The Role of Property Rights
for Land Degradation and Land Use Conflicts.
The Case of Wetland in Gujranwala (Pakistan)

Dissertation

Zur Erlangung des akademischen Grades

Doctor rerum agriculturarum

(Dr. rer. agr)

eingereicht an der
Landwirtschaftlich-Gärtnerischen Fakultät
der Humboldt-Universität zu Berlin

von
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9. Summary

Land degradation is a very important global issue because of its impact on world food security and the livelihood of the population. This is a phenomenon involving the loss of the productivity of soil and land. Research provides explanations for land degradation, which is either natural or anthropogenic, with institutional abuse and conflicts regarding land use change being possible important aspects of land degradation.

One objective of this study has been to analyze the involved institutions, particularly with regard to property rights related to land ownership and estate distribution as a cause of land degradation in the study regions near Gujranwala, Pakistan. Another aim of this study has been to hypothesize that land use change conflicts, which are related to these property rights, also cause the degradation of land.

To attain the aims of study, it was necessary to define the concepts of land degradation, as a study problem, together with some other terms, such as land. *Chapter 2* provides an explanation of these concepts and a discussion of different reasons for land degradation at the world level and particularly in Pakistan, with references to the available literature. I found various natural factors that usually cause land degradation, for example, erosion of the soil, waterlogging, salinity, and sodicity. Similarly, I also studied man-made modifications causing land degradation, such as over-cultivation, mono-cropping, desertification, city expansion, and institutional mal-functioning.

A study of the literature revealed that land at the world level is mostly degraded by the human involvement in biodiversity. About two hundred million hectares of the world has been lost, because of land degradation through overgrazing, deforestation, and various agricultural activities. Approximately, eight percent of the cultivable land has been destroyed, because of urbanization and industrialization.

From the literature, three main reasons of land degradation in Pakistan have been discussed. 1) Natural disasters and climate change, 2) Direct causes, and 3) Economic and social conditions. My major focus is the last point, which includes population pressure, poverty, institutional setups, and non-agricultural land use change. This review of the literature has led to the idea that the country has not benefited from its program of institutional reforms, which is one of the root causes of wastage of arable land.

Much literature is available regarding the importance of institutions to save and reclaim agricultural land in order to avoid food shortages at the world level. However, very little research in this field has been conducted in Pakistan. The result of this examination has motivated me to analyze the land property rights with respect to land degradation in the north east region of Pakistan, which is very famous for its rice production, whose output has for the last ten years continuously declined. Various studies are available on the institutional importance and role of property rights in land degradation in Pakistan, but no one has worked on the land distributional conflicts among heirs; these are very common in Pakistan as a cause of land degradation. My study has filled this gap.

For the institutional analysis of this study, several additional related terms have needed to be clarified, such as the relevant institutions in Pakistan, property rights, transaction costs, land use change, and conflicts. In *chapter 3*, these important terms are explained, and the institutions are defined for this study as given by Knight (1992) as the expected attitude of the people in a particular situation.

In this chapter, some related theories, i.e., the distributional theory of institutional change presented by Knight (1992) and the theory of property rights in cases of conflicts presented by Alston et al. (2000), are reviewed, and the links of these theories to the study problem are presented. My findings are based on the analytical framework 'Institutions of Sustainability' proposed by Hagedorn et al. (2002). The problem has been explained on the basis of the four different aspects of this framework; 1) the characteristics of land as transaction goods, 2) the characteristics of actors involved, 3) the local social arena, which is the result of these characteristics of the land and actors, and 4) the institutional settings, which comprise land property rights and local governance structure.

With the help of these proposed frameworks and theories, I have derived two hypotheses for my study; 1) intergenerational land distribution creates problems not only in social terms, but also in mismanagement and resource degradation; 2) because of improper management and lack of planning, land use change conflicts together with difficulties in land distribution cause land degradation.

The data for this study are qualitative and have been collected through a field survey of the selected regions of Pakistan. For this, a case study approach was followed, as suggested by Yin (1994). *Chapter 4* outlines this methodology, in which the hypotheses have been linked

with the empirical observations and the research questions. These observations are the results of interviews undertaken with land owners and land users and have been cross-checked from other sources of data collection, such as interviews from related people, document studies, personal observations, and photographs.

The unit of analysis is the household, each of which has been selected through the sampling of the selected region. Regions were selected on the base of the quality of soil, through the previously published data of the soil fertility survey, and from statistical bulletins. These regions were categorized as: Case study 1 (Shaikhupura-Kamoki Region) with a medium level of land degradation, case study 2 (Qadirabad Dam region) with a high level of degradation, and case study 3 (Nandipur region) with a low level of land degradation. From these regions, twenty villages were selected on the basis of the distance from the main road and the quality of land productivity. Open forum discussions were conducted in all these selected villages, and then households were selected through stratified sampling.

In the second part of this chapter, a detailed description of the selected regions is given. In this description, those characteristics of the land are clearly mentioned that are an important part of the study and applied framework.

For the institutional analysis of the regions, it was necessary to be thoroughly acquainted with the institutional setup of the country. For this, various laws were studied and are reviewed in *chapter 5*. For an understanding of the structure of land property rights, the following legislation was reviewed; 1) the transfer of property act, 1882, 2) the registration of property act, 1908, 3) the Punjab land revenue act, 1887, 4) the Stamp act, 1899, 5) the Land acquisition act, 1894, and Law of inheritance.

Some points from these laws were derived; for instance, the transfer of property act (1882) allows oral transfer. According to the registration of property act (1908), family arrangements and compromises, and sales agreements can be optionally registered. Similarly, the will of a testator also does not need to be registered during his life, and after his death, there is no specific time for this registration. The Stamp act (1899) explains the process of the power of attorney. Finally, the inheritance law explains the distribution of the property among heirs. Through this law, the testator can leave only one third of his property according to his will, and the remaining two thirds will be distributed by the conditions of the law. In this law, sharers and residuaries are explained clearly, and also the levels of these share holders are

specified. If there is no first level sharer, then the property will automatically be transferred to the next level, but in case of existing sharers, they are the legal heirs.

Institutional abuse in the specific study regions has been discussed in chapter six and seven, which are the empirical chapters of the study. In *Chapter 6*, the implementation of the inheritance law and land distribution in the study region is explained through the various land distribution patterns observed in the region. Most of the families have a culture favouring the non-distribution of land, and because of this culture, the care taker had become more powerful and has misused the relaxations of laws. Different situations were observed, 1) land was not distributed and one member of the family was the caretaker of the whole estate, 2) land was orally distributed, so land was not legally transferred to the next landowners, and 3) land was legally transferred to new landowners, but because of their personal problems they hired attorneys for the look after their land. In all these situations, land was degraded. The results of empirical finding of the relationship between land distribution and land degradation are given as a negative relationship between the three variables; land distribution among heirs, land transfer, and land degradation. The negative impact of first two variables shows that, if land distribution does not occur properly, then more land will be degraded. This relationship was observed in all three regions.

In the next part of this chapter, land distributional conflicts are discussed, and a positive relationship has been found between these conflicts and land degradation. Some real life case studies are also discussed and explained. Most of these conflicts occur because of the improper implementation of inheritance laws and take a long time to reach settlement. Finally, the joint effect of intergenerational land distribution, of the transfer of land among heirs, and of the distributional conflicts on land degradation were calculated. According to the results of this analysis, my first hypothesis was accepted that intergenerational land distribution causes land degradation.

Chapter 7 explains the effects of land use change on land degradation. In this chapter, various options for land use change, observed in the regions, are discussed, for instance, agricultural use, housing, industrial, CNG filling stations, hotel and marriage halls, fish farming, poultry farming, and government acquisition. I found the relationship between the response of the landowner 1 and landowner 2 for these options and land degradation. The results show that, in the first case study region, the choice of landowner 1 is more problematic

as compared with the choice of landowner 2. In the second and third case studies, the choice of the landowner 1 has fewer bad effects in comparison with landowner 2.

To verify these results, the efficiency of an individual option was calculated with reference to the land degradation. In the Shaikhupura-Kamoki region, agriculture was found to be a healthy option, whereas housing was shown to be the worst option for the land of the region. Industry and government acquisition were two other options that were supportive of land degradation in the region. In case of Qadirabad Dam region, no option of land use change was favourable, and current agriculture practice was established as the main reason for the land degradation. Other poor options were housing and fish farming. Industry, hotel, and marriage halls and poultry farming also have unfortunate impacts, but to a lower extent than the other three options. In the Nandipur region, the limited options available for land use and agricultural use have proven to be best, whereas industry and government acquisition are not good for the land of the region.

All these options are subsequently discussed in detail, and statistics obtained through a survey of the regions have helped in the understanding of the results of the efficiencies. Finally, for the testing of the second hypothesis, a relationship between land use change conflicts, land distribution conflicts, and land degradation has been found for all the three regions. The results of these relationships show that these conflicts have a positive impact on land degradation and are a cause of land degradation.

In *Chapter 8*, some empirical and theoretical conclusions are drawn from the present work. Empirically, it has been found that more land was degraded in the regions where land was over-utilized. Because of the strong cultural setup, land was not properly distributed and caused conflicts between landowners. Most of these conflicts arose because of illiteracy and unawareness of the rights of the individual. Wealth and culture supported the male member of the family who was responsible for the care of land. He used the relaxations of law in his favour, often ignoring the land and trying to obtain greater benefit for himself. For such purposes, he used the land for non-agricultural options, which is one of the main causes of land degradation.

Theoretical conclusions are drawn on the basis of informal institutions, such as the culture of the region. Some other conclusions are attained by finding the root cause of the problem, i.e., that people do not want to obtain a new cadastral system because of the lengthy hierarchy

of the system. Some loopholes in the laws should be amended, like non-registration of some important documents.

Finally, some policies are recommended for the solution of the problem, such as changes in local governance structure, together with a strong policy for land use change. A new centralized cadastral system needs to be introduced, and then a penalty should be levied on the landowners who do not submit their latest documentation in time. General power of attorney has been observed as being problematic, so in policy recommendations, it is suggested that it should be abolished.

During this study, institutions for the development and planning of land-use change have bee found to be missing, and so they are strongly recommended to be established according to the need and requirement of the regions. Similarly, government policies for infrastructure development equally need to be revised. Landowners and land-users are both required to undertake special training and education for land utilization in the best way.

Further research could make use of this theory for other regions suffering with land degradation problems and environmental degradation. Quantitative analysis can also be performed with regard to the disputed land and the costs that landowners bear in the case of the improper implementation of laws.