## 学位論文の要旨(論文の内容の要旨) Summary of the Dissertation (Summary of Dissertation Contents)

論 文 題 目

Dissertation title

Assessing the Social and Economic Impacts of Mining-Induced Displacement and Resettlement and Optimal Compensation Policy Design: The Case of Aynak Copper Mine Project, Afghanistan

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Literature indicates three main triggers of displacement: disaster, conflict, and deve lopment. The focus of this dissertation is on development-induced displacement, spe cifically, mining-induced displacement and resettlement (MIDR). Mining related acti vities accounts for a significant portion of all displacements. Arguably, such project s are required to improve society. However, it is well-established that such relocati on has negative socio-economic consequences for those impacted if suitable restorati on measures are not implemented.

This dissertation presents empirical evidence on the causal influence of involuntary relocation on households' socio-economic outcomes. It highlights and fills the research gap in the main strands of existing development-induced displacement and reset telement literature by using case studies of the Aynak copper mining in Afghanistan. Overall, this research examines the socio-economic consequences of relocation and proposes a compensation program that best suits the socio-economic circumstances of Aynak mine-affected people. At first, it looks at the short-term impacts of displacement on relocated households' income and consumption, as well as on social capital. Second, it proposes a compensation scheme that is ideal for mitigating the negative impacts of relocation. Finally, it analyzes the long-term effects of relocation on displaced households.

The study's major results may be broken down into chapters. Chapter 1 comprises the background, motivation, research questions, a conceptual framework, objectives, and an overview of the study area and methodologies. Chapter 2 discusses the rol e of social networks in Afghanistan. The most enduring aspect of displacement and settlement in the country has been social networks based on kinship, ethnicity, ec onomic ties, faith, and party politics. When people of the same tribe, dialect, and k in are in trouble, they trust and devote their resources to one another. This provid

es them with socio-economic protection while also tying them together via social tie s. Social networks in Afghanistan are difficult to re-establish once they have been lost. The broad and fragmented distinctions in Afghan culture based on language, r eligion, rural technology, and other social institutions are among the most important variables shaping social networks in Afghanistan.

In addition, Chapter 2 examines how forced relocation because of land acquisition for the development of a copper mining operation in Aynak, Afghanistan, affects ho usehold income and consumption habits. It utilizes a difference-in-differences method to assess households' income and consumption patterns in the displaced village before and after the forced relocation with those households that had not yet been displaced. The data was gathered across two time periods. Just before the relocation in 2011, the Afghan Ministry of Mines and Petroleum performed the first round of surveys in order to devise a Resettlement Action Plan. For the perusal of the current study, the second wave of survey for post-relocation data collection was undertaken in 2015. The findings expose the dismal nature of relocation. It further shows that displacement discouraged community participation and that those relocated have lost social ties. It also demonstrates that the displacement inhibited community participation in the area and that displaced people lost social bonds.

Furthermore, displaced households have lost access to their agricultural land and a griculture-based livelihood. The daily labor outside mines has reduced. The govern ment should use the alternative residential land previously identified to move the affected households as soon as possible. Moreover, monetary compensation is required to close the income gap caused by relocation. Accurately analyzing agricultural land, particularly the quality of substitute land, is necessary to guarantee the income of PAFs following relocation and, as a result, a successful relocation procedure in the future. The development community might give technical support and act as an arbitrator to facilitate a fair relocation process.

PAFs are hesitant to accept an inferior remuneration package. For more than a de cade, the problem has gone unaddressed. Furthermore, the land purchase and reset tlement procedure at Aynak lacked sufficient consultation, and impacted people were not included in decision-making. To solve this issue, Chapter 3 proposes an optimum compensation policy design based on the preferences of Aynak mine-affected households. Using a randomized conjoint experiment, this chapter investigates the impact of compensation policy attributes on the acceptance probabilities of households affected by the Aynak copper mining project. In the experiment, a set of hypoth etical compensation packages consisting of eight attributes: resettlement as a unit, the provision of a public good – a community facility, the timing of the relocation, the provision of agricultural land, the quality of agricultural land, the provision of residential land, loans for the construction of a house in the new resettlement are a, and additional monetary compensation were presented to the respondent. Each a ttribute has different levels, which are randomly allocated. The respondents were t

hen asked to rank alternative compensation policies that incorporate varying levels of these attributes as well as their willingness to accept (WTA) for relocation.

Chapter 3 also provides an overview of the international legal framework and concl udes that the resettlement and compensation processes in the Aynak copper mine project were poorly implemented without proper participation of the PAFS, which v iolates both the international and domestic legal frameworks. As a result, the PAF s contend that the procedure was murky. Chapter 3 demonstrated the relevance of social ties for PAFs and the value of agriculture as a livelihood and monetary rec ompense, based on a problem-solving and stakeholder-oriented approach. Those who were relocated valued social connections more than monetary recompense. The fin dings imply that the compensation package should be established with the viewpoi nts of PAFs in consideration. In the case of the Aynak project, restoring social ties and livelihoods, as well as providing loans, would help the PAFs. In conclusion, t his study indicates compensation packages that contain aspects linked to social cap ital, livelihood restoration, provisions to prevent homelessness, and monetary compe nsation. Furthermore, the experimental model of this study may assist government s and resettlement practitioners in other developing countries in understanding the required compensation package of PAFs prior to the execution of resettlement pro grams.

It is also critical to evaluate if displaced people will emerge from the social and ec onomic shock caused by displacement in the long run. Therefore, we conducted a h ousehold socio-economic survey of the Aynak mine-affected communities after a dec ade to pursue this objective. The same questionnaires used in the 2011 survey wer e used to collect data from both relocated and unrelocated villages in 2021. Chapte r 4 includes a detailed analysis based on the difference-in-differences method on tw o-period data. The findings revealed that, even in the long run, the social and eco nomic status of the displaced households due to the Aynak copper mine project ha s not improved, and they are suffering from poverty and shattered social networks. Chapter 5 concludes by making pertinent recommendations. This dissertation's findi ngs have substantial practical consequences since they give empirical findings conc erning the impacts of relocation in the short and long run. It provides evidence th at mining-induced relocation and resettlement practices undermine PAFs both socia lly and economically. As a remedy, the optimal compensation strategy presented in Chapter 3 will assist in mitigating additional socio-economic losses to Aynak affect ed households. According to the findings of this study, involuntary displacement sh ould be prevented, and PAPs should be actively involved in discussions throughout any future resettlement.

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