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Approaches to understand land use conflicts in the developing countries

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Abstract

It is to contribute in the research on land use conflicts created by infrastructural projects, which have entailed expropriation of homes, farm businesses and other productive resources in the developing countries. In Pakistan, land use conflicts have been germinated by non-existence of national resettlement policy, and human and property right violators, since five decades. For this research the data from Chotiari water reservoir project (Pakistan) has been collected, which explores that unilateral decisions towards development projects disturbed the sustainability of indigenous population, devastated natural resources, environmental services and fertile lands. First the article defines the conflicts over land use with their dynamic features; as well as the description on the case study and the principle actors. The next section highlights the nature and positions of stakeholders involved. There is then a discussion on the impacts of the reservoir, governance roles and responsibilities, and to determine the root causes and consequences by indicating how public officials have pressurized local population to displace and oppose the project, as well as how the institutional inconsistency towards justice has lead local population in mistrust. Finally, on the basis of the result the article offers policy implications particularly in land use conflict perspective.

Keywords*: Land use conflicts, Infrastructural Projects, Geopolitics, developing countries, Chotiari reservoir, Pakistan*

1. Introduction

It is commonly assumed that conflicts are disagreements that tend to involve significant levels of emotion and are enmeshed in the identity of the groups and individuals involved. Probably, there is always conflict of interest between the different users of any piece of land (Awakul and Ogunlana, 2002), which may occur at any time or place (Wehrmann, 2008). During twentieth century there have been many changes on land in the world, the cultivated land has decreased, meadows have replaced to grain fields, livestock pressure has much lessened and transhumance has practically disappeared (Garcia-Ruiz and Teodoro, 1993). During the same period the constant pressure of population growth and urbanization (Marshall and Shortle, 2005) underlines the demand of more infrastructural development projects especially in developing countries (Singhal, 2009). Thus it follows a great pressure on agricultural land (Robertson, 2010; Deininger and Castagnini, 2006), especially with the setting of new infrastructures including; reservoir construction for irrigation or power production, improvement of international roads,

development of tourism, or urbanization and construction of hotels, ski sorts or camp grounds (Garcia-Ruiz and Teodoro, 1993). Such use of land for project construction entailed the expropriation of homes, farm businesses and other productive resources in many regions.

In the developing countries, many of economic and social decisions towards infrastructural development projects made by the governments have negative influences on their rural livelihood (Barron, 2004; UNEP, 2004). It is commonly understood that in rural areas most of the indigenous people share common-pool resources (CPR) with lack of social justice and recognized rights (Ostrom, 1990), which is may be due to such people possess lower literacy level, less built-up, fewer infrastructures, lower human population density and unawareness than urban areas. Lot of changes takes place when a major infrastructural project like a dam is constructed; such land use changes often generate conflicts. Recently, the issue of land use conflicts (Darly and Torre, 2011; Mann and Jeanneaux, 2009; Deininger and Castagnini, 2006; Campbell et al., 2000; Owen et al., 2000; Burton, 1993) has occupied a central position in economic, geographic, social and political research, where confrontations over the construction of big reservoirs/dams have grown into intense policy debates in numerous countries around the world (UNEP, 2004). Currently, in the developing countries most of the projects are facing oppositions, where it is may be due to partial advice with local actors or violation of their rights towards land acquisitions and compensation and poor geopolitics. For this research the case of Chotiari water reservoir project from Pakistan has been selected, which is one of the large infrastructural projects facing opposition in the country. The characteristics of Chotiari water reservoir make this area interesting particularly for the study of land use conflict phenomena. For example, since construction period the opposition drawn by displaced families to stop the construction and to assist or compensate people before displacement.

This research approach is essentially empirical in objective to define land use conflicts created by the infrastructural projects; specifically to assess the impacts of Chotiari water reservoir on the social, economic and environmental values, and livelihoods of local population as well as to discuss the conflicts of land use and governance failure. Specifically it is hypothesized that without inputs and involvement of regional population for the construction of a development project leads disagreements and conflicts, where the limited degree of counseling (Awakul and Ogunlana, 2002) to local people increase in conflicts (might higher that one would expect otherwise). Moreover, as the pressure increases on the land for comparatively new infrastructural projects (Singhal (2009) that may increase land use conflicts exponentially.

Therefore, a key contribution of this paper is to provide qualitative estimation that can help to quantify regional development losses incurred due to the conflicts of land use. The article is descriptive in parts but mainly tries to point out the important factors in each section in accordance to provide foundations of a deeper investigation of a flawed development project example from a developing country, which has not only forced rural people to migrate (Magsi, 2012), but also failed considerably to protect biodiversity and the environment (Magsi and Torre, 2012; WWF, 2008; Iqbal, 2004; Nauman, 2003). Therefore, the paper is structured as follows. In first the article emphases on the illustration and definition of land use conflicts in the developing world with main features and examples from available literature, where it also puts stress on the description of case study and local population. The next section gives insight to the research design for data collection and analytical techniques used. Third section describes the main findings regarding the involvement of stakeholders, causes and consequences of the project, and

discusses on the opposition by local population and governance failures. Final section concludes and suggests the policy implications for future land use of such projects in the developing countries.

2. Land use conflicts and developing world

Following subsections describes that what are land use conflicts and what are their descriptive features in the light of available literature as well as to give a general definition.

2.1 Main features and definition

There have been great improvements through economic development projects worldwide over past few years, but it cannot be ignored that such projects sometimes cause tensions and conflicts over land use in their surroundings, where the conflicts not only hampers the socio-economic benefits but also affects local people's livelihood. In the developing world large number of flawed development projects have displaced local inhabitants and contributed in livelihood loss and conflicts of land use (Magsi, 2012; Tilt et al., 2009; Lama, 2008; Awakul and Ogunlana, 2002; UNEP, 2004). That is why, when people see any initiation of large construction project, they are often frustrated and angry about partial advice and information regarding the project (Awakul and Ogunlana, 2002), where this disappointment often leads to project opposition and conflicts. Most of the conflicts arise from competition for different uses of land, i.e. utilization of lands for reservoir construction (Magsi, 2012), industrialization, airport and highways constructions etc (Pham, 2010). Such land loss has long term implications for the economic, social and food security of local communities, who once deprived of often their only source of livelihood.

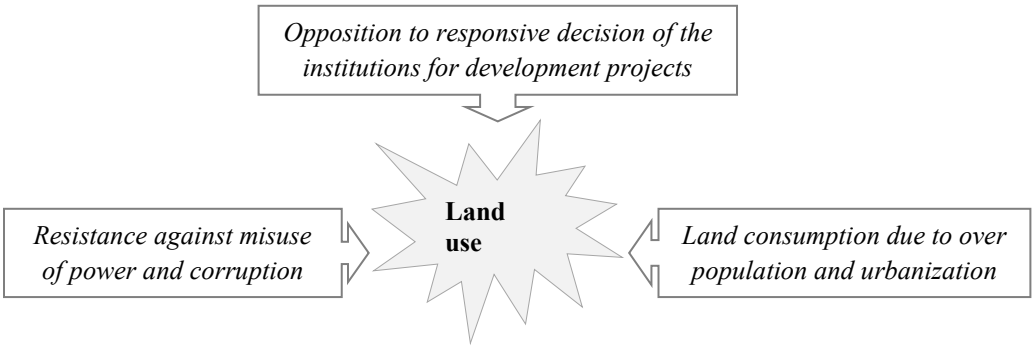
According to Indian Social Institute (ISI) the development has induced about 21.3 million persons, including; displaced by dam (16.4 million), mines (2.55), industrial development (1.25 million) and wild life sanctuaries and national parks (0.6 million) (Lama, 2008). In facts, China is well known for its efficient infrastructural and urbanization projects, where sometimes violent conflicts have also been reported, which is may be due to the wrong negotiations over land acquisitions or compensation disagreements (Rooij, 2007). According to Robertson (2010) the expropriation of land in China is a polemic social issue, where so many houses have been demolished forcibly by using modern tactics like switching off the power or water to whole blocks of houses and sending thugs to harass and intimidate residents to vacate their properties, which resulted violent conflicts.

Beside the infrastructural projects, urbanization is also seemed a source of land use conflicts, in the developing countries (Marshall and Shortle, 2005). In the rural-urban fringes home constructions are spring up rapidly, which is the great pressure on agricultural land (Darly and Torre, 2011). Thus in urban sprawl the land owners are encouraged to sell their lands for higher price, due to pressure on land for construction of infrastructures related to urbanization and housings. Arguably, urban fringes need infrastructural projects to fulfill the increasing demands. For example: increasing population will increase demands of housing, public utilities, roads, parks, schools, hospitals, sports arenas, airports, railway stations, crematoriums and cemeteries, offices and retail spaces manufactured products and other infrastructural projects (Singhal, 2009). Thus conflicts may increase exponentially as the pressure increases on the land.

Land use conflicts may be defined as competitive demands for present to future uses of the land, causing negative impact on other land uses. Land use conflicts are social disputes (Deininger and Castagnini, 2006) that raise with the involvement of the institutions, industries, development movements, developers, nongovernmental organizations, civil service and regulatory agencies, and often launched by the actions of a central actor introducing development projects. In most of the cases, land-use conflicts are linked with the setting of infrastructures initiated by public or semi-public authorities.

In the developing countries, land use conflicts explode sharply over issues linked to social inequalities. For example, such conflicts sparked by the takeover of land for public projects (mining, highways, airports, industries, hydraulic projects, etc.), in which land owners forcibly dispossessed from their resources (Ostrom and Nagendra, 2006). Conflicts over land use always vary in terms of their legal, political and institutional framework, economic constraints and pressures, social structure, stakeholder's interest, environmental situation, history behind the conflict (Jones et al., 2005) and for their geographical location. In general, I may define that land use conflict is the result of the competition towards actual to future use of the land, which will have a higher probability of confrontation. Thus I summarize the main peculiarities which define conflicts of land use (see figure 1).

Figure 1: Documenting land use conflict definition observed by daily regional press



The above figure indicates that land use conflicts are disagreements resulted from the policy responsiveness of the institutional behaviors, i.e., government and judiciary for their decision towards development projects. Thus, the nondemocratic decision for an infrastructural project which is going to affect directly to land owner's survival will create tensions and ultimately lead to conflict of land use. Consequently, such conflicts are emerging from situations in which the localities attempt to ignore or challenge those decisions as an overstrained power.

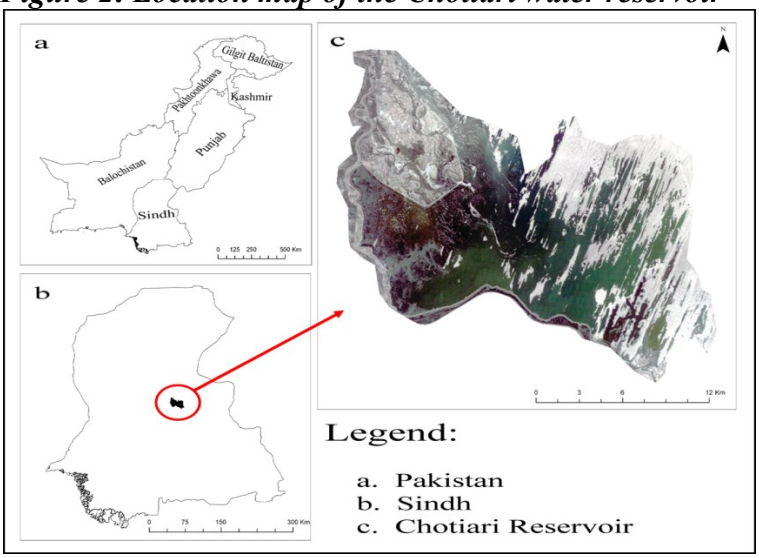
2.2 Case study description: Chotiari water reservoir and local population

If one has to pick a single example of a development project, which has created conflicts of land use conflict, then the Chotiari water reservoir along the Indus basin in Pakistan is sufficient to study the phenomenon (see figure 2). Chotiari water reservoir project is designed to increase the storage capacity of existing lakes in the Chotiari wetland[i] area, which is inflated over 18,000 hectares. Primarily, it was designed to store Indus flood water during the flood seasons

from June to September and to release the water during winter season from December to March as well as during early summer from April to June. Its main goal was to irrigate about 0.12 million hectares in the country. The capacity of the reservoir is increased to store 0.75 million acre-feet (MAF) of water, which will flood an area of approximately 160 square kilometers (Government of Pakistan, 1993).The construction cost of the reservoir is likely to escalate to over approximately US $ 105 million, compared to the previous estimate of approximately US $ 26.3 million that was made when the project was expected to be complete in 1997 (UNEP, 2004), where financial assistance of this project has mainly born by World Bank and Saudi Funds for Development (Abro, 2001).

The reservoir area was characterized by mosaic of diverse habitats of riverine forest, fresh and brackish water lakes, agricultural lands, rangelands, sand dunes, reed beds and swamps. The region has high ecological significances as it is home to many internationally migrated and endangered species (Raza, 2009). Besides that there are various surveys by different organizations and researchers reported that Chotiari could be the largest reserve of crocodiles (Husnain et al., 2010; WWF, 2008 & 2007), and touristic resort in the country (Laghari, 2001).

Figure 2: Location map of the Chotiari water reservoir



Historically, people have been settled in Chotiari reservoir area since generations in a mixed society belonging to various communities. Thus local people were scattered over the villages inside the reservoir area and adjoining sand dunes, where they were the mixture of fishermen, agriculturists, livestock herders, mechanics, plumbers, carpenters, wood-cutters, government servants, poultry farmers, etc. (WWF, 2008; Government of Pakistan, 1998). Mostly, the landless people were dependent upon fishing and livestock farming for their survival (IUCN, 2004). Even though those people possessed low literacy, and were socially inefficient, but their economic situations were not worst, the average per month income of each family was computed as about $80 (WWF, 2008). Fortunately, the amount is not as big as to pass a luxurious life, but was sufficient for a family lived in such area region.

3. Methods: data collection

In order to accomplish the objectives of this empirical research (which is based on the land use conflict incidences on a development related infrastructural project) the data has been collected through various sources. Primarily, the structured interviews have been conducted from selected experts of diverse backgrounds[ii]. These interviews were conducted with semi-planned questionnaires, where some questions were omitted in order to be asked according to the expert's position, situation and/or experiences, because not all the experts belonged to the same professional backgrounds. These interviews have been conducted in order to collect data on main variables, i.e., pre-conflict situation of the area and position of the actors, behavioral approaches of the institutions towards land acquisition and compensation process and the reservoir consequences.

In order to extract true picture of the tension and conflict, with their causes and consequences, the secondary information was gathered through daily press[iii]. Although, this data collection technique is not very commonly applied but in land use conflict analysis it is imperative source to understand the public voice on pre-, during-, and post-conflict situations (Torre et al., 2010; Awakul and Ogunlana, 2002). Due to lack of digital libraries or online access to regional dailies, therefore, the offices of selected regional news press have been personally visited, where the papers were also collected from the offices of local community based organizations (CBOs). The articles / news published in the national dailies were collected by downloading directly from their sites. During analyses important care has been taken to avoid unreliable information, where the review for deep analysis of the conflicts and tensions over the use of Chotiari land was also conducted. Moreover, additional secondary data have been collected by analyzing published material by various public and private organizations.

4. Results and discussion

This section gives the discussions on the main findings regarding the involvement of the stakeholders in the decision to superposition as well as the impacts or consequences (positive or negative) of the project. It also illustrates the governance system and its weaknesses during project implementation to relocation and compensation schemes.

4.1 Stakeholders involved: stakes, behavior and relations

The actors that were actively involved in the study area have been identified and classified according to their nature of the entity (see table 1). The Public Administration is represented at multilevel (national, provincial, regional and local), often with different political positions and conflicts of interest. Specifically, the competences fall on the department of water and power development authority (WAPDA) and Sindh irrigation and drainage authority (SIDA), while the other stakeholders were in alliance to them in objective to construct the reservoir. Thus all this makes the management of this project more complicated and controversial.

Table 1: Actors presented in the study area

Types of stakeholders		**Actors**
Public Administration	National	Water & Power Development Authority (WAPDA) Planning commission of Pakistan Pakistan Environmental Protection Agency Ministry of Irrigation
	Provincial	Sindh Irrigation and Drainage Authority (SIDA) Sindh Forest Department Sindh Environmental Protection Agency Sindh Wildlife Management Board
	Regional	City government World Wildlife Fund (WWF)
	Local	Local government Chotiari Resettlement Agency (CRA)
Principle Actors (Local population)		Fishermen Agriculturists Livestock herders Others (mechanics, plumbers, carpenters, wood-cutters, government servants, poultry farmers)
Market related Lobbies		Local Agro-based Industries (fish, vegetable, cotton & milk)
Powerful Lobbies (interested for land grabbing)		Local politicians (Locally elected personalities) Local land lords (Feudal)

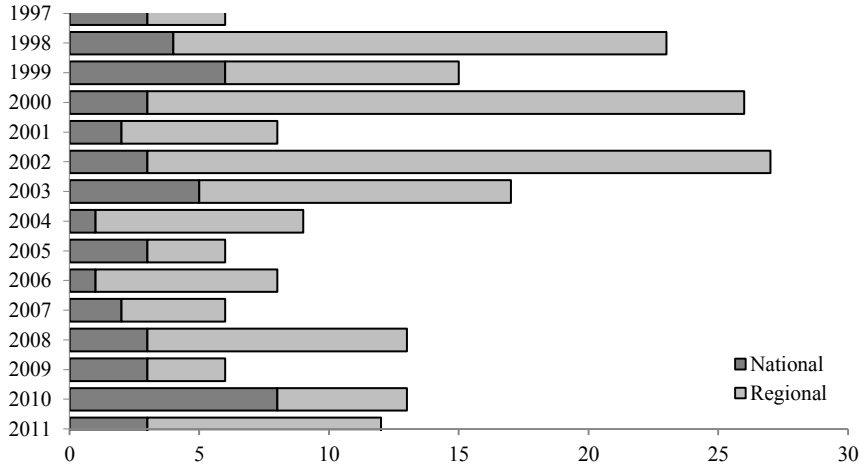
Based on the daily press, expert opinions and interviews of affected households in the study area, I have analyzed that the pattern of thought is different between stakeholders to stakeholders. As results, their relations were not always positive and stable, where maybe it was due to local people (principle actors) were either lived as isolated (35 kilometers away from nearest city) or scattered on the Chotiari area, thus they may neither had sufficient information on the construction of the reservoir nor they had been counseled before initiation of the reservoir. The decision of reservoir has opposition by principle actors with their aliened actors, while the public authorities with the support of local politicians and other aliened actors have supported the decision. Moreover, the experts have suggested that the public authorities and politicians had created highly bureaucratic and politicized environment, comprised on federal to provincial ministries and local land lords, with a single object to construct the reservoir at any cost.

On the other hand, the principle actors (fisher men, agriculturists, livestock herders, laborer, and other public and private servants) were found always in opposition of the reservoir construction, displacement and compensation issues. Where, the NGOs, journalists and other voluntary organizations aimed to struggle for a coherent action (in alliance with local population) against the construction of the reservoir. Through daily press analysis it came to know that local population have demonstrated the socio-economic and environmental impacts of the project in various ways, i.e., through protests, agitations, press conferences as well as writing letters to public authorities by using print as well as electronic media.

4.2 Controversies and oppositions: causes and consequences

The results from the case study provide the phenomenon of the controversies during construction period has encouraged local journalists to demonstrate this issue as well as opened ground for many researchers to play a role in the resolution of conflicts over Chotiari water reservoir (see figure 3). In fact, more than eighty percent articles (of total published news or articles on this issue) reflected that there has been significant wrong doings associated with the land acquisitions, compensation and resettlement plans. Those news or articles were selected from daily press through a pre-defined criterion[iv], where the articles have been categorizes and analyzed as (i) origin of the situation or conflict, (ii) mode of actions and (iii) consequences (economic, social or environmental) of the project.

Figure 3: Number of articles published in the press about the Chotiari case



Source: Author's calculation based on daily press (1997-2011)

The daily press indicates various evocative thematic titles: "respect our traditional activities", "save our natural resources", "to stop displacing local people", "to stop dam construction", etc. This reflects the fact that activities of local population were highly depending on this area. Analyses of these titles show the strong link between natural and traditional activities. This reflection of our case study helps to explain the process of conflict in the region. Beside this there are also suggestions for other economic activities then reservoir construction: "to promote tourism", "to protect wetlands as a national park", "to protect natural life", etc, which could combine all natural economic system and could create employment opportunities to the local communities with a positive image. Thus, the area could serve as a profitable asset towards regional development.

The tensions created among local population when public officials pressurized for displacement without any proper relocation relief. According to the experts, the families lived in the area for many generations had forced to vacate their lands. Moreover, the experts as well as daily press emphasized that there were involvement of local politicians and land lords, because they had their hidden interests, may be of fishing contracts after the reservoir construction or may be of dispossessing local population from their ownership rights for favoritism, etc.

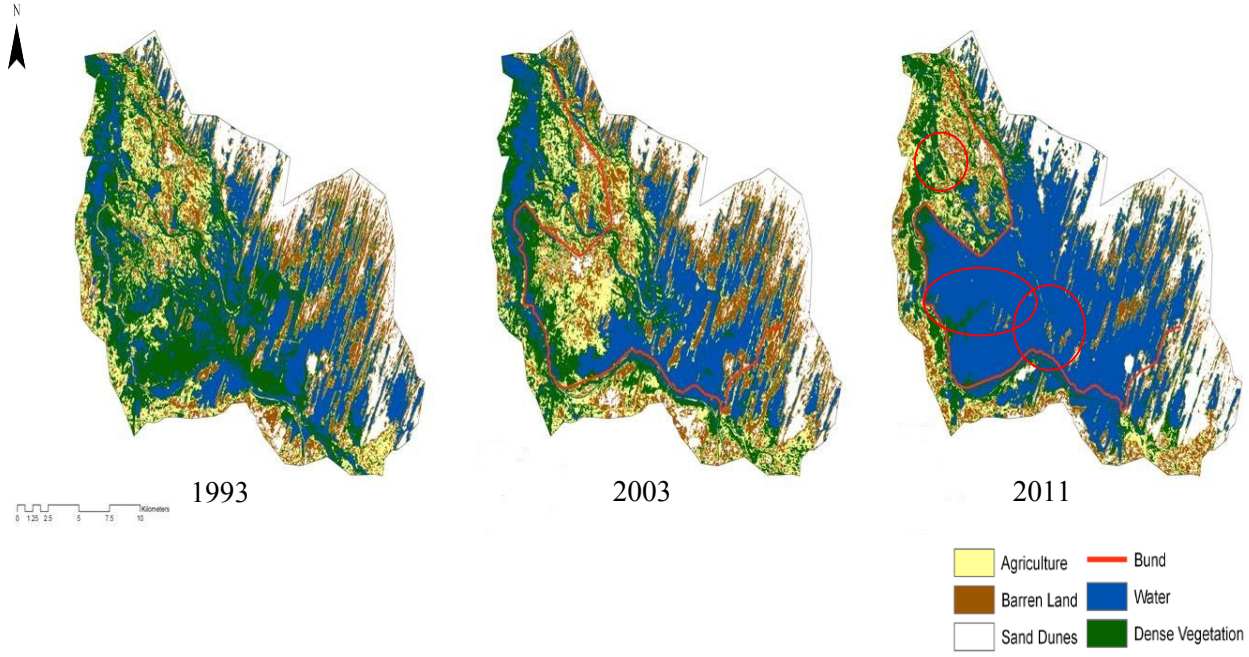
The reservoir has not only displaced local population but also occupied their livelihood (Magsi, 2012). These affectees either in groups or individually have repeatedly pointed out during the visit of monitoring teams that the public authorities have not been provided the reports and documents related to the project, they also complained that despite of their continuous efforts (protests and agitations) they could not get hold of official list and details of the affectees, which are entitled to receive land and house compensations or the list of those who already received the compensation. Lack of transparency and accountability has increased corruption at the local level and suppressed the dissenting voices of poor people. This was the ground where massive miss appropriation took place.

The multi-dimensional catastrophe of the Chotiari reservoir cannot be understood with a single factor. Therefore, it is important to visualize and quantify the structural and proximate factor dynamics with their anticipation, which have not only escalated conflicts of land use but also unrest among local population. Since major part of the Chotiari wetlands area (before the reservoir) was owned by local population (Nauman et al., 2001), where they had to enjoy the complete rights of their land ownership, but most of the owners were poor, illiterate and socially inefficient, with little awareness of land-use rights (Khan, 2006). In this situation, some outside stakeholders took the advantage of these loopholes and created fake ownership documentations for compensations and other benefits during the reservoir construction period (Nauman, 2003). Additionally, the corruption of public servants is an undeniable fact in the country (Khan, 2006), while in the case of Chotiari reservoir government has itself admitted the cases of corruptions and misuses of the funds (Iqbal, 2004). The country is practicing construction of development projects since five decades (UNEP, 2004), but there is no existence of national resettlement policy (NRP). *"Despite of resettlement and compensation conflicts in the country, the legislators do not think for need of a proper resettlement policy"* (one of the displaced family head). Normally, the institutions are responsible to develop a social interface among society and to promote the reforms and historical changes overtime, which are invisible, but can be measured through the policies (Ostrom, 1990). In Pakistan, most of the land owners have confrontations with existing institutions due to their mismanagement and ignorant behavior and unhelpful governance structure (Khan, 2006), and bureaucratic behavior (Nauman, 2003), where land registration system is very old and complex with a long hierarchy (Ali and Nasir, 2001).

Although, in Pakistan the property rights are constitutionally documented that authorize the owners to take decision with regard to its use. Constitutionally the compensation should be made for the land which is intended to be used for public projects, according to currently prevailed market values for both land and the damages (Khan, 2006). Contrary, in the case of Chotiari project (highlighted by experts and daily press) that no proper survey has been conducted for land and damage valuation (neither for the entitled lands nor for the CPR), where this land resource was used as source of livelihoods to local inhabitants since generations. The experts have opined that in the case of Chotiari reservoir project courts have totally ignored the situations of opposition, expropriation and corruption. They further argue that this ignorance of their rights was due to the involvement of the land lords, politicians and public officials (Nauman, 2003), because the person in position of power is motivated largely by their own selfish interests to use society's resources by misused power (Eitzen and Zinn, 1990; Bredariol and Magrini, 2003). That is why local population have adopted antagonistic pathways rather to accept the decision, which results that local actors were not counseled during planning and implementation of the project.

The project has not only created significant socio-economic impacts, but has also resulted long-term environmental damages (Magsi and Torre, 2012; Nauman et al., 2001). Habitats of unique fauna and flora suffered from substantial losses and became fragmented. Water storage in the reservoir has submerged and destroyed the riverine forest, where similar impact has been observed on rangelands that resulted in the loss of biodiversity and fodder for herders. Due to low quality earth-work on embankments the rise in water has became a source of seepage and water-logging, which is contributing to the destruction of adjacent agricultural lands (see figure 4).

Figure 4: Increasing water and exacerbation of agricultural land and other natural resources

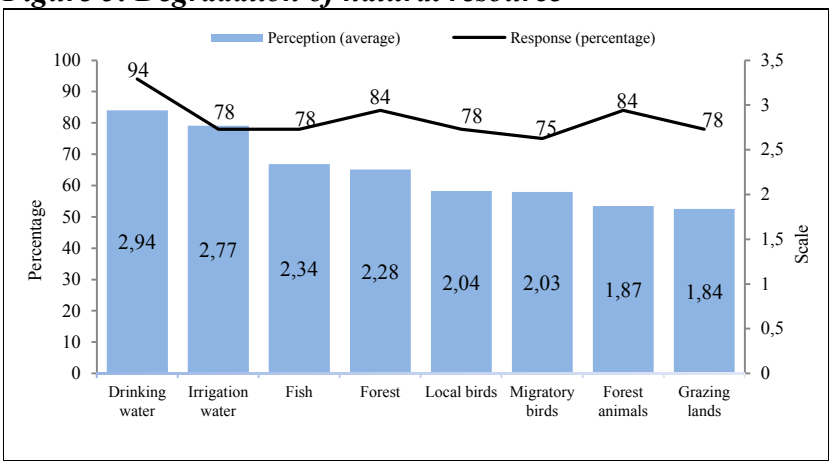


Source: Landsat, April 2011

Like rest of the world, environmental impact assessment (EIA) of the infrastructural projects in Pakistan is mandatory, but it has not been seemed to be effectively implemented to protect socio-economic and environmental foundation of the corresponding communities, i.e., the natural resources of the project territory (Aslam, 2006). Considering the natural resource losses (rangelands destruction, fish depletion, deforestation and biodiversity loss) one can envisage that the economic losses for this development are much higher than its benefits.

To observe the response rate on the degradation of various natural resources (percentage of respondents) and their average (mean) perceptions, a research statement or hypothesis has been asked to the experts as well as the local populations during field survey that "*are natural resources sharply degraded during last five years as commencement of the reservoir construction*?" In order to analyze the responses in a psychometric scales I have used Likert type scale[v], i.e., the symbol 1 for strongly agree; 2 for agree; 3 for undecided; 4 for disagree and 5 for strongly disagree (see figure 5).

Figure 5: Degradation of natural resource

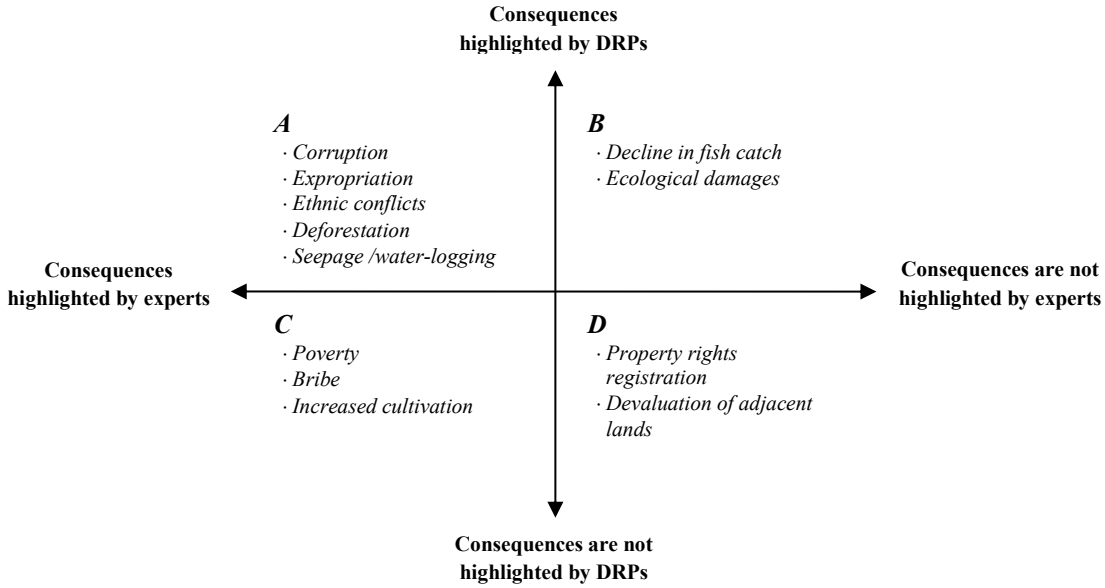


Source: Author's calculation from expert opinion survey

Above figure indicates that majority of the respondents from Chotiari reservoir area were undecided about the decline in the quality and quantity of drinking and irrigation water. On the other hands the questions concerning about the depletion of other natural resources, the respondents expressed their views as they were agreed, about the decline in fish catch and depletion *Makhi* forest and the forest life, local as well as migratory birds and grazing lands. Above estimates expose that local population around the reservoir have much concern about natural environment, which are being depleting due to the reservoir. The experts doubt about the surrounding areas of the reservoir, in which caring capacity of wildlife safety is being destroyed due to rise in water.

Here, it is to disclose the consequences (either positive or negative) of the project highlighted by the daily press as well as by experts in the study area (see figure 6, category *A, B* and *C,* while consequences categorized as *D* are based on personal observations and discussions with non-local people about the case study).

Figure 6: Consequences: by daily press, experts and personal observation



Source: Author's extraction based on expert opinions, daily press (1997-2011) and personal observations during field survey.

4.3 Birth of community based organizations (CBOs)

No doubt that conflicts also having positive impacts (Baron, 1991), for example they may bring out into open the important problems, encourage for consideration of new approaches or increase the performance of conflict actors, etc. The pressure of state and donor agencies for reservoir establishment and media coverage has stimulated local population to unite and protest, where their actions conducted within local to national management structure. Thus, local communities, NGOs, journalists and other voluntary organizations aimed to struggle for a coherent action against construction of the reservoir. Where, their alliance was not only based on the reservoir opposition but to promote the Chotiari wetlands as a national park and tourist resorts (Laghari, 2001). Thus the opposition on the project between local population and other stakeholders has increased with the passage of time, when they have started noticing for corruption in compensation and construction funds, adverse impacts of relocation site, environmental issues such as water logging and environmental and ecological degradations. This all have encouraged these communities (according to economic activities and social issues) to united under specific objectives and to form community based organizations (CBOs) (Abro, 2001). In this regard, very first CBO formed just before the compensation process began in 1995. This organization named *Anjuman Mutasreen Chotiari* (union of Chotiari affectees), which predominantly represents small land owners and tenants. The CBO has exposed the corruption in the compensation process and prepared a list of the fake land owners; beside that it has been consistently confronted with Chotiari resettlement agency (CRA) and the government officials on the compensation issues.

Another active CBO is *Makhi Welfare Organization*, which has broad base among various segments of affectees, especially the herdsmen and the fishermen; it is working on various issues

ranging from education to resettlement, and environment. *Chotiari Development Organization* is interested taking up the issues of resettlement and the environment after construction. On the other hand, *Rural Women Development Organization* (RWDO) is organizing seminars on women related education and health issues as well as confrontation with government for their rights, because more than half of affectees are female (Nauman et al., 2001). The *Charagah Bachayo Tahreek* (movement for pasture protection) is a recently formed organization, which have raised the voices against declining natural meadows and the environmental beauty in the region, because of the reservoir.

4.4 Governance: Roles and Responsibilities

Since commencement of the project not only significant wrongdoings associated with the land acquisition, compensation and resettlement, even the resettlement plan has revised many times but it was not disseminated publicly (Iqbal, 2004). Although, relocation site has also been announced in *Patipota* (region) for displaced families, which is located about 80 kilometers north of the reservoir. Initially some development works were carried out on relocation site, in order to give patient hearing to the grievances of the affectees. Finally it was declared that the site is not feasible, and the compensation scheme needs revision (Nauman et al., 2001). Many times, it was defended by the authorities that social objectives of the project is to provide improved livelihoods and community life in a planned way to the dispossessed families (Iqbal, 2004; Mangrio, 2005). In principle, the transparency regarding the policies, programs, objectives and wide dissemination of accurate information and facts to the public is crucial to project success and conflict prevention. Contrary, the reports, documents and information related to Chotiari reservoir project were in possession of various agencies, i.e., the Chotiari resettlement agency (CRA), environmental management committee (EMC), Saudi funds for development (SFD), Sindh irrigation and drainage authority (SIDA), water and power development authority (WAPDA) and the World Bank. Mission teams used to visit Chotiari during implementation of the project, but have never shared the facts and figures about the project with affectees, CBOs or with NGOs.

According to the experts the compensation has been paid to 260 out of 993 families, who either belonged or supported by local landlords and politicians. Thus, the powerful lobby has managed to drain over Rs 76 million (approximately one million US dollars) to fake owners, which is about 80 percent of total disbursement (Nauman, 2003). Many families went through the courts for justice, because either they refused the lower compensations amount or they were not declared as affectees. Initially, respective courts have preceded this corruption and compensation related cases, but after inauguration of the reservoir in 2003, almost all the cases have been discarded without any decision. Therefore, the government is seen as being unable to address scandalous inadequacy in project implementation, because of the involvement of high profile officials, bureaucrats and land lords (Mangrio, 2005).

After the realizing poor governance regarding the project and the inhabitants, government has formulated an environmental management and monitoring plan (EMMP) in 1998. This monitoring plan was intended to carry out an effective decision that how to resolve the emerging confrontations. The EMMP has strongly recommended that (i) to fulfill the obligations of Land Acquisition Act, (ii) immediate payment of the compensation amount to the affectees, (iii) implementations of EIA recommendations, (iv) creation of another resettlement plan for

affectees, and (v) modification in the storage process of flood water, particularly in monsoon season.

Again, no action on the above recommendations has been carried out, like most of the other projects initiated in the country in the past. In reality, it is fair to point out that the failure of governance came to exist, because there was no provision of public participation in the implementation, resettlement and compensation plans or no democratic control over the planning and executing agencies of the project. While the strong and good governance can not only contribute in land use conflict prevention, but also is a source of sustainable economic development of the state (Torre and Traversac, 2011; Ostrom and Nagendra, 2006).

5. Conclusion and recommandations

This article explores main features of existing land use conflicts in the developing countries, with particular reference to the case of Chotiari water reservoir from Pakistan. Whereas, the land use conflict may be defined as an incompatible relationship between actors, their behaviors, attitudes, perceptions, and will/expectations for competitive land-uses. In this article beside the behaviors, stakes and the relations between the stakeholders have been analyzed in order to go through the ground realities of the project decision, with causes and consequences. The performance of public officials and administrative actors, in association with local landlords gave birth to the processes of tensions and conflicts, where those actors seemed in favor of reservoir construction at any cost. Contrary, the local population has started a long journey of confrontation with public officials and local landlords to discontinue the project.

The results imply that imposed decision (from public authorities) and involvement of powerful personalities (local politicians and landlords) in the initiation of this development related project created conflicts, which is because of the local population are not being counseled before commencement of the project. It is also observed that the project seemed the risk to economic activities in the area, because it does not correspond to the desired management policies in a sustainable manner, where it also exhibited a greater degree of poor governance and institutional inconsistencies together with human and property rights violations as well as ecological destruction. Therefore, it needs strong geopolitics and institutional capacity to take action against the violators, in this regard the academia and NGOs may be approached (by public authorities) to involve them in review process of the case study, where a follow-up procedure should strictly be adopted.

Decisions towards development projects like Chotiari reservoir in the developing countries must be made in the light of causes and consequences of prevailing conflicts of land use, which will help in best stage selection for resolution and management of the conflicts, where to make sure that the decision has not taken on interest of a single stakeholder, which is going to affect (directly or indirectly) the other actors. Therefore, the knowledge dissemination about the project before its commencement through local democratic system may be one of the best solutions to avoid such conflicts at an early stage, where it should be always the responsibility of administrative, political and economic actors of the country that to manage state's affairs, in which actors can easily exercise their rights and can mediate their tensions before transforming into conflicts. The legal initiations (implementation and promotion of property rights awareness among land users) should be continued by federal government of Pakistan to develop a system

that may stimulate change and to insure security to local inhabitants in the country. Moreover, before planning towards a development project, a redress system related to land-acquisition, compensation and resettlement should clearly be established, which should ensure that affected may regain their former living standards and prestige. Therefore, government should take to pay the economic and social debts to affected families and to avoid the reproduction of catastrophes in the future.

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Notes

[i] The wetlands are defined as permanent or occasionally inundated areas, with static or flowing of fresh, brackish, or salt water. Characteristically, wetlands possess the properties that (i) the land should support animals or plants, which are adapted to and dependent on living in wet conditions, and (ii) the predominant substratum of un-drained soils, which are saturated, or flooded long enough to develop anaerobic conditions in the upper layers.

[ii] Expert opinion survey has been conducted in 2010, where 32 experts have been selected from (a) administrators of water and irrigation sector, (b) researchers and legal experts, (d) private organizations (NGOs and journalists), and (d) from affectees (family heads and landlords).

[iii] I have selected 10 most reliable regional dailies out of 21, which publish in local language, and 6 most accessible national dallies out of 30, since 1997-2011.

[iv] The selection procedure of articles was unmanageable due to different languages (Sindhi, Urdu and English), in this regard the news/articles have been searched by specific keywords. Where the selected keywords followed by the word "Chotiari" are as: affectees, agriculture, benefits, conflicts, costs, dam, development, displacement, ecology, economy, environment, fishing, press-conference, project, protest, rehabilitation, reservoir, and wetlands. Moreover, we have entered only a single selected entry for each date, when same information has published by all the news papers on the same date.

[v] A commonly used approach to measure responses in psychometric scales during survey research in the form of research questionnaires (Likert, 1932).