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Sina Bierkamp “Assessing the Role of Natural Resource Extraction and its Determinants for Rural Households in Southeast Asia”, Leibniz University of Hannover, 2019

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Summary

Natural resources are of great importance for rural households in developing countries. They cover a wide range of products from timber and fuels to fish, game, wild fruits and medicine. In the literature, the extraction of natural resources is often overlooked in favour of agricultural production. Even though there are regional differences, income generated from natural resources accounts for the second most important income source in rural areas of developing countries, in particular for poor and food insecure households. This environmental income refers to the extraction from non-cultivated grounds, such as natural forests, grass lands or water bodies. The products can be used for subsistence or cash income generation. Especially two functions are attributed to the extraction of natural resources: (1) It contributes to the livelihood of rural households. This applies in terms of building materials and fuels, but also with respect to fish, insects or wild fruits, which contain important micronutrients, unsaturated fats and proteins. (2) In addition, environmental income can help to bridge idiosyncratic and covariate income shocks. It becomes particularly relevant in case of severe shocks or if other coping strategies are not available.

Consequently, the deterioration and destruction of natural resources poses a threat to livelihood and food security for the rural poor. They mostly live in disadvantaged regions and have poor access to education, health services, capital and labour markets. These people use natural resources such as fish, insects, amphibians and wild fruits to meet their dietary needs. Moreover, fuels from natural resources are needed for cooking and food utilization. Additionally, the conservation of natural resources is required to sustain ecosystem services, such as flood control or climate regulation which is crucial for agricultural production.

Thus, a deeper understanding of the significance of environmental resources is needed. Especially the relation between natural resource extraction and other livelihood strategies is neglected. So far, studies only analysed the direct link with agriculture which was found to be competing. Both need equal inputs with respect to labour, material and technology. The thesis wants to expand the understanding of how environmental income is related to other livelihood strategies, more precisely to migration. Migration is a social phenomenon of rising global importance. Migration movements change the composition of rural households and the

available labour force. Furthermore, remittances from working migrants lead to higher income that can be used for investments or at least to diversify the income portfolio.

In order to better understand the importance of natural resource extraction and its relation with migration and remittances, the thesis tackles the following three research questions: (1) How important is environmental income for rural households? (2) What are the determinants of remittances? (3) And how is environmental income linked with remittances?

The thesis uses data for 2013, 2016 and 2017 collected in three Vietnamese provinces within the scope of the DFG-funded Thailand Vietnam Socio Economic Panel (TVSEP) project. The research concentrates on rural households in Vietnam because of two reasons. (1) The Southeast Asian country experienced rapid economic growth which led to increasing migration. Migration mainly takes place from rural to urban areas such as Hanoi and Ho Chi Minh City. Most migrants send remittances to their families left home. (2) Natural resources like forests and water areas have been degraded despite some remarkable achievements in reforestation efforts. Due to its large borders with the sea and its location in the tropical cyclone belt, Vietnam is also one of the countries that are most affected by climate change. People's livelihoods with respect to agriculture, dwelling, and environmental resources are impaired or even destroyed.

The New Home Economics theory is applied as a theoretical basis. The theory considers the allocation of time to different working and non-working activities within households. Transferred to the relationship between livelihood strategies, the theory suggests a negative relation between natural resource extraction and migration. Descriptive analysis and econometric models are applied. In order to identify the determinants of remittances, the two-step selection model of Heckman with a probit model at the first stage and an outcome model at the second stage is calculated. Additionally, a two-stage least squares regression analysis for panel data is employed to examine the factors affecting environmental income, especially the impact of remittances.

With respect to the research questions, the investigation reveals the following:

(1) Environmental income is an important livelihood strategy for rural households in Vietnam. Even though extracting households are generally worse off than non-extracting ones, natural resource extraction slightly smooths income inequalities. But environmental income is not able to lift people out of poverty and to accumulate assets. Poor households are more dependent on natural resources than their wealthier counterparts who extract higher amounts.

(2) However, migration and receiving remittances can improve the economic situation of rural households because remittances allow for higher investments. Generally, households with remittances are better off than households without remittances. They are also less engaged in natural resource extraction and less dependent on extraction activities. Nevertheless, they receive higher absolute amounts of environmental income. Significant determinants for receiving remittances as well as for the amount of remittances are the dependency ratio, educational achievements, the average household age, the ethnicity, the farmland size, and the share of migrants in the sending villages.

(3) The thesis confirms the expected negative relationship between natural resource extraction and environmental income, i.e. remittances decrease the amount of environmental income. Sending a working migrant and receiving remittances results in a quantitative and

qualitative change in labour. The reallocation of labour as well as the changing household preferences and expenditure patterns resulting from additional remittances lower the willingness to conduct the labour-intensive extraction activities.

The thesis emphasizes the importance of natural resources for the livelihood and food security of rural households in Vietnam. It appears that the promotion and the improvement of rural labour markets are necessary to open up new alternative livelihood strategies. Furthermore, a collective and sustainable natural resource management is needed to prevent overextraction and to regulate the access to extracting grounds.