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## **Transmigration Policies in South Sumatra, Indonesia, and Rural Development: Comparative Study of two Villages**

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### **Introduction**

Throughout the XX<sup>th</sup> century, Dutch, and then Indonesian governments set up internal migration policies in Indonesia in order to face the problems of land pressure in the crowded islands of Java and Bali, and to reach autonomy for rice needs. In this context, populations from the overcrowded islands were transferred to the thinly populated neighbouring islands of Sumatra, Kalimantan, Sulawesi. Each migrant family was offered a piece of land and tools in order to slash and burn the forest and to set up paddy fields. The success of these policies also counted on spontaneous migration flows that were expected, following the organised ones. As a matter of facts, the Kolonisatie and Transmigratie programs have given impulsion for one of the biggest population transfer ever generated by a government. Of course, such policies have had great consequences on land use, natural resources, evolution of the agriculture and of the socio-economical dynamics of the newly populated areas (LEVANG P, 1997).

Lampung, the southernmost province of Sumatra, facing the western coast of Java, was the ideal target for such policies. In the 1900's, Lampung was mainly dominated by primary forest, and its total population did not exceed 7 millions inhabitants. Agriculture is nowadays importantly developed there, in the lowlands as well as in the mountainous areas. The total population approaches 40 million inhabitants, 75% of which approximately, are Javanese.

In the 1980's, important field studies were conducted by the French research institute ORSTOM, (now IRD) about the impacts of these migrations policies and spontaneous movements on Lampungese agriculture (BENOIT D, LEVANG P and al, 1989). The province has been subject to particularly high population flows, that varied depending on the geographic location. The lowlands and the peneplains have been targeted by national policies. Javanese populations have reached these areas and settled down in a regular pace since the beginning of the XX<sup>th</sup> century. On the contrary, the mountainous part of the province, the Barisan Range, of difficult access, was protected from migrations until the middle of the 1970's. At that time, an asphalted road was built, connecting the lowlands to the higher parts of the province; right after this, massive migration flows started and the mountainous area has been occupied by new settlements faster than in any other area of Lampung.

Since then, agriculture kept on evolving in both areas, but no longer under the direct influence of any official transmigration policies. Thus the new transformations have been influenced by other factors. Different kinds of mechanisms may have led to these evolutions. A first factor could be the increment of population density and of demographic pressure. A second one could be the

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continuation of internal or external migration movements. A third one could be economic accumulation by households in agricultural or in off-farms activities.

## **Material and Methods**

The aim of the following study is to evaluate the weight of these factors in the evolution of rural dynamics as well as to check whether other factors may explain the process. In order to do so, two villages have been studied during three months: Giham, located in the Barisan mountains, and Bengkulu, located in the area of transition between mountains and peneplains, in the eastern piedmont zone of the Barisan mountains. These particular locations of the villages were chosen for two main reasons: they have been populated in different ways, but the cropping systems that were first set up there are quite similar. This second point is important in order to focus on the influence of the colonisation gradient for a comparison of the dynamics of agriculture.

The data were collected by the way of observations and semi-opened interviews, following the methodology of agrarian diagnosis (BAINVILLE S, COCHET H and al, 2003). In Bengkulu (piedmont area) there were 900 families in the village, 20 of which have been interviewed about the complete organisation of their farming activity (agro-ecological conditions, historical evolution, crop management sequences and economical performances). In Giham (mountainous area), 30 families out of 950 were interviewed in such a way.

## **Agroecological Conditions and Potentialities**

In Bengkulu, and more generally in the piedmont of the Barisan Range, landscape is flat with a few hills. The altitudes do not exceed 500m. The average annual temperature is 26°C and the average annual rainfall is 2460mm. In the uplands of Giham, the slopes are much steeper, and the altitudes higher than 1000m. The average annual temperature is approximately 6°C less than in Bengkulu (around 20°C) and the rainfalls are more important (2600mm). As a consequence, drought risks during the dry season are higher in the piedmont. The original mother-rocks and the soils are also different but the chemical and physical soil fertilities are good in most parts of both areas. These common points and differences have direct repercussions on the agricultural potentialities. In Bengkulu, in the piedmont area, the environmental conditions are suitable for production of pepper, coffee and rubber. In Giham, in the mountains, cooler climate allows the cultivation of coffee and of vegetables from temperate areas such as cabbages, tomatoes, beans...

## **Population and Land Distribution Dynamics**

The actual cropping systems do not only follow from ecological factors (BARRAL S, PONCET E, 2005). Both villages were settled as a result of two migration flows, a first one of Sumatranese spontaneous migrants, and a second one, bigger, of Javanese people following the example of official transmigrants. Because these movements took place in different periods of time, with varying intensity in the piedmont and in the mountains, important differences in the historical changes can be noticed.

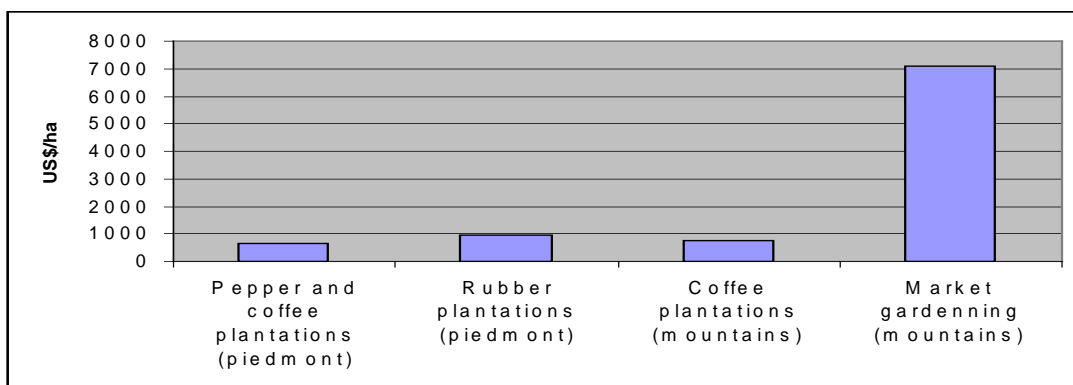
In Bengkulu, migrants arrived regularly through the years, settling pepper and coffee plantations. Year after year, land has been allocated between all newcomers; there are nowadays no great differences of land acreage between the landowners of the area. However, in the land distribution dynamic, the native Lampungnese that had first slashed and burned the primary forest, have lost their land. Unlike the newcomers, they did not associate coffee to pepper in their plantations. Their farming systems were thus less competitive than the ones of the newcomers, because less adapted to face phytosanitary risks. The migrants could gradually gather enough money to acquire the land of the economically fragile native Lampungnese. Those ones now constitute a marginal social group in the village.

On the opposite, in the mountains, Lampungnese remained isolated several years, during which they slashed and burned forest in order to settle coffee plantations. When Javanese reached

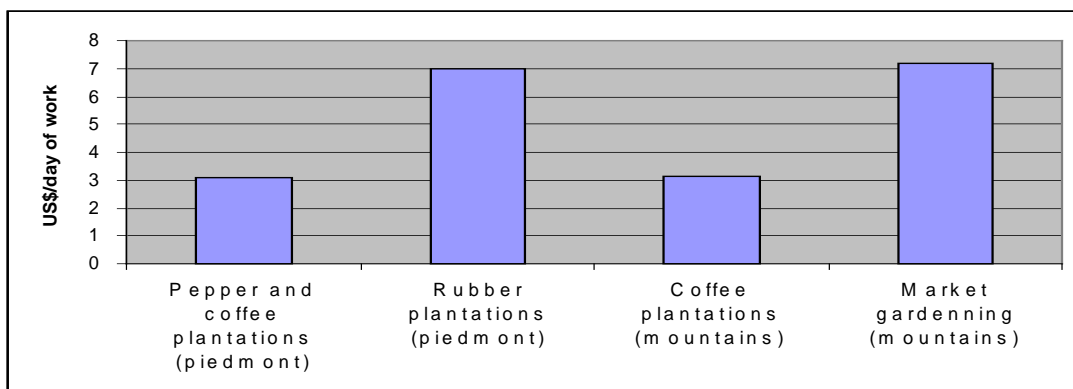
Giham, they first worked for local farmers so they could access to land property. This cheap workforce allowed the Lampungnese (and the first Javanese migrants) to gather more land. That is why in this mountainous area land distribution is different than in the piedmont area: there is a few large land owners and lots of little land owners. There are also farmers without land, sharecroppers or mere workforce, recently settled in the area.

**Farmers strategies in response to land saturation and economical risks**

In both cases, when no more secondary forest was available, and yields of the original cropping systems (coffee plantations in the mountains and coffee and pepper plantations in the piedmont) decreased, farmers had to find new solutions. Diversification appeared as a vital strategy to face increasing land pressure, but also price volatility of these cash crops and pressure from plant diseases. The new cropping systems that appeared at that time are rubber in the piedmont area (in the early 1990’s) and market gardening in the mountains (in the late 1970’s).



**Figure 1: Land productivity in US\$/ha per cropping system**



**Figure 2: Work remuneration in US\$/day of work per cropping system**

The figures 1 shows that in the mountainous area of Giham, the new cropping systems are characterised by a much higher added-value per hectare than the ancient ones based on coffee production (about 10 times more). In Bengkulu, the situation is different: the land productivity of the new system is not much higher than the ancient ones. The figure 2 shows that work remunerations from the ancient cropping systems are similar in the piedmont area and in the mountains (about 3\$/day of work). This indicator reaches the same value for the new cropping systems, which both enable a much better work remuneration than the ancient cropping systems (more than twice higher).

Depending on his historical trajectory, a farmer could accumulate a certain amount of land and capital, which explains the actual diversity of the farming systems. The figure 3 shows the real economical gap that was drawn between the villages, due to social factors: the land repartition scheme per farming system of each village has had a direct impact on the social differences between farmers. It has also had a direct impact on the labour force market.

	Farming systems of highest income		Farming systems of lowest income	
Bengkulu (piedmont area)	Pepper and coffee plantations (up to 2 ha) and rubber (up to 1ha)	1899 US\$/year/worker (10 interviews)	Pepper and coffee plantations (less than 2ha)	677 US\$/year/worker (10 interviews)
	More than 2 ha of coffee and pepper plantations			
Giham (mountainous area)	Coffee plantations (more than 10 ha)	33067 US\$/year/worker (5 interviews)	Coffee plantations (less than 2ha)	1071 \$/year/worker (12 interviews)
	Coffee plantations (5 to 10 ha) and market gardening (1 to 4 ha)			

**Figure 3: Farming income of the main farming systems**

In Giham, some farmers took advantage of market gardening, and the village experienced an important economic upward trend. The analysis of the situation shows that although the agro-climatic conditions allow vegetables crops, only several farmers are able to grow them. Market gardening cropping systems require important investments at first (for inputs as well as for labour force), with a very fast turnover of the capital (a few month). The first market gardening cropping systems have been developed within farming systems based on large land, whose owners are able to accumulate capital. Another point is that market gardening consumes a high level of labour force; large land owners have thus been able to develop these crops because they could rely on the work of small land owners that need off-farm work to earn a living.

Little by little, access to inputs (tools, pesticides, fertilisers) and to capital (by the way of loans) has been developed and farming systems based on market gardening cropping systems are getting more numerous in Giham, even if they are still a minority.

On the contrary in Bengkulu, the numerous failures of pepper production no longer enable decent living standards; of course, diversification of the cropping systems with the rubber cultivation, has been an answer to the problems of price fluctuations and phytosanitary risks. But only a minority of farmers could gather enough land and capital to install these plantations. The majority of the farmers, who could not diversify, have to look for some work outside the village, because of yield decrement and social tensions. As a matter of fact, in this case, farmers' strategies are also influenced by the social atmosphere of the village. A real disruption of the social balance can be observed in Bengkulu, partly due to the fact that Lampungnese do not have land anymore, and earn their living by stealing other farmers' production. Rubber, which latex is daily collected, is much more difficult to steal than pepper or coffee beans.

## **Conclusion**

This study enabled a socio-economical comparison of two villages with different population histories. Land colonisation modalities appeared to be crucial to explain local development. These two areas, which fifty years ago had similar attractiveness in terms of agricultural productivities, have had completely different trajectories. For the mountainous area, a sudden and vast arrival of migrants enabled coffee extension and diversification towards high added value crops. For the piedmont area, old and regular waves of migrants of different origins led to social disruption, and to an economical stagnation of the village. Thus, the conditions of human settlements have had a direct impact on the social composition of the villages, and on the repartition of the different farming systems of both villages. It is interesting to see that economical considerations themselves are not sufficient enough to analyse the dynamics of agriculture, and that social factors are the key to understand these situations. They can be a brake or an accelerator for economical development and can explain an apparent paradox: even though Giham was populated later than Bengkulu and should be less developed, it is now of a greater economical dynamism.

## **Glossary**

IRC: Institut des Régions Chaudes (Tropical Agronomy School of Montpellier, France)

IRD: Institut de Recherche pour le Développement (French Investigation Centre for Development)

ORSTOM: Office de Recherche Scientifique et Technique d'Outre-Mer (ex IRD)

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