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

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ABSTRACT

This article examines the conflicts arising from the Diamer 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.

ARTICLE HISTORY

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KEYWORDS

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

摘要

基础设施工程造成的土地利用冲突和社会经济影响：巴基斯坦迪阿莫-巴沙大坝的案例分析. *Area Development and Policy*. 本文分析了巴基斯坦北部迪阿莫-巴沙大坝工程引发的冲突，指出了大坝对当地人口和土地的影响所造成的冲突，并提出了解决这些冲突应采取的措施。该工程引发的问题包括土地征用不公、人口迁移不当、补偿不足以及移民安置和未来生活等方面的问题。工程的完成依赖于项目投资的安排、对各方参与者之间冲突的解决以及所有利益相关者的一致意见。基于对这个案例的分析，本文提出了改进基础设施工程管治的相关策略。

关键词

冲突, 土地纠纷, 大坝建设影响, 补偿, 公众参与

RESUMEN

Conflicto por el uso de la tierra y las consecuencias socioeconómicas de los proyectos de infraestructura: el caso de la presa de Diamer-Bhasha en Pakistán. *Area Development and Policy*. En este artículo analizamos los conflictos que se derivan del proyecto de la presa de Diamer-Bhasha al norte de Pakistán. Aquí se identifican los conflictos que han surgido debido a las repercusiones de la presa en la población local y el

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Supplemental data for this article can be accessed here.

territorio, así como las medidas para resolver algunas de ellas. Estas repercusiones están relacionados con la injusta adquisición de la tierra, el desplazamiento inadecuado, la compensación insuficiente, el reasentamiento y los futuros medios de vida. La realización del proyecto depende del acuerdo de la financiación del proyecto, la resolución de los conflictos entre los diferentes protagonistas y el consentimiento de todos los grupos de interés. A la vista de esto, se identifican estrategias de caso para mejorar la administración de proyectos de infraestructura.

PALABRAS CLAVE
conflicto, disputas territoriales, impactos de construcción de presa, compensación, participación pública

АННОТАЦИЯ
Конфликты по поводу землепользования и социально-экономические последствия инфраструктурных проектов. Пример плотины Diamer Bhasha в Пакистане. *Area Development and Policy*. В статье рассматриваются конфликты, связанные с проектом строительства плотины Diamer Bhasha в северном Пакистане. Описываются конфликты, возникающие из-за воздействия плотины на местное население и прилегающую территорию, и шаги по устранению некоторых из них. Это воздействие связано с несправедливым землеотводом и выселением, неадекватными компенсациями и условиями переселения. Завершение проекта зависит от организации проектного финансирования, разрешения конфликтов между различными субъектами и согласия всех заинтересованных сторон. В свете этого случая предложена стратегия совершенствования управления инфраструктурными проектами.

КЛЮЧЕВЫЕ СЛОВА
конфликт, территориальные споры, последствия строительства плотины, компенсация, участие общественности

1. 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.

2. CASE STUDY PRESENTATION AND METHODOLOGY

2.1. Case study description: the 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 Diamer 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 Diamer it was

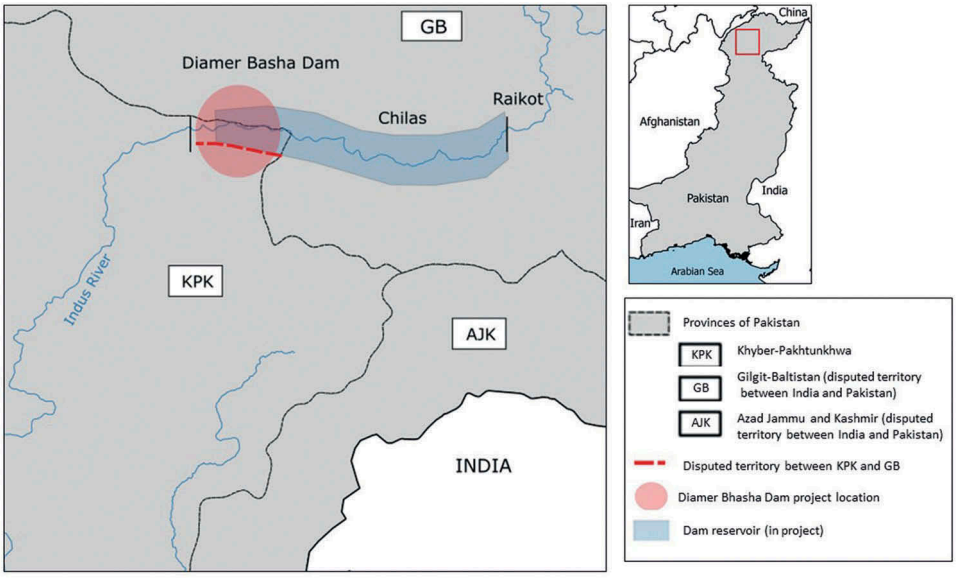

Figure 1. The study area.

about 10%. Diamer is the district where the Karakoram Highway enters GB from KPK.[1] The district capital is Chilas (Figure 1). The project is mainly located in Diamer 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 Diamer 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 the affected population (%)
Agriculture/farming	33.5
Unskilled workers (construction, mostly)	10.5
Skilled workers	16.6
Government service	19.0
Business	15.1
Private employment (in, for example, agricultural enterprises)	4.7
Security forces	0.6

Source: WAPDA Survey, 2006–07.

The dam is located on the River Indus,[2] 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 km^2, and the reservoir will extend 100 km upstream (GOP, 2013).

2.2. 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 an 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).

2.3. 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

Table 2. Interviewees.

Background of the interviewee(s)	Number of interviewee(s)
Water and Power Development Authority (WAPDA) (the main government agency carrying out this project)	10
Planning Commission (a government organization)	7
Private consultants for Bhasha Dam and other related projects	9
District administration and police	6
Diamer Poverty Alleviation Program (an NGO)	5
Local leaders/representatives	10
Legal advisors	5
Journalists and social workers	9

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).

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

Table 3. Social status of respondents in the study area.

Groups	Social status	Caste	Number (%)
Shin	Original settlers (called owners)	Upper	39.5
Yashkun	As above	Upper	24.0
Kamin	As above	Lower	11.0
Dom	Latecomers (called non-owners)	Lower	1.4
Gujar	As above	Lower	6.5
Mruts	As above	Lower	7.4
Others	As above	Lower	10.2

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

customary law and traditions is accepted by all social and cultural groups and by 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).

3. RESULTS AND DISCUSSION

3.1. 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 *kanal*[3] 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 WAPDA[4] 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 programmes, 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 programmes 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).

3.2. 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 (Anaafo, 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 the 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).

3.3. Geopolitical conflicts, international concerns and finance

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).

4. 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 long-term 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.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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 *kanal*s.
4. See http://www.wapda.gov.pk/index.php/projects/hydro-power/on-going/diamer-basha-dam/item/370-land-acquisition/.

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