magsi & Torre, 2014). World Commission on Dams (WCD) condemned that government's accountability led to corruption, misappropriation and discrimination of benefits (WCD, 2000). It also gives the principles for resettlement of displaced persons in the form of consultation of all stakeholders before planning. Unfortunately the point of view of planners is often different from the affected population, particularly in developing countries.

Diamer Bhasha dam project has several impacts on the area and local people raising conflicts in several different dimensions among different actors. The impacts of the project include socioeconomic disturbance in the form of displacement, resettlement, employment

and livelihood of affected people. Further, due to this project activity the interaction between actors at local and national level has become inevitable on several project activities like land acquisition, compensations etc. which created social and cultural problems at local level and disturbance in local values and traditions. These matters discussed above have been the reason of conflicts among local people in the form of ethnicity, compensations and territorial rights and also between local people and Government agencies in the form of compensations and property rights.

Both organized and geographical proximity play a key role in these conflicts. Undesirable geographical proximity has been observed in the form of contiguity over land measurement conflicts between local people and Government, as well as over boundary issue between *Gilgit Baltistan* and *Khyber Pakhtunkhwa*. Superposition of expectations for land also plays a role over territory issues between of two provinces, where people are not satisfied over the boundaries. So there is dissatisfaction over land compensation due to dissatisfaction over geographical demarcation. Lack of organized proximity has been observed between two main groups of local actors, as well as between local people and Government agencies. One can observe logic of similarity between upper caste owners and lower caste owners on the basis of same values and thinking over land rights leaving no conflict among them. It also exists between different actors of Government agencies, as they belong to different areas, different backgrounds and working distantly but still having same thinking and decisions because they are bound to same administrative rules. Moreover, logic of belonging is observed between local people of *Gilgit Baltistan* and other agencies working at local level.

Geographical proximity should be associated with organized proximity to manage the conflicts. A highly organized proximity for the purpose of negotiations and compromise is required between owners and non-owners for land right conflicts, territorial conflict between two provinces, cultural and land category conflict. Strong political efforts are required to bring all the stakeholders on same table and to satisfy them by sharing land rights and compensations with proper negotiations. Strong negotiation skills are also recommended to be built among stakeholders at local level in order to protect their rights through NGOs or donor agencies. Involving third party for conflict resolution could also be helpful. This method has already been under consideration by Government to involve religious leaders as third party to resolve territory conflicts between two provinces. It could appear helpful to create understanding among different actors for successful negotiations and give and take solution between local ethnic groups and other involved groups of actors in the long run.

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Chapter 4

Infrastructural Projects and Land Use Conflicts in Developing and Developed Countries Comparative Review of literature and different Case Studies

Muazzam Sabir

Abstract

Developmental projects like dams have consequences both positive and negative. The conflicts in these kinds of projects emerge with view of conflicts among land use types and conflicts among stakeholders. The article presents the comparative review of different studies related to land use conflicts due to infrastructural projects especially dams, in developing and developed countries. It is based on secondary source of information including previously published literature and national and regional dailies. It goes into the social, economic and environmental impacts of infrastructural projects mainly dams. It then discusses the two case studies one from developing country “Bhasha dam project, Pakistan” and other from developed country “Sivens dam project, France” and highlights the different issues and conflicts among different actors. Further, it analyzes the individual and common issues of these case studies in the light of above mentioned literature with a comparative point of view. Lack of participation of all stakeholders is significant source of conflicts in both cases on ecological issues in case of Sivens dam project and on socioeconomic issues in case of Diامر Bhasha dam project.

Keywords: Infrastructural projects, conflicts, socioeconomic impacts, environmental impacts, developing and developed countries

Introduction

Social and environmental impacts of land use change especially construction of infrastructural projects like dams and conflicts due to such projects have always been under heated debate by researchers around the globe. Under hydropower projects these debates include mainly ecological impacts (Moran, 2004), administrative decisions and inclusions of all stakeholders, resettlement and livelihood, cultural life of communities and different conflicts among different stakeholders over land and property rights (Sabir et al., 2017). Several studies on big projects like dams emphasized on different conflicts depending upon region and geographic conditions including protestation, legal action, threatening and road blockage, use of police force and death of affected people (Awakul & Ogunlana, 2002; Swain & Chee, 2004). Although projects like dams are in greater interests of society they are opposed at local level due to their undesirable impacts on land rights and ownerships, inappropriate behavior of certain actors which marginalize others and can result in violent conflicts (Magsi & Torre, 2013).

Different land uses are so integrated with each other that actors cannot reduce their activities to single use without consequences for others leading toward conflicts. Land use conflicts appear as the result of dissatisfaction of one part of population with actions taken by their neighbors, private organizations or public authorities (Torre et al., 2014). Land use planning decisions have potential of generating conflicts due to negative impacts on environment and community (Kaya & Erol, 2016). Infrastructural projects have negative impacts in different forms like social, economic and environment depending upon the nature of project, geographic conditions and actors and generate conflicts. These conflicts also vary in intensity and expressions and mainly based on land acquisition, violation of property rights, resettlement and livelihood and environmental degradation.

Construction of dams becomes the need of a country during industrialization and development to fulfill the increasing demand for energy. However these projects are also the source of conflict between different stakeholders (Swain and Chee, 2004). In developing countries infrastructural projects like dams contribute to economic and social development as agriculture is the main economic activity but such infrastructural projects force people to migrate from their lands and leads to dependencies among households, poverty and low living standard (Magsi, 2012). Affected population from such kind of infrastructural projects belong to remote areas or rural areas who have only rural skills which may not be of any use after displacement (Moran, 2004). Compensations and livelihood, displacement and resettlement are major issues causing tensions and conflicts due to infrastructural project (Oppio et al. 2015; Sun, 2013; Williams & Porter, 2006) which led to landlessness, unemployment and social disorder (Brown et al. 2009).

Large dams also has environmental impacts although there is an increased pressure from environmental legislation i.e. Kyoto Protocol on all governments to generate clean energy. Larger the hydropower project greater will be the adverse impacts on river ecology, river side community etc. Adverse ecological and environmental impacts include loss of ecosystem, biodiversity and architectural heritage, hindrance to fish migration, green house gas emission and reduced delivery of sediments to sea (Sun, 2013; Moran, 2004; Williams and Porter, 2006). A massive damage to environmental conditions exists due to such kind of projects which cause conflicts among concerned stakeholders and project managers. Different dimensions of conflicts due to such projects exists including behavioral differences and varying expectations among different stakeholders (Awakul & Ogunlana, 2002), difference in local values and traditions and social and cultural differences among different stakeholders.

The goal of this article is to assess about the main resemblances and differences between infrastructural projects and subsequent land use conflicts in Developing and Developed Countries, based on comparative literature review and studies about two case studies. For the purpose of identification and analysis of conflicts and their impacts secondary source of information is used. This source includes national and regional dailies, previously published literature on land conflicts specially related to infrastructural projects and other literature

published by public and private organizations. It mainly deals with different conflicts related to land use and their social, economic and environmental impacts, and goes into the literature of previously conducted studies of land use conflicts. It further discusses two case studies: one from developing country - "Bhasha dam project, Pakistan" - and other from developed country - "Sivens dam project, France". Then it selects main issues and conflicts discussed in the literature. The study analyzes the different socioeconomic and environmental impacts with respect to selected case studies and goes deep to examine the individual and common issues leading to conflicts in both developing and developed countries. Finally, the article concludes the analysis and also provides policy measures and recommendations for better governance and conflict resolution in both cases.

1. Literature Review with Respect to Different Case Studies

This section deals with land use conflicts due to different projects, especially conflicts related to infrastructural projects and their impacts on different actors. A selected literature is discussed below, first from developing and then about developed countries.

1.1. Lessons drawn from different examples in Developing countries

Land use change due to different projects - especially due to big infrastructures - brings conflicts and has severe negative impacts on local population. Such local population is mainly residing in rural areas and low income, illiterate and related to farming business. People suffer from negative impacts and conflicts due mainly to land rights, compensations, resettlement and loss of employment opportunities and corruption and mismanagement in project activities.

Several case studies have been conducted on land use conflicts due to developmental projects. Land compensations are considered as main source of conflict in infrastructural projects. No proper compensations and violation of compensation rights are highlighted in case of Chotiari Reservoir Pakistan, where compensation was based on link with local landlords and some people also deprived of compensation who denied due to low land rate (Magsi & Torre, 2012). More than 3080 families lost houses directly or indirectly in case of Pak Mun dam Thailand and about 10000 people in case of Bakun dam Malaysia have been displaced. In case of Bakun dam lower compensations, no compensation in case of refusal and use of police force is seen (Swain & Chee, 2004).

Many studies emphasized that provision of compensation should improve the wellbeing of affected people (Moran, 2004; Magsi & Torre, 2014). Land quality becomes a major issue when Government provide compensation in the form of land to those whose profession was agriculture (Sun, 2013). Another fact is related to legal rights to land which majority of the population in developing countries do not have and compensation goes to only few households or landlords (Flood, 1997; Moran, 2004). Compensation for land can be of any types i.e. monetary compensation and/or land for land or both etc. In fact provision of

compensation is emphasized in many ways (Hui et al. 2013) like social security, monetary compensation and employment alternatives etc. (Qian, 2015). Moreover, even after the compensation payment most of the people are unable to handle the sum (Moran, 2004) and many people will loss compensation amount in daily household expenditure or other activities.

Social and economic instability is most important consequences of displacement and resettlement in developmental projects. Involuntary resettlement issues and negative sociological impacts of large dams are highlighted in some studies (Bui et al. 2013; Williams and Porter, 2006). Local affected people migrate not only during the construction but also after the construction like people who live near project area due to extreme weather and land slide (Sun, 2013). An acceptable resettlement program should appear necessary for better socioeconomics of local people where as resettlement plans fails to reflect the desires of affectees normally due to hidden interests of land managers (Magsi, 2012). But national resettlement policy is absent in most of the developing countries creating land use conflicts and property rights violations.

Large projects like dams leave large number of unskilled farm workers unemployed after they are displaced from their lands which could lead to social disorder (Brown et. al., 2009). Less than half of the migrants can keep their original profession. Construction of the dam creates employment opportunities which are temporary and diminishes after the construction (Sun, 2013; Moran, 2004). In some cases Government can arrange job opportunities for local people which are not according to their requirement. People who get cash compensation try to invest in business or land transactions and in most cases loss compensation amount. This business investment depends upon their awareness to invest and needs training in this sector (Sabir et. al., 2017).

Land right conflicts are also significant along with the compensation and livelihood and are of different types and among different actors. These conflicts are mainly due to land acquisition and violations of property rights. Land acquisition act in developing countries like India, Pakistan and Bangladesh cannot be challenged and affected people can challenge only compensation (Awasthi, 2014). Land right conflicts are not only between Government and affected people but also among different groups of affected people based on ethnicity and historical settlements which gives right to specific group. This historical inequality which disadvantages specific group is a source of conflict (Marx, 2016; Sabir et. al., 2017). Rural communities most of the time do not have legal rights to lands leaving them without compensations. Tenure reforms involve biasness and favoritism and fail to protect the informal land rights (Rigon, 2016).

Unfair allocation of formal land and lack of formal allocation of land are main source of land conflicts due to political favoritism and mismanagement (Admasu, 2015). Majority of the land owners are illiterate and socially inefficient because of which some of the stakeholders create fake ownership for compensation benefits (Magsi & Torre, 2013). Mismanagement, cronyism and corruption raise tensions and conflicts (Magsi & Torre, 2014; Swain and Chee,

2004), as world Commission of Dams already criticized that accountability of government showed corruption, embezzlement and inequality of benefits (WCD, 2000).

Hydropower literature suggests that larger the hydropower project is more the adverse effects to river life, riverside communities and downstream impacts will be (Williams and Porter, 2006). Negative environmental and ecological impacts of large dam include GHG emission, obstruction to fish migration, deforestation, seepage and water logging etc. (Magsi & Torre, 2012; Moran, 2004; Sun, 2013) which demands attention for better impact assessment and management. Moreover, one of the major issues which are significant source of tensions and conflicts mentioned above is lack of participation of all stakeholders in decision making process. Several studied highlighted the participation of all actors in decision making lack of which lead to severe conflicts (Diduck et al. 2013; Swain & Chee, 2004; Patel, 2016; Mahato & Ogunlana, 2011).

1.2. Lessons drawn from different examples in Developed countries

Land use conflicts are not just restricted to developing countries but also exist in developed countries depending upon land use change, interests and characteristics of actors. Acquisition of land is the beginning of several land use changes and is used by both Government and private investors in order to control the land use (Obidzinski et al., 2013). Land acquisition is complicated and opaque process, with national and sometimes territorial peculiarities, as different types of stakeholders with different interests are involved under the social, economic and political framework where knowledge about land acquisition becomes compulsory to understand and influence the land use (Van Assche et al., 2014).

Several public or private actors are bringing the land use changes and Governments take land management measures for different purposes which also face substantial resistance from land managers (Rouillard et al. 2014). For example Scotland supports the uptake of rural land management measurements as a part of European flood risk management reforms (Spray et al. 2010; Rouillard et al. 2012). However, these measures face much opposition not only due to few evidences of effectiveness of land management measures (Wilby et al. 2008) but also their socioeconomic impacts mainly on agri-businesses (Kenyon et al. 2008; Posthumus et al. 2008). Land transactions started by powerful stakeholders like Governments involve interrelations among different stakeholders and activities which influence the behavior of land owners. Knowledge about land transaction is important for understanding and influencing the land use pattern (Broekhof et al. 2014).

Several land use activities and projects are responsible for conflicts in developed countries. Most of all, natural and agricultural landscape are at stake, especially in peri-urban areas, where the development of large infrastructures is needed for the sake of urban dwellers. These areas are being devoted to urban developmental projects which upset not only the agrarian landscapes but also the social structures (Murdoch & Abram, 1998). Moreover, farmland use conflicts and their dependence upon the dynamics of territorial governance mechanism in metropolitan rural areas are also highlighted (Darly & Torre, 2013). Every year

about one million hectares of land in Europe which is natural or being used for agriculture is transformed into built area (Nilsson & Nielsen, 2008). Moreover, Increasing number of conflicts over farming practices in Canada are also highlighted which come from change in practices, increasing number of large scale production units and use of resources. Changing trend in social and economic structure of rural communities is a significant source of conflict (Owen et al. 2000). This brings opposition among different activities like agricultural, residential and industry and also among different socioeconomic or interest groups like farmers, developers and residents (Henderson, 2005; Zérah, 2007).

Land use change especially related to development projects has immense importance for the well being of the society but also carry heavy cost in the form of socioeconomic impact on affected community and generating conflicts. Such projects most of the time create opposition with local affected people and there is always problem with their social acceptance. Buchholz et al. (2009) highlighted that sustainability of bio-energy systems mostly relies on support of many stakeholders with different perspectives in several dimensions including social, economic and environmental. In fact to carry on the acceptability with development is a complicated process. Moreover, according to an international energy expert group there exists no holistic approach for social acceptance of any project however, which is dependent upon several practices combined (Huber and Horbaty, 2010).

Land use planning decisions are often felt on the basis of participation of few interest groups, which may become source of conflicts due to lack of information and public participation (Mann & Jeanneaux, 2009). Several studies emphasized the consideration of all stakeholders during infrastructural project activities (Slee et al., 2014; Rouillard et. al., 2014; Tilt et al. 2009;) but unfortunately the perspective of planners is different. Partial advice and lack of information always created project opposition which has comprised economic and social opportunity wrinkled the trust in local Government leading towards social unrest and conflicts. Moreover, social learning of participants is also encouraged if the process involves debate on nature, participant's knowledge, understanding and beliefs and how to question them (Rouillard et. al., 2014).

2. Selected Case Studies

2.1. Sivens Dam Project France

Sivens dam project was visualized in the 1969. In the early 21st century the irrigation needs for agriculture especially for corn increased. The dam promoters said that it will benefit the high value crops by providing them irrigation. In 2003 the water agency of Adour Garonne (AEAG) approved the plan. The dam was supposed to be 315 meters wide and its cost was €8.4m financed publically (The Economists, 8 November 2014). Many technical studies of this project were conducted. To compensate the flooding of wetland area, CACG (the land settlement company for area of Coteaux de Gascogne) proposed to restore the 19.5 ha of

wetland elsewhere. In response an environmental association “Collectif Testet” emerged to protect the wet land threatened by Sivens dam. The opposition of the dam said that the wet land area is home to 94 species which will be destroyed and it will benefit a few farmers (The Guardian, 31 October 2014; RFI, 27 October 2014).

Several experts in 2012-13 evaluated the impacts on aquatic media and nature and raised questions on relevancy of wetland compensation measures. After issuance of building permit in 2013, site occupation was started by nationwide activists called “Zadists”. Riots squad was also sent on request of local authorities. Violence between authorities and opposition party became routine and ended up on death of an activist Remy Fraise on 25th October 2014 which was first death after 1986 during a protest in mainland France. After that the work on the project was stopped (The Guardian, 31 October 2014). Government froze the project on 31st October, gave it up on 4th December 2015 and in 2016 the state court cancelled the whole procedure.

A very limited interaction between all stakeholders and authorities’ will to build the project at any cost was seen during this project. Stakeholders’ involvement in project activities was limited to few actors and a few local elected officials supported by a lobbying group, manufacturing companies with support of major national developer and a few farmers stating that they have no water forced through project and a dam (Pelletier, 2015). Feasibility studies regarding geomorphology, climate and urbanization were conducted with point of view of developer i.e. CACG and was presented to Tarn council which approved the project and issued building permit. Public opinion was demanded for duration of 5 weeks but local contest grew which attracted other contesters from all over the France. Administrative court rejected the questions raised during public inquiry and authorized the project building to start. The contesters decided to prevent the work progress by occupying the site, faced several expulsions by police. Demonstrations were fought violently by riot squads which resulted death of an activist with a concussion grenade (Roth et. al., 2017).

2.2. Diamer Bhasha Dam Project Pakistan

Diamer Bhasha dam project is located at the boundary of two provinces in northern Pakistan “Gilgit Baltistan” and “Khyber Pakhtunkhwa”. Diamer is a district in Gilgit Baltistan and Bhasha is a village of district Kohistan in Khyber Pakhtunkhwa. Almost all the project activities are located in the Diamer district while Bhasha village contributes a small portion of land (Pakistan Bureau of Statistics, 2016). Total number of households in the area includes 12039 in which directly affected households are 4228 dispersed in 32 villages in the form of different ethnic groups, local traditions and values (Sabir et. al., 2017).

The project’s estimated cost is US \$ 13.684 Billion approved in July, 2012 and “Water and Power Development Authority (WAPDA)” Pakistan, is the main agency carrying out this project (Dawn 2006, April 27). The construction of the project has not started yet. The project on its completion has significant benefits in electricity generation and irrigation water storage but construction of project has not started yet. In spite of importance of this

project there are disadvantages in form of displacement of local people and their other socioeconomic losses. 32 villages including 4,228 households are going to be displaced due to this project, affecting seriously the livelihood and ultimately living standard of affected people. It will submerge about 2,660 acres of agricultural land (GOP, 2014).

There is much opposition among different actors expressed in different forms like legal action, road blockage, threatening the contractors to bulldoze the infrastructure (Pamir Times 2015, October 22; Mir 2012, June 14) and death of three people protesting for compensations (GB Tribune 2010, February 19; Mir 2012, June 14). There had been severe conflict due to low land compensation rates. These compensation rates are however negotiated leaving behind the satisfaction of local people and rates are accepted with a fear of further clash with Government. Further conflicts are seen over corruption and mismanagement in land measurements and land category manipulations. Moreover, conflicts have also grown among different groups of local people on land rights and ultimately compensations from them based upon early settlers (Owners) in this area are eligible for compensations and other (Non-owners) are not according to local tradition. This conflict is on compensation from public lands which Government obliged to pay according to local law and also respects the local tradition.

A part from these conflicts, some negative impacts of the projects originated from improper resettlement plan and employment opportunities, out of culture resettlement and ineffective capacity building programs. Lack of information dissemination and participation of all stakeholders in nearly all project activities is absent which is significant reason of conflicts in this project and negative impacts on local population.

Major environmental impacts of the project include loss of 50000 trees, depletion of fish stock, contamination of Indus water through discharge of sewage (Singh, 2012), destruction of animal habitat and wet lands (Dawn, 17 November 2008). Moreover, it will also impact 33000 pre-historic rock carving in this area which is one of the rarest sites in the world with such big number of rock carving.

3. Discussion: major issues and solutions in developed and developing countries

Land conflicts due to infrastructural projects like dams are common in both developing and developed countries. Conflicts are almost built in phenomenon in the scenario of land use change. They appear in different forms and expressions depending upon territory involved, uses of land and characteristics of actors (Torre et al. 2014) and varies from tensions to violent oppositions. Such conflicts are mainly based on land and property rights, socioeconomics and environmental degradation depending upon geographical conditions and characteristics of actors involved. Whatever the different dimensions of conflicts appear, they are born due to disagreement among two or more parties due to certain elements. Different types of elements are involved in conflict generation which could be common and different in both types of territories.

Land use activities are source of conflicts among different actors in different ways, including geographical disagreement, superposition of interests and environmental hazards etc. These conflicts specifically related to infrastructural projects appear in different ways depending upon their intensity and have worse impacts on affected population. Keeping in view the case studies and relevant literature discussed above three issues are summarized which can be considered as the main sources of conflicts and under which different conflicts are discussed and analyzed.

3.1. Environmental Issues and Compensation Measures

Construction of infrastructural projects like dams is related to many significant environmental problems including inundation of landscape, water diversion and interruption of fish migration (Truffer et. al., 2003). Mitigation measures like “fish passes” which allows fish to pass from lower part of the dam to reservoir part is managed in most of the dams in Europe like Norway included these measures while ignored in some countries like in case of Ilisu hydroelectric dam in Turkey (Moran, 2004). Most of the projects in developed countries take environmental consequences of big infrastructures seriously and lowering the environmental impacts is also one of the main agendas like hydro wind power plant in El Hierro in the Canaries (Roth et. al., 2017). Significant awareness is seen about environmental issues in these countries and ignoring them could lead to violent conflicts.

Environmental impacts are also highlighted in developing countries, where environmental impact assessment is ignored (Magsi & Torre, 2012) and in some cases they violate the guidelines about environmental assessment given by international organizations like World Bank (Moran, 2004). Several studies emphasized the environmental and ecological impacts of large dams like reduced delivery of sediments to sea, loss of diverse ecosystem and green house gas emission (Williams & Porter, 2006). Moreover, loss of architectural heritage and geological hazards are also significant losses of large dams (Sun, 2013) along with destruction of forests and wildlife.

In case of Sivens dam the environmental association opposed the project to protect the 12 hectares of wetland area which is home to 94 species. Several technical studies were conducted and it was suggested to restore the wetland area of 19.2 hectares elsewhere but the opposition of the dam argued that it will destroy the wetland area and benefit only a few farmers. In September 2014 the clearing of riverside bushes and trees started and violence became routine between authorities and dam opponents which ended up on death of an activist. In 2016 the state court cancelled the whole procedure. In case of Diامر Bhasha dam project, the Government agency “Water and Power Development Authority” (WAPDA) estimated the environmental loss of 50,000 trees, wildlife and fish stock depletion, wetland and animal habitat. Most importantly, cultural heritage impact of Diامر Bhasha Dam project is impact on pre historic rock carvings which are 33,000 in number. Environmental management strategies are claimed to be prepared on international standard mainly according to safeguard measures of expected donor agency “Asian

Development Bank” (ADB). However, there are several concerns and reservations of local social workers and international organizations like ADB over these measures and their implementations. There is lack of awareness to environmental issues and importance among most of the stakeholders.

It appears that infrastructural projects like dams have negative impacts on environment in one way or another and needs attention for better management. Tensions among various actors and resistance to the project due to environmental impacts depend upon the regions, actors involved and their interests, awareness and capacity to influence the decision making on the basis of their knowledge. Conflicts in developed countries like in the case of Sivens dam projects were on the basis of destruction of wet land area where the opposition party was group of environmentalist who were well aware of the impacts of the project. Failure to satisfy the concerned stakeholders on the feasibility of Sivens dam project by Government led to violent conflicts. In case of Bhasha dam project several environmental impacts are observed like deforestation, submergence of pre-historic rock carvings and depletion of fish stock, wild life and animal habitat. In spite of several concerns over environmental management strategies no significant opposition over environmental impacts were seen. Local stakeholders lack the awareness, knowledge and importance of environmental preservation and more importantly they are significantly going through conflicts over resettlement and livelihood impacts.

3.2. Socioeconomic Issues and Land Conflicts

Socioeconomic issues are considered very sensitive in case of infrastructural projects which depend upon several project activities. These affect directly or indirectly the living standard of affected population. Land acquisition, land rights and compensations are significant issues in both developing and developed countries, whereas resettlement and livelihood issues are prominent in developing countries, mismanagement of which could lead to worse impacts on local people and conflicts. Inappropriate compensation measures led to violent conflicts in case of developed countries as well (Roth et. al., 2017). Several studies in developed countries discussed the severe socioeconomic impacts due to land management measures including land acquisition (Kenyon et al., 2008; Posthumus et al., 2008; Van Assche et al., 2014; Spray et al., 2010).

In developing countries land compensation is source of conflict mainly in the form of less or no compensation (Flood, 1997), favoritism towards selected people (Magsi, 2012) and threatening the local people to stop protests (Swain & Chee, 2004) due to which people even hesitate to take legal action (McMichael, 2016). Ineffective resettlement plans due to delayed or out of culture resettlement or in general against the desires of local people cause landlessness around the world in such kind of infrastructural projects (Scudder, 2005; Dams & Development, 2000). Moreover, loss of permanent employment and worse livelihood is another drawback of these projects (Moran, 2004; Hui et al., 2013) which could lead to unemployment and social disorder (Brown et al. 2009). Such projects in developing

countries are most of the time in tribal/remote areas where local people are illiterate and lack the awareness to use and properly invest the compensation amount. Due to ineffective resettlement plan people try to migrate and settle in other developed areas and lose compensation amount in land transactions. In some other cases in developing countries local people also lost compensation amount in luxuries lives (Qian, 2015) or in business investments.

Land conflicts appear in different forms in case of land use change including big infrastructures in both developing and developed countries. Use of agricultural and natural land for developmental projects (Nilsson & Nielsen, 2008; Murdoch & Abram, 1998), urban sprawl, insufficient measures for restoration of natural areas and biodiversity are prominent sources of conflicts in developed regions (Roth et. al., 2017). Whereas issues like lack of legal rights of lands (Lombard, 2016; Anafo, 2015; Flood, 1997), political favoritism to specific stakeholders and mismanagement (Zhu & Simarmata, 2015; Admasu, 2015) are seen prominently in developing countries. Tenure reforms also fail to protect the land rights under informal settings (Rigon, 2016) and structural and historical inequalities among different groups of stakeholders also emerged as major source of conflicts (Marx, 2016).

In case of Diامر Bhasha dam three people died and several injured while protesting for land rate compensations. Several flaws are found in resettlement plan of Bhasha dam where disputed land for construction of model villages and delayed resettlement is prominent. Design of model villages are not also according to local culture. People lost compensation amount during resettlement in other more developed areas for better economic and educational opportunities for their children. In order to resolve conflicts Kaya & Erol (2016) suggested focusing on local people's exact interests rather on symbolic benefit. Several employment opportunities are claimed by Government including capacity building programs for local people. These capacity building programs are devoted to lower category jobs but people with cash compensation in hand prefer to invest in business. In fact some of the people lost compensation amount in business investments in case of Bhasha dam project (Sabir et al. 2017). Further, there are several conflicts related to land in case of Bhasha dam including less land measurements and manipulation of land category due to mismanagement and corruption (Singh, 2012). Another significant conflict is on land right and ultimately on compensation among "owners" and "non-owners" due to their historical settlements. The project is still under consideration where its land acquisition has almost completed but construction is delayed mainly due to conflicts and lack of funds.

Tensions and conflicts due to socioeconomic impacts are significantly observed between directly affected people and Government authorities in developmental projects in different types of countries. Land acquisition, compensation, resettlement and employment opportunities are significant issues in big projects like dams, mainly due to poor planning, mismanagement, corruption and cronyism. Projects in developing countries like Bhasha dam project contains most of the problems mentioned above. There are tensions and conflicts over resettlement and employment where land acquisition and compensation issues

created violent conflicts. Poor planning, corruption and mismanagement are major reasons which served in conflict generation. Sivens dam project suffered from violent conflicts which even led to death of a protester but these conflicts are mainly based on ecological impacts of this project.

3.3. Public Participation and Information Dissemination

Complete information dissemination and involvement of all stakeholders in decision making process are directly related to conflict resolution (Lombard & Rakodi, 2016). Public participation always offers chance to the affected people to express their preferences and leads towards fair decision making. Moreover, participation in decision making also build trust among all stakeholders, avoids social unrest, and diminishes tensions and conflicts. Ignoring the public participation as a whole or even partial information dissemination and public participation could lead to mistrust over Government, social unrest, loss of economic opportunities and conflicts (Li, 2015; Mann & Jeanneaux, 2009; Diduck et al. 2013; Slee et al. 2014; Magsi & Torre, 2012; Vignon & Lecomte, 2004; Hoogester et al., 2016). In short public participation is of great importance (McMichael, 2016; Patel, 2016) and considering all stakeholders in decision making right from the start of the project help in resolving the conflicts (Huber & Joshi, 2015; Magsi & Torre, 2015). However, public participation is criticized in some ways like lack of guidance on best practice (Reed, 2008; Cooke and Kothari, 2001; Innes and Booher, 2004; Carr et al., 2012), where evaluation of participatory programs are emphasized whether they are achieving the desired objective and to improve them accordingly (Carr et al., 2012). Collaborative participation is also highly emphasized (Innes and Booher, 2004) and it was argued that stakeholder's participation needs to be supported by empowerment, equity, trust and learning (Reed, 2008).

In case of Sivens dam project very limited participation of all stakeholders is seen and authorities were determined to construct the dam at any cost, at the expenses of people protestations. The political will was only up to Tarn department council and they were collusive with the developers in the project initiation and selection. However, in some developed countries like Germany Public participation under the factors like accommodation of interests and conflicts resolution showed significantly positive results (Drazkiewicz, et al. 2015). In case of hydro wind power plant in El Hierro in the Canaries the project proved to be a success in terms of stakeholders' involvement, public opinion, political choice and support to local culture. In case of Sivens' dam project another developmental vision was brought by ignoring the local culture. Compensation measures for restoring the wet lands were proposed two times but could not satisfy the stakeholders and opposition grew stronger. Hence, even if the legal rules about participation were applied, the process was not participatory enough and did not fit the society's will, the conflicts kept on rising which ended up on death of an activist.

In case of Bhasha dam project Government claimed that the project was introduced to all stakeholders in the form of seminars, workshops and cadastral surveys. Local people,

especially notables from the region, participated in different project activities, including land compensation decisions. Moreover, a national consensus for Diامر Bhasha Dam was reported according to which all the provinces voted in favor of the project (Iqbal, 2013). However, public participation is still questionable in some dimensions, like participation in all project activities and participation of all stakeholders. Local people especially lower caste and non-owners were ignored in participation in several important project activities, which is one of the major reasons of tensions and conflicts in this area. Such project activities include mainly measurement of land, land category decisions, land rights decision on the basis of historical settlements of different groups of local people and land compensations. The subsequent conflicts are in the form of legal actions in the court, threatening the contractors and also death of some people while protesting for land compensations (Sabir et. al., 2017).

Participation of all (groups of) stakeholders and proper information dissemination about all project activities are highlighted by several studies as conflict resolution or conflict avoiding mechanism in many ways. Studies from both developing and developed countries emphasized that ignoring public participation lead to violent conflicts. In case of Sivens dam project conflicts on ecological issues were violent where participation of stakeholders opposing the project was ignored. Later even partial advice with them to restore the wet lands could not satisfy them which jeopardize the conflict resolution process and led to death of a protestor. In case of Bhasha dam project proper information dissemination and participation of all stakeholders in all project activities were ignored and considered as major reasons of conflicts. Poor planning, mismanagement, corruption and cronyism were observed in several project activities like land acquisition, land compensation decisions, resettlement and employment opportunities, where no information dissemination, partial advice or in some cases no participation of stakeholders at all were also prominent.

4. Conclusion

Infrastructural projects like dams are vital need of the time in order to overcome the energy and water shortage problems. Such projects bring also, along with them, economic opportunities and put the country on the path of progress. But they also carry some heavy costs depending upon different regions and under different conditions in the form of environmental, social and economic impacts. Environmental losses include loss of forests, wildlife and fish stock depletion, wetland and animal habitat and more importantly the destruction of cultural heritage. For directly affected local people the socioeconomic issues include living standard, resettlement, employment and livelihood and property rights. Such issues create tensions and conflicts among various actors, which could take several expressions depending upon different region and conditions in the form of legal actions, bringing the matter to the notice of the public authorities, mediatisation (bringing the matter to the attention of the media), assault or verbal confrontation, putting up signs and even in some brutal cases death of people (Torre et.al, 2014).

Sivens dam project is an example of conflicts between authorities and opposition of this project on protection of 12 ha of wet land, which was according to them inappropriate both financially and economically. In spite of many technical studies to compensate and restore the wet land area the opposition against the project increased. Compensation measures for restoring the wet lands were proposed two times but could not satisfy the stakeholders and several experts raised questions on wetland compensation measures. Violence kept on increasing between authorities and opposition party, which ended up on death of an activist. Government froze the project and ultimately in 2016 the state court cancelled the whole procedure.

Diamer Bhasha dam project is facing much opposition and there are several conflicts on different issues related to land rights and socioeconomics. There has been a lot of mismanagement and corruption in land measurement and land category decisions. Conflicts over land rights among different groups of local population mainly “owners” and “non-owners” on the basis of historical settings are also prominent. Moreover, there had been severe conflicts on land compensations. Ineffective resettlement plan is the cause of landlessness of many affectees. Such conflicts have different expressions like legal action in the court, road blockage, threatening the contractors and death of three protestors while protesting for compensations. Several employment opportunities are claimed on project site for which capacity building programs are arranged. A lot of questions are raised over capacity building programs which are devoted to lower category jobs and several people lost compensation amount in business investment. People needs proper education and training and lifelong compensation model and insurance must be considered in spite of one time compensation model (Li et al., 2015). The Diamer Bhasha dam project is still under examination and the land acquisition has almost completed where dissatisfaction over land compensations and conflicts over land rights are still there along with corruption, mismanagement and cronyism in resettlement and livelihood activities.

Our paper reveals that land use conflicts exist in both developing and developed countries in different forms and among different stakeholders over disagreement among two or more (groups of) stakeholders. Several land use changes and land management measures are carried out in both types of countries which become the source of conflicts, sometimes violent, over social, economic and environmental terms including farming practices, construction of expansion of infrastructural projects, urban sprawl and disturbance to agricultural activities and environment. However nature and deriving factors of these conflicts could be different in both places. In developed countries several cases show that land acquisition faces very early resistance from opposition to any land use change over socioeconomic and environmental disturbance which could lead afterwards from tensions to violent conflicts. In developing countries significant resistance (which most of the time is local) to land acquisition for project is observed over socioeconomic issues including less land compensation, corruption, mismanagement and cronyism in land and property rights

which are followed by landlessness, loss of employment opportunities and ultimately low living standard.

Conflicts over environmental/ecological issues are significant in developed countries whereas in developing countries several actors (which most of the time do not include local affected people) raise voices over environmental impacts of land use change but no significant conflict is seen over these issues. It appears that infrastructural projects like dams have negative impacts on environment in one way or another and have to be managed. Tensions among various actors and resistance to the project due to environmental impacts depend upon the regions, actors involved and their interests, awareness and capacity to influence the decision making on the basis of their knowledge.

Complete information dissemination and participation of all stakeholders in all project activities have significant importance in conflict resolution ignorance of which could lead to tensions and violent conflicts. A new developmental vision in an area and out of culture decisions by stakeholders responsible for the project is always highly disturbing for local stakeholders where their participation has absolute importance at each step to avoid the conflicts. Involvement of all stakeholders, NGOs, media in project activities and public debate could make the process transparent, protect the rights and satisfy all stakeholders especially in developing countries where transparency is highly required due to corruption, mismanagement and cronyism. Stakeholders responsible for the project must also consider its social acceptance at all stages of development. Strong political efforts especially in developing countries are required to bring all stakeholders together and satisfy them. Although social acceptance is difficult to assess as it depends upon history, culture, identity and values of population (Roth et. al., 2017) but it might be improved by some practices including policy and strategy of framework, individual cost benefit analysis of the project, quality of life, participation of all stakeholders in decision making and strategy to overcome the preset ideas (Huber & Horbaty, 2013).

Capacity building and social learning are also necessary steps for better participation and decision making and ultimately conflict resolution in both types of countries. However, social learning is enabled where participatory process needs debate on nature, source of knowledge of participants and beliefs (Rouillard et. al., 2014). Capacity building and empowerment of local affected people in developing countries is necessary as majority of them are illiterate and lack the different professional skills. These people need professional/business training to protect the livelihood opportunities. Moreover, higher capacity building of local people probably through NGOs or donor agencies is also needed in common negotiations for land resources and other economic opportunities, so that people can understand the project, express their opinion and defend their rights.

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Annex: Methodology

The article deals with land use conflicts and its impacts on different stakeholders. It examines and analyses the different factors of land use change mainly related to infrastructural projects and further discusses and compares the case study of Diamer Bhasha dam Pakistan and Sivens dam project France.

Tensions and conflicts are, as defined by Schelling (1960); opposition without engagement of declared clash is called tension, which turns into conflicts after engagement of one or more actors. This engagement is defined by the implementation of a credible threat, which could take different forms like legal actions, mediatization (bringing the issue to the attention of the media, press, radio, television...), bringing the matter to the attention of the public authorities, protestations, assault or verbal confrontation, Putting up signs (signs forbidding access, fences and gates...).

For the purpose of identification and analysis of conflicts and their impacts secondary source of information is used. This source includes national and regional dailies, previously published literature on land conflicts specially related to infrastructural projects and other literature published by public and private organizations. This kind of secondary source was frequently used by the researchers (see Torre et al, 2014; Mann & Jeanneaux, 2009; Ali & Nasir, 2010) in order to cross check the information from different sources and to carry out better analyses (Deininger & Castagnini, 2006; Mc-Carthy et al., 1996). Information on factors affecting land use conflicts and their impacts is collected from extensive literature review. Such factors include land rights and compensations, resettlement and livelihood, information dissemination and public participation and environmental impacts. Further information on two selected case studies is collected from above mentioned secondary sources which then further compared and analyzed in the light of selected literature of land use conflicts.

General Conclusion

This thesis has focused on conflicts due to infrastructural projects by taking “Di Amer Bhasha dam project” in Pakistan as case study. Further it has also highlighted the land use conflicts due to different issues in developing and developed countries. Land use conflicts arise around the world mainly on social, economic and environmental issues among variety of stakeholders, depending upon geographic conditions, socioeconomic situation and awareness to rights of local affected communities. There are several examples of conflicts due to land use mainly due to infrastructural projects in both developing and developed countries. Big infrastructures like dams have socioeconomic and environmental impacts and generate several conflicts.

Conflicts are described as engagement or declared confrontation between one or more actors but tensions are opposition without engagement (Torre, 2014). This engagement is defined by the implementation of a credible threat (Schelling 1960). In order to identify these conflicts our study includes both primary and secondary sources of data. Random field interviews were carried out to examine the conflicts in the area and socioeconomic situation of local people. Further, interviews were conducted with experts and stakeholders of different backgrounds related to Bhasha dam project. Among the secondary sources different national and regional dailies were selected for data collection. Moreover, different literature published by public and private organizations on Bhasha dam was also consulted to get information on conflicts and socioeconomics. The results of analysis of conflicts and different socioeconomic factors are summarized below.

Various conflicts in Di Amer Bhasha dam project

Although Di Amer Bhasha dam has immense importance for the Pakistan economy in the form of electricity generation, irrigation water and flood control but several conflicts appeared during its land acquisition stage like legal action in court, protesting and road blockage, threatening the contractor, burning the public property and death of protestors. Our study reveals that these conflicts occurred due to poor planning, mismanagement and corruption in several project activities like land acquisition and compensations, resettlement and livelihood.

Many projects in Asia and around the globe proved to be disastrous for local communities with socioeconomic point of view. Forced displacement and inappropriate resettlement, loss of employment and livelihood opportunities are common problems in such big projects like dams. In case of Bhasha dam project resettlement, employment and livelihood are major socioeconomic issues of local population. Construction of three model villages was approved as part of resettlement plan to adjust the people of affected community. This plan seems ineffective as land for construction of model villages is disputed and has not been acquired yet completely. Moreover, it is also observed that most of the local people are buying property and in some cases moving to developed area for better economic

opportunities and educational facilities for their children. Whereas, some people are likely to sale the property in model villages which will be allotted to them and resettle according to their culture in local area. Most of these people lost compensation amount in business investment and in buying property in other areas in the hands of fraud property dealers due to their lack of awareness and experience.

Infrastructural projects like dams have always been very hard on local affected people with respect to their resettlement and livelihood. People lose employment opportunities due to displacement and after resettlement it becomes very difficult to keep original profession. Government claimed several employment opportunities under Bhasha dam project activity during and after construction and also in the public sector. They arranged several capacity building programs for local people to avail employment opportunities during construction. But these programs are devoted to lower category jobs which local people might not prefer. Moreover, stipend and time period of these training programs are also short. Local people prefer public sector jobs which are of course short in number and corruption and cronyism was also observed during selection criteria. Such projects are brought most of the times in tribal or rural areas where local population is illiterate and incapable of utilizing or investing the compensation amount. In most of the cases they lose it by investing in business or in daily household expenditures. Affected area and local people of Bhasha dam are also no different where majority of the population is illiterate and has no awareness of properly using or investing compensation amount. Most of them lost compensation amount during business investment and land transactions.

Land acquisition and compensations have become complex process in almost all the infrastructural projects especially in developing countries. Conflicts on land acquisition in several dimensions are seen in case of Bhasha dam project. They started on land rates when Government did not try to negotiate with local people on their protestation over low land rate and used the police force. Due to clash between them and local affected people three people died and several injured. Both parties negotiated the land rates after the incident and no conflict over land rate has been seen although local people accepted the rates to avoid further bloody clash. Further different dimensions of conflicts appeared as the project moved ahead from land rate decision. Three land categories were decided including cultivated land, cultivable land and barren land on the basis of which compensation are provided. Under valuation of land becomes a significant conflict when cultivable land was shown as barren land in order to reduce the compensation rate. Local people took legal action in court which delayed the land acquisition process. There is another conflict on land measurements which also delayed the land acquisition process. As this is tribal area and there was no land record before. Government agents first time prepared the land record due to which several cases of less land measurement are seen.

Territorial resources are under great competition all over the world due to scarcity which needs very sophisticated planning and management which otherwise brings tensions among stakeholders and conflicts. In case of Bhasha dam project poor planning, mismanagement,

corruption and cronyism were observed during land category decision and land measurements. Territorial disputes were of different types and also depend upon historical settlements of different groups of local population, ethnic backgrounds and unsettled historical territorial issues. Moreover, informal land rights also make the situation worse for local communities especially in developing countries. Such conflicts are not only restricted to Government and local communities but also between different groups of local people. Infrastructural projects bring conflicts depending upon the geography of area and issues in it and type of stakeholders.

In case of Bhasha dam project conflicts over land rights started among different groups of local population, mainly between “owners” and “non-owners” when these later were deprived of compensations from common lands. This issue cannot be challenged in the court as Government accepts the ownership of a specific groups over common lands due to their earliest arrival and settlement in this area. Further, territorial dispute was not just restricted among different groups of local population but also extended to dispute between two provinces Khyber Pakhtunkhwa and Gilgit Baltistan over 7 to 8 Km long stretch of territory along the boundary of two provinces. The dispute was mainly over compensation from common lands because of which about four people died and several injured due to clash between people of these two provinces.

It appears clearly that disputes due to big projects like dams include mainly social, economic and environment issues which generate conflicts due to poor planning, mismanagement and corruption in socioeconomic activities as well as environmental degradation. Information is always kept from the public in such projects especially in developing countries and local stakeholders are not encouraged to participate in project activities. These issues are also observed in case of Bhasha dam project, where lack of participation of all stakeholders and insufficient information dissemination raised several tensions and conflicts in most of the above mentioned project activities. Further, social acceptance and cultural issues are also significant conflict generating factors in this project where local culture was totally ignored.

Recommendations

Based on the case study of Diامر Bhasha dam project our thesis draws various issues which are significantly responsible for conflict generation and socioeconomic disaster for the local area and are also prominent in other developing countries. On the basis of our study we provide different measures and recommendations for settlement of conflicts and socioeconomic protection of local people, which mainly include participation of different stakeholders in project activities and decision making, social acceptance and capacity building of local people in different areas and effective resettlement plans. The following section presents the major issues and conflicts with recommendations during construction of big project like dam in developing countries in general and Diامر Bhasha dam project in particular.

Land conflicts appeared in several forms including land measurement conflict, land category manipulation and also on land rights among owners and non-owners. Issues behind these conflicts include corruption, mismanagement, poor planning and biasness. Complete information dissemination and participation of all stakeholders especially local people is necessary to avoid these issues in project activities like land measurement, land category decisions and land rights among owners and non-owners. Participation of NGOs and media could also be very helpful to ensure transparency and avoiding corruption and mismanagement. Strong political efforts are required to satisfy all stakeholders and secure social acceptance among them by avoiding cronyism and corruption and further ensuring more educational and other developmental projects in the local area.

Displacement of local people and inappropriate resettlement plans of Government have caused landlessness and tensions among local people. Resettlement plans should be appropriate enough to improve the living standard of local people according to their needs and desires. Resettlement of affected people must be ensured on time without any delay and resettlement plan must be according to local culture. Residential plots/areas to be allotted to local people should hold the family size of local community. Such resettlement measures are necessary to avoid the loss of compensations which several people lost in land transactions in other areas due to out of culture resettlement plans and small size residential plots.

Several issues related to compensations and livelihood emerge under big projects, including loss of employment opportunities, inappropriate job arrangements and capacity building programs from Government, corruption or biasness in job provisions and loss of compensation amount in investments due to lack of awareness. Several measures are required to secure the livelihood of local people, like investment in local area and creation of job opportunities. Proper planning and mainly participation of all stakeholders especially local people could avoid the corruption and cronyism, ensure merit and help planning the appropriate employment opportunities for affected communities. Moreover, capacity building of local people is also an important step to secure the livelihood of local people and improve their living standard. Many people lost compensation amount in business transactions; it appears that local people are highly in need of capacity building in business and land transactions to avoid this type of loss.

Further, to secure the livelihood and to ease the tensions and conflicts a higher capacity building of local people is also required in common negotiations for land resources and other economic opportunities like employment and livelihood, so that people can understand the project, express their opinion, defend their rights and resolve conflicts among themselves and with government and public bodies appropriately. In this regard, the involvement of NGOs, media and other representatives could be very helpful for better local governance by helping people express opinions and improve their knowledge, understanding of the main principles and consequences of the project, their capacity to

participate in public debate, and their ability possibly to shape the direction of development.

Enhancing the capabilities of local people can be done by educating them and providing more individualistic foundations to make them free to choose from a range of action possibilities offered by their environment and to increase the level of social justice. Empowerment approaches are also emphasized to help these communities to improve their own competences and capabilities, and to increase their social integration, particularly through experience-based learning. It is expected that, on this basis, they could take part to the process at different stages, and be able to be informed, involved, and active in the setting of the new development plans.

Annex A

Methodology of Interviews

Before interviewing experts and stakeholders in the project area, affected people mainly from two different groups (Owners/Original Settlers and Non-owners/latecomers) were interviewed. Information was obtained about their socio-economic conditions, effects of the project on them, and conflicts among themselves and with the Government.

Major open questions were then asked of experts and stakeholders, and led to further questions and open discussion. It is crucial to notice that in relation to conflicts questions were asked in an indirect way, as recommended by studies in the field (Torre et al., 2014), in order not to stop the discussion and generate opposition. The major questions dealt with the following topics. Interviews were only ended (in one or more successive sequences) once responses to all of the questions were obtained.

1. Do you think that the amount of compensation paid by the Government for affected people's land is enough? What are the reasons for your view?
2. Do the affected people have the awareness needed to invest their compensation properly?
3. Do you think that the current form of compensation paid by Government is fine or would you suggest any other form of compensation? What are the reasons for your view?
4. Is the Government resettlement plan effective or ineffective? What is your opinion?
5. Do you think that compensation is provided at the right time? What would be the effect of a delay in compensation payment on the affected people?
6. What are the effects of this project on employment and the livelihoods of the affected people?
7. What is your view about the Government's capacity building programmes for employment of the affected people at the project site? Will they help improve the livelihoods of the affected people?
8. What will be the impact of this project on tourism and ultimately the development of this area?
9. What impact will this project have on local culture?
10. Was information about the project and project activities disseminated properly? What kind of information was disseminated?
11. Was the public encouraged to participate properly in project activities?
12. Do you think that the provision of compensation involved mismanagement/corruption on the part of actors/agencies involved in different project-related activities?
13. What kind of conflicts exists between Government and the affected people?

- a) Why do people have problems/conflicts with the Government over the measurement of their land, on the basis of which Government allotted compensation? Why does this conflict exist?
- b) Why does the land category manipulation conflict exist? What is your opinion about this conflict?
- c) What is the nature of the conflict between the two major groups (Owners/Original Settlers and Non-owners/latecomers) and the Government? How would you propose to solve these conflicts between the Government and affected people?

14. What kind of conflicts exists between the different groups of affected people?

- a) How do different groups of affected people engage with each other culturally/traditionally and with what kind of ethnic point of view?
- b) What are the reasons of conflicts over common land rights and between different groups?

Annex B

Selected national and Regional Dailies

Selected National and Regional Dailies and Articles Reviewed

Category	Journal	Number of Articles Reviewed
National Dailies	Dawn	82
	The Nation	67
	Daily Times	10
	The News	34
Regional Dailies	Baad-E-Shimal	49
	Baidar	37
	Daily K-2	10

Annex C

Résumé Etendu

Introduction

Les conflits sur l'usage des sols occupent une position centrale dans différentes disciplines comme la géographie (Campbell et al., 2000), la sociologie (Castro et Nielsen, 2001 ; Stephenson, 1981), les sciences politiques (Humphreys, 2005 ; Burton, 1993) et l'économie (Mann et Jeanneaux, 2009 ; Deininger et Castagnini, 2006). Le changement d'usage des sols pour le développement s'accompagne toujours de conflits entre les différentes parties prenantes, en particulier dans le cadre de la construction ou de l'expansion de projets de développement. C'est le cas des projets d'infrastructure comme les barrages hydrauliques et de leurs conséquences, à la fois positives et négatives à cet égard. Dans ces projets, les conflits émergent en raison des problèmes liés aux attentes foncières, ainsi qu'aux intérêts divergents des différentes parties prenantes.

Les conflits diffèrent toujours en fonction des contraintes économiques, des structures sociales, politiques et institutionnelles, des intérêts des parties prenantes, de l'origine du conflit, de la situation géographique et de la situation environnementale (Jones et al., 2005). Ils s'expriment sous différentes formes dans le monde, selon la région, les caractéristiques des acteurs et leurs intérêts. Ils varient depuis des tensions jusqu'aux conflits violents. Les manifestations, l'action juridique, le blocage des routes dans certains cas peuvent aller jusqu'aux conflits armés entre différents groupes et la mort de personnes.

Cette thèse traite principalement des questions de conflits liés aux projets d'infrastructures, comme les barrages et leurs impacts sur la communauté, en particulier dans les pays en voie de développement.

Conflits et Impacts Socio-économiques des Projets d'Infrastructure

La construction de projets d'infrastructure comme les routes, les chemins de fer, les barrages et les aéroports occupe une place essentielle dans le développement d'un pays. Les grands projets comme les barrages sont importants, sous plusieurs aspects, pour les pays en voie de développement et les pays développés, comme la disponibilité pour l'irrigation en particulier pour les pays en voie de développement qui doivent produire de l'électricité et contrôler les inondations. Mais de tels projets produisent aussi des externalités négatives et constituent une source significative de conflits.

Les grandes infrastructures comme les barrages ont principalement des impacts sociaux, économiques et environnementaux, qui sont source de conflits entre les différents acteurs (Chakravorty, 2016). L'absence de politique nationale de réinstallation, la non-disponibilité des opportunités d'emploi et les violations des droits de l'homme conduisent à l'absence de terres, à l'appauvrissement économique et à l'instabilité sociale (Magsi et Torre, 2013, Huber et Joshi, 2015). Les impacts environnementaux et écologiques négatifs incluent les émissions de GHG, l'obstruction à la migration des poissons, la perte d'écosystèmes divers,

la perte du patrimoine architectural, les risques géologiques et l'extinction de la biodiversité (Sun, 2013; Williams et Porter, 2006). Une autre source de conflits est le manque de diffusion de l'information, qui concerne la plupart des activités du projet, ainsi que la participation limitée ou inexistante des parties prenantes (Mann et Jeanneaux, 2009).

L'acquisition des terres est la principale activité du projet avant le commencement de la construction de grands projets. Elle est un effet une importante source de conflits. Dans plusieurs pays, de tels projets sont élaborés sur des zones tribales, rurales ou éloignées où la population locale est illettrée, peu consciente de ses droits et n'a surtout aucun droit légal sur les terres (Moran, 2004; Flood, 1997; Zhu et Simarmata, 2015). Les réformes foncières sont formées sur des bases biaisées et du favoritisme, en particulier dans les pays en voie de développement qui ne parviennent pas à protéger les droits fonciers informels (Rigon, 2016). De plus, les inégalités historiques et la culture locale favorisent aussi des groupes spécifiques de personnes, ce qui est une source significative de conflits (Marx, 2016; Sabir et al., 2017).

De tels problèmes conduisent à une mauvaise gestion, de la corruption et du népotisme (Swain et Chee, 2004 ; Magsi et Torre, 2012). L'opposition au projet et les tensions s'intensifient en raison du déplacement, de la réinstallation, de la disparition de l'emploi et des moyens de subsistance (Oppio et al., 2015). Les décisions de planification liées à l'usage des terres ont plusieurs impacts négatifs sur l'environnement et sur la communauté. Elles génèrent ainsi des conflits d'usage des terres (Kaya & Erol, 2016). Cependant, il est difficile de procéder à une négociation au sujet de tous les conflits d'usage des terres. Ces conflits sont rarement résolus ou réglés par la politique publique surtout a cause des décisions prises (Yusran et al., 2017). Ostrom et Nagendra (2006) suggèrent ainsi que tous les types de gouvernance ne conduisent pas à la complète résolution des conflits.

Il faut remarquer que les conflits d'usage des sols ne se limitent pas aux régions en voie de développement, mais apparaissent partout dans le monde. Dans les pays en voie de développement, la mauvaise gestion, la corruption et les impacts sur la socio-économie sont courants. De tels projets ont des impacts plus graves sur l'environnement, et pour les populations locales affectées. D'autres conflits d'usage des sols, et dans certains cas des conflits violents, sont observés dans les régions développées, ou ils touchent principalement les préoccupations environnementales et sociales des acteurs.

2. Étude de cas : le Barrage de Diامر Bhasha

Pour traiter la question des conflits liés aux projets d'infrastructure comme les barrages, nous avons choisi l'étude de cas du projet du barrage de Diامر Bhasha au Pakistan. Le projet, situé dans le nord du Pakistan, est nommé d'après Diامر qui est le district dans le nord du Pakistan, dans la province de Gilgit Baltistan (GB), et Bhasha, un village du Kohistan dans la province de Khyber Pakhtunkhwa (KPK). Il est principalement situé dans le district de Diامر. La plus grande partie des terres est exclusivement acquise dans ce district, et presque tous ses habitants sont affectés socialement et économiquement. En tout, parmi les 12.039 ménages qui vivent dans cette région, 4.228 ou plus seront directement affectés.

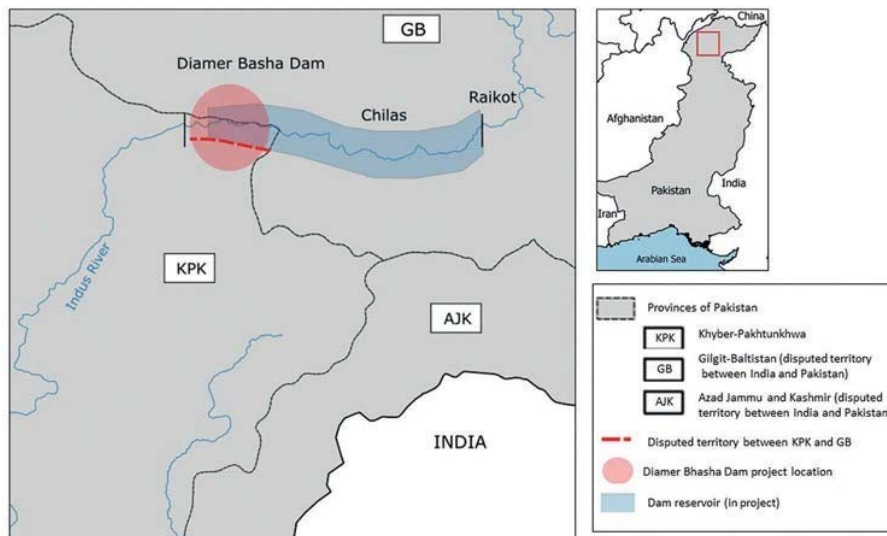


Figure 1: The Study Area Etude de le region

Ce projet a une grande importance dans l'économie du Pakistan, qui souffre d'une grave pénurie d'électricité et d'eau pour l'irrigation. À terme, il fournira 4500 mégawatts d'électricité et environ 6,4 (Millions Acre Feet) d'eau de la surface annuelle pour l'irrigation. Bien que ce projet présente plusieurs avantages : la génération d'électricité, l'eau d'irrigation et l'emploi, il engendre quelques lourds coûts à payer comme le déplacement de la population locale et d'autres conséquences socio-économiques. 32 villages vont être déplacés, affectant gravement les moyens de subsistance et le niveau de vie des personnes touchées. Il submergera environ 2 660 acres de terres agricoles (GOP, 2014). De plus, le projet génère de nombreux conflits et a différents impacts sur cette communauté pour l'acquisition de terres, son niveau de vie et son environnement par exemple la biodiversité, les forêts que cette communauté connaît et respecte. L'acquisition des terres est dans la région la principale source des tensions et des conflits. Ces conflits sont liés aux compensations versées en contre partie des terres, aux problèmes de mesures des terres, aux décisions prises pour les catégories de terres et aux droits fonciers. Ceci en raison des implantations historiques de différents groupes dans la région.

Dans le cas du barrage de Diamer Bhasha, le plan de réinstallation du gouvernement comprend la construction de trois villages modèles, Thak Das, Harpan Das et Kino Das. Une parcelle de terre de superficie d'un Kanal est censée être fournie gratuitement à chaque ménage touché. Le projet est censé générer plusieurs opportunités d'emploi pendant la construction et des programmes de renforcement des capacités sont organisés pour permettre aux populations locales d'utiliser efficacement les opportunités d'emploi. Cependant, plusieurs tensions entre les parties prenantes locales et manifestations se sont produites.

Cette recherche tente de répondre aux questions suivantes :

1. Comment les projets d'infrastructure génèrent-ils des conflits et affectent-ils les caractéristiques socio-économiques de la population locale ? Quels en sont les remèdes possibles ?
2. Quel est le lien entre l'histoire, la culture et la géographie de la zone locale et l'évolution du projet ? Quelle est l'intensité des conflits, leurs impacts et les mesures de pilotage possibles ?
3. Comment les questions socio-économiques et environnementales, dans les projets d'infrastructures tel que les barrages, sont-elles source de conflits dans les pays en voie de développement ainsi que dans les pays développés ?

3. Méthodologie de la thèse

Afin de répondre aux questions liées aux problèmes de conflits et à leurs impacts, cette étude utilise deux sources de données.

Afin d'examiner les conflits et le profil socio-économique de la population touchée, des entretiens ont été menés avec la population locale. 61 autres entrevues ont été menées avec des experts et des parties prenantes issues de milieux différents.

Tableau 1. Personnes interrogées

Contexte des personnes interrogées	Nombre de personnes interrogées
“Water & Power Development Authority” (principale agence gouvernementale pour ce projet)	10
“Planning Commission” (organisation gouvernementale)	7
Consultants privés pour le barrage de Bhasha Dam et d'autres projets connexes	9
Administration de district et police	6
“Diamer Poverty Alleviation Program” (ONG)	5
Leaders / représentants locaux	10
Conseillers juridiques	5
Journalistes et travailleurs sociaux	9

Les sources de données secondaires comprennent différents quotidiens nationaux et régionaux et d'autres documents publiés par des organisations publiques ou privées. Ces types de sources sont fréquemment utilisés par les chercheurs (voir Awakul et Ogunlana, 2002, Mahato et Ogunlana, 2011, Mann et Jeanneaux, 2009, Ali et Nasir, 2010) pour vérifier l'information provenant de différentes sources et pour de meilleures analyses (McCarthy et al., 1996, Deininger & Castagnini, 2006).

Quatre quotidiens nationaux et trois quotidiens régionaux ont été consultés en ligne pour la période de 2006 à 2016. 289 articles ont été étudiés afin de recueillir des informations sur les facteurs de l'étude. Chaque article a été enregistré par le nom du journal, le titre de l'article, la date de publication, le résumé de l'article. Chaque article décrit généralement un problème ou un conflit principal. Cependant, certains articles traitent de deux et même trois questions. Les quotidiens nationaux sont en langue anglaise mais les quotidiens régionaux

sont en ourdou. Les résumés des quotidiens régionaux ont été traduits de l'ourdou vers l'anglais afin de mieux analyser l'information sur des questions spécifiques.

Tableau 2 : Pourcentage d'articles traitant de différentes questions

Problèmes exprimés dans les quotidiens	% Nombre d'Articles parus dans des Quotidiens nationaux	% Nombre d'Articles parus dans des Quotidiens Régionaux
Impact sur le niveau de vie	52	48
Plan de réinstallation (des personnes touchées)	86	14
Impact sur l'emploi	43	57
Participation du public	76	24
Corruption / mauvaise gestion de la rémunération	40	60
Conflits de gestion des terres (mesure des terres, décision concernant les catégories de terres et droits fonciers en raison des installations historiques des populations locales)	61	39

4. Principaux Résultats et Discussion

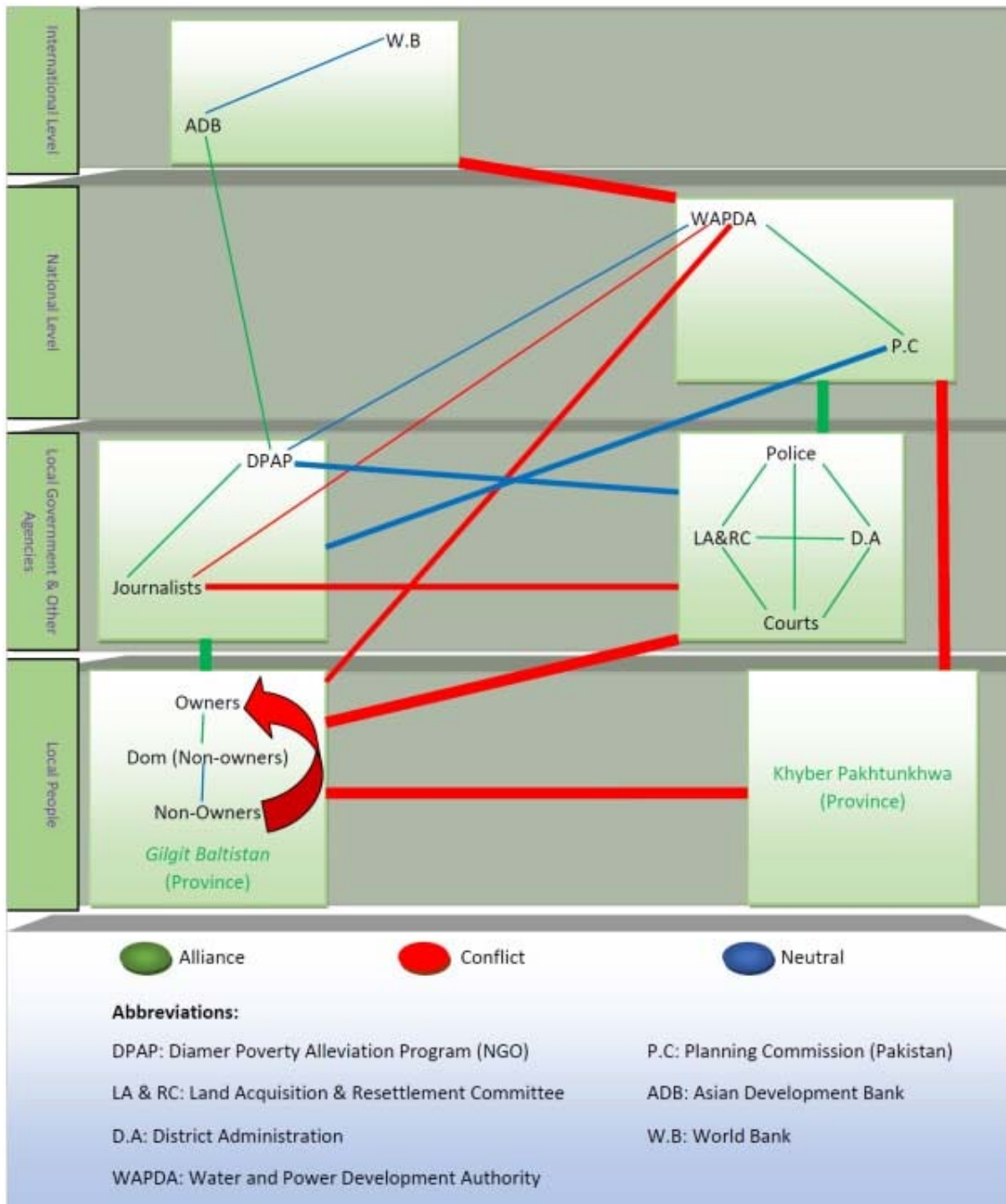
Plusieurs conflits sont apparus au cours de la phase d'acquisition des terres de ce projet, comme des actions en justice, des marches de protestations, le blocage de routes, des menaces sur les donneurs d'ordre, des incendies de la propriété publique, pouvant aller jusqu'au décès de personnes. Notre étude révèle que ces conflits sont survenus en raison d'une mauvaise planification, d'une mauvaise gestion et de la corruption dans plusieurs activités du projet, comme l'acquisition de terres et les problèmes de compensations, la réinstallation et l'absence de moyens de subsistance des personnes touchées.

Pour le projet de barrage de Bhasha, les principaux problèmes socio-économiques supportés par la population locale sont la réinstallation, l'emploi et les moyens de subsistance. La construction de trois villages modèles a été approuvée dans le cadre du plan de réinstallation, afin de réinstaller les personnes de la communauté touchée, mais ce plan semble inefficace parce que la terre, pour la construction de villages modèles, est contestée et n'a pas encore été acquise complètement. Il est aussi observé que la population locale, dans sa majorité, achète la propriété et dans certains cas, se déplace vers la zone développée pour de meilleures opportunités économiques. Certaines personnes veulent probablement vendre leur propriété dans les villages modèles qui leur sera alloué et s'installer ailleurs en fonction de leur culture. D'autres ont perdu le montant de compensation de leur investissement dans les entreprises et dans les opérations foncières, en raison de leur manque de connaissance et d'expérience.

Il est toujours difficile de conservée sa profession d'origine dans de tels projets. Le gouvernement a proposé plusieurs offres d'emploi, dans le cadre du projet de barrage de Bhasha, pendant et après la construction, ainsi que dans le secteur public. Pendant la construction, il a organisé pour les populations locales peu qualifiées, plusieurs programmes de renforcement des capacités, afin d'ouvrir des opportunités d'emploi. Mais ces programmes sont consacrés à des emplois peu qualifiés peut appréciés des populations locales. De plus, la rémunération est faible et la période de ces programmes de formation est courte. La population locale préfère les emplois du secteur public qui sont, bien sûr, limités. La corruption et le népotisme (en anglais nous utilisons le terme « Cronyism ») s'ajoutent à ces critères de sélection. Les personnes de cette zone sont illettrées et ne connaissent pas l'investissement financé. La plupart d'entre elles ont perdu leur compensation lors de l'investissement dans des entreprises et des transactions foncières hasardeuses.

Les conflits pour la compensation de terre étaient violents : trois personnes sont mortes et plusieurs ont été blessées à cause des affrontements entre les populations locales et le gouvernement. Aucun de ces conflits n'a été réellement reconnu puisque les deux parties ont négocié les taux de terre après cet incident. Toutefois la population locale a accepté les taux pour éviter le heurt avec les autorités. De plus, trois catégories de terre ont été proposées pour fournir une compensation: terres cultivées, cultivables et non cultivées. La sous-évaluation des terres a provoqué un conflit important quand des terres cultivables ont été présentées comme des terres stériles afin de réduire le taux de compensation. Les populations locales ont intenté une action en justice contre les autorités, ce qui a ralenti le processus d'acquisition des terres. Le conflit sur les mesures des terres a également retardé le processus d'acquisition, surtout quand elles sont situées en zone géographique tribale et sans enregistrement.

Figure 2: Réseau d'acteurs dans le cas du barrage *Diامر Bhasha*



On constate également des conflits sur les droits fonciers entre les différents groupes de la population locale, principalement entre « propriétaires » et « non-propriétaires ». Les « propriétaires » sont les personnes installées les premières dans cette zone. Ils réclament toutes les terres publiques (appelées terres communes) ainsi que les compensations correspondantes. Les conflits ont commencé quand les "non-propriétaires" ont été privés de compensations. Cette question ne peut être contestée devant la Cour puisque le gouvernement accepte la propriété d'un groupe spécifique sur les terres communes. De

plus, le différend territorial n'était pas seulement limité aux différents groupes de population locale, mais s'étendait également au conflit à la frontière des deux provinces (Khyber Pakhtunkhwa et Gilgit Baltistan) sur un territoire de 8 km de long. Quatre personnes sont mortes et plusieurs ont été blessées à la suite d'affrontements entre les habitants de ces deux provinces.

Il apparaît que l'information sur ces projets n'est pas complètement diffusée, en particulier dans les pays en voie de développement. Les parties prenantes locales ne sont pas encouragées à participer aux délibérations. Ces problèmes sont également observés dans le cas du projet de barrage de Bhasha, où le manque de participation de toutes les parties prenantes et l'insuffisance de diffusion de l'information ont soulevé plusieurs tensions et conflits. De plus, l'acceptation sociale et les questions culturelles sont également des facteurs importants de conflit dans ce projet, où la culture locale a été totalement ignorée.

5. Conclusion et recommandations

Qu'il s'agisse des pays en voie de développement ou des pays développés les conflits d'usage des sols apparaissent principalement pour des questions environnementales, sociales et économiques entre parties prenantes. Ils dépendent des conditions géographiques, de la situation socio-économique et de la conscience des droits des communautés locales affectées. Les grandes infrastructures comme les barrages ont des effets socioéconomiques et environnementaux importants et génèrent de nombreux conflits.

Différents conflits apparaissent ainsi, concernant la violation des droits fonciers et de la propriété ainsi que sur d'autres domaines comme les compensations. Le différend sur l'indemnisation des terres a été violent et a entraîné la mort de quelques personnes. Bien que le montant de la compensation soit calculé selon les taux des terres locales, il n'est pas suffisant pour la réinstallation. Un autre facteur associé aux compensations ainsi qu'au niveau de vie est la conscience de la population locale de l'enjeu de cette compensation. Le plan de réinstallation des populations locales semble inefficace et présente plusieurs lacunes comme la disponibilité de terres pour les villages modèles, contestée car elle retarde la réinstallation. Le volume de terre pour compenser chaque famille n'est pas fonction de la taille de la famille. Le projet a un impact négatif sur les opportunités d'emploi des populations locales et les programmes de renforcement des capacités sont inefficaces. D'autres conflits apparaissent concernant la mesure et la manipulation des terres ainsi que les oppositions historiques entre propriétaires et non-propriétaires. Ils incluent une mauvaise planification, la mauvaise gestion des mesures foncières, le favoritisme et la corruption des agents du gouvernement.

La diffusion complète de l'information et la participation de toutes les parties prenantes sont nécessaires pour éviter des problèmes tels que la mesure des terres, les décisions relatives aux catégories de terres et les droits fonciers entre propriétaires et non-propriétaires. La participation des ONG et des médias pourrait aussi être très utile afin

d'assurer la transparence et d'éviter la corruption et la mauvaise gestion. Des efforts politiques forts sont nécessaires pour satisfaire toutes les parties prenantes et garantir leur acceptation sociale en évitant le népotisme et la corruption. Plus de projets éducatifs et d'autres projets de développement dans la région doivent également être assurés. La réinstallation dans les temps des personnes touchées est importante et doit prendre en considération la culture locale.

Il apparaît également que les populations locales ont besoin de renforcer leurs capacités dans les transactions commerciales et foncières, ainsi que dans les négociations sur les ressources foncières et d'autres opportunités économiques telles que l'emploi et les moyens de subsistance. Cela aiderait les personnes à prendre conscience des projets, à exprimer leur opinion, à défendre leurs droits et à résoudre les conflits entre eux et avec le gouvernement. À cet égard, la participation des ONG, des médias et d'autres représentants pourrait être très utile pour une meilleure gouvernance locale. Cela pourrait aussi aider à améliorer les connaissances des populations locales, leur capacité à participer au débat public et aux projets de développement.

6. Plan de la thèse

Cette thèse est structurée en quatre chapitres, qui fournissent une analyse qualitative des conflits liés aux projets d'infrastructure tels que les barrages, en particulier dans les pays en développement. Les chapitres sont des articles indépendants, qui abordent les questions mentionnées dans les sections précédentes.

- 1) Land-use conflict and socio-economic impacts of infrastructure projects: the case of Diامر Bhasha Dam in Pakistan (publié dans Area Development and Policy)
- 2) Infrastructural Project Loopholes and land Use Conflicts Nexus Based on National and Regional Dailies. The case of Diامر Bhasha Dam in Pakistan (soumis dans Journal of Environmental Planning and Management)
- 3) Different proximities and conflicts related to the setting of big infrastructures: the case of Diامر Bhasha dam in Pakistan (Publié dans le livre "Regional Cooperation in South Asia", Springer)
- 4) Infrastructural Projects and Land Use Conflicts in Developing and Developed Countries: Comparative Review of literature and different Case Studies (présenté dans différents séminaires)

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Titre : Projets d'infrastructure, conflits d'usages des terres et impacts socio-économiques : Etude du projet de barrage Diامر Bhasha, au Pakistan

Mots clés : Projet d'infrastructure, Conflits, Impacts socio-économiques, Impacts environnementaux, Participation du public, Renforcement des capacités

Résumé : Les changements d'usage des terres à des fins de développement s'accompagnent toujours de conflits entre les différentes parties prenantes, en particulier dans le cadre de la construction ou de l'expansion de projets de développement dans les pays en voie de développement. C'est le cas des projets d'infrastructure comme les barrages hydrauliques et de leurs conséquences à la fois positives et négatives. Dans ces projets les conflits émergent en raison des problèmes liés aux attentes foncières, ainsi qu'aux intérêts divergents des différentes parties prenantes. En fonction de leur intensité, ils apparaissent alors sous différentes formes, avec des impacts importants sur les populations locales.

La thèse traite des conflits qui surgissent entre les différents acteurs liés au projet de construction du barrage Diامر Bhasha au Pakistan, ainsi de leurs impacts socio-économiques sur les personnes affectées. Ce projet a commencé à faire face à des oppositions concernant les acquisitions de terres et provoqué des manifestations, des actions en justice, le blocage des routes et des menaces à l'égard des promoteurs du projet.

Afin d'analyser les conflits et d'évaluer les impacts socio-économiques du projet, nous avons utilisé différentes sources de données primaires et secondaires. 61 entretiens ont ainsi été réalisés avec des experts et des parties prenantes appartenant à différents domaines.

De plus, 289 articles de différents quotidiens nationaux et régionaux concernant les conflits et les impacts socio-économiques du barrage ont été étudiés afin de vérifier et de corroborer ces informations. En outre, certains documents publiés par des organisations, publiques et privées, ont également été consultés.

Les résultats révèlent différents conflits entre les personnes affectées et le Gouvernement, ainsi qu'entre différents groupes locaux d'acteurs, au sujet des compensations foncières et des droits de propriété. L'étude met en évidence les problèmes posés par le projet au niveau socio-économiques, qui concernent en particulier un plan de réinstallation inefficace et la perte massive d'emplois. En outre, il explore les causes profondes des conflits, dues à la mauvaise planification, la mauvaise gouvernance, la mauvaise gestion, la corruption et le népotisme dans les différentes activités du projet. L'absence de participation de toutes les parties prenantes et la diffusion inexistante de l'information sur les activités du projet, sont également de très importantes sources de conflits entre les différents acteurs. Enfin, le travail présente des mesures de politiques et des recommandations pour une meilleure gouvernance, en termes de renforcement des capacités des populations locales dans différents domaines et de participation de toutes les parties prenantes à l'ensemble des composantes du projet.

Title: Infrastructural Projects, Land Use Conflicts and Socioeconomic Impacts Nexus: A Case Study of Diامر Bhasha Dam Project, Pakistan

Keywords: Infrastructure Project, Conflicts, Socioeconomic Impacts, Environmental impacts, Public Participation, Capacity Building

Abstract: Land use change for the purpose of development always comes with conflicts among different stakeholders, especially under the construction or expansion of developmental projects in developing countries. Thus, infrastructural projects like dams have both positive and negative consequences in this regard. The conflicts in such projects emerge with view of issues associated with the superposition of land expectation, as well as different stakeholders' interests. They appear in different forms, depending upon their intensity, with severe impacts on local people. The article deals with conflicts arising among different actors and their socioeconomic impacts on affected people, due to construction of Diامر Bhasha Dam project in Pakistan. This project started facing opposition from land acquisition and encouraged protestations, legal action in court, road blockage, threatening the project contractor, and violation.

In order to analyze the conflicts and to assess the socioeconomic impacts of the project, we used both primary and secondary data sources. About 61 interviews with experts and stakeholders of different backgrounds were conducted.

Moreover, under the secondary source about 289 articles from different national and regional dailies on conflicts and socioeconomic impacts of the Dam were studied in order to cross check the information. Further, some literature published by public and private organizations was also consulted.

Preliminary results show different conflicts between affected people and Government and also among different groups of locally affected people, over land compensations and property rights. This study further highlights the socioeconomic issues of the project in the form of ineffective resettlement plan and loss of employment opportunities. It further, explores the root causes of conflicts, due to poor planning and governance, mismanagement, corruption and cronyism in different project activities. Lack of participation of all stakeholders and proper information dissemination about all project activities are also main source of conflicts among different actors. Finally, it provides policy measures and recommendations for better governance in the form of capacity building of local people in different areas and participation of all stakeholders in all project activities.

