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**LARGE-SCALE INFRASTRUCTURE AND AGRICULTURAL DEVELOPMENT:
IMPACTS ON RURAL POVERTY IN NORTHWEST VIETNAM**

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6 CONCLUSION AND POLICY RECOMMENDATION

In 2005, construction work on the biggest hydroelectric dam in Vietnam's history will begin on the Da River. The hydroelectric plant should guarantee the future electricity supply for society and the national economy. Additionally, the Son La Hydropower Project is designed to mitigate flooding in the monsoon season and improve the availability of irrigation water in the Red River Delta during the dry season. However, implementing such a large-scale infrastructure project always has a tremendous impact on the population of the region. The most serious detriments of the Son La Hydropower Project occur through the resettlement of 91,000 people and the inundation of large areas of fertile agricultural land located in the lowlands. The worst damage will occur among the rural population and in the Son La Province, which is one of the poorest provinces in Vietnam. Poverty and hunger are here alarmingly prevalent among ethnic minorities and in the remote areas of the highlands. In Son La's countryside, more than half of the Thai and Hmong households live in poverty and half of them suffer additionally from malnutrition.

The benefits arising from implementation of the hydroelectric project are predominantly the expansion of the rural road network and the power grid. These infrastructure improvements provide a crucial basis for economic growth through the reduction of transport and transaction costs, as well as for a better market access for rural areas. Benefits arise also through the creation of off-farm employment caused by the increase in demand for labour forces in construction and service activities. Further employment opportunities are generated by the establishment of industries and the attraction of enterprises. Although these might lead to a reduction in underemployment and induce economic growth in some preferential areas, comprehensive spill-over effects and poverty reduction cannot be expected. A socially inclusive implementation of the Son La Hydropower Project – as stipulated in the *Comprehensive Growth and Poverty Reduction Strategy (CPRGS)* – has to direct more resources to the majority of the rural poor to prevent marginal areas from falling behind. Since agriculture is by far the main economic activity of the rural poor, a regional development strategy has to include primarily compulsory measures to improve agricultural productivity and production.

In Son La, the modernisation of agriculture focuses on intensive cultivation of high-quality industrial crops which are suitable for the location and would provide proper support for establishing processing companies in the province. In this context, comparative

advantages are mainly attributed to the cultivation of coffee and tea. Accordingly, the production areas are expanded in the highlands and in the resettlement areas in particular. In addition, the inundated paddy land should be compensated in all to sustain the current level of local rice supply. Major investment in the construction of irrigation systems is planned to utilize further productive paddy land and to increase productivity on existing fields. Indeed, the total productivity in the province could be increased by up to 40 percent through the irrigation of the existing paddy land in the dry season. The shift in agricultural development towards a specialisation on perennial cash crops, along with an intensification of the paddy rice production, has considerable potentials to compensate for lost earnings opportunities and agricultural assets, as well as to support sustainable development in the rural areas of the province.

In order to assess the poverty-reducing impact of agricultural development in Son La, a multiplier model based on a *Social Accounting Matrix (SAM)* was applied in this study. First and foremost, the multiplier analysis confirms that development measures are most likely to succeed if they improve agricultural production. Furthermore, Son La's growth is basically driven by consumption expenditure linkages. Agricultural investment should particularly inspire the demand for the production factor 'self-employed labour', which implies that agricultural development measures have to be implemented on the farm household level and thus adapted to small-scale farming. Self-employed labour is characterised by low skills and high manual-work intensity. To increase farm income, measures should therefore inspire manual work and ensure low levels of capital in use and maintenance. In other words, at least in the short run a high degree of mechanisation in crop cultivation is counterproductive for pro-poor growth in Son La's rural economy. It can be said that the increase in the aggregated income of rural households is higher, the lower the relative value of imported production intermediates and the less processing is needed to transform the cultivated crops in consumption goods. The former create income flows out of the provincial socio-economic system, which cannot contribute to the endogenous generation of income multipliers, and the latter diminishes the income multipliers of rural households because the processing industry absorbs a large amount of value added. In addition, to encourage sustainable economic growth, agricultural investment ought to be geared to the cultivation practice of rural Thai households. These households constitute the majority of the rural population and their consumption correlations to economic activities constitute the strongest carry-over of the multiplier process in Son La's socio-economic system.

In this context, investment in the paddy rice production and above all, in upgrading and constructing irrigation systems has the largest potential to contribute to comprehensive growth and poverty reduction in Son La. For instance, the full irrigation of existing paddy land could reduce the income shortfall of rural poor Thai households by half and that of the rural Thai households living below the food poverty line by up to 80 percent, assuming equal distribution of the exogenous injection within this households group. Investment in the paddy rice production should further be preferred to investment in coffee and tea production, since it serves to supply both the local market and farmers' attempts for self-sufficiency with basic food.

However, the paddy rice production is limited to land with an adequate water supply that is naturally located in the lowlands. Thus expanding paddy rice production neglects the inhabitants of the uplands, who mainly belong to the ethnic group of the Hmong. Although exogenous injections in coffee and tea cultivation only have limited potential for inducing comprehensive development in the province, the production increase has crucial potentials to boost farm income locally. Since Son La has still large areas of unused land suitable for growing coffee and tea, the utilization could considerably benefit the poor in remote areas.

In all, improving market access in rural areas and primarily in remote places is fundamental in the Son La Province. Infrastructure investment is indispensable to increase the efficiency not only of the agricultural sector. The spilling over of economic growth to remote areas and its trickling down to poverty reduction depends heavily on the linkages within the economic system occurring through transactions and transfers in the factor and commodity market. Indeed, infrastructure development possesses a central, albeit not sole, importance in market participation. The institutional framework is at least equally decisive for pro-poor economic growth. Strengthening the market economy and reforming legal regulations should be given particular attention in order to inspire sustainable development in the Son La Province and to ensure a socially inclusive implementation of the Son La Hydropower Project.