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Land use conflicts and human development nexus: proximity analysis

Habibullah Magsi [1] and **André Torre**[2]

Abstract

In order to demonstrate the role of Proximity in human and regional development; we use qualitative data of land use conflicts from a development related infrastructural project of Chotiari water reservoir in Pakistan. Our results mainly put accent over the involvement of stakeholders in the project, decision and the opposition to the wills of local population, leading to tensions and conflicts due to superposition of land use expectations on the project zone. Through this research we show main groups of actors, their links, and behaviours at multilevel governance, as well as causes and consequences of the project. We argue that how local population has united against their violated rights and started struggling to protect their social and natural resources, where these movements give value to Geographical Proximity in itself. The last part of the paper is devoted to an attempt to use proximities as a tool to understand the rationale of human development.

[1] **Habibullah Magsi** (*Aydalot Laureate 2014)* is serving as an Assistant Professor of Agricultural Economics at Sindh Agriculture University Tandojam, Pakistan. His research work is focusing on resolution and prevention of land use conflicts, generated by infrastructural development projects in the developing countries, where he has broaden the methodological skills on the territorial development and introduced with other social sciences like: sociology, geography and anthropology. His research contributes in the contemporary social and territorial development with geopolitics and governance system. Magsi is author of a book and many research articles in the field of development economics over developing countries, presently he is a member of several national and international professional associations. E-mail: hmagsi@sau.edu.pk

[2] **Andre Torre** is currently research director at the INRA (National Institute for Agronomic Research) France, his research was for a long time at the cross roads of spatial and industrial economics. It has in recent years become more multi-disciplinary and focused increasingly on questions related to land use planning and sustainable development processes. Torre has published many articles and few books, mostly on issues related to space and coordination between people or groups of people. His research currently focuses on the analysis of proximity relations and on their importance in processes of coordination between people. His involvement in research administration has led him to take on the roles of Chairman of the ASRDLF (French Regional Science Association), of Director of the PSDR (For and About Regional development) research programs and founder of *French School of Proximity.*
Email: torre@agroparistech.fr

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INTRODUCTION

The 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). In the developing countries, the constant pressure of population growth and urbanization (Marshall and Shortle 2005) underlines the demand of more infrastructural development projects (Deininger and Castagnini 2006; Singhal 2009; Robertson 2010). 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; Scudder 2005). Such use of land for project construction may have impacts on human development.

In the developing world, 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 is constructed; such land use changes often generate conflicts (Burton 1993; Owen et al. 2000; Campbell et al. 2000; Mann and Jeanneaux 2009; Magsi and Torre 2012).

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 and human development. Specifically it is hypothesized that land use conflicts of grand project may have impacts (positive/negative) on human development. This research supposed to breach the gap between principle actors and the outside stakeholders in order to resolve existing conflicts over land use and to reduce its chances to take place in upcoming projects. This work provides answers to the following questions; how land use conflicts create proximity relations, in order to reclaim their violated rights, and how all those efforts contribute in human development? The rest of the article is divided into following sections. First, it discloses the context of the study area, data collection and analytical methods used. The next section gives emphasis upon the main findings, including stakeholder involved. This part also put stress on the main causes and consequences of the project. The final section is devoted to the discussions on the dynamics of Proximity analyses of land use conflicts and human development: we study the role played by both proximities, then we end with the conclusion.

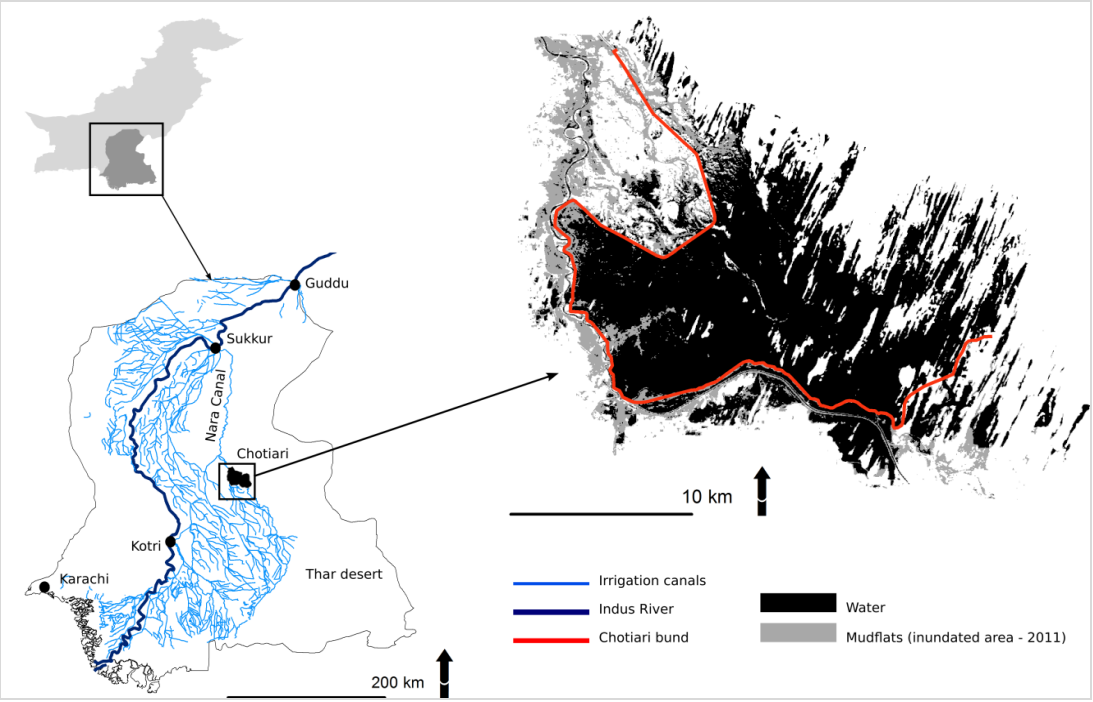
1. DESCRIPTION

1.1. Case study

The project of Chotiari water reservoir (see figure 1) has been designed and implemented to increase the storage capacity of existing lakes of Chotiari wetlands and to irrigate more arable land in the country. The project was initiated in 1994 by water and power development authority (WAPDA) and was funded by donor agencies through World Bank. The project is

inflated over entitled and un-entitled lands of eighteen thousand hectares (Government of Pakistan 1993).

Figure 1: Location of the Chotiari water reservoir



This project has created opposition between the principal actors (fishermen, agriculturists, livestock-herders and others), the stakeholders from public administration, (from national and provincial ministries), local politicians and land lords (Nauman 2003; Magsi 2012). The public administrative authorities with highly bureaucratic approaches and mismanagement of construction to compensation funds, the local politicians with misuse of their position and power against forcible displacement, where the local landlords with power competition to local population, all this made the task of bringing-off this project more complicated and controversial. Moreover the opposition grew when local populations were dispossessed from their livelihoods and ancestral belongings without a proper compensation. Despite of all these issues, public authorities have completed and inaugurated the reservoir on February 2003, with five years delay of its expected commencement (Iqbal 2004).

1.2. Analytical methods

To deal with the issues and to explore ex post impacts of the land use conflict incidences and local population's activities, the data were collected through various sources. The primary data were collected from the experts of various professional backgrounds, with the help of a detailed questionnaire. In order to extract true picture of the tension and conflict situations with their causes and consequences, with respect to human development, the information was gathered through national and international dailies. Although, this data collection technique is rarely applied (Torre et al. 2010; Awakul and Ogunlana 2002), but in land use conflict analysis it is an imperative source to understand public voices on pre-, during- and post-conflict situation. In fact, information on conflicts of land use is very sensitive, thus during analysis of daily press, an important care has been taken to avoid unreliable information. Therefore, in order to compare the originality and reliability of the facts (Mc-Carthy et al.

1996) we have also collected information through published material from various public and private, national and international organizations.

2. RESULTS

2.1. Stakeholders involved: stakes, behaviour and relations

The stakeholder, who were actively involved in the study area are identified and classified according to their nature of entity (see table 1). The actors from Public Administration 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)

As results, the relations of local population (principle actors) were not always positive and stable, where maybe it was due to local people were either lived as isolated (35 kilometres 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 counselled 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 hands, the principle actors 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.

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 favouritism, etc. Although, relocation site has also been announced in *Patipota* (region) for displaced families, which is located about 80 kilometres 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).

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 (Magsi 2012), 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. 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). 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 behaviour and unhelpful governance structure (Khan 2006), and bureaucratic behaviour, 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

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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 also ignored the situations of opposition, expropriation and corruption. That is why local population have adopted antagonistic pathways rather to accept the decision, which results that local actors were not counselled during planning and implementation of the project.

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).

2.2. 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.

3. DISCUSSIONS: PROXIMITY ANALYSIS

The analysis of Proximity relations (Boschma 2005) proves to be a valuable field of research in various disciplines as well as for different topics such as innovation and environmental relations, or land use conflicts and human development. We will use it here to analyze the relations between different categories of stakeholders in the land use conflict over the Chotiari water reservoir.

3.1. Basic findings

We consider the distinction between two main categories of proximity - Geographical Proximity and Organized Proximity (Torre and Rallet 2005) - in the explanation of the relation sets of stakeholders, boundaries, clusters, etc. These notions of proximity refer, above all, to potentialities given to individuals, groups, human actions in general, in their technical and institutional dimensions. These types of proximity have no moral value and their existence constitutes neither an advantage nor a disadvantage. It is activation through human action that gives this potential its significance and value.

3.1.1. Geographical proximity

Geographical Proximity is above all about distance. In its simplest definition, it is the number of meters or kilometres that separate two entities. But it is relative in three ways:

- In terms of the morphological characteristics of the territory in which activities take place;
- In terms of the availability of transport infrastructure;
- In terms of the financial resources of the individuals who use these transports infrastructures.

Geographical Proximity is neutral in essence. It is the human actions and perceptions that give it a more or less positive or negative dimension, as well as certain usefulness. It is the way in which actors use it that matters. Thus, the fact that two actors are located in proximity of each other may or may not be a source of interaction: these two entities may remain indifferent to each other or they may choose to interact; in this latter case we talk of a mobilization of the potentialities of Geographical Proximity.

Undesirable and desirable geographical proximity

Land-use and neighbourhood conflicts and tensions can be closely related to geographical proximity (Torre and Zuindeau 2009). The approach is based on a fundamental distinction between undesirable or unwelcome geographical proximity and desirable geographical proximity.

Geographical proximity is undesirable when different land-users disagree as to what the land they occupy should be used for, some wanting the land to be used for recreational purposes and others wanting to use it for production purposes for example. Geographical proximity can also be unwelcome when there are disagreements about what category/ies of users should or

should not have access to a given area. It can result in a constraint of proximity due to three types of interference:

- *Superposition*: two or several land-users use or wish to use a piece of land for different purposes;
- *Contiguity*: individuals or groups of individuals located side by side disagree as to where the boundary between their respective properties lies;
- *Neighbourhood*: to situations in which the undesirable effects of certain activities are diffused by air, water or under the effect of gravity over to actors located in proximity.

The other opposite situation discussed in literature is that desirable or sought out geographical proximity. In this case, land-users seek proximity to other social or economic actors, or even to natural or artificial resources or to areas that present (human and spatial) characteristics associated with a low population density. It can be of two types depending on whether one needs permanent or temporary proximity:

Geographical Proximity can be activated or mobilized by the actions of economic and social actors. Depending on their strategies or strategic choices, or according to their perceptions of their environment, the behaviours and attitudes of these actors vary and they mobilize Geographical Proximity differently.

3.1.2. Organized Proximity

Organized Proximity too is a potential that can be activated or mobilized. Organized Proximity refers to the different ways of being close to other actors, regardless of the degree of Geographical Proximity between individuals, the qualifier "organized" referring to the arranged nature of human activities (and not to the fact that one may belong to any organization in particular[3]). Organized Proximity rests on two main logics, which do not necessarily contradict each other, and which we shall call the "logic of belonging" and the "logic of similarity".

The logic of *belonging* refers to the fact that two or several actors belong to the same relationship graph or even to the same social network whether their relation is direct or intermediated. It can depend on the sector they are operating on; in this case they share common creative or innovation capital. It can be measured in terms of degrees of connectivity, reflecting more or less high degrees of Organized Proximity and therefore a more or less great potential of interaction or common action. The development of interaction between two actors will be facilitated by their belonging to the same tennis club, or Internet knowledge network. Similarly, cooperation will, a priori, develop more easily between researchers and engineers who belong to the same firm, the same technological consortium or innovation network. It includes common organizational culture between the members of a team for example.

The logic of *similarity* corresponds to a mental adherence to common categories; it manifests itself in small cognitive distances between some individuals. They can be people who are connected to one another through common projects, or share the same cultural, religious (etc.)

[3] One may be organized or one may organize an activity without necessarily refer to or belong to an organization, in the strict sense of the term.

values or symbols. Social norms, common languages partake of this Organized Proximity. It can also, however, correspond to a bond that sometimes emerges between individuals without them having had to talk in order to get to know one another. It facilitates the interactions between people who did not know one another before but share similar references. Thus, collaboration is all the easier when it involves individuals who share the same culture. Similarly, researchers who belong to the same scientific community will easily cooperate because they share, not only the same language, but also the same system of interpretation of texts, results.

Just like Geographical Proximity, Organized Proximity refers to a potential that is neutral in essence. It is the perceptions and actions of individuals that give it a more or less positive or negative dimension, and therefore certain usefulness. Thus, being connected by logic of belonging is not a guarantee that interactions will occur, and even less a guarantee of the quality of these interactions. For the logic of similarity, a common project has as much chance to lead to a common and shared project as to end up in a failure resulting in heavy losses for the parties involved. Finally, the logics of similarity and of belonging can also facilitate collaborations that might be immoral in their motivations. For example, Mafia organizations often feed on both the logic of similarity (ethnic origins) and on the logic of belonging (strong connection within a network of actors), which can be considered immoral ethically.

3.2. Proximity Dynamics in the case of Chotiari reservoir

Proximity analysis is a valuable tool to qualifying the different dynamics at stakes in the land use conflict and human development nexus. It helps in identifying the main groups of actors, their logics and their links, as well as the basis of their cooperative or opposed behaviours. Moreover, it provides helpful insights and information for the recommendations.

3.2.1. Geographical proximity

In the case of the Chotiari reservoir, we easily find that geographical proximity plays a core role in the conflict processes, in two different ways. First, with regards to the unwanted proximity interactions, it is obvious that geographical proximity between various local stakeholders (local population, landlords, public authorities…) led to conflict relations and misunderstanding. Moreover, we identify here a case of superposition of uses, which led to tensions, and finally to conflicts after the displacement of local population of farmers or fishermen. Clearly, a part of the traditional occupants wished to use the land for productive activities, whereas others stakeholders (landlords, public authorities…) wished it for water storage or other more profitable goals. In this respect, we come back to the general situation when using a piece of land for different purposes proves difficult or even impossible because of incompatible land use expectations.

Second, geographical proximity also played a role in the setting of local networks of opponents. The traditional users of the Chotiari land (farmers, fishermen, herders…), when displaced, use to collaborate in order to protest against this new use and to ask for remediation in courts and in front of public authorities. As we see through consequences of the project that local population has united in various platforms in the form of CBOs, in order to claim their rights. We draw from the interviews and the consultation of local press that the setting and the dynamics of networks of local opponents were based upon their previous location and their common roots to local land and areas.

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3.2.2. Organized proximity

The lack of general organized proximity is one of the main causes of the Chotiari disaster. These events should have never occurred in case of generalized organized proximity relations between local stakeholders, because public authorities or feudal landlords should not be in position to act against the vital interests of local population. They should have been forced to discuss with them and to jointly build local arrangements, not at the expense of local farmers and fishermen.

But intra-groups organized proximity further played a key role in the setting and the structuring of networks. If we see the behaviour of outside stakeholders, it is obvious that most of the networks of opponents transcend the local level. They can even grow up to the national or international level, and there are all based upon organized proximity relations. To be more precise, the logic of similarity is at stake in most of the networks: the opponents belong to the same community of people, they share the same values, or they belong to the same families or ethnic groups. This is particularly true in the situation of local population of displaced families, which can be said that is based on strongly rooted organized proximities. But it is also true for local to regional or national networks, which transcend the geographical logic, like the "administrative" network, involving people from different origins, but all tied by their adherence to common administrative rules and knowhow. The logic of belonging also played an increasing key role during the different stages of the conflict story: people started to act together on the bases of interactive exchanges, and further built their relations on that basis. As time goes by, their links became stronger within different groups of opponents. They learn to work together and cooperative and trust relations increased within the groups of opponents, on the basis of these previous and successful interrelationships, which is he idea of human development through proximity.

4. CONCLUSION

This research is devoted to the Proximity analysis of the land use conflicts and human development nexus, while evaluating the Chotiari water reservoir project from Pakistan. In results, the divergent land use objectives for this project between public and private decision makers on the one hand and local populations on the other hand have created different conflicts among stakeholders in the area. Geographical or Organized proximity analyses stress on the lack of appropriate territorial governance, which should have played a crucial role to anticipate or mitigate land use conflicts.

In the research we conducted analysis that how the local population have been united and fought for their rights and have given an example of human development. This is seemed that the trends of territorial decision making in developing countries are giving birth to land use conflicts today, and we claim that it could be modified by mobilizing different proximities for the sake of territorial development of less developed areas. Reconciling the conflicting relationship between stakeholders of the project is a major challenge in Pakistan, and this is a ground which needs a long debate in other developing countries as well. Thus on the basis of our case study analysis we provide comprehensive strategies towards human development in the developing countries.

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