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MIGRATION AND SETTLEMENT PROCESS

MOUNTAINS AND PLAINS

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MOUNTAINS

AND

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first part

OVERVIEW OF THE FIELD SITES

SPONTANEOUS MIGRATION AND SETTLEMENT PROCESS

This report is based on field studies carried out between May and July 1990 in South Sumatra. The sites chosen are located in two districts, Ogan Komering Ulu (OKU) and Ogan Komering Ilir (OKI). The sites are based on either food crop or highland coffee farming systems.

1. FOOD CROP AREAS

Sabutan, located 12 kilometers south of the city of Muaradua on the road to Danau Ranau, is a non-contiguous neighborhood *(dusun)* of Bumi Agung village (Muaradua sub-district, Ogan Komering Ulu district). The predominantly Javanese population here cultivates *padi* (some of it in irrigated fields, *sawah)* and non-rice food crops *(palawija)* in dry fields; a few of them are involved in brickmaking along the road. Coffee is a minor crop in Sabutan, unlike most of the Muaradua valley region.

Cahaya Mas and **Kampung Baru** are two organized spontaneous villages located in Mesuji sub-district (Ogan Komering Ilir district) close to the border of the Belitang sub-district (OKU district). Spontaneous settlements neighboring these two villages were also investigated. Most farmers in this area cultivate *padi-palawija* on dry fields, often using the mixed-cropping *tumpang sari* system.

2. HIGHLAND COFFEE AREAS

A large percentage of spontaneous migrants to South Sumatra settle the highland coffee areas or pass through them at one time or another. This project has chosen to center part of the field studies on these often remote settlements on which little has been written previously.

Several sites have been selected, all of which have in common an almost complete dependence on coffee, with few other crops of any importance.

Sukorejo is a *dusun* of Pedataran village (Pengandonan sub-district, OKU district) located three kilometers south of the Trans-Sumatran Highway. It is one of the few areas having a majority Javanese population in the upper Ogan river country of Pengandonan.

Danau Jaya, a non-contiguous *dusun* to the west of the Saka River attached administratively to Kotaway village *(Perwakilan kecamatan* Buay Pemaca, Simpang sub-district, OKU), is composed of a main Semendo neighborhood and several scattered hamlets *(talang)* with predominantly migrant populations.

Air Bunga and **Tunggal Jaya** are two other distant satellite *dusun* of Kotaway to the east of the Saka River. Another area visited was **Tunas Mudah** (administratively an *RT* or household grouping) Stretching all the way to the border with Lampung, these isolated areas of Kotaway are covered with coffee plantations largely owned and worked by migrants.

Information was gathered primarily on the basis of informal but extensive interviews with over 300 spontaneous migrant households in the sample villages. For 136 of the household heads, a complete migration history could be pieced together[1]. Those interviewed include Javanese, Sundanese, Madurese, Balinese and Sumatrans. The Sumatrans include members of various ethnic groups originally from the province of South Sumatra (Ogan, Komering, Semendo, etc.) and from other provinces of the island (notably, Batak from North Sumatra, Padang from West Sumatra and ethnic Lampung migrants). Of the Javanese and Balinese, some were born in Sumatra; the largest group represented, however, remains the Javanese born in Java. Other data was sought through discussions with neighborhood, village and sub-district officials and informal leaders, as well as local residents met in the course of the studies.

In addition to the Sumatra receiving area research, a short trip was made to several sending areas in East Java in October and November 1990. This trip concentrated on the districts of Jember (Ambulu and Uluhan sub-districts), Banyuwangi (Pesangaran and Glenmore sub-districts) and Sumenep on the island of Madura (Gili Genting, Guluk-Guluk, Ganding and Pasongsongan sub-districts).

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1 Generalizations drawn from these interviews are based on a minimum of 67 cases for each specific question or topic. We cannot claim formal statistical validity for the results due to the small sample size and the difficulty of determining the extent to which our sample sites provide a representative picture of all spontaneous migrants in South Sumatra. However, our interviews with non-migrants, officials and local people, and discussion with other team members suggest these general trends are encountered in other areas of South Sumatra.

second part

PROCESS OF SPONTANEOUS MIGRATION

1. MIGRANT DECISION-MAKING

1.1. Goals

The economic factor *(faktor ekonomi)* is the reason most often invoked to explain a migration decision. The main goal, if not obsession, of spontaneous migrants is to amass capital, an impossible undertaking in their village of origin, in order to acquire land in the receiving or sending area, or in some cases, in order to build up a capital base for trading. Only those who are the first to open up new settlements seize the opportunity of access to almost free land. It is hoped that this land will insure both the immediate future of their children, who can then be educated beyond the primary school level, and, if possible, their long-term future by providing them with an inheritance.

It should be noted that the process of female migration (including their situation in the sending area, their motives, routes and plans) remains somewhat unclear. It was not possible in the framework of this project to complete an adequate study of women and migration. The interviews on which the findings here are based were carried out primarily with male heads of family, and the data on woman migrants were too scattered to be treated in a systematic manner.

Assuming that spontaneous migrants do not simply flee a situation (like refugees), but pursue a definite goal, push and pull factors in fact constitute an inseparable pair; the former cannot be the sole determinant of a departure, and the latter contribute both to the departure decision and to the choice of destination. For clarity's sake, these factors are presented separately, but they should be understood to be complementary forces interacting in the migration decision-making.

1.2. Social and economic reasons for migration : push factors

ECONOMIC DIFFICULTIES

The vast majority of migrants in the sample villages selected for this project are of peasant background; only a few have other occupational skills, such as cabinet-maker, carpenter, barber or tailor, for example. Some were traders in agricultural commodities or livestock at the level of their local community.

Generally, those who leave are not the landless peasants or the most impoverished, but rather the level just above them. They are the small landowners with less than O.5 ha, not enough for the present and/or future needs of the whole family. The poorest migrants are more likely to sign up for a government transmigration program. "*Kekurangan,*" "there was a lack (of

subsistence)," *"tidak cukup,"* "there was not enough," or *"kurang hasil,"* "the earnings were not sufficient," are expressions constantly offered by spontaneous migrants to explain why they left home or a past residence.

At the time of their first departure, half of the migrants questioned in Sumatra had inherited or could expect to inherit less than O.25 ha from their parents once the family land had been divided between each child. One fifth of the migrants are children of landless peasants[2]. The high price of land in Java[3], and also in Belitang, make owning enough land impossible for those without capital or a sizeable inheritance. That is why migrants often give the following reasons for leaving their homes: *"kesempitan di sana,"* "it was too crowded there," or *"cari tanah luas,"* "I wanted a large piece of land."

It is understandable under these conditions that landless or land-poor peasants need to find additional farm work for themselves and possibly their children to make ends meet. Most migrants work as agricultural workers *(buruh tani)* before their departure, in a permanent or intermittent manner. Besides the problem of land, and very low agricultural wages (below Rp 2000/day without meals, and as low as Rp 750/day without meals in some plantations and factories in East Java), the limited opportunities for day work *(harian),* the existence of a season of economic difficulty (before the harvest, *musim paceklik)* and a slow season for employment *(musim penganggur),* are all determining factors in the decision to migrate.

For those who first plan a temporary migration, they generally choose to leave during these periods of unemployment and economic difficulty to look for work, by the day, by contract or by the job in the regions of Sumatra that are still in need of labor.

In addition to all these "normal" conditions, which peasants can expect from year to year, there are the inevitable years of agricultural shortfall. Seasons when harvests are destroyed by an extended dry season, an invasion of *wereng coklat* (Brown plant-hopper), grass-hoppers or rats, especially if this repeats itself several times in a row, can force peasants to move who in normal years would have been able to get by.

Failed strategies can also force a family to migrate. One who loses his wealth following an expensive and unsuccessful attempt to enter the civil service, even at a low level (village head or school guard, for example), might be forced to migrate in order to save face and retrieve his former economic level. It is common for people to go into debt to pay medical expenses.

Migrating in order to reimburse a debt is frequent in the villages on the north coast of Madura, though in this region the fishermen generally go to Kalimantan or abroad (Malaysia, Singapore and Saudi Arabia), and the poor peasants sign up for Transmigration. Surprisingly, this cause for migration, debt-reimbursement, was not mentioned in the interviews conducted with migrants in the sample areas of South Sumatra.

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2 Out of a sample group of 67 cases.

3 Java in fact representing Inner Indonesia, the islands of Java, Madura, Bali and Lombok, the principal sending islands for migrants.

FAMILIAL AND PERSONAL PROBLEMS

Ninety percent of the spontaneous migrants come from families having more than three children[4], and one third of male migrants are the eldest of their siblings[5]. In we take into account that some of the second, third and later children (who are not counted in this last percentage) are the eldest male children, we can identify a tendency toward the migration of eldest male children. For a more precise analysis, it would be necessary to look at the age and gender structure of a larger sample of migrant families, a task which was beyond the scope of this study.

In any case, children never migrate all together at the same time, and the parents rarely remain alone in the village of origin. The choice is made almost always by the family as a unit, depending on the age and sex of the children, and also depending on their marital status and their physical condition, for example.

As the migration plans are formulated, three decision patterns generally emerge:

- the parents encourage one or two children to provide, through their migration, a solution to the economic difficulties the family is currently experiencing; the one who leaves will redistribute some or all of his earnings as he receives them, most often to pay the school fees of his younger siblings or family medical expenses.
- the parents encourage one or two children to migrate to make their own living, as they can no longer take care of the needs of the entire family: they do not expect financial aid in return, and the young man, single or married, will not necessarily share his earnings with his parents or siblings.
- the child or young adult leaves to escape a difficult familial or economic situation without any pressure from his parents. He will work mainly for himself, sometimes bringing back part of his earnings to the family, but this is far from being the rule.

The problems of family misunderstandings linked to precarious living conditions, situations of dependence and personality clashes are sometimes mentioned as main or contributing causes of migration. If one takes into account the understandable reticence informants have to discuss family problems right away with a stranger, such factors must have a greater importance than that detected in the interviews.

To run away from a step-mother, a step-father, in-laws or natural parents with whom a one has been living with since marriage is one recurring motive for migration. It is hoped that the move will solve economic and personal problems in one stroke.

Second and third wives sometimes talk their husband into leaving with them in order to escape from the first wives, sometimes divorcing them.

In the case of young unmarried children who yearn to be free of their parental bonds, migration offers a solution that avoids conflicts. Moreover, if they hesitate to do degrading manual labor for low pay *(kerja kasar)* in their community of origin, they are more likely to

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4 Out of a sample group of 80 cases.

5 Out of a sample group of 74 cases.

accept it far away. The oft-used expression "*cari pengalaman*" (literally, "to seek experience"), should thus be seen more as a short-cut explanation rather than the key motive behind their migration.

CONFLICTS IN THE COMMUNITY OF ORIGIN

"They made a mistake, were ashamed, and thus were forced to run away": this cause for departure is only mentioned in interviews with members of the sending area community, and not by the migrants themselves. The most common incidents mentioned are stealing, adultery, and youthful indiscretions *(anak nakal)*. The guilty ones leave themselves or are driven away. Village heads often urge young delinquents to leave, and the poorest to sign up with Transmigration, reasoning that "it's better to migrate than become a thief." According to them, the wide socioeconomic disparities (less evident in Transmigration settlements) and the display of consumption goods by the privileged encourage juvenile delinquency, and absolute poverty pushes people to steal. Village heads serve as intermediaries between parents and children and between co-villagers, and sometimes clinch the decision by paying the journey.

Most of those at fault do not return to the village, but some benefit from special circumstances upon their return. In one village in East Java, the case of a man who fled to Sumatra with a married woman is noted. Once a huge fortune had been made in coffee, he no longer was afraid to return to his village of origin: "since he was rich, he was no longer ashamed" *("karena kaya, tak malu lagi")*. He built a house there and would return frequently to look for workers for his plantations; his neighbors accepted him again.

1.3. Choice of destination and timing of departure: pull factors

REASONS FOR PREFERRING SPONTANEOUS MOVEMENT TO TRANSMIGRATION

With few exceptions, migrants choose spontaneous movement over Transmigration because only spontaneous migration allows one to choose the destination and moment of departure. Once in the receiving area, the migrant can shop around for a suitable settlement, change settlements, or return to his place of origin without the constraints imposed by the Transmigration program.

Choosing the right moment to leave is particularly important for those who are awaiting the profits from a harvest or from the sale of property; it is also important for those who resign themselves to migration following a series of crop failures. The moment of departure is critical when the wife is expecting, when children are too young to travel, when someone is sick, or when the departure is to be synchronized between family members or neighbors.

Spontaneous migrants also want to be able to change regions in case a difficulty arises, freedom of movement that is not provided for under government-sponsored transmigration. The greatest fear of transmigrants is that they will have to stay in an inhospitable or unproductive region.

No restrictions as to age or marital status exist for spontaneous migration. Administrative formalities are reduced to a minimum. The future migrant applies for a travel permit *(surat jalan)* from his village head indicating in general where he's heading (for South Sumatra, most village officials simply register "Sumatra"). A moving permit *(surat pindah)* will be required once the migrant has decided to settle elsewhere, most often after a month staying in the region of migration. The worker's permit *(surat buruh kerja),* theoretically valid only three months, is commonly used as a travel and even residence document; migrants rarely if ever return to have them extended.

In effect, spontaneous migration offers not only the freedom to choose one's moment of departure, it also offers freedom of choice throughout the migratory period, whether it leads to a return to the sending area or not.

ECONOMIC PROSPECTS

The regions which attract spontaneous migration are of course those which have the economic opportunities to meet the needs of the migrants. Migrants look for the following in potential migration areas:

- access to relatively fertile land at reasonable cost (if not free). This goes mainly for land which migrants themselves open (such as at Cahaya Mas, Kampung Baru, and in certain coffee-planting zones), or re-open and plant for a fairly low price (as at Sabutan and in certain coffee areas);

- the possibility of rapid and/or sizeable profits, as in the coffee plantations. Compared with the large plantations in East Java, for example, where daily wages are low, the small plantations acquired or opened by the migrants themselves in Sumatra still offer the possibility of relatively large and rapid profits (with a time investment of at least three years);

- the opportunity to readily obtain work on a daily basis either in the plantation or food crop areas. Factors which increase the need for agricultural laborers are the larger surfaces cultivated by local or migrant landowners, the lower population density in these regions of South Sumatra, and the constant opening of new lands;

- daily, monthly, yearly or piece-work salaries that are relatively high and/or include attractive fringe benefits (meals, housing, tobacco, medicine, clothes). In the regions of South Sumatra under study, daily wages do not fall below Rp 1250 with meals, while in Java the minimum effective wage is lower, fringe benefits are often lacking, and the security of long-term employment is difficult to come by;

- in many cases, paradoxically, an isolated area where the rarity of distractions and other occasions to spend money enables saving and the amassing of capital. This is especially true for young unmarried male migrants who often mention the importance of not being tempted to spend in order to save. Geographical and social isolation is difficult to bear in the long term, especially if health problems arise. Migrants having lived many years in isolated areas (including those who work in mountain coffee plantations) in a state of social abstinence, eventually seek to reconstitute a network of social relations.

From a temporal point of view, the harvest periods in the coffee plantations and the rice-producing areas attract an influx of circular migrants. Some of them will return to the sending area after working in one neighborhood and some will continue to circulate to slightly later harvests in the region.

ROLE OF CONTACTS IN THE AREA OF MIGRATION

In turning his attention to potential zones of migration, and focusing his hopes on regions still unknown to him, the future migrant sifts through whatever second-hand information is available, looking for what might correspond to his own needs and aspirations. This is a risky exercise because it will at least determine the conditions of the first departure.

More than three quarters of the migrants questioned[6] already had a contact in Sumatra the first time they came. Many followed their parents or an employer, others first came as part of an organized Transmigration settlement program, some had the address of another migrant they could stay with, some were called to join family already in Sumatra, and the children of migrants who migrate in turn were born in Sumatra. Only two out of 136 migrants questioned clearly stated that they arrived alone and had no address; among the one fourth remaining who provided imprecise responses, it is likely that most, if not all, had an address before their departure.

One key to migration success, recognized by migrants themselves, lies in disposing of information at the right time. A main activity and concern of migrants, before the departure and during the migration period, is the search for information on the possibilities for employment and access to land, and the agricultural, climatic, and demographic conditions in the new regions.

This sheds light on two aspects of spontaneous migration. First of all, though they go far from their village of origin, sometimes opening new lands, migrants are not adventurers. Secondly, the role of contacts established prior to departure determine the routes that are taken.

Pulling effect of migrants on others from place of origin

Those with migration experience can have a very important influence, both voluntary and involuntary, on othrs from their community of origin. Whether they return to their village or not, their success or failure will encourage or discourage migration. This holds true both for spontaneous migration as well as for Transmigration.

Yet, those remaining in the village of origin have more knowledge of the successful migrations, simply because successful migrants return home more regularly to reinvest in the village or help their family. The failures and limited successes of the majority of migrants is less well known to those who remain, since these migrants often do not return, or at least they wait until they have something better to show for their experience.

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6 Based on a sample group of 136 case.

Despite this uncertainty that often exists concerning the situation of those who have left, the name and first destination of the migrants serve as a compass for future candidates. Even without having a precise address, they know that fellow villagers or inhabitants of neighboring villages went to a certain region, and they have an idea concerning the land available to settle and farm.

Having an address *(punya alamat),* however, does not mean that the migrant automatically makes a transit at the home of his predecessor in the new territory, since other opportunities and information which can influence the migration may be obtained along the road.

The attraction they can have on family and neighbors is not always desired by migrants. Many of those questioned said they did not wish to have others follow them to Sumatra or even to accept a parent or friend at their home, out of fear that they would be held responsible for any difficulty that might arise. Failure to write or return home is often justified by that fear or by the fear of being asked to return home *(takut disuruh pulang)* to help the family in difficulty. This behavior is more frequent among spontaneous migrants than among transmigrants. The latter seem more inclined to encourage other members of their family to settle the Transmigration reserve land *(tanah R)* or purchase lots from transmigrants who leave.

Aid in the receiving area

Even if they are living in a precarious manner, family or friends living in the migration area are expected to provide at least free housing while the arriving migrant begins to look for his first job. Meals are offered without compensation for several days to several weeks or more, depending on the case. Basically, the most important service is putting the new migrant in contact with potential employers, landowners, local formal and informal leaders--contacts which will increase his chances of gaining access to steady employment, or even better, to land.

New migrants who arrive without capital borrow from those who arrived before them, seek day wages to get started, and then longer-term sharecropping, annual or piecework engagements.

ROLE OF SPONSORS

Local and regional authorities often play an important role in stimulating spontaneous immigration. They do so either through the voluntary search for inhabitants or for manpower, corresponding to the migrant's quest for land and employment. Those who initiate such movements of several migrants at a time are called *sponsors,* irrespective of their status (as a private individual, neighborhood leader or village head) and the scope of their action.

A search for inhabitants is undertaken to populate an existing village or a new settlement. Numerous heads of sparsely-populated village are currently aiming to reach the mark of 250 or 500 households to quality for a future village development allowance to be attributed to "bona-fide" villages. For this, new residents are sought in Lampung and Java. This has been the case of Pedataran since the early 1980's.

In the case of a new settlement, the recruitment of settlers is organized by the small group that undertakes the land-clearing and the future village chief plays a decisive role. The residents return to Java to look for followers in their own villages of origin. They also go to regions of potential emigration (areas having recently experienced natural catastrophe or ruined harvests or areas where land access is virtually impossible). In Kampung Baru, the news of a landslide in Blitar sent the village chief there to recruit new residents. This voluntary search ends once the operation has been accomplished and enough households have moved to the new settlement (50 households in the case of Kampung Baru). The migrants can be expected to continue to arrive spontaneously, once the new settlement area is known.

Sometimes the desire to increase population and the collective search for land coincide, as when one village head contacts another concerning the possibilities of relocation. In 1988, a village head from Lampung Tengah met the Kampung Baru village head in an effort to find land for twenty Javanese families. Similar contacts have been noted between village leaders of the Lampung regions recently closed for reforestation and village heads in Muaradua Kisam sub-district. This process might best be labeled "spontaneous translocation."

The search for manpower is carried out mainly by large landowners for the development and maintenance of their own and sometimes neighbors' lands. In the regions studied, they are usually local Sumatrans or migrants who have been in Sumatra for many years and have acquired a vast coffee plantation. They look for workers (from two or three persons to a few dozen) in neighboring regions (Pulau Panggung and Semendo for Pengandonan, Belitang or Lampung for Muaradua, for example), or directly in Java. The workers are offered an annual contract or piecework. Sometimes they can gain access to land, and the temporary migrant sets up his homestead at or near his first job. The search for workers rarely continues several years in a row; the returning migrants transmit information on the possibilities of work and the landowners can count on spontaneous arrivals or returnees from one year to the next.

2. SPONTANEOUS MIGRATION CHARACTERISTICS

Through examining the correlations between migrants, their trajectories and their goals, we can hope to identify certain types of spontaneous migration. While it seems clear that migrants share a common goal--the search for capital that will guarantee long-term security for a family--this goal is not enough to explain the diversity of migrant trajectories. Furthermore, the relationship between migration stages and migrant types is a loose one; various combinations between these two variables are found. Under these conditions, the multifarious and changing nature of spontaneous migrations can best be analyzed through the identification of, on the one hand, migrant types and on the other, the types of migration trajectories.

2.1. Basic types of spontaneous migrants

A FAMILIAL MIGRATORY BACKGROUND

Based on interviews carried out in this study, 68% of spontaneous migrant families have been through a family migration experience, whether it be through Transmigration or spontaneous[7]. If they were born in Java, they often followed their parents in Transmigration or spontaneous migration to Sumatra, and began their own migration in Sumatra while still a bachelor or once married. Others were born in Sumatra from migrant parents *(kolonisasi,* general Transmigration, or spontaneous), who in some cases have returned to Java since. Where they were not children of migrants, they very often had a migrant relative (uncle, aunt, grandparents or step-parents, for example), whom they could stay with at first. Thus, born in Sumatra or in Inner Indonesia, many of these "spontaneous" migrants belong in fact to second and third generations of migrants.

BACHELOR MIGRATION

The spontaneous migration of young unmarried males *(bujang)* can be temporary, circular, repeated, and sometimes permanent.

Based on the interviews conducted for this study, more than half of the male migrants are unmarried when they first leave their village of origin[8]. Similarly, three fourths of the male migrants are less than 30 years of age when they first leave their village, and half of these are less than 20 (all unmarried).

Young bachelor migrants are often called on to occupy a special role in rural spontaneous migration, that of agricultural workers hired on a yearly *(tahunan)* or sometimes monthly *(bulanan)* basis. These types of constraining engagements are not usually taken by married men or families. Bachelors also take advantages of other opportunities such as working day by day *(harian),* a piecework contract *(borongan),* or a sharecropping arrangement *(paroan).*

These unmarried males almost always depart with just enough money for the trip to Sumatra *(ongkos jalan pas),* without any capital; Their family, in Java or Sumatra, sometimes help with the transportation cost.

The first migration often is undertaken at a young age, before 15, especially if an older brother or neighbor is leading, or if the youngster has the address of family to stay with. Young bachelors usually leave in a group of two, three or four, led by one who has been to the region before. These small groups often split up at one stage or another depending on the fortunes of each. Some continue to work in Sumatra, often after changing jobs; others are unhappy *(tidak kerasan)* in the new environment and return with their first earnings which they tend to redistribute immediately among other family members or invest in livestock, a machine or a small parcel of land.

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7 Out of a sample group of 127 cases.

8 Out of a sample group of 87 cases.

Many *bujang* work in the coffee plantations during the picking season, and some remain year-round to maintain the plantations belonging to locals or migrants. One frequently finds an elder brother working a yearly contract who calls one or more younger brothers to come for the harvest. In this case, two to four youths share the rudimentary shelter in the middle of the plantation occupied the rest of the year by the elder; alternatively, in the case of Javanese (or Balinese or Madurese) owners living on their own plantation, the young workers are all grouped together in the owner's house. During the high season, the young migrants voice enthusiastically the phrase *ramai sekarang* ("it's animated now"), in opposition to the atmosphere that reigns the rest of the year, one in which the isolation is oppressive, far from family, friends and the towns. Asked if they are happy to live and work in such a place, those who try to wait as long as possible between trips home declare, in so many words: "we are forced to like it here, but we miss our friends" *("terpaksa kerasan di sini tapi rindu kawan-kawan").*

Bachelors seem to have more difficulties in their migration than married men. They readily admit that they "miss their parents" *("rindu orang tua"),* and that they have a long migration road behind them, that "they have suffered a lot" *("banyak menderita").* Clearly, broken contracts (landowners appear to be less scrupulous with young workers), overwork, sickness (especially malaria attacks), isolation and poverty can make the migration experience a trying one.

Those who are determined not to return home pursue their goal with willpower and endurance. Some are able to work steadily one piecework job after another and make out better financially and psychologically as they retain their liberty of movement and decision unlike those who work a yearly contact for one boss. Numerous are the *bujang* who circulate for years between coffee and rubber plantations and food crop areas before deciding to return to Java or look for land in Sumatra[9]. Some try their luck in the factories or the informal sector in Jakarta or elsewhere. Unable to save and build capital, they decide to go farther west, to Sumatra[10].

Many do not hazard to speak of their plans for the future: "it's too far away" *("terlalu jauh"),* they say. Most hope to be able to make their home near family in Java (perhaps Lampung or Belitang if they were born there) with the capital they raise. If, however, the possibilities of obtaining land are better in Sumatra, they will return home for short trips or to marry before returning to Sumatra to settle down. A few end up marrying the daughter of a local landowner, thus gaining access to the coveted land[11].

The dominant impression is one of a group which strives to improve an initially unfavorable economic condition so that as adults they can escape the poverty of their parents, and if possible allow younger siblings to benefit from their success.

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9 See Appendix cases 1 and 2.

10 See Appendix, cases 3 and 4.

11 See Appendix, case 5.

FAMILY MIGRATION

It is often said in the sending-area villages of East Java that there are more families than young single men who migrate spontaneously. This is explained by the fact that a family can obtain more income by working together. In many cases parents are reticent to allow their young children to leave alone since they will then relinquish control over their income and expenditures.

Other reasons are also mentioned by the migrants themselves, for example: the possibility to carry out rapid agricultural work at the proper time--before or after the rains, for example--if there is enough labor available; the necessity in coffee plantations to have enough help available to harvest under the best conditions, leaving a member of the family to watch over the seeds drying in the sun, rake them regularly and protect them in case of rain; the possibility for a married man to devote himself to strictly productive work if his wife is there to assume the reproductive work, such as cooking and washing, and help with part of the productive work; and the importance of having family who can be counted on in case of sickness or for moral support.

In effect, based on data collected from 222 migrant households (bachelors, complete and incomplete nuclear families), only one fourth are composed of one man, single or married; the remaining three quarters are composed of couples with or without children. As would be expected, it is in the coffee-producing zones where one finds a few more men by themselves (a little more than one third of the households), than in the food crop areas (a little less than a fourth of the households)[12]. True, the migration of young single men is a dominant phenomenon for the first migration, both in the food crop and in the coffee areas. Taking into account that this sample group includes migrants on their first migratory trip as well as those who are repeat or long-term migrants, it can be said that there is a very strong tendency, once the first migratory stage has been accomplished, for all or a part of the family to be reunited in the new area. This results in more than three quarters of the long-term migrant households being composed of a couple with or without children.

Family migration is obviously more difficult to manage than bachelor migration. For this reason, families rarely leave together for the first time (less than 10% of the cases studied[13])[14]. Most often, the wife and children arrive after the family head, who comes earlier to prospect or verify the possibilities in the receiving area, and prepare for the move if it seems prudent[15].

In this way, a family changes its configuration and geographic dispersion as it migrates. The organization of such families is changing and often complicated because it follows the growth and evolution of the family, the growth of the children and the migration of the eldest children. The following migration patterns are most often noted:

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12 Based on 67 cases in the coffee zone and 155 cases in the food crop area.

13 Out of a sample group of 87 cases.

14 See Appendix, case 6.

15 See Appendix, case 7.

Migration of household heads

Married men most often begin their migration while they are still single. They migrate in a temporary, circular or repeated manner, and as heads of family, often with the plan of bringing their family with them eventually for good. In this case, while working temporarily, they prospect the possibilities of gaining access to land.

If the land is overgrown, or still secondary or primary forest, the father first clears the land, plants, and sometimes awaits the first harvest and builds a rudimentary shelter before fetching his wife and children[16]. In the meantime, he might make a quick trip to his village of origin to sell some of his assets (rarely all of them) if his earnings as a migrant do not suffice for the acquisition of new land. This is the case in both the food crop areas (such as Cahaya Mas and Kampung Baru) and the coffee plantations[17]. It must be noted that if the installation of a family is envisaged, most family heads orient their search toward the food crop areas to avoid the difficulties associated with life in the isolated plantations.

A father can leave alone, in a group with other adult men, or with one of his sons before deciding to bring his entire family along[18]. If this is an initial migration experience, the migrants will leave without capital, only the basic transportation fare, and will work for day wages, as a sharecropper or for piecework jobs.

Some family heads migrate only to increase their family budget, especially during the slack season in the sending area, without any intention of having their family follow. They return periodically to their village of origin with their earnings.

Still others, once they have acquired land, notably in the form of a coffee plantation, take a second wife who can help them, and start a second family; part of the earnings thus obtained is generally redistributed to the first family[19].

Migration of young couples

The migration of young couples is found in all regions of spontaneous migration, often as a follow-up stage to a preliminary migration by the man before his marriage to the same region[20]. The difficulties of educating children in the coffee areas are not yet felt, but the cold and humid climate, the malaria and deficient nutrition often incite these couple to move elsewhere[21]. It also happens that the young mothers leave the area with the children, and come

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16 See Appendix, case 8.

17 See Appendix, case 9.

18 See Appendix, cases 8 and 10.

19 See Appendix, case 11.

20 See Appendix, case 12.

21 See Appendix, case 13.

back to help the husband at harvests, on a seasonal basis, leaving the children with family in the village of origin.

Migration of parents without (all) their children

The problems of education and health result in many parents migrating without some or all of their children. The school-age children are left with their grandparents, uncles or aunts wherever they may be, in Java, Lampung or Belitang, in the regions of Transmigration, *kolonisasi* or spontaneous settlement[22]. Between once a month (for children left elsewhere in Sumatra) and once a year (for those left in Java), the parents shuttle between their children and their place of residence. This allows them to leave to look for land or work in regions such as South Sumatra offering higher earnings but inadequate infrastructures and environment for "normal" family life, as defined by the migrants (lack of schools, roads, health centers, and presence of endemic malaria, for example). Sometimes one child will follow the parents.

This family configuration is also adopted by parents who leave their children on land acquired through spontaneous migration, or on their Transmigration parcel, and leave to seek other land or employment to increase earnings otherwise insufficient for the entire family.

Migration of complete nuclear families

In most cases, efforts are made to retain the contact with the village of origin and all assets are not liquidated to pay for the migration. A family member will occupy the house or rent it out, and land that does not have to be sold will be sharecropped out, rented or left to be cultivated by family. If necessary, however, livestock, motorcycles, bicycles, or farm machinery will be sold to put together the capital necessary for acquiring a new plot of land[23].

This concern with retaining a link with the village of origin is due mainly to the uncertainty of success in the receiving area and also to the idea that the children will perhaps want to return. In a few cases, families who feel that their migration is irreversible, for the parents as well as the children, due to the acquisition of land that is clearly superior (in size or quality) to what they had before, liquidate all their assets for the new investment. This behavior is more frequently encountered when the investment is made for land suitable for food crops rather than for a higher-risk coffee-growing[24].

The role of women

As can be seen by the large proportion of couples and migrant families, migration is not a strictly masculine experience, though women experience it in different ways than do men. Though this question necessitates more study, it is clear that women play as fundamental a role

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22 See Appendix, case 14.

23 See Appendix, case 7.

24 See Appendix, case 14.

as men do. While the husband almost always determines the migration destination, the wife determines the migration viability and duration. In effect, due to the division of labor within the family, while the man chooses a place with productive lands and employment opportunities, the wife must adapt to an environment generally quite unfavorable for the sorts of chores under her responsibility (with problems for water, nutrition, shopping, child education, health and transportation). It is not uncommon to note differences of opinion on the migration experience. The husband appears more optimistic as to the results obtained; the wife expresses more criticism of her new environment and more often desires to return to a previous home, in the village of origin or an earlier migration area.

2.2. Routes and migration steps

The material conditions of departure are very similar from one case to another. Material aid available to migrants at their departure is virtually nonexistent, except for young males leaving alone. Their parents or certain village chiefs in Java pay for their transportation. Private organizations *(yayasan)* have also been cited as possible donors but few migrants seem to have been aided by them. Sponsors do not always pay the travel costs of the migrants they bring.

The trips to the migration area are always made by the least costly method, almost always by bus. Here are some examples of bus fares (mid-1990) per person, per trip:

- Martapura-Jakarta-Malang (East Java): more than Rp 30.000, 2 days and 2 nights.
- Bali - Cahaya Mas: Rp 35.000, 2 days and 2 nights.
- Cahaya Mas - Banyuwangi (East Java): Rp 35.000.
- Muaradua - Ponorogo (East Java): Rp 22.000, 2 days and 3 nights.
- Sukorejo - Sukoharjo (Central Java): Rp 20.000.

TYPES OF MIGRATION TRAJECTORIES

Numerous routes are taken by migrants (80 different routes were found out of 136 migration histories analyzed). Their variety reflects a correlation of many variables due to the particularity of each life history and the networks used throughout the migration. For this reason, the types presented below can only represent general tendencies.

Direct trajectories

Direct spontaneous trajectories, migration directly from the place of origin to the site when the migrant was interviewed, do not account for the majority; they constitute one third of the trajectories studied if departures from Sumatra are taken into account (such as a departure from a Transmigration site or from a place of birth in Sumatra), and only one sixth of the routes taken from Java or Bali to Sumatra.

In the cases where a migrant arrives at the final spontaneous migration site without passing through an intermediate stage, he almost always knew his destination before he left, went to join a family member, friend or neighbor, or left with someone who already knew the site such as

a migrant who had acquired land or worked there before, or a sponsor[25]. Direct migrants are usually young bachelors or married men who leave their wife and children in the village of origin, rarely entire families[26].

Multiple step trajectories

Within this same sample group of migration trajectories, 40% include an intermediate stop between the village of origin and the site where the migrant was interviewed, and the remaining 30% include at least two intermediate stops (without counting returns to the village of origin).

Out of all the migration histories collected, half pass through Belitang or Lampung before continuing to another site. This proportion reflects the importance of a parental or acquaintance network to spontaneous migrants and corresponds to the familial migration background mentioned above. When there is only one intermediate stop, it is more than half of the time in Belitang or Lampung[27]. One remembers parents who left many years earlier with a *kolonisasi* or transmigration scheme, or by spontaneous migration (such migration is often referred to as *person).* An uncle, aunt, grand-uncle or grandparent can provide valuable material and moral support and their home can serve as a base for gathering information and planning the next steps in the migration.

Many Javanese are also living in the region of Muaradua following their participation in various construction projects (the NRC road project in 1968, the construction of various governmental buildings in Baturaja and Batumarta, for example). The men first came alone, then remained to add to their earnings and eventually settled down in the region before bringing their families from Java or founding a family in Sumatra. Others, dissatisfied with the Transmigration sites in Mesuji, Lampung or the Pasang Surut tidal swamp area, migrated spontaneously in search for more fertile land or a more healthy environment[28].

Migrants coming from Lampung without having passed through the Transmigration or Translocation zones look for more fertile or less expensive land, or flee cultivated areas that have been declared protected and off-limits. They are looking in South Sumatra for land which they can cultivate without fear of being expelled[29].

Another multiple-stage migration trajectory is adopted by a number of bachelors and married men without their families. Before returning to the village of origin, or acquiring land, they go from one coffee plantation to another depending on the harvest and weeding season or the opportunities available for forest clearing[30]. This circular migration, which can continue for

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25 See Appendix, case 15.

26 See Appendix, cases 7 and 11.

27 See Appendix, cases 14, 16 and 17.

28 See Appendix, cases 18 and 19.

29 See Appendix, cases 20, 21 and 22.

30 See Appendix, case 2.

several years before a return to the sending area, has become less prevalent with the falling price of coffee.

Back and forth trajectories between the village of origin and spontaneous sites

This migration type is found at two distinct periods in the migration process:

- when the migrant has not yet made the decision to set up a permanent home in the new site, or if he does not yet have access to land. A bachelor or man who has left his family in the village of origin, he returns home following each work contract or after the harvests.
- once the migrant has acquired productive land in Sumatra, he shuttles between two residences--sometimes two households--one in Sumatra and the other in his village of origin, sometimes holding on to the idea of coming back ulimately to live or retire in the latter.

The region of Belitang furnishes a large portion of the seasonal workers in the coffee plantations of the Muaradua region[31] and the rice fields belonging to the locals (in Pengandonan, for example). These are almost all young unmarried men who return to their family once the coffee harvest or the work in the rice fields is completed. In the isolated highland coffee plantations, the migrants are mainly Javanese from Gunung Raya and Lampung, very few from Belitang. The food crop areas such as Sabutan, Cahaya Mas or Kampung Baru do not attract this sort of migration.

For the most part, the routes followed are Belitang - Muaradua - Belitang, or Java - coffee plantations - Java.

One person interviewed migrated in this manner from 1978 to 1987 between Gunung Raya and his village in Java. He would leave with a group of about ten men from his village in Java once the rice harvest was over and the slack agricultural season began, and return from Sumatra once the coffee harvest was over. When he finally acquired a coffee plantation of his own in the Kotaway highlands, he brought his wife and children, while continuing to invest his earnings in Java where he plans to return one day.

Combinations of these types: open-ended and/or circular migrations

In reality, migration trajectories are more diverse and complex than the types presented above, and are often combined during a migrant's lifetime.

First of all, the distinction between transmigrant and spontaneous migrant cannot apply to all cases. For example, parents who arrived in Sumatra through Transmigration sometimes leave the allotted land to their children, and migrate in a circular fashion to pay the costs of schooling or to try to acquire other land. They might also seek to obtain land outside of the Transmigration site, or transfer ownership of their lot *(ganti-rugi,* "with compensation," outright sale of Transmigration parcels being forbidden) in order to buy better land elsewhere. This happens in the event the family goes bankrupt in Transmigration, or if they judge the Transmigration land insufficient to provide a future for their children.

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[31] See Appendix, case 23.

Furthermore, the distinction between lifetime, or open-ended migration, and circular migration is even less clear since many spontaneous migrants begin their migration with a circular or temporary voyage before settling down for a long-term stay. Rarely can one be sure if this settling-down will be permanent, meaning no eventual return to the village of origin to live. Much of course depends on whether the individual migrant or the family (and its ever-changing form) is the focus of analysis[32].

It is also difficult to distinguish between migrants choosing the food crop regions or the coffee plantations, because these two destinations are frequently associated during a migration history[33]. In one third of the cases[34], the migrants went through both Belitang and Lampung and through one or more zones of coffee cultivation.

Lastly, for those who make their final home in Sumatra, circular migrations can be considered, in addition to their economic purpose, as trial periods which permit the migrant to test his faculties for adaptation to the new human and agricultural environment, and as opportunities for learning new agricultural techniques and obtaining the savoir-faire that will be put to use once the migrant has gathered sufficient capital to buy land.

Here are some examples of complex migration routes:

Java - Metro - Belitang - Gunung Raya - Belitang - Gunung Raya - Sabutan
Java - Belitang - Kalimantan Barat - Java - Belitang - Danau Jaya
Java - Belitang - Pasang Surut - Belitang - Kampung Baru
Java - Muaradua - Bali - Muaradua - Sabutan
Java - Sabutan - Java - Belitang - Lampung - Sabutan
Java - Jakarta - Bengkulu - Lampung - Java - Belitang - Cahaya Mas
Java - Belitang - Metro - Gaya Baru - Sukorejo.

THE CASE OF SEMENDO MIGRATION

The Semendo who opened the forest in Danau Jaya provide an interesting example of the importance of social and cultural factors for an understanding of the dynamics of migration.

Most of the Semendo settled at Danau Jaya come from the village of Lawang Agung, Muaradua sub-district. This village, like others in this area known as Bayur, was founded at the beginning of 1900 by Semendo migrants from Pulau Panggung, Semendo sub-district, an area that at the time had reached a saturation point. In Bayur, permanent residents are those who own a rice field *(sawah)*[35]. That is why each Semendo tries to open as much land for coffee planting as possible in the hope of being able to acquire a rice field with the earnings. One plant's coffee, then buys a rice field, followed by a house; only then can one feel at ease *(tenang)*, as the saying goes.

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32 See Appendix, case 14.

33 See Appendix, cases 1, 16 and 24.

34 Out of a sample group of 136 cases.

35 The current price for one hectare of sawah in Lawang Agung village, Muaradua Kisam sub-district, is about Rp 10,000,000.

According to Semendo inheritance practice, the eldest daughter receives the house and fields and must take care of her parents in their old age. Males, though they may stay at the family home when necessary, are expected to seek a living of their own. Furthermore, Semendo in Bayur have an incentive to migrate outside because land suitable for coffee in their area is said to produce very poor yields of the preliminary rice crop planted under the growing coffee trees. Farmers in Lawang Agung say they are unable to live off the rice harvest while waiting for a coffee plantation to mature.

The price of uncleared land in Bayur is almost twice the price of land in Danau Jaya which the Semendo consider more fertile (Rp 300,000-350,000 compared to Rp 500,000-600,000 in Bayur; the latter, however, is *tanah marga).* All this means that male Semendo who do not have sufficient capital or *sawah* to support themselves for the three years before coffee maturity must migrate out of the area or work for others.

The Semendo in Danau Jaya do not plan to live there eternally. They each have plans to return to Bayur, to Lampung or (the preferred solution) live in the town of Muaradua, "in the middle" between their original village in Bayur and Danau Jaya.

2.3. Adaptive strategies of migration

Several behavior patterns can be identified that, more often than not, insure a degree of success in migration. A forced return or other major problems can thereby be avoided, especially for families for whom migration carries additional risks. One might even speak of techniques for successful spontaneous migration:

- constantly inform oneself of the opportunities for employment and access to land by taking advantage of all close and distant contacts;
- send an active member of the family (father or son) on a scouting mission to the place of potential migration;
- accept to separate members of the family depending on the situation and needs for periods of from a few months to several years;
- retain, to the extent possible, land and housing (even if rudimentary) in addition to that possessed at the most recent migration site.

Unproductive land in a Transmigration settlement, for example, which one has to leave in order to be able to meet the needs of the family, might still be worthwhile keeping for a family member who could take in a child in case of need[36]. The same goes for holdings in Java or Bali; one never knows if the migration will run into trouble or if it will be necessary to send a child there for more adequate schooling[37].

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[36] See Appendix, cases 18 and 19.

[37] See Appendix, cases 7 and 10.

Dispersion rather than concentration is the rule. This goes for the members of a family and for the places of residence and land. This perhaps suggests that spontaneous migration is only a partial success, since migrating families cannot assure the support of all members at one place. A migrant cannot risk calling his family until he has reached a certain degree of economic stability, usually including access to land judged sufficient for his children. In the frequent case where the family is incomplete, the geographical spread of its members is striking. The parents of the migrant remain in the village of origin, with one or several of their children, and perhaps grandchildren; brothers and sisters of the migrant are relocated to various regions (Sumatra, Kalimantan or Sulawesi) either through Transmigration or through spontaneous movement; the spouse follows the migration intermittently; or the adolescent or married children of the migrant are encouraged to search for a living themselves through a new migration[38]. This practice of dispersing out family members also spreads the risks of failure.

Another striking aspect of spontaneous migration that distinguishes it from transmigration, the young age of migrants at their first departure, cannot be explained entirely by the need to be strong and in good health to face the rigors of migration. Other factors intervene. As far as educational level is concerned, 45% of the migrants interviewed did not finish primary school, 34% did not continue their education beyond the primary level, and 13% never attended school. For those under 31 years of age, the figures were approximately the same[39]. Therefore, these youths from 15 to 25, whose families lack the means to educate them further, must make a living for themselves and help their parents or younger siblings. Whether they are children of transmigrants or not, if they have to migrate they will do so as spontaneous migrants because only families or married couples can join a Transmigration program. If one considers that the land in a Transmigration scheme is insufficient for the needs of two generations, then one could say that Transmigration produces spontaneous migrants.

In a more general sense, one can say that the difficulties of educating children above the primary level encourage the migration of youths, by combining the factors of unemployment, a possible adolescent need to "get away," and the family pressure to be self-sufficient or to contribute to the family's budget.

Finally, it appears that it is not so much a certain mentality that orients people towards spontaneous migration, but rather the conjunction of specific and evolving living conditions and opportunities to be seized at a given moment. Various migration patterns are found among spontaneous migrants, and often combined during a single life history. A spontaneous migrant can have experience as a transmigrant, be at the same time an open-ended and circular migrant depending on the opportunities that present themselves, or even consider signing up for a Transmigration program if he does not make out well as a spontaneous migrant.

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38 See Appendix, cases 6, 16, 19, 20 and 24.

39 The sample group is composed of (all ages): 77 cases, including 35 women and 42 men. Out of these 77 cases, 42 were under 31 years of age (24 women and 18 men); among those under 31, 43% did not complete an entire primary cycle, 38% did not continue their education above the primary school level, and 14% never attended school.

third part

PROCESS OF SETTLEMENT

1. SETTLEMENT ESTABLISHMENT, ORGANIZATION AND DEVELOPMENT

1.1. History of sample settlements

The sample settlements chosen for in-depth study were classified above into two groups: food crop and highland coffee areas. Another typology can distinguish three settlement types according to their structure and status.

Within the first type are the organized and independent schemes which resemble in many ways the general government-financed transmigration villages. These settlements can usually become villages *(desa)* in their own right and residents can obtain legal title for their land. **Cahaya Mas** and **Kampung Baru** fall into this first category.

A second category comprises the many scattered, independent and mainly coffee-growing settlements in hilly areas whose residents have little hope of obtaining land certification in the near future. Such settlements, exemplified by **Danau Jaya, Air Bunga, Tunggal Jaya** and **Tunas Mudah,** are linked for administrative purposes to an established village but their isolation allows them to retain a very autonomous character.

A third type of spontaneous settlement covered in this report includes those which are directly dependent on and linked to original local Sumatran settlements. These settlements may be primarily based on food crop production, like **Sabutan,** or coffee as in the case of **Sukorejo.** Though the links with an established village are strong, both geographically and socially, land title may (Sabutan) or may not (Sukorejo) be possible in each respective area.

We may now turn to a discussion of the factors determining how settlements are established and develop over time, by referring to the case study areas and other settlements.

The selection of sites for spontaneous settlement calls into play a number of factors such as the migration history of the pioneer group, land fertility, market accessibility and the possibility of obtaining authorization for clearing. A new settlement often represents an incremental extension of already existing settlements that have reached the point where they can no longer provide new land for their increasing population (due mainly to continued immigration and family division), and/or have experienced diminishing soil fertility and crop yields. The expansion of coffee-producing areas is brought on by in-migration and the declining productivity of older trees which provide impetus for opening primary or secondary forest to plant new coffee.

Examples of the incremental nature of spontaneous settlement expansion in food crop areas are Cahaya Mas and Kampung Baru, two settlements opened in the early to mid 1980's in the southwestern corner of the Mesuji sub-district. **Cahaya Mas** (Mesuji sub-district) in the 1980's

was in part an extension of the Nusa Tenggara (Belitang sub-district) settlement area which, in the early 1970's, resulted from population increase and land shortage in the Belitang irrigated perimeter, comprised of settlements dating from the *Kolonisasi* and later periods of organized transmigration.

Cahaya Mas was first opened in 1980, when 40 families were given the authorization to open the land by the *pasirah* Haji Surul Alam P.I., who formerly had jurisdiction over the land. The settlers did not pay any fee to open the land, and were allocated two hectares per household. After several years of planting they were able to have land-ownership papers drawn up at a cost of between Rp 15,000 and 25,000 (price range 1981-1986).

Many of the lowland settlements have sprung up along or near roads recently built through forest areas. Such is the case of Cahaya Mas, which has developed along one of the roads connecting the Belitang and Mesuji sub-districts. After PT Way Hitam received a 20-year forest concession in 1972 to run the sawmill to the east of Cahaya Mas, it contracted the building of a road from Nusa Jaya (Kec. Belitang) to Pematang Panggang (Kec. Mesuji) completed in 1974. This unasphalted road facilitated spontaneous settlement of the forested region and was to serve as the primary link between Pematang Panggang and the many general transmigration schemes which were to be opened in the 1970's and 1980's.

The first people to open the forest at Cahaya Mas came from Nusa Jaya and Nusa Tenggara. The leaders of this movement were people who were familiar with the area, having worked on the road project or cut wood in the forest. The parents of many from Nusa Jaya came in the early 1960's as official transmigrants. Some said that little or none of their parents' land remained since it had been sold off little by little over the years.

Once the area was opened for settlement, farmers would come by bicycle to Cahaya Mas in the morning to work their land and build their houses, returning home in the evening[40].

Cahaya Mas received many new settlers in 1987. Arriving since 1988, about 25 Balinese households have formed an *RT*. At present most migrants come from Belitang, Air Sugihan and Lampung. Cahaya Mas has about 500 households in all as of mid-1990. Cahaya Mas plans to close to new settlers in 1991.

Kampung Baru was first opened in 1984. A former village head from Nusa Bakti, to the west in the Belitang sub-district, got the idea of settling the area while fishing there one day with his wife. He went to see the *camat* of Mesuji to ask permission to open the land. The *camat* granted him permission, and once a population of 50 households had been reached in 1986, made him village head of Kampung Baru. The first settlers were Javanese who came from Nusa Bakti, Nusa Bali and nearby villages in Belitang. As for Cahaya Mas, this settlement received many of its charter residents out of the many people seeking larger, more fertile parcels than what they had left or could stand to inherit in Belitang. Subsequently, a large percentage of settlers were recruited directly from Java by these first pioneers. Due to the phenomenon of massive sponsorship, the population has grown very rapidly. Kampung Baru had a surge of new arrivals and development in 1989, during which year groups of Balinese also entered. With a population of over 4000, Kampung Baru has been closed to further in-migration

[40] See Appendix, case 23.

by order of the *camat* as of 10 July 1990, so that remaining land may be set aside for the offspring of the present residents.

Sabutan, a food crop area located in a predominantly coffee-growing region, provides an example of the evolving nature of settlements. The land around Sabutan was originally owned by local Daya people, though it had been left to return to secondary forest since before the Second World War. By the 1960's, several families of Sundanese had already set up small brickmaking factories along the main asphalted road. In 1959, a government irrigation project was begun just to the interior, run by and incorporating Javanese. The land was measured, maps were drawn up and the beginnings of an irrigation system were established over 135 hectares, only to be abandoned entirely in 1965. In 1975, still covered with *alang-alang (Imperata cylindrica)* and large trees, the land was declared unused and parcels were given to armed forces veterans and retired government officials. While six of the twelve original veterans still remain in the area, most of those who received land were absentee owners who eventually sold their parcels to Javanese who increasingly were coming into the area. One of the first Javanese to settle in the interior of Sabutan became familiar with the area while working on the Muaradua to Danau Ranau road asphalting project. He came to settle in 1975-76. Many workers on this road project *("Jalan NRC"),* underway in the early 1970's, ended up staying in villages along the route from Muaradua to Danau Ranau. Several who now own land first started as agricultural laborers for veterans or locals. These new migrants, along with the West Javanese brickmakers along the road, served to impart a Javanese character on the area which served to attract others. Of course it would be difficult if not impossible to determine when the first wave of migration occurred, but there is evidence of previous assimilation of Javanese into nearby Sumatran villages. People along the road speak of four or more generations of Javanese present, married to locals and already possessing grandchildren. The use of Javanese plantation workers in the colonial tea and coffee plantations around Danau Ranau (Gunung Raya, Sipatuhu) also encouraged spontaneous movements in the past.

Some local settlements have been encouraged to accept large numbers of migrants by village or sub-district officials intent on increasing their populations in order to qualify for the status of full-fledged village (minimum of 250 or 500 families is required). With such status, an area becomes eligible for development aid in the form of roads, schools, and other services. District administration policy now is also aimed at filling in areas of low density rather than opening up new tracts for exploitation. The population of one such settlement in the Simpang sub-district, Serekat Jaya, grew from 359 to 1460 in the space of only one year (1988) following arrangements made between the village head and his counterpart at Air Nandingan village in South Lampung (Pulau Panggung sub-district). The village provided two hectares of unused land suitable for food crops to each of the 150 families that arrived. Cost of the formalities resulting in the issuance of land titles *(SKT)* amounted to Rp 25,000 per parcel. Serekat Jaya, like other indigenous villages, had long sought to augment its population. Efforts were made as early as 1964; between 1969 and 1974, one of the neighborhood heads *(kadus)* made four trips to West Java to bring back a total of forty families.

Many other sparsely-populated indigenous villages in South Sumatra have accepted groups of migrants looking for new homes following the closure of upland settlements in Lampung, as in the case of Air Nandingan above. In some instances, the migrants and their village leaders had time to scout out suitable areas in advance, such as Serekat Jaya, but in others the migrants had to flee with little warning, to embark on an urgent search for new homes and livelihoods.

For the sake of efficiency, we have concentrated on coffee-growing areas in the OKU district. Cursory examination of the other districts indicates that the processes we noted are fairly representative of those encountered elsewhere.

In **Danau Jaya** and other highland areas attached to Kotaway village in the Simpang sub-district, one finds illustrations of the role played by local peoples in opening up forest land to subsequent Javanese settlement. Danau Jaya first began to be cleared by Semendo from Bayur, Muaradua Kisam in 1977. They received permission to open the land from the Bupati and other officials at the time.[41] A few Javanese, who had been agricultural workers for the Semendo in Bayur, were brought to Danau Jaya to aid in the land clearing for Rp 500 daily wages. Many of them, and then other Javanese, opened land for themselves, spreading out to new areas which would in time be populated mainly by Javanese. This colonization resulted in a "filling in" of the remaining forested land between the long-established coffee areas of Kotaway and Gunung Raya. The Semendo had chosen Danau Jaya because of its lake and its geography. Being a highland plateau *(datar tinggi)* it was a choice location for a village and promised high-yielding coffee. The first settlers made their way to Danau Jaya from Gunung Raya (location of the colonial tea and coffee plantations to the east of Danau Ranau), passing through primary and secondary forest. ## Insérer carte de Danau Jaya

Other migrants were interviewed in the far-flung *talang* lying to the east of the Saka river and connected administratively to Kotaway village. These areas, including **Air Bunga, Tunggal Jaya** and **Tunas Mudah**, were first opened in 1979 by people from Gunung Raya. This area was also heavily forested, and early settlers had to contend with troops of elephants. By 1982, however, there was no longer any primary forest left and by 1985 the communities were more or less stable following the arrival of families.

A common method of opening forest land was to form a group, composed usually of four men, which would work together to open a vast area and plant *padi* and coffee. In this system, known as *kungsi,* the men would share the *padi* harvest and then divide the area into equal parcels[42]. An average-sized parcel opened up in this way worked out to about two hectares per person, enough for 3-4000 coffee trees. In time, the first farmers enlarged their holdings by opening up more forest often "on the edges" of their original parcels and by purchasing established plantations from others.

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41 A few clearings in this forest between Kotaway-Talang Karet and Gunung Raya had already been made, probably without authorization, by small local and migrant groups about three years before the establishment of Danau Jaya.

42 See Appendix, cases 11 and 17.

Sukorejo is an upland *dusun* of Pedataran village in the west of Pengandonan sub-district. Coffee was planted in Sukorejo in about 1979. At about this time, the *desa* head began to seek to increase the population of his village. Sukorejo became very active in 1986-87. One of the first to plant there was a Javanese who three years earlier had married a local woman from Pedataran village[43]. As the need for plantation workers in the area increased, he brought several of his own family members. Many other Javanese subsequently came to Sukorejo to work for the local landowners, usually on a sharecropping basis. A few married into local families, but most of the others have remained agricultural laborers for the locals. Sukorejo is a special case of a coffee-producing area with a relatively small and isolated Javanese population. The bargaining position of these Javanese is rather weak. For many, Sukorejo is the last in a series of migration failures. A number of them fled unfertile Transmigration areas in Lampung. Others ended up in Sukorejo when employment opportunities were exhausted elsewhere. Most are barely able to assure their own subsistence and therefore have little chance of obtaining land.

In all areas, but most notably where land title is secure, one constantly hears emotions expressed about the future of the settlement and the hope for eventually developing into an active village. It is not uncommon to witness impassioned discussions among village leaders and residents where the yearning "to become a real desa" *("jadi desa betul")*, and "to become full of people and activity" *("jadi ramai")* is repeatedly expressed. Some would even gladly accept a Trans Umum project in their backyard if it would accelerate development and activity, referring to the empty lands nearby that could be used for such projects. Behind these pronouncements lies also a conviction that the more Javanese and other migrants present in the area, the faster change and development can occur, less hindered by what is seen as local Sumatran conservatism and passivity. Such beliefs are not unanimously held, however, and many recognize the importance of local capital for the creation of transportation and market infrastructures. Kampung Baru is a notable example of a settlement that has developed almost overnight largely due to the influx of local capital.

Like indigeneous communities, spontaneous settlements evolve over time. Settlements cleared out of forest for coffee planting can develop into stable communities integrating food crop and home garden *(pekarangan)* cultivation with tree crops. Sipin village (Simpang sub-district), for example, is composed of older neighborhoods (first opened in the 1940's) where residents have legal title to their land, and recently-opened settlements (10 to 20 years old) where legal title is unavailable. The residents themselves recognize distinct differences in behavior that characterize people in each area. In the upper hilly areas, settlers adopt an attitude of temporary residents practicing coffee monoculuture, seeking short-term returns and not stocking their harvests. Below, in the older neighborhoods (Sipin 1 and Serumpun), the settlements have evolved to where a more long-term strategy can be adopted by residents. With their land title secure, they have diversified out of a strict dependence on coffee, including pepper, rubber and cloves in their plantations, planting food crops, and developing home-gardens. With revenue from other sources, the coffee harvest can be stocked in anticipation of higher prices. Strategies can even be

[43] See Appendix, case 5.

combined in the same person, since many Sipin villagers possess land in both areas. Clearly, secure land tenure is a precondition for the development of diversified communities based on sustainable production systems.

Table I: Sample field sites

Field Site	Status of settlement and date of first migrant influx	Location	Population (1990) *
Sabutan	*dusun*, pre-1960	Bumi Agung, Muaradua OKU	150 hh
Cahaya Mas	*desa*, 1980	Mesuji OKI	1823
Kampung Baru	*desa*, 1984	Mesuji OKI	4226
Sukorejo	*dusun*, 1979	Pedataran, Pengandonan OKU	61 hh
Danau Jaya	*dusun*, 1977	Kotaway OKU	500 hh
Air Bunga	*dusun*, 1979	Kotaway OKU	**
Tunggal Jaya	*dusun*, 1979	Kotaway OKU	**
Tunas Mudah	*RT*, 1979	Kotaway OKU	**

* If total population is unavailable, the approximate number of households (hh) is given.

** According to the Kotaway village head, about 1500 households live in the highland area composed of Air Bunga, Tunggal Jaya, Tunas Mudah, Giham I, Giham II and Giham III.

1.2. Access to land and distribution of home and field sites

Broadly speaking, migrants who enter spontaneous settlements in food crop areas buy their land, either from the village administration at a fixed price or from residents based on market value, while migrants in the coffee-growing highlands open secondary forest or, increasingly, purchase established plantations from former owners. The first type of migrant can expect to obtain some sort of legal title for their land, usually the *SKT,* while most owners of recently-opened coffee plantations cannot.

Migrants who enter established communities on their own must purchase land at market rate, unless they can accede to land ownership through marriage or a land-sharing arrangement. The majority of migrants living in predominantly Sumatran communities sharecrop or work as agricultural laborers. If they own land, their holdings are usually small. It is very difficult for them to obtain prime land or *sawah* in some areas, especially if such land is limited. Often, however, a movement to open forest or other unused lands begins and is planned from an established Sumatran village. Migrants present at this moment can follow the movement and amplify it, creating in the process new settlements with a distinctive migrant flavor.

In the case of migrants being offered land in or near established local communities, as in the case of Serekat Jaya, terms are usually quite attractive for the migrant. Village and sub-district officials, seeking the long-term benefits of increased population and economic activity, together strive to minimize formalities. This enables migrants to own land at a reasonable price (usually between Rp 25,000 and 50,000 for a two hectare parcel).

In some areas, indigenous residents do not hide the fact that they retain the choice parcels, offering or selling marginal or leftover land to new arrivals. This seems more due to the fact that prime land is beyond the means of most migrants rather than to any deliberate policy of the locals to restrict migrant access to the best land.

The administrative process involved in receiving new residents is essentially the same in the two Mesuji villages studied, Cahaya Mas and Kampung Baru. A person interested in acquiring a parcel reports to the *Kepala RT* (a low-level neighborhood leader responsible for several dozen household units), who transmits the application to the neighborhood head *(kadus),*

The migrant is shown the available parcels by the *kadus* and other settlers. Once a migrant accepts a parcel and settles a down payment *(uang muka)* or registration fee *(uang daftar),* the parcel is measured, the village head is informed and the migrant becomes a resident. The cost from early to mid-1990 ranged from Rp 200,000 to 275,000 for a two hectare parcel in Kampung Baru and Rp 150,000 to 180,000 in Cahaya Mas, including *SKT* for both house lot *(pekarangan)* and agricultural plot *(ladang).* The first to open the land at Cahaya Mas did not receive official title to their land until 1985-86, paying about Rp 25,000 at that time. In Kampung Baru, early settlers in the first few years (1984-85) paid Rp 50,000 *pancung alas* for their two hectare parcels. Though the going rate for parcels in any one settlement rises over time, we found no evidence of any sizeable difference in the rates charged various settlers arriving at the same time. Most new arrivals cannot pay a lump sum right away, and are therefore allowed to pay installments (generally on the order of 20%) each year after harvest, until the land is paid off.

The rule is that one household receives one parcel. If one has the means, however, it is often possible to receive additional parcels in the name of other family members, including older children who will soon marry and form their own households.

In the first years of settlement, the fee for opening the land was paid directly to the sub-district head *(camat)*. In return for this payment *(pancung alas)*, the migrant received title to his land *(akte)*. Now the proceeds from the sale of village land are divided between the various levels of the local government. Depending on the settlement, the respective shares work out to roughly 35% for the *camat*, 20% for the village head, 20% for the community chest *(kas desa)*, and 15% for the neighborhood head *(kadus)*. Of the remaining 10%, about half goes to the team measuring the parcel and half towards the purchase of clothes for the village security squads *(hansip)*.

Cahaya Mas allows yearly rental of unused land, with the proceeds going into the *kas desa*. The current price is Rp 10,000 per hectare per year for residents and Rp 20,000 for non-residents. Many residents rent additional land each year to allow sections of their own land to remain fallow, thus conserving soil fertility. The existence of this reserve land is important as there is uncertainty regarding the future ability of these soils to withstand continuous cropping.

Most people have obtained their land in Cahaya Mas and Kampung Baru through the standardized system of allocation drawn up by the local and sub-district officials (migrants still refer to the system, or the fee involved as *pancung alas*, the name of the defunct *Marga* government's license for land exploitation). In Cahaya Mas, at least, this process will continue as long as land is available. Others have and can still obtain land through buy and sell operations on the open market *(jual-beli)*. Land purchased in this way can be expensive: Rp 1.5 million for an average two hectare parcel in Kampung Baru, 4 million for a 0.25 hectare home site near the market. Settlers with financial means sometimes obtain one parcel from the village and then purchase additional land from those departing. One parcel being about as much as one household can manage, additional land is used for fallow rotation and set aside for the children. To the purchase price must be added the cost for changing the owner's name on the *SKT*, which in 1990 amounted to about Rp 35,000 in the Mesuji villages.

Spontaneous settlement has also long occurred along the road from the PT Way Hitam sawmill to Pematang Panggang. Some of the people along this road have been in the area since the mid-1970's and early 1980's, either working at the sawmill or drawn by the general transmigration schemes nearby, the first of which, Surya Adi, was opened in 1974. Over the last few years this movement has accelerated with several general transmigration schemes putting sections of their land reserved for expansion *(lokasi tanah kepecaan KK)* up for sale to spontaneous migrants. Normally the parcels measure 1.25 ha, and prices have ranged from Rp 50,000 in 1985 to from Rp 200,000 to 300,000 in 1990. The B2 "Bina Tani" *Trans Umum* settlement turned over a large portion of its reserve land to a *Swakarsa* non-funded government organized transmigration scheme in 1988 which has provided land to 500 households. This figure includes offspring of B2 families but not those who are more or less temporarily working land belonging to others *(penumpang)*. Through a personal contact with the B2 village head, an agricultural laborer from Wonogiri ended up head of the *Swakarsa* project and made some 15 round-trips to Java in the space of less than two years to seek farmers for the project. Parcels

are 1.25 hectares at present and may be enlarged to two hectares in the future. By mid-1990, there was a waiting list of 25 families, thus regular allocation of parcels (at a cost of from Rp 65,000 to 115,000 each) is no longer possible and new settlers must purchase from departing families at much higher prices, between Rp 400,000 and 500,000 for an average parcel and up to Rp 750,000 near the crossroad entrance to B2.

Spontaneous migrants often remark that in settling near a general transmigration scheme, they can benefit from more complete infrastructure and services, including roads, markets, schools and health facilities. Those living on the edge of transmigration schemes, on the reserve land or outside can always have access to such facilities.

There is another category of spontaneous migrants comprising those who are integrated even more closely into general transmigration schemes without necessarily obtaining land from the project. These migrants, known as boarders *(penumpang;* literally, passenger), live in the house or on the land of family or acquaintances who have been attributed land in a transmigration village. Transmigrants in Batumarta, unable to cultivate their entire parcels (up to 5 ha of land suitable for planting rubber) at once, often offer family a portion of the parcel to farm, at least temporarily. These boarders hold out the hope that they will be attributed parcels from the scheme's reserve land.

Javanese land procurement in Sabutan operates on an open-market basis. Prices are substantially higher than in the lowland Mesuji examples above, ranging from Rp 200,000 to 600,000 per hectare of uncleared land. Since the land already had specific owners, either local people, veterans or government retirees, the Javanese who came had to purchase the parcels individually from them. Not all landowners have an *SKT,* but all can obtain it and for the moment at least have a certificate of land sale *(surat jual beli).* In Sabutan, cost of an *SKT* is Rp 20,000. One farmer's group head plans to obtain the *SKT* and *akte* for a group of 10 families at once at a reduced cost (Rp 15,000 for the *SKT* and Rp 35,000 for the *akte).*

In the highland coffee areas, the first settlers ten to fifteen years ago simply paid nominal fees for a tree-felling authorization *(surat izin nebas nebang).* The first Semendo in Danau Jaya paid only Rp 2500 per parcel *(bidang)* in 1977 to 1979. The same price (over time increased to Rp 20,000) calculated per parcel was noted for Sukorejo but it has been years since any land has been reclaimed in this way. On the whole, this practice continued until the early to mid 1980's, after which time there were no forest areas left to open. From then on, all transactions were based on private buying and selling, at least in the settlements we visited. Talk is sometimes heard of such and such village bordering on the forest where modestly-priced clearing authorizations are still being offered. Usually the exact location of the area is witheld or left vague; in more than one case where an effort was made to follow up such indications, the information was vigorously denied by the local officials.

Prices have always varied considerably depending on the location and accessibility of the parcel, the age and condition of the plants (if any), as well as the legal status of the land. Land

characterized as *"tanah marga,"*[44] for which land ownership documents can be obtained, is understandably much more expensive than land in the insecure hinterlands, running about twice as much as comparable non-*marga* land in the same village. Usually the *SKT* is available in older, established coffee areas opened more than 15 or 20 years ago. It is difficult, however, to delineate an evolution of prices over time given their wide variation, controlling for age and condition of plantation, even within the same neighborhood. Much seems to depend on the personal relationship existing between a buyer and seller and how urgently the land must be sold. Neighborhood leaders and others with capital on hand can pick up parcels at exceptionally low prices when a local resident moves out in a hurry.

For a three-year-old, 1000-tree plantation, the going rate in Danau Jaya is around Rp 1 million, Rp 750,000 in outlying *talang* of the same neighborhood *(dusun)*. Before 1985, the same plantation could have been had for Rp 100-300,000. In the area east of the Saka River, land ranks among the most fertile and productive in Simpang, yet prices are a bit lower than in Danau Jaya. This is due to the distance from Karet, raising transport prices, as well as to increased fears of being expulsed someday (though this area seems clearly out of any protected forest according to maps this Project has analyzed). In the highlands, one hectare of secondary forest land (non-*marga)*, can be bought at prices ranging from Rp 300,000 to 700,000, though only small patches are left in the Simpang sub-district coffee areas. Neighborhood and village administrative costs for land sales amount to an additional five to ten percent. Rarely is the entire price paid at once, but the down payment must be at least half the selling price with the remainder usually paid at the first harvest, depending upon the arrangement made. It sometimes occurs that the agreement is not fulfilled by the buyer, in which case the parcel returns to the original owner who retains the down payment as damages.

In Sukorejo (Pengandonan sub-district), secondary forest land can be bought from local owners for as little as Rp 150,000 per hectare. Legal title is impossible to obtain and besides there are few Javanese there with sufficient means to purchase land and put it into production. The Javanese who do own land bought it from locals, often eager to sell to pay for their children's schooling, or inherited it through marriage. Most sharecrop land owned by locals.

Land rental in the highlands is almost nonexistent, if we can judge by our only finding one instance of rental in all the areas visited. That was the case of an elderly Javanese who was rented "as long as he wishes" a 2000-tree coffee plantation for a one-time price of 200 kilograms of coffee (approximately equivalent to one year's yield).

In all the coffee areas, it can be said that the most fortunate are the ones who arrived in the beginning, those who simply paid the nominal fee for an authorization to clear land *(izin tebas)*. In addition, at some points in the late 1970's when many new areas were cleared, coffee prices peaked, reaching Rp 1800-2000 at times. While many of the early landowners worked plantations for others in order to accumulate the capital necessary to buy, they were able to

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[44] Before the Marga local government structure was abolished in 1983, no land fell outside of the Marga jurisdiction. However, migrants as well as locals still refer to land for which legal title is available as *tanah marga*, and land for which no certification is possible as *bukan tanah marga*, "not Marga land," or a similar expression.

purchase land when prices were still low. The opposite was found to be the case in 1990; land prices were high and coffee prices depressed.

In the lowland spontaneous settlements, earlier settlers were at an advantage also since they came when the cost of gaining legal access to the land was minimal and could choose the best sites close to the road and future services.

1.3. Housing, infrastructures and services

HOUSING

Providing themselves with shelter and getting the first crop in the ground are the first two urgent preoccupations of spontaneous migrants, whether they are pioneers opening forest for a new settlement or migrants newly arriving in an "established" settlement. In the first months following their arrival, the two tasks must be carried out simultaneously.

Exception is of course made for those who stay in the home of their boss, friend or family. Agricultural laborers usually are housed and fed at the home of their boss. If the worker is hired to watch over a distant plantation, a small shelter on stilts *(pondok)* is provided. Only in the uncommon case where a worker's wife and children are brought along would a new house be built, if there were no unoccupied one available. Friends or family may also agree to put up a new arrival on a temporary or permanent basis, allowing him to put his energies right away into planting his first crops.

For those who buy or settle their own land, erecting a rudimentary shelter is the immediate priority in the first few days after arrival. Once protection from rain is assured, agricultural work is begun as soon as possible, with home improvement dependent on the results from the first crops unless other earnings from paid labor are available.

In some cases, a very simple shelter can suffice for a year or more. In the case of Cahaya Mas and Kampung Baru, extentions of the Belitang area, the first settlers were able to commute from, or at least return regularly to, their homes or their parents' homes in Nusa Bakti, Nusa Bali, Nusa Tenggara and other nearby communities.

Residential patterns differ between field sites. In Cahaya Mas and Kampung Baru, the general transmigration model of planned squared-off parcels, differentiating between home and field plots, is used. This planning intervenes before massive settlement is underway, and land is set aside for future development of roads, schools, markets, and other community services. In Sabutan, habitat is more or less dispersed, with farm houses located in the midst of their fields, or regrouped along paths but near their agricultural parcels. In the Kotaway coffee areas, habitat is dispersed, at most partially regrouped in small hamlets, or *talang.*

Similar to general transmigration schemes, some spontaneous settlements are planned according to a logical layout, at least one neighborhood at a time, with maps drawn up as the settlement grows to delimit individual home-garden and agricultural plots. In a settlement opening new land, the first dwellings are constructed in or near the fields.[## Insérer le croquis de la maison de Sabutan surélévée "Elevated dwelling built by Javanese in Sabutan based on

local model"] With growing population and diminishing pest problems in the fields, there is a tendency to build homes closer to the roads and centers, to move from isolated farms to a denser environment.

What free or inexpensive materials are available locally determines the sort of house that is built. In lowland and upland food crop settlements, or in areas where land is farmed temporarily without expectation of long-term settlement, a rudimentary shelter may be simply a frame construction without walls measuring 3 m x 4 m, with an *Imperata* roof. The occupants sleep on a raised wood and bamboo bed.[## Insérer croquis de l'abri de Way Hitam "Rudimentary shelter in the Way Hitam forest concession"] Such a shelter may be improved through the addition of woven *Imperata* or bamboo panels for walls. The next step is to build a more permanent house with wood planks for walls and a tile roof. A simple, but typical house of this sort in Sabutan suitable for a large family (8 m x 3.5 m floor space) would cost about Rp 165,000 (60,000 for planks @ 1000 each, 6000 for 6 kg nails and 99,000 for 1650 roof tiles). Bamboo or wood for the frame and supports can be collected in the forest. Neighbors help in the construction and need only be provided meals, refreshments and tobacco[45].[## Inserer le croquis maison au sol de Sabutan "House built on the ground in Sabutan"]

In the isolated coffee region, or in areas recently reclaimed from forest, where wild pig and other pests are still a major problem (including forest-border areas of Kampung Baru, most houses are constructed in local Sumatran fashion, though less elaborate, on stilts. Walls and floor of a temporary elevated house make use of plaited, or split and unrolled bamboo, or wood planks, depending on the relative cost of the materials in each particular area. For a rudimentary raised house nine to twelve square meters is considered sufficient floor-space for a family.

Such "temporary" shelter may be deemed sufficient for quite a few years, particularly if one's farm or plantation is small. Increasing holdings, however, bring on the need for larger housing in order to put up hired laborers. In the isolated regions, large elevated houses provide up to fifty square meters of living space and are always constructed out of wood. One large tree provides more than enough wood to construct a large house with plank walls and wood shingles, but the cost of having the work done (sawing the boards, carpenters) in the highlands ranges from Rp 250,000 to over one million. Usually people makes their own wood shingles, a time-consuming job. Even in the better coffee plantation homes the temporary nature of the construction is evident; there is little effort made, for example, to finish the wood or furnish the dwellings. Whether the dwelling is a simple or improved, settlers often refer to it as a "shack" *(gubuk).*

Where grouping of houses is possible and animal pests are less a problem (in lowland food crop as well as upland coffee-producing and food crop areas), houses are more often constructed on the ground and in a fashion resembling simple rural dwellings in the sending areas of Java. The rudimentary house has a bamboo or wood frame, plaited or split and unrolled bamboo walls, *Imperata,* bamboo or corrugated iron roof, and dirt floor. Wood planks may replace bamboo walls. Only in the larger towns and market centers accessible by truck are there any number of permanent urban-style homes *(rumah batu)* incorporating cement and even floor tiles.

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[45] See Appendix, case 9.

Among indigeneous Sumatrans, a slow but growing trend is apparent away from wood houses on piles, due to the comparative cost of such homes and reduced pest problems in many areas.

Migrants in the early stages of colonizing an area usually place a high value on mutual help *(gotong royong),* particularly in the collective building of homes for arriving settlers. A dynamic leader can encourage people to work together so that the housing problem for new arrivals is quickly solved. One farmer's group leader in Sabutan boasts that his group can construct a house for a new family in one day (wood frame, pleated bamboo walls and *Imperata* roof). In Cahaya Mas, after about two weeks of collecting wood and cutting boards, the early settlers worked together building semi-permanent wood plank houses one after the other, ten men taking an average of three days to erect each house. Since the wood was free for the collecting and the planks could be sawn by the mutual help group, the only outlay were meals for the workers and cash for the purchase of nails and possibly roof tiles.

A growing community in search of additional settlers indeed has an interest in maintaining a high level of *gotong royong* since few new settlers can afford to expend sums for their initial housing. As the community becomes larger and more spread out, community-wide *gotong royong* becomes a thing of the past, but neighbors to a new arrival will lend a hand.

None of the spontaneous settlements visited have running water. The only electricity available is supplied by one or more village leaders in the major settlements who have a small generator sufficient to provide electricity for their house and perhaps a few neighbors.

As far as household composition is concerned, it is very common to have two or more nuclear or extended families in the same house. People often share houses with family or neighbors when they first arrive in a new settlement, before they build their own house. Family members who visit or come to stay and work temporarily, a frequent occurance, are put up in the same house.

On the other hand, it has been noted that men rarely bring their wives with them if they do not have land of their own. Consequently, men who work in coffee plantations are either put up at the house of their boss or live in a *pondok* by themselves. In some cases, two young men or more share a *pondok* and the responsibility for the coffee plantation.

ACCESSIBILITY AND MOBILITY: ROADS AND TRANSPORT

Though some spontaneous settlements have developed along newly-built roads, spontaneous settlers themselves have had to undertake much, if not all, of the work involved in creating and maintaining access roads to homes and fields. Recognizing the importance of roads and trails for getting agricultural production to market, one of the first priorities of a new community is to plan and begin work on secondary and tertiary roads. Most communities continue to have active community projects aimed at building, repairing and widening roads which as often as each week bring together dozens of residents for collective work.

Unasphalted streets have been laid out in the Mesuji settlements to provide access to and mark off blocks of house and field plots. The main streets are wide enough to accomodate large trucks which come from Belitang, Lampung and Palembang to carry out agricultural produce. Within these spontaneous settlements, transportation and accessibility are problems which the migrants have to a large degree dealt with; what remains an acute problem is the inter-village

road network. Difficulties arise in the rainy season: the trip to the district seat of Pematang Panggang which usually takes ninety minutes from Cahaya Mas in dry weather (by motorcycle) takes up to two and a half hours, if it is possible at all. Sometimes the rivers overflow (as they did for seven days in 1990), cutting the otherwise difficult road to Nusa Tenggara and obliging residents to use bamboo rafts to cross them. Kampung Baru has no direct link with its district town Pematang Panggang because bridges along the road through the forest concession P.T. Way Hitam were dynamited in 1990 to prevent illegal tree-cutting. To go to Pematang Panggang, one must take a long detour through Nusa Bakti, Nusa Jaya, Nusa Tenggara (Belitang sub-district), and then Cahaya Mas. Sabutan is fortunately located astride the main Muaradua to Danau Ranau asphalt road, and settlers there regularly widen and level the trails leading to the interior communities.

In the hilly coffee areas, transportation and marketing of crops depends on extensive systems of narrow trails (most trails measure 0.5 to 2 meters in width) which link each small settlement *(talang)* to the larger villages. Maintenance of these roads is assured by the local communities without outside funding. In some coffee areas, including Simpang, specialized trail repair workers are paid from the proceeds of toll gates set up along the major paths. Maintaining these trails is a demanding job, especially during the long rainy season. Trail motorcycles, used for transporting people, goods and coffee, frequently must use chains to be able to climb steep wet roads, intensifying the need for regular maintenance.

Transportation in these areas has evolved rapidly over the years. Prior to 1979, all coffee production from the Muaradua valley plantations was brought out by foot. From Danau Jaya, porters *(tukang manolan)* would leave at 7 a.m. and arrive at 3 p.m. in Talang Karet or go south to Gunung Raya, a 6 a.m. to 6 p.m. trek, earning Rp 125 per kilo. Their loads averaged 50-60 kg, but sometimes reached 90 kg. In 1979, horses were first used for coffee transport. The cost to planters was the same, Rp 125 per kilo, but horses had the advantage of supporting loads of 400-500 kg and more, for a trip down lasting 7 hours, the master walking in front of the horse. Many heavily-laden horses would fall on the steep inclines and descents. Nonetheless, by 1982, they had completely displaced porters in most areas including up to Danau Jaya, though horses were still rare in the higher elevations. East of the Saka River, people would usually go on foot to Talang Karet to buy rice, a journey requiring 2-3 days roundtrip.

Trailbikes (referred to as Japanese horses, or *kuda Jepang;* the combination motorcycle plus driver is an *ojek)* were first introduced in 1985-86. Though their introduction along with rising coffee prices sent the transport cost up to Rp 250 per kilo in 1986 (again, using Danau Jaya-Karet as example), they proved to be a more efficient form of coffee transport, able to make three to four roundtrips to the horse's one (when a return trip was even possible). Average load was only 100 kg in the early days of trailbikes, but intrepid riders soon had little difficulty descending 2 and even 3 quintals at a time. Upkeep of each type of locomotion worked out to about the same expense, but profits were on the side of the *ojek.* At one point, with many *ojek* entering the area and competing for business, the per kilogram price from Danau Jaya even dropped to Rp 100. In 1988, only 10% of the region's coffee was still being brought out by horses, and by 1989, horses had completely disappeared. While there is now the potential for rapid personal mobility throughout much of the hills, the shortage of trailbikes and the opportunity for handsome profits in ferrying coffee has meant that *ojek* passengers must pay

dearly any trip to town or market. This results in a situation where the majority of people in the higher plantations almost never leave their respective neighborhoods. Six months between trips to the village market, two or three years without visiting the sub-district seat, such are perfectly representative cases of adult male settlers who do not have their own motorcycle. A woman venturing away from the home base is an even rarer occurance. One motorcycle owner said even his wife only went to market six times a year. In the high plantations, every basic need is provided for by the trusty *ojek*.

A great degree of foresight has been demonstrated by the leaders in the early stages of settlement in setting aside land for future development and expansion, including land for roads and road-widening, as well as for possible school and market locations. Residents feel proud of the fact that they have been able to develop and maintain basic road infrastructures in their settlements, and hope that the government will take notice of their efforts and provide aid for projects that are beyond their means, such as bridges and asphalting.

EDUCATION

While the schooling of most spontaneous migrants does not exceed the primary *(SD)* level, they harbor hopes that their children will be able to go farther than they did. Most settlements, except isolated coffee-growing areas, have private schools entirely built and run by community contributions. The fees are much higher than for comparable government-run primary schools *(SD Negeri)*. The cost of erecting and maintaining the buildings and paying for the teacher salaries must be borne by the community, and this represents a burden for most family budgets. Yearly fees range from Rp 20,000 to 35,000 per pupil, and are known to reach up to Rp 100,000 in the isolated coffee-producing areas. Concern about the expense and also the quality of private education has caused many migrants in South Sumatra, particularly those in isolated highland areas, to leave their school age children with family in Java or Sumatra. Isolated hamlets with no young children present at all have been noted, while in other areas children of age are unable to attend school due to its distance and their family's economic condition is such that schooling cannot be arranged elsewhere. Secondary school students, though few, are sent to Java or put up *(kos)* in larger towns near their parents in Sumatra. Such solutions are also expensive[46].

Community leaders uniformly express the hope that aid in the form of a government-run school will eventually be provided. Often when a school is built, however, the number of government-salaried teachers *(guru Negeri)* provided is insufficient for the ever-expanding population and additional non-government teachers *(guru honor)* must be paid for by the parents. Cahaya Mas and Kampung Baru have government-run primary schools and a pupil-year costs around Rp 20,000. With 275 pupils, Cahaya Mas feels its five Negeri teachers are insufficient, and has added three private ones. The three-classroom Kampung Baru *SD* has more than 600 pupils but only two government teachers to which the community has added three *guru honor*. Providing testimony of the willingness of parents to make sacrifices to ensure education for their

[46] See Appendix, cases 10, 14 and 16.

children, five private schools are either under construction or have opened in 1990 alone in two neighborhoods of Kampung Baru.

There is a shortage of classrooms in all of the settlements visited. Teaching must be conducted in 2 or 3 shifts a day. In Danau Jaya, where some hamlets are located up to 7 km from the school, classes cannot be taught in the afternoon as that would not enable older pupils to accompany youngsters to school. These factors reduce effective classroom presence from as little as 2.5 hours to 4 hours per day. Danau Jaya has four private teachers and three classrooms for its 110 pupils.

As far as curriculum is concerned, the private schools tend to follow the government model and reading list. Each month the principal must make a report to the local Department of Education office.

Most of those who have children attending school at the junior or senior high school *(SMP* or *SMA)* level leave them in Java. The cost of sending a child to *SMP* amounts to at least Rp 100,000, more if the transport is expensive or if the child is put up in town. The high cost of secondary schooling is, in effect, the reason most often given for not continuing a child's education beyond the *SD* level, followed by the problem of distance and transportation.

HEALTH CARE

Migrant health and health care accessibility pose major problems in all the sites visited. Migrants complain of more serious health problems in Sumatra than in Java while lamenting that treatment is more difficult and expensive to come by. Serious health problems usually lead to financial ruin, since migrants usually do not possess assets other than their land or their manpower.

The number one medical problem is without a doubt malaria *(malaria, demam, panas-dingin),* which few migrants can avoid if they stay in South Sumatra any length of time[47]. While many areas of Java are relatively free of malaria-bearing mosquitoes, Sumatra has some of the most dangerous strains of malaria in Indonesia which are resistant to available prophylaxis. Yet, even health workers discount the gravity of malaria due to its commoness and inevitability. It is often said that every newcomer has to go through the malaria attacks during his first few weeks in the area. Afterwards, most get used to the regular more or less violent attacks. There are cases of migrants, however, for whom the attacks are unbearable, and force a decision to return to their place of origin, as confirmed by talks with village chiefs in East Java. Some migrants claim that there are more mosquitoes now than there were when they first came.

Despite over-optimistic reports of its near-eradication in Indonesia, cholera *(muntaber:* literally, vomiting-diarrhea) remains very much a danger in Sumatra, as in many of the migrant sending areas. In the eastern Pengandonan region in which the field site Sukorejo is located, cholera is said to cause about eight deaths a year. There seem to be more cases during the July to September dry season. In Kampung Baru village alone, there are an average of seven to eight cases a month out of a total *desa* population of 4226 (April 1990); arriving on the 18th of July 1990, we were told there had already been ten cases that month. Although serious cases of

[47] See Appendix, cases 7, 9, 13 and 14.

diarrhea are often included in the category of illnesses known as *muntaber,* some of the cases reported lead to dehydration and death in as little as ten hours. Transport to medical facilities capable of administering liquid perfusions is in many cases impossible if the illness is not diagnosed immediately. Village leaders are therefore being advised to treat *muntaber* as soon as possible with large quantities of salt-sugar solution administered orally. Women's groups *(PKK)* and officials have made efforts to inform villagers of the symptoms to watch out for and the importance of rapid treatment. New methods of treatment may indeed save lives, but it is clear that the root causes of these epidemics, poor nutrition, poor sanitation and inadequate prevention, are not likely to go away by themselves.

Typhus is also present in lowland and highland areas[48]. Beri-beri is another serious disease which has been a major problem in the past and is still common in the Simpang coffee area; we noted only one specific reported case, in Sukorejo: a woman who lost her ten-year-old daughter several months earlier. This case brought up another problem, the cost of health care. The mother explained that she was able to pay for two months of bi-weekly injections administered by a doctor near the Tangsi Lontar market for Rp 1500 each. The doctor then demanded Rp 20,000 for subsequent injections, and she was forced to stop the treatment.

Other common ailments include influenza *(masuk angin),* fever *(sakit panas)* and coughs *(sakit batuk)* which strike people regularly in the cooler wet mountainous regions along with skin problems and infections *(sakit kulit, gatal),* lung afflictions *(sakit paro-paro, paro-paro basah),* and fatigue *(sakit leso).*

Many women complain that birth control pills and follow-up are difficult if not impossible to come by in their area. We have spoken to many women who seek counsel on such matters, now that their family is complete, in order to avoid unwanted pregnancies and the burden they can bring. Settlers have a pretty good idea of what their ideal family size is taking into account their resources and the potential for future settlement expansion, the productive capacity of their land and the need to consider emerging priorities, such as education. As such, the availability of convenient and inexpensive family planning services can help ensure that the offspring of these settlers will not be forced to migrate in turn.

Each kecamatan has a government-run health clinic *(Puskesmas),* with a doctor on call and mini laboratory, and several smaller offices *(Pembantu Puskesmas),* staffed with a nurse. Kampung Baru has had a *Pembantu Puskesmas* since 1989, only four years following the first settlement of the area. The facility was opened due to the rapid population growth. Most people come for injections against malaria, and treatment for the routine ailments noted above. It is able to treat most of the cases it receives locally, but if necessary refers patients to Gumawang, Belitang to the government hospital *(Rumah Sakit Negeri)* or to the private hospital Charitas. Hospitals are found only in the district seats (Baturaja, Kayu Agung, etc.) and in some major towns like Gumawang.

Aside from Kampung Baru, most of the other field sites are located between five and eleven kilometers from the closest clinic. Cahaya Mas receives a medical worker *(menteri kesehatan)* on the 13th of each month who treats patients at the home of the village head. The nearest aid in case of an emergency is at Nusa Bakti, a four-hour walk or ninety minute bicycle

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[48] See Appendix, case 10.

trip (Rp 500 if motorized transport is available)[49]. In the highland coffee areas, those far from the main market towns can have housecalls made, provided they pay the expense of the *ojek* transportation, Rp 10-15,000 or more to some isolated areas.

With no shortage of wood, drinking water from rivers, wells and springs is nearly always boiled, if only momentarily. Bathing and washing of clothes is done at a river or, in highland areas, at one of the many springs dotting the landscape. In the hilly coffee areas, a source of fairly clean water is never more than a few hundred meters away. Wells are sometimes dug at the lower elevations. As for the lowland sites in Mesuji, many areas have wells for every couple of households. Wells here must be dug 7 to 9 meters deep and reinforced with bricks (1-2000) to keep the sides from caving in. Cost of a well ranges from Rp 75,000 to 150,000, all costs included. Up until recently, wells were very unpopular among Javanese who feared that local Sumatrans could poison them. With ethnic relations improved, people have been starting to build and use wells once again.

Given the large areas that must be covered by the central clinic and its branches, any sort of preventive campaign becomes very difficult to organize, especially in mountainous areas where transportation is expensive. Such campaigns could, however, touch on important preventive measures largely lacking in the spontaneous settlements, including proper disposal of wastes, the building of latrines, the use of mosquito nets, proper nutrition and family planning.

That health considerations receive low priority in the eyes of migrants is perhaps understandable considering the weak impact of schools and government services and, especially in highland areas where land status is unclear, a sense that in any case their stay is likely to be a temporary one. Rather than divert energies towards improving their environment, many migrants instead feel that they should concentrate on increasing production and building up their capital in order to reach the goals they have set for themselves, primarily speaking, economic security in Sumatra or Java.

MARKETS

In the eyes of spontaneous migrants, a settlement truly comes of age when it can open its first government-subsidized market *(pasar Inpres)*. No longer do residents have to rely on irregular and ad hoc arrangements for procuring daily necessities. Competitive prices, savings in transport costs and the creation of new income-generating activities are direct benefits, but people see a wider significance. The market provokes a multiplicity of exchange relations which attract outside investment and stimulate internal productivity, creating animation *(ramai)* that provides further proof that the settlement can be considered a real *desa*.

Kampung Baru is the only field site we visited which has a *pasar Inpres*. Since the opening of the Wednesday and Sunday market in 1988, the village has been transformed in a way that inspires the envy of nearby spontaneous settlements. Four fixed shops *(toko)* exist at or around the marketplace, to add to the one other village store in a nearby neighborhood, opened in 1987. Three food stalls *(warung makan)* and various repair shops have opened. In 1988, a 5 m x 10 m kiosk spot could be purchased for Rp 20,000. A market tax is collected for village

[49] See Appendix, case 7.

revenue and market expansion. Every market day there are about 80 traders present, including several cloth traders, and about a quarter of the village population shows up to buy and sell. Many come from Belitang, either Gumawang, neighboring villages or the *Trans Umum* settlements close by. The large shops are owned by Chinese or Komering having family connections with traders in Gumawang and they all replenish their stocks through wholesalers there. Among the traders are also some of the ten or so North Sumatran and Batak residents. Lack of capital remains a factor limiting large trading activities by Javanese and Balinese in the village, and to a lesser degree by more-established transmigrants in nearby *Trans Umum* settlements.

Sukorejo has a small weekly market on Sundays *(pasar mingguan, kalangan).* It is sufficient for the most routine purchases of food, though some feel the need to go to other markets at neighboring sub-districts, like Sugihwaras (an hour and a half walk or Rp 1000 by truck) and Tangsi Lontar (2-3 hour walk or Rp 1000). Special purchases demand a trip to Baturaja (an hour by truck, Rp 2000).

Spontaneous migrants in areas relatively far from markets or in mountainous areas where transportation is expensive drastically limit the frequency of their purchases and tailor their consumption habits accordingly.

1.4. Social organization

Migrants opening up new land for spontaneous settlement or planning to do so sooner or later find the need to appoint themselves formal leaders in order to deal effectively with administrative authorities at the sub-district levels. In the case of Cahaya Mas and Kampung Baru, the first men to take the initiative to contact the authorities and organize the settlement of the new area eventually came to be named village heads *(kades).* In other spontaneous settlements, whether they be in food crop or coffee areas, the formal leaders *(kades, kadus, RT)* are usually drawn from the instigators or else from among the first settlers who have land and some financial means, especially those who have experience in dealing with the immediate higher authorities. The authorities one has to deal with are usually the *kades* in the case of a coffee *talang,* or the *camat* for a larger village-type settlement. In a new settlement, one is often delegated to take care of the clearing authorizations or, later on, routine administrative affairs with these higher authorities. It is quite often that person who, having gained the confidence of the officials, is offered a formal administrative position if the neighborhood or village becomes sufficiently large.

Leaders at all levels are considered important and necessary by spontaneous settlers. Whether they be *kades, kadus, RT* or farmer's group head *(kepala kelompok tani),* the future of the settlement depends on their success in seeking out sources of credit and financing for infrastructure and services, obtaining land certification and protection from the threat of land eviction, planning the village layout and organizing collective work on roads, houses and land-clearing. A respected or charismatic leader is also one responsible for encouraging people to come settle in the first place; his or her parting can cause unease, as in Kampung Baru following the death of the *kades* when people started leaving the settlement.

In the case of migrants living in predominantly local Sumatran communities, they often have little voice in the affairs of their community, unless they are landowners. In Sukorejo, the vote for *kepala dusun* in 1987 was conducted by consensus with only "official" male residents (male landowners) allowed to take part, preventing almost all migrant workers from having a say in neighborhood affairs. There are also cases where village or sub-district officials impose a neighborhood leader of their own choosing, sometimes hailing from a minority group.

Others who are considered by settlers as formal or informal leaders when they become a part of the community are the school principal, teachers, health workers, agricultural and animal husbandry extention workers, and religious leaders.

The leaders with whom settlers interact most often on a face-to-face basis are naturally those within their own neighborhood or within the parameter of their day-to-day activities: *kepala dusun, kepala RT, kepala kelompok tani,* head of the embryonic *KUD* farmers collective (if any), school teacher, and prayer-group organizer.

2. ECONOMY OF SPONTANEOUS SETTLEMENTS

There are many opportunities for as well as constraints on economic development. Some of the opportunities have been outlined above, including the motivation of most migrants to play an active role in building their communities, sometimes from scratch, and working hard to insure the economic viability of their families both in the new settlement and in the sending areas. In many cases, this development is carried out in concert with, or at least without opposition from, local Sumatran populations.

The socioeconomic framework, within which migrants must compete for employment, land and resources, differs throughout South Sumatra and even within a given settlement. Nevertheless, it is necessary to take a look at the varying rules of the game if we are to understand the choices open to migrants and the opportunities they have to gain financial independence and security, the major reasons for their embarking on their journeys.

In the highland coffee plantations, the choices open to the migrant will be determined by the capital he has upon arrival and the sorts of deals he can cut with potential employers.[##insérer les cartes de Sukorejo: legendes déjà fournis] In the lowland areas, one is part of a community with little inequality in terms of land ownership, with most households owning 2 ha.[## insérer les cartes de Sabutan: legendes déjà fournis] Other factors can intervene, however, to promote economic differentiation in these areas. In all areas, the question of whether official land certification is available will also determine the economic strategies adopted by the settler.

Below, we will start with a description of the agricultural setting and the process of land colonialization, then discuss the structure of the employment environment in which spontaneous migrants must operate, and finally consider the domestic economies that develop in spontaneous settlements.

2.1. Process of land opening and cultivation

LAND CLEARING

In each type of spontaneous settlement, land clearing is done by the settlers themselves, without the aid of machines commonly used to open land for official transmigration settlements. Whether the land to be cleared is covered with primary or secondary forest or *Imperata,* simple hand tools are often the only means spontaneous migrants have at their disposal.

The extent of land clearing necessary depends on the area settled. In many cases settlers are opening secondary or degraded forest, or reopening overgrown plantations. This is sometimes land which has been sold to them by former (usually local Sumatran) owners, or land which was used for shifting cultivation. This land is covered with *Imperata* or with forest regrowth or both. Large trees remaining from patches of primary forest must sometimes be removed.

Sabutan and Kampung Baru were covered with shrubby forest (small trees) and *Imperata.* In the area of Kampung Baru and Cahaya Mas, the sawmill P.T. Way Hitam had removed many of the largest trees but, at least in Cahaya Mas, not all were removed. The large trees encountered (some measuring up to 80 cm in diameter) left stumps and extensive root systems that still remain a problem in some fields. One neighborhood head said that only in the last two years has it been possible to begin plowing the land with cattle.

Those who have moved to these settlements over the last few years often must deal with *Imperata* on fields that have been used for fallow rotation by earlier settlers. In the case of the Balinese in Cahaya Mas, for example, the neighborhood they have been settling over the last two years was first opened by Javanese.

The *Imperata* must be hoed up and plowed or turned under. The Javanese and other migrants are known for their willingness and ability to clear large expanses of *Imperata* to put them under cultivation. This is one of the main reasons for the receptivity of migrants in Sumatran communities; they do not shy away from *Imperata.* Migrants simply use the hoe *(cangkol).* Local people (such as the Ogan at Sukorejo) sometimes use a crowbar *(linggis, tembilang)* along with the hoe to pry up *Imperata* by the roots. This is said to be faster than using the hoe exclusively. Opening one hectare for planting takes 60-80 person-days (or costs about Rp 100,000) in the Balinese area of Kampung Baru. In Sukorejo, it can take as little as thirty or as many as 150 person-days for opening one hectare, depending on the extent of *Imperata* sometimes mixed with small trees that have grown back from earlier cultivation. In Danau Jaya, the cost of eradicating *Imperata* is much higher because a higher day-wage rate is paid for this work, Rp 3000-3500. Clearing one hectare is a job that can take from 75 to 180 person-days (up to 45 days for three or four men) to accomplish because it would involve three complete hoeings over. In Sabutan, 155 person-days are necessary to open secondary forest area with *Imperata:* 25 person-days for cutting down the trees and undergrowth, five for burning the debris (others provide mutual help without cost) following a week or two drying period, 75 for a first hoeing and 50 for a second hoeing. If there is no *Imperata,* less than 60 person-days are sufficient for the clearing. In all areas, much variance in the estimates of the amount of work required also depends on the thoroughness desired.

A few settlements, such as the highland coffee settlements in the Kotaway-Simpang area, were opened from primary forest. A group of Semendo from the Bayur area of Muaradua Kisam district decided to create a settlement within the remaining forested region of the Simpang district between the established plantations of Gunung Raya and Talang Karet-Kotaway. Having chosen the area near a small lake, Danau Jaya (or Danau Kuning as it is also called), almost equidistant from the two plantation centers, a group of ten men came together in 1977 to do the first land-clearing. They were supported by family in Bayur for the first months while land was cleared, rice and coffee planted and houses were built. By the time the rice was about to be harvested, their families came to join them.

About half of the men opened four hectares each (enough for about 8000 trees) and the other half opened from one to three hectares. The work was done collectively, and there were no "clearing specialists" who left once they had cleared land for others. All cleared land to plant a coffee plantation for themselves. After thirteen years, only one of the original settlers remains; the others have all returned to the Bayur area.

The way in which the settlement was established was conducive to mutual help, where the planters took turns opening up each other's land *(gotong royong, giliran)*. This limited the amount of capital needed to establish the plantations. Today, one can no longer count on mutual help for specialized sawing, clearing or eradicating *Imperata;* all these tasks must be paid for.

The tree-clearing, achieved with rudimentary tools, was no easy task. Small axes *(beliung, kapak)* were the only tools used to fell large trees measuring four armspreads in circumference. A four-meter-high platform would first be constructed, and the tree would be cut at that height. Two people working together could only cut down two trees of this size per day. Simply to remove the larger trees from an average one hectare parcel would take two men eighteen days (or cost about Rp 150,000 in 1990, over Rp 4000 per person-day). In fact, farmers prefer large trees to *Imperata,* since even if the same amount of time is necessary for clearing, the work is preferable. If there is no *Imperata,* hoeing is unnecessary; it is enough to clear the brush and smaller growth with sickles and machetes. This will take less than a month for two people. Then the debris must be left to dry for at least two weeks, preferably longer, before it can be burned. People will usually help out the day the trees and debris is burned, and no pay or meals are even necessary. About twenty people are required for a one hectare parcel to prevent fire from spreading. The burning of most ground cover takes one day, though large trees can smolder for weeks. After the first burning, the debris is gathered together and reburned. Ashes are left for fertilizing. This second burning and tidying up requires about 16-20 person-days.

All of the above work must be done during the dry season. If there is rain, the work is delayed. Once the clearing is completed, however, it is necessary to wait for rain before planting upland rice *(padi),* the crop which is usually chosen to provide subsistence while the coffee trees are growing around it.[50] The calendar therefore dictates when clearing and planting takes place. If in July and August the trees are felled and in September or October the debris is burned, the planting can be done in October or November following sufficient rain.

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50 Upland rice was the only crop currently seen in freshly opened fields, but it was noted that other crops can be planted in its place, including various beans, maize, chili peppers and vegetables. These crops can be left in association with the coffee trees until the latter begin to shade them (a maximum of 17 months), but recent practice is to plant only one six-month rice crop and then leave the coffee to grow alone.

Rice is planted by *gotong royong*, with the workers only receiving three meals, refreshments and tobacco. About 15-20 people will need one day to plant one hectare. Using a planting stick, seven or eight seeds (local variety) are placed in holes about 33 cm apart. *Padi* is weeded twice during its six-month growing cycle, each time requiring ten person-days. No fertilizer or insecticide is used for *padi* on fields prepared for coffee. After the rice has been in the ground for between one and three months, the coffee is planted. This takes about seven man-days, with the trees spaced 2 m x 2 m or 2.5 m x 2.5 m apart. The small coffee trees will have been grown beforehand in a covered seedbed *(jambangan)* until they attain the height of about 25 cm (or about six months of age). No fertilizer is used in the seedbed, which is sheltered by a simple roof of leaves.

Following the rice harvest, the shoots are pulled up (taking about 10 person-days) and the coffee is left to grow on its own. Yield from the *padi* works out to about 900 kilograms per hectare (dry hulled weight).[51] The cost of hulling varies from five to ten percent. Harvesters receive one part to the owner's four, a very high share when it is considered that workers are not asked to do preliminary land clearing and preparation (paid labor is used for this heavy work). Most who take part in the harvest are neighbors who will also plant or have already planted the rice-coffee combination and can be expected to repay the harvest opportunity. Perhaps the generous sharing system, in addition to helping those without plantations or in need, permits an effective spreading of risk and pooling of resources among planters.

At the height of the initial clearing and planting in Danau Jaya, up to forty people were taking part. In the beginning almost all were Semendo, but some Javanese were brought along from Bayur where they had been agricultural workers. They would soon open up their own settlements in and around Danau Jaya.

A more thorough and time-consuming clearance, of course, affords more protection against a rapid return of weeds. Local people usually seek to reduce labor inputs both in the land-clearing phase and the regular maintenance while Javanese and other migrants are more willing to invest additional time and effort in expectation of increased yields. Such behavior is to be expected from migrant people who do not have many other social and economic pursuits that demand a share of their attention.

AGRICULTURAL SYSTEMS

In many cases, migrants borrow aspects of their farming systems from local people and vice versa. Almost always there is some alteration made in what is brought from the sending area or adopted in the receiving area. Migrants in their new and uncertain environment, if they can surmount the initial difficulties of dislocation, very often exhibit a desire to learn, experiment with and create new farming techniques.

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51 Up to 2100 kg/ha has been reported for the first rice fields opened from primary forest in the Kotaway area in the late 1970's.

The future viability of spontaneous settlements hinges on the long-term fertility of the soils, especially the yellow podzolic and other fragile tropical soils[52]. Monitoring of farming systems and yields over time is essential to ensuring their future viability.

Food crop systems

The following section presents descriptions of typical agricultural systems found in the food crop areas. Quantitative data, presented here in footnotes as an indication only, were gathered from in-depth interviews with key informants where they were asked to provide average estimates for their area.

In almost all recent spontaneous villages, outside of the *pasang surut* tidal-swamp area, wet-rice *(sawah)* cultivation is practiced only marginally, on humid depressions, if at all. In none of the field sites has there been any attempts to create irrigation systems, with the exception of Sabutan, where an early attempt in the 1960's did not come about. Most of the better land where *sawah*-type cultivation is possible to any great extent has long been settled by local populations. What *sawah* land is available is usually too expensive for migrants at least in their first few years of settlement.

Therefore, most non-coffee spontaneous settlements must depend primarily on dry field cultivation systems (similar to the Javanese *tegalan* agriculture), based on a rotation of food and sometimes cash and vegetable crops. This is done through *tumpang sari* (mixed-cropping) or rotation of pure stands in the villages studied. Farmers often will devote part of their holdings to pure stands and part to an intercropping, while at the same time rotating their fields over the years. The most common crops in these systems are upland rice, maize, cassava, soybeans, peanuts, beans (including green, string, mung and green gram), or chili peppers.[##insérer croquis de tumpang sari à Sabutan: "*Tumpang sari* intercropping at Sabutan"] None of the purely spontaneous settlements have yet evolved extensive tree crop systems, outside of the primarily highland coffee-growing areas, but some settlers have experimented (with mixed results) or expressed interest in growing orange, cacao, rubber, pepper, clove and oil palm. Of course, in all the spontaneous settlements in the food crop areas one finds home-garden *(pekarangan)* trees which provide important supplemental income for family budgets. These include banana, coconut, durian, duku, rambutan and other trees.

In Sabutan, where Javanese communities are intermingled with a minority local population, quite a degree of diversity is found. While most Javanese depend on dry field *palawijo* or in a few cases wet rice, several locals have fairly extensive holdings of trees crops, including coconut, coffee, rubber, durian, banana, etc. The local tree plantations are characterized by very low yields, notably for the coffee and coconut, due to irregular weeding of these plantations.

Among the migrant farmers in Sabutan, maize, upland rice, cassava and soybeans are crops often planted in pure stands or combined in a *tumpang sari* system. Some local people are fond to say that before the Javanese came, they would only do one cropping period per year, while

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52 Cahaya Mas and Kampung Baru have red-yellow and brown-yellow podzolic soils; Pengandonan has a mixture of brown-red and red-yellow latosol; Danau Jaya and the highland settlements east of the Saka River have either brown-yellow podzolic mixed with podzolic (as does Sabutan) or red-brown latosol depending on the area.

the migrants have shown them how to do two or even three. A common association that can be cropped three times is maize-soybeans.[53] Cassava are sometimes planted around the field.

Whether they plant it with other crops or alone, all farmers grow some cassava, usually 100-300 plants for personal consumption. Cassava is left to grow with very little care for from seven to twelve months (spacing 1 m x 1 m). Mixed with rice or maize or eaten alone, cassava becomes very important in the diet during the second half of the year while awaiting the first rice or maize harvests in December-January.

Upland rice is planted by some migrants, though the returns[54] are substantially lower than for maize alone[55] or maize-soybean intercropping, and many cannot afford to tie up their field for a harvest that takes six months. Those who do justify the cultivation by the desire to maintain soil fertility.

Migrants in Sabutan have had much success in cultivating long string beans *(kacang panjang)* to the point where the neighborhood is gaining a reputation as a supplier of vegetables to the Muaradua town market. The areas planted are usually quite small, from 0.04 to 0.16 ha.[56] Chili peppers *(cabbe rawet, Capsicum frutescens* L.) are grown by some on portions of their fields (0.25 ha at the most).[## Insérer le croquis des haricots verts à Sabutan: "Long string bean cultivation at Sabutan"] Trial and error experimentation can be seen in their practice of leaving chili peppers in covered seedbeds at least 4 months (or until they attain 70 cm) in order to insure a greater survival rate for the trees, a practice that differs from the Javanese pattern and is much longer than the one month suggested by extension workers.

Cahaya Mas and Kampung Baru are two areas where the evolution of farming systems should be carefully monitored. Many of the migrants moving there over the last ten years have left areas located just over the sub-district border in Belitang (Nusa Bali, Nusa Bakti, Nusa Jaya, Nusa Tenggara, etc.) which have experienced soil fertility decline and severe pest infestation. It

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53 A yield of up to 1.3 tons per hectare can be attained in pure stands or 1 ton of soybeans and 400 kg of maize if the latter is added. Maize is planted in rows 4 m apart with 50 cm between holes each holding 3 maize plants (local variety) and soybeans are planted within the maize during the months of September, January and April, depending on rain, using a planting distance of 20 cm x 50 cm. For each cycle, thirteen half-days of plowing and harrowing and four person-days of other land preparation are required per hecatre. Planting is usually done by *gotong royong* using thirty persons per hectare to finish in one day. Maintenance includes intensive weeding, gathering soil around plants and replanting that is carried out between day 21 and day 26. Then from day 26 to day 70, only spot weeding is necessary, which can be done by the owner in spare time. Finally, when the soybean plants are 70 days old (about 75 cm high), the field is weeded again, requiring twenty person-days. The total labor request for maintenance operations amounts to an average of fifty-five person-days, depending on weed infestation. Harvest takes place at 90-95 days and takes 40 person days, enough to uproot, dry and shell the beans so they are ready to sell. The total labor required (including household and *gotong royong* repayment) is an average of 126 person-days per agricultural cycle, yielding maximum returns to labor of Rp 6800 per person day, not including inputs. Fertilizer use is slight; 150 kg or less of urea and TSP are deemed sufficient.

54 Rp 800-2300 per person day; yield of 1-2 t/ha.

55 Yield for pure stands of maize range from about 2 t/ha without any fertilizer whatsoever to 4 t/ha if fertilizer is used. If fertilizer is used it is usually applied sparingly, on the order of 150 kg/ha (urea and TSP). Maize is not labor intensive and thus can offer returns of Rp 6500/day if the harvest is 2 tons.

56 One who plants 2 *rantai* (20 m x 40 m or 0.08 ha) of long string beans estimates his yield at about 750 *ikat* (bundles of about 600 g). If sold for an average price of Rp 200 each this yields Rp 150,000. He estimates his expenses for inputs and labor at about Rp 50,000, leaving him with a profit of Rp 100,000 for about 50 person-days of work. Returns to labor of around Rp 2000 are low in comparison to other crops but much of the work involved is light, is suitable for children and can be done in the evenings while socializing.

may be too early to tell, but more study is needed to determine if the soils in their new settlements can sustain the various cropping systems over a long term and what optimum cropping patterns should be adopted.

A sure sign of fertility decline, a turn to cassava monoculture, has not yet been discerned. For the time being only one of the settlers interviewed in Cahaya Mas and Kampung Baru farms only cassava on his entire (two hectare average) parcel, but some devote 0.5 ha or more to cassava monocropping. The problem of soil exhaustion has not yet been felt in these areas because there remains unattributed land *(tanah desa)* available for fallow rotation. Many residents take advantage of this land and most local authorities advise them to rotate crops and not leave fallow too long because pests and *Imperata* seem to return in force if land is left fallow for two or three years in a row.

Farmers in Cahaya Mas and Kampung Baru have high hopes that their settlements can become sustainable ones, perhaps evolving towards tree crops at some later stage. For the moment, most residents plant a variety of crops, often in a *tumpang sari* (mixed-cropping) system. The most common combination is maize-upland rice-cassava[57] usually in that order, but sometimes maize is planted after rice has sprouted.

In many neighborhods, the most important crops are peanuts and cassava. Peanuts are usually grown in pure stands[58] in Cahaya Mas and in *tumpang sari* in Kampung Baru, associated with maize. The maize is planted just before the peanuts, both are harvested together in 100 days, then maize is planted in pure stand (at 1 m x 0.5 m distance) after plowing. In mixed systems, two meters separate each row of maize. Green gram or soybeans (often found in pure stands) along with cassava are sometimes planted together in fields where upland rice is already established (having attained height of 25 cm). Other plants usually grown in pure stands in Cahaya Mas are *kacang panjang, uju* and *buncis.*

Fertilizer applications are low for all crops. The most that is applied per hectare is 200 kg for *padi,* 300 for maize and 150 for soybeans (urea mixed with TSP). Farmers cite the expense of fertilizers, Rp 10,500 for a 50 kg sack of urea or TSP (KCL is rarely used). This price increases to Rp 12,000 if the road from Belitang is flooded. It is said that poorer people in the settlements will only use about one fourth of the amounts above.

Some farmers express a dislike of the *tumpang sari* system with cassava, noting that if the cassava are eliminated they can grow two or three maize crops on the parcel. Where maize is

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57 Many farmers use the following pattern with very minor deviation: maize is planted in September when rains permit soil preparation. Five days later rice is planted (at distance of 25 cm x 25 cm) and 20-25 days later the field is weeded. Cassava is planted in the field (at 1 m x 1 m distance) in October, about a month after the maize is planted, and a second weeding takes place once the cassava sprouts leaves (about 20 days, 40 for the *padi).* The maize is harvested in January (or at about 90 days). *Padi* is left until April. Some additional weeding may be done as these crops are harvested. The cassava can be harvested any time after, and often remains in the ground until August or September (10-11 months). If the land is not to be replanted, the cassava can be left in the ground longer to increase its weight (yield can more than double if left up to 14 months, one has claimed 25 t/ha after 12 months). Yields minus harvest shares for maize and *padi* (both four parts for owner to one for workers) are per hectare: 800 kg maize, 400 kg *padi,* and 5 t cassava. Labor request for one complete year cycle amounts to from 179 to 252 person-days/ha, depending on whether *gotong royong* is used (if so, amount of labor to be repayed is added). This gives returns to labor of only Rp 1235 to Rp 1402 per person-day.

58 Peanuts give an average of 800 kg/ha in pure stands, with a range of 250-400 kg/ha on critical parcels to 1000-1200 kg/ha under optimum conditions. In association with maize or padi, 400-500 kg/ha is considered a good yield.

cropped once in a mixed system, the yield ranges from 1 to 3 t (rare) per hectare, or 1 to 4 t/ha in a pure stand.

The advantage of the *tumpang sari* pattern of cultivation is that conditions may favor some crops over others in a given year; having this basket of crops affords an added degree of security. If one of the crops fails or its price falls, returns from the other crops tend to offset the losses. Mixed cropping and crop rotation have been found to conserve soil fertility and provide resistance to pests. In spontaneous settlements where fertilizer applications and insecticide treatments are minimal by normal standards, this seems to be an adaptation to settlers' limited means. The low returns to labor for mixed cropping systems appear to be acceptable because households are able to cultivate as much land as their labor supply allows.

Highland coffee planting

Agricultural systems in the fieldsites based on coffee planting share many similarities. In most areas, little other than coffee can be cultivated on any scale because of animal pests, especially wild pig *(babi hutan)*. Land title has so far been impossible to obtain in all these sites. Most of the sites are located a great distance from market towns, roads and services. The forced monoculture, the problem of land title and the remoteness of many spontaneous settlements are difficulties that must be taken into account in attempting to understand the strategies and motivations of the settlers.

From a technical point of view, coffee planting is an occupation that is rapidly mastered by Javanese, Madurese, Balinese and local Sumatran alike. Most farmers who were interviewed in the coffee areas had never seen a coffee plantation before coming to Sumatra. It is not uncommon to find young plantation owners who previously were urban dwellers in places like Palembang or Surabaya. Only a few migrants have had prior experience working in the government or private plantations in East Java or Bali. In any case, the chances for success in coffee planting probably depend more on manpower, capital and luck than on prior experience.

The operations involved in coffee planting begin with the clearing of the forest or field and planting of rice or other crops in temporary association with the coffee trees.[59] The young plantation must be weeded before the trees come into production at two years of age and as long as they remain farmed. Coffee trees give their first measurable yields at two years of age, the third year provides what is usually the maximum yield, yields decline sharply in the fourth year regularly thereafter. After a few years of production, the job of pruning the trees becomes increasingly important as a way of staving off a further sharp drop in yield.

Pruning is used to rejuvenate *(memudahkan)* trees in an attempt to regain the vigor of the early productive years. If the coffee trees has, for example, four branches, the two least productive ones will be cut, allowing them to grow back rejuvenated. The older two branches will then be removed, leaving the two new ones. The new branches usually begin to produce again within two years.

The size of the yield one can expect from a plantation and the amount of labor expended depends primarily on how often and how thoroughly the plantations are cleaned, weeded and

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[59] See the section on land clearing above.

pruned. Wide variations are noted here. The weeding of a standard 1500-tree plantation can take anywhere from 45 to 200 person-days or more, or an average of 120. Time spent on harvesting does not vary nearly as much, the time needed to harvest 1500 trees being from 17 to 32 person-days, or an average of 25. This brings the labor input for a year of coffee planting (established plantation) to between 65 and 250 days, or an average of 140.[60]

Fertilizer application is very new, and many if not most planters do not use any at all. If fertilizer is used, it is applied at the rate of only 50 kg/ha. It is planted about 15 cm in the ground either some 10 cm from the foot of each tree or midway between two trees. Spraying for insecticide is only slightly more common, but is limited to spraying ants before harvest.[## insérer le croquis de la machine à casser les écorces de café; "Huller used to break outer shell of coffee bean before drying"]

Yields anywhere from 225 to 750 kg per 1500 trees can be expected for a plantation that is regularly weeded, the higher figure of course representing a well-maintained one. An average of a third of a kilo for each tree is a widely recognized average.[61] Still, one hears accounts of, on the one hand, yields of almost nothing in poorly weeded plantations, and on the other hand, average yields of one kilo per tree in well-maintained plantations.[62]

To summarize, one could calculate the returns for an average 1500-tree parcel. Assuming the coffee price is Rp 1000, a yield of 500 kg would gross Rp 500,000. If all labor was hired on a flat-rate basis averaging out to Rp 2000 per day, the expense for 140 days would equal Rp 280,000. If Rp 20,000 was used for fertilizer, this would leave a net return of Rp 200,000. Such calculations smooth over the differences between high and low returns. From studies of eleven planters with plantations ranging in size from 1000 to 37500 trees, returns for all labor are found to range from Rp 1592 to 9280.[63]

It is often said that migrants work their plantations more thoroughly than local Sumatrans. Sumatrans themselves often say that Javanese and other migrants were encouraged to settle in their areas, open land and sharecrop their plantations because they were hard-working and would be sure to increase yields. Certainly a migrant population hoping to find a brighter future can be expected to work harder than a secure sedentary one. Yet, it is not sure that most of the discrepency between local and migrant farming strategies can be explained by cultural factors.

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60 High and low values were discarded in ranges, but not in averages, presented for maintenance, harvest and total labor expenditures.

61 Scholz (1983: 97-105) surveyed the Southern Coffee Belt in 1982. The belt as expanded since then, despite continuing low coffee prices (Danau Jaya, Sukorejo and the settlements east of the Saka River all lie outside of Scholz's 1982 limit). At that time, he calculated the average coffee plantation size at 1.67 ha, and average yield for fully productive stands at 500-600 kg (dried bean) per ha. See Ulrich Scholz, *The Natural Regions of Sumatra and Their Agricultural Production Pattern: A Regional Analysis.* Bogor, Indonesia: Central Research Institute for Food Crops, 1983.

62 Much of course depends on the age of the tree. A 3-year-old tree can be expected to give 1.5 to 2 kg that year, though the following year the yield will likely be half that. The average yield reflects that of middle-aged but satisfactorily-maintained plantations. Intensive plantation maintenance will increase yields, and growers have to calculate the cost-benefits of hiring additional labor in order to raise yields in this way. In an extreme case of impeccable maintenance, the village of Pecah Pingan (Pulau Beringin sub-district) strove, albeit unsuccessfully, to win the *Lomba Desa Tingkat Propinsi* (provincial model village contest) claiming that the village's average coffee yield was 1 kg per tree, and that trial plots could get 10 kg per tree!

63 The values are clustered at the low end of this range: Rp 1592, 1870, 1878, 1886, 1969, 2169, 2465, 2869, 3466, 6218, 9280.

The state of migrant coffee and local tree (including coffee) plantations in Sabutan contrasts with plantation maintenance found among both local and migrant farmers in the highlands. Where other agricultural and productive activities avail themselves, the level of tree crop maintenance declines. In the isolated highlands where coffee is the only real crop, both locals and migrants invest more in comparison for maintenance, though with wide differences among individuals of each group. Other, not necessarily cultural factors that determine labor intensity are capital, farm size,[64] land security (the possibility of obtaining legal title to land),[65] availability of fertilizers and other inputs, and the personal goals of the planter.

Traditionally, given the declining yields, swidden coffee cultivators in Sumatra would leave their plantations after six or seven years of production to open new land. The work involved in clearing and planting new coffee, even accounting for the two or three year delay before maturity, would make economic sense, as long as accessible forest lands were available. In recent years pressure on land has led farmers to intensify coffee cultivation through regular weeding and pruning. The arrival of fertilizers and insecticides in the last few years has further accelerated this process, though many farmers still do not use them. The result of intensification can be seen in some of the older spontaneous settlements dating from the 1960's and 1970's where it is possible to find coffee trees still producing even after twenty years of age.[66]

Not all successful Sumatran farming systems are adopted by spontaneous migrants. One such system, coffee associated with rubber, is used on soils of low fertility by local farmers in the Pengandonan sub-district. Land is cleared and brush is burned before planting *padi*. After a first *padi* harvest, coffee is planted and when it reaches the age of seven months, *padi* is planted once again. Anytime after the second *padi* harvest, rubber (local variety) can be planted among the coffee trees. The coffee will be harvested for about eight years. The rubber trees come into production about twelve years after planting, and give anywhere from ten to twenty-five years of harvest. Some reports speak of rubber trees measuring one meter in diameter and still producing after fifty years. This coffee-rubber association was not found among spontaneous migrants though it is suitable on poor quality land. Since it is likely that such systems will be used by those with sufficient land surface, capital and security of land tenure, it should be expected that few migrants are yet in a position to emulate this local practice.

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64 If one has less than 2000 trees, it is still possible to properly care for the plantation primarily with household labor.

65 One strategy that can be employed by big landowners in areas where land title is available is to let portions of the plantation return to secondary forest to be cleared at a later date, say if prices rise. Where land title is not possible, farmers will not feel secure enough to let their land lie fallow for the seven or more years necessary for fertility replenishment.

66 A village leader in such an area claimed the yield from 1500 twenty-year-old trees is normally 500 kg in a well-maintained plantation (carefully weeded and pruned) and a maximum of 1 t if fertilizer is used. If the plantation is not properly taken care of, the yield would be from 2-300 kg. Though these figures are much higher than those given in the field sites, the point is borne out that a great difference in yield exists between maintained and neglected plantations.

ANIMAL HUSBANDRY

The International Fund for Agricultural Development (IFAD) has been providing cattle to farmers in Kampung Baru and Cahaya Mas since 1989. The program is paid for by OPEC and Indonesia in equal parts and administered by the Indonesian Directorate Generals of Agriculture and Animal Husbandry. Administrators at the local level give farmers who have influence in the villages, such as the household group and farmer's group leaders *(RT, kepala kelompok tani)* one male and one female head of cattle. Other members of the farmer's groups can receive one head (usually female). Ideally, programs such as this one can be self-supporting, since farmers receiving cattle are obliged to return animals to the program, in this case two head for each female and one for each male received.

Cahaya Mas is said to have received 150 cows and 15 bulls offered as part of the IFAD program for having reached their tax quota every year since 1985. As Mesuji has quite a few government transmigration schemes benefitting from IFAD cattle, it is natural that the program be extended to the spontaneous settlements in their midst. Whatever the reason, this program has had a very positive effect on agriculture in the area. In Cahaya Mas and Kampung Baru, renting a plow team with driver costs Rp 2500 for a half day including 1 meal. If a large surface is to be plowed for a fixed rate, the rate per half-day can work out to Rp 1500 or less in Cahaya Mas.

In Sabutan, however, there is an acute shortage of cattle because the area is within a region dominated by coffee where cattle have less utility and are more expensive to raise. The rate for a plowing team is Rp 5000 from 7 am-11 am and 2 meals must be provided. One farmer's group chief there even has figured it would be economically feasible to buy a tractor, considering the high price of land preparation. On the other hand, it can be argued that the benefits from extending programs like the IFAD to a greater percentage of farmers and to new areas would greatly outweigh the costs. Animal husbandry provides in fact multiple and long-term benefits to farmers, including draught power for plowing, investment opportunities, meat, and fertilizer.

In the food crop areas, owning cattle can be very important in order to plant early, harvest early and get crops to market before prices fall. If a farmer is obliged to wait his turn to borrow a plowing team, he may miss a chance to plant early, just after the rains. Reflecting the importance farmers place on cattle, prices rise in the livestock markets in August-September as cattle are purchased in time for the first plowing.

The investment opportunities of cattle are often underestimated. Furthermore, these benefits can be extended through "cattle sharecropping" *(paroan)* arrangements to landless or land-poor workers. Returns for the labor involved in caring for cattle and putting them to work compare favorably with other productive activities in all the field sites. Work can be allocated among various family members. A sharecropping arrangement with female cattle usually calls for the owner to give one calf to the guardian for every two born. If male cattle are shared, the owner and guardian share the profit at the sale of the animal (after subtracting the original value of the animal at the beginning of the contract).

In some but not all highland areas, chickens and goats can be raised. In the Simpang sub-district east of the Saka, one large neighborhood has 50 goats for 187 households, and most

growers keep chickens. In other field locations in the highlands, goats are rare, and few households are found keeping fowl, as disease is rife. Birds of prey *(burung elang: Microhierax fringillarius* Drapiez) and wild cats *(macan akar: Felis viverrina* Bennett) are also known to carry off chickens in highland areas.

MARKETING OF CROP PRODUCTION

The subject of transporting crops to market has been touched on earlier in this report, and it is central to the question of crop marketing. For the highland coffee areas, almost all coffee is transported by *tukang ojek,* trail motorcycle drivers, whom the planter calls on to insure delivery of his coffee to the his regular buyer *(tokai, bos)* in the main town at the bottom of the hill. An exception is Sukorejo, where coffee is sold to persons possessing four-wheel-drive vehicles who offer their price to the planter and then sell the crop in Baturaja. In Cahaya Mas and Kampung Baru, and also to some extent in Sabutan, independent trucking firms send their vehicles directly to the fields to load and sometimes also harvest the crops.

This system has its advantages and disadvantages from the grower's point of view. They do not have to deal with the time-consuming and uncertain business of liquidating their crops, but they relinquish the possibility of earning through bargaining a closer approximation to the current value of their goods. There is little choice in most spontaneous settlements but to turn over the transportation end of the business to others. In coffee areas, transport is always available, but the price is high and it reduces profit margins by as much as 20%.[67] Yet, to drive the trail bike demands a degree of skill most are resigned to pay dearly for. Attempts to market directly by some in Cahaya Mas have been met with failure because of the low margin that barely pays for truck rental.

Lack of capital further limits the marketing options open to settlers. Most farmers must sell at harvest, when prices generally fall, because they do not have any reserves to fall back on. Prices of peanuts, for example, fluctuate a great deal, from (in 1989-90) Rp 250-400/kg at harvest (April) to 800 (July) reaching 1000-1200 by August. A number of those with capital in Cahaya Mas buy peanuts when the prices are lowest, often through the sale of cattle, then sell in August when prices are high and buy back cattle in time for plowing. In the wet season, prices also can fall when roads are cut for days between Cahaya Mas and Nusa Jaya. Road conditions also influence the price of fertilizers, discouraging their use.

Where a regular market has been established, such as in Kampung Baru, farmers have control over the marketing of small quantities of specialized produce and vegetables, but for the sale of the main crops and grains they still depend on the trucking firms.

In government-run and -financed transmigration projects, provisions are made for the establishment of cooperatives (Koperasi Unit Desa, KUD) to handle the sale of agricultural production and the purchase of inputs. Some forms of cooperation have already been set up in spontaneous settlements. In several settlements, land has been set aside and cultivated collectively

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67 For those in the highest and most remote parts of Kotaway, the *ojek* fee was Rp 200/kg while coffee prices were around Rp 1000/kg (July 1990).

by *gotong royong* to provide income for farmer's groups and villages. Other farmer's groups have negotiated with official transmigration settlements or other villages near them to gain access to their KUD facilities for the purchase of fertilizers and other agricultural inputs. In some places where wild pig and other pests are rampant, community members have long contributed financially to the cost of materials to make traps, and their efforts have reduced the problem to manageable levels. Collecting adequate funds is the perennial problem for such groups; were sufficient funds available for cooperative ventures, spontaneous migrants could put them to profitable use. In the food crop areas, for example, funds could finance the construction of storage facilities that could enable the stocking of cassava (properly dried), peanuts and other crops characterized by high price volatility in order to sell at most opportune moments. Bulk purchasing and stocking can reduce prices of inputs, moderate price rises in the rainy season when roads are impassible, and encourage greater use of inputs.

2.2. Organization of production: On and off-farm employment

In the lowland food crop villages of Cahaya Mas and Kampung Baru, most settlers own and farm their own land. Work in the fields is often undertaken with household labor and additional help from neighbors who contribute their labor in expectance of an eventual return when their field needs to be worked. In Sabutan, those who own land often rotate labor in this way, or hire labor from among the landless. The most intensive use of paid labor is found in the coffee areas during a three-month period (July to September) when the crop must be picked. It is perhaps not too farfetched to suppose that the majority of spontaneous migrants in South Sumatra live in the coffee area or have at least once in their life done agricultural work or picking there.

In the coffee-producing areas, the first few years of settlement saw extensive use of the rotating labor system *(giliran* or *gotong royong),* as few new settlers had enough capital to pay laborers. Settlers would get together to open land, and plant, but once the coffee trees began to come into production, paid labor became increasingly important. Medium and large-sized coffee plantations depend on a pool of agricultural workers who are available to do weeding, picking and maintaining fields. Plantation sizes grew through various work arrangements and social demarcation began to be discernable, with on the one hand large plantation owners and on the other workers hired to maintain and expand their holdings. Many of these workers, particularly those who came in the early years, were able to build up plantations of their own, joining a growing "middle class" of small to medium-sized plantation owners.

AGRICULTURAL EMPLOYMENT: WORK ARRANGEMENTS AND TYPES OF CONTRACTS

Much variation exists in work arrangements in South Sumatra, but most migrants agree that rates of pay and working conditions represent an improvement over what they were used to in Java. Salaries are often paid at harvest, especially in the coffee plantations, a factor that does not pose a problem to the majority of migrants whose aim is to amass capital. Even considering the lack of continuous work in the slack season, most notable in the coffee-producing regions,

migrants feel they can earn more or at least save more by working in Sumatra. Mention has been made of the migrant's perception that saving is rendered easier by the lack of distractions and consumption items in the hinterlands.

Day labor

Wages labor in South Sumatra is attractive to migrants because, compared to Java and other sending areas, rates are competitive, meals are practically always included and in many areas there is plenty of opportunity to work.

Wage rates per day are always at least as high as for comparative work in Java, and often pay Rp 500-1000 more. The rate for a seven to ten-hour day ranges from Rp 1250 to 2000 in the coffee and food crop areas under normal conditions. A rate of under Rp 1500 was only encountered in one small neighborhood (coffee area). In the coffee areas, the wage rate can fall to Rp 1000 in the off-season (but is more often closer to the Rp 1500 maximum). At least two and often three meals, drinks and tobacco are provided the workers. According to our research there and the reports of migrants in Sumatra, the current wage rate in East Java is around Rp 1000-1500 per day without necessarily including meals. In Lampung it ranges from Rp 1000-2000, but the higher rates do not include meals. Obtaining regular work can be difficult if one doesn't have the proper connections with a patron. Though patronage influences working conditions, demand for labor in many areas of South Sumatra provide opportunities for migrants to gain work without prior connections.

Wage rates in all areas are higher of course for those with special skills, such as carpenters (Rp 500-1500 extra per day). In some places, higher salaries (still including meals) are offered for particularly heavy work, such as hoeing to open new land or clear undergrowth. Workers in the highland coffee region of Danau Jaya receive Rp 3500 for clearing *Imperata* from fields or Rp 3000 for cutting down large trees. In most places, the heaviness of the work done has little if any bearing on the wage rate or working hours.

The availability of wage labor differs in the villages selected for the field studies, depending on the village, the season and personal factors. In Cahaya Mas and Kampung Baru there is relatively little opportunity for wage labor because much work is done by rotation without pay *(gotong royong),* few people have sufficient cash resources to hire help on a regular basis and most people are landowners who can find sufficient agricultural labor in their household and among their neighbors. When extra help is needed, for example to clear land, load trucks with cassava or build wells, the going rate is Rp 2000 per day plus meals. People who hire labor are those with sufficient cash income and insufficient time to pay back *gotong royong* labor.

In Sabutan and in the coffee areas, daily wage labor is more prevalent. A young fit individual with wide contacts can find about 200 days a year in Sabutan.[68] In the highland coffee areas, he might have difficulty finding as much work over the year, due to inactivity in the off-season. Many spoke of the opportunity of working full-time, every single day, for three months during the picking season, but of working only an average of five days per month during the other nine months. Working steadily is most difficult for newcomers who do not yet have

[68] Working hours in Sabutan are usually between seven and eight hours but can be as little as five and a half, with meals.

enough contacts, and older migrants. Many migrants therefore seek to enter into sharecropping or yearly contracts[69] with plantation owners. Depending on the rates and conditions offered, these arrangements can provide a more secure and even higher paid form of employment than working for daily wages. Some young workers are brought to Sumatra by a patron *(tuan tanah)* to serve as his dayworkers. Rather than pay them a yearly wage (see *tahunan* below), he will give them work (paid at the regular rate) as often as he can, perhaps 100 to 200 days a year, and let them look for work elsewhere on the days they are not needed on his farm.

Usually daily work is used as a supplement for piece work or to fill in free time while one is engaged in a sharecropping or yearly contract (provided the contract allows). During the picking season, for example, workers can usually earn more than the daily wage rate if they are paid by the amount of coffee picked.

Sharecropping

Sharecropping arrangements are rare in the pioneer spontaneous settlements involved in food crop agriculture simply because most of the residents own their own land and/or can find tracts of land to rent at reasonable prices from local village authorities. Up until recently in many areas it was possible to obtain land without paying a great deal of money up front; people who were sharecroppers in Java or Bali could obtain land of their own in places like Cahaya Mas and Kampung Baru. It remains to be seen if sharecropping can ever develop to any extent in the spontaneous villages, as the returns from the land are low. In addition, socio-economic disparity is still relatively limited in these new settlements where land holdings are theoretically equal.

Sharing yield

Spontaneous migrants are, however, engaged in sharecropping arrangements *(paroan* or *maro hasil)* in older, established villages in the irrigated *sawah* areas of Belitang and other zones where agricultural productivity is high. Migrant sharecroppers are also found in mixed migrant-local villages where land is expensive or where access is difficult. Yield is normally divided half for the owner, half for the worker once the cost of inputs (seeds, fertilizer, insecticide) have been deducted.

Where rice is grown the harvest provides the occasion for many people to join in and receive a share of the crop in payment. The harvest share ranges from "5:1" to "8:1" (in fact, this indicates the ratio is four to seven parts for the owner to one part for the harvesters). The rate and working conditions for rice harvests in Sumatra are considered better than in Java, where in many cases one cannot join in the harvest if they have not participated in other jobs without pay. The highest worker share is found in Cahaya Mas, perhaps because here the same people, most all landowners, take turns harvesting each other's *padi.* In Sabutan, and in hill areas when *padi* is grown on fields being prepared for coffee, the smaller shares are enough to encourage many workers to take part, some of whom are landless.

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[69] Monthly contracts *(bulanan)* are rarely used and were not encountered in the field study villages.

Sharecropping arrangements in coffee plantations are found in all areas, but are most common between local owners and migrant caretakers. An arrangement may be made for the opening, planting and maintenance of a new plantation or simply for the maintenance of an existing plantation.

For the opening of a new plantation, the worker opens forest or overgrown land and plants coffee and rice, perhaps adding vegetables or peppers. The landlord provides him with rice to eat until these food crops can be harvested. Thereafter, no support is given, but the worker can keep or sell whatever he grows during the first year or two. When the coffee trees come into production in the third year, and from then on, the coffee yield is shared equally between the worker and the landlord, as long as the worker maintains the plantation. This type of contract is sometimes referred to as "sharing secondary forest" or *paroan belukar.*

Often a *paroan* contract is made once the plantation has been established *(paroan kebun sudah jadi).* If the coffee trees are just beginning to produce (2-3 years after planting) when the worker is brought in, he will probably only receive a one-third share of the yield in the first few years. This takes into account the fact that the new worker did not put in the effort to clear the land, plant the coffee and weed the plantation from the beginning. Furthermore, the young trees will have their greatest yields in the first two or three years.

Once the coffee trees have produced two or three times, and the yield begins to decline, the sharecropper will be given a 50/50 share. Responsibility for absorbing the cost of possible fertilizer or insecticide applications depends on the contract agreed upon by the two sides. Sharecroppers are usually provided a place to stay close to the plantation, but are rarely given any food or extras, except in the above case where a new plantation is being established.

Sharing land

The system of land-sharing *(paroan bagi tanah)* was commonly used during the first few years of pioneer settlement in the case study areas, when land had to be cleared and coffee planted. One with land and capital *(tuan tanah)* could hire others to open land, plant *padi* and coffee and take care of the trees for the first year or until they come into production (2-3 years). The landlord would pay for food and costs involved during that period afterwhich the land would be divided half for the owner and half for the person(s) who did the work. Often a group of say four people will work together to open land for a *tuan tanah,* in which case each will end up receiving one eighth of the total surface opened and planted. This system, also called "dividing land with ownership" *(bagi tanah dengan hak milik),* is no longer operative in the areas we visited, but probably exists in frontier areas.

This system is more advantageous for the worker than sharecropping *(maro hasil),* since the worker receives his own plantation and is no longer required to take care of the half belonging to his former patron. The terminology, however, can sometimes be misleading. An agreement which may seem to result in land-sharing, sometimes referred to "dividing land without ownership" *(bagi tanah tanpa hak milik),* is found in the Sukorejo-Pengandonan area. Under the terms generally found in Sukorejo at least, the worker opens a parcel, plants and cares for the plantation until production, as in the *paroan belukar* referred to above. In exchange, he receives all of the production from one half of the cultivated surface, for as long as he desires, but he

cannot obtain ownership of the land. Moreover, he is expected to help out the owner with maintenance work in the other half, making this contract for all intents and purposes identical to a *paroan belukar* agreement.

If land is plentiful the system of opening and dividing land is more likely to be used with workers who do not have the capital to subsist while clearing the land and planting. Those with access to the land and enough capital for rice subsistence are more likely to use the *kungsi* system of sharing land opened collectively (described above in Section IIIA1).

Yearly contracts

Many young migrants come to Sumatra to work in a coffee plantation on a yearly contract *(tahunan)* already arranged in Java. They may have been recruited by family of a neighbor or relative who is on leave from his plantation, or by another similar worker returning home. Sometimes, such contracts can be made in Sumatra. The standard agreement provides a fixed salary ranging anywhere from Rp 100,000 to 500,000, food, a pair of clothes each year, medicine and tobacco. Food can mean either regular meals, three times a day, or an allocation of rice, usually five kilos a week, if the migrant is not put up in the patron's house. Round-trip transportation is sometimes paid. Higher rates are paid by Javanese in comparison to local Sumatran patrons due to the links which sometimes exist with the workers.

While it does provide security, a yearly contract will not in itself guarantee the migrant will have something to show for his work at the end of the year. Each time a worker borrows from his boss, the amount is recorded *(masuk bon)*. Deductions are made for every item not covered by the agreement between the two parties: a trip home, extra clothes, extra food, entertainment or expenditures for dependents. The total at the end of the year is subtracted from the pay; a negative tally at the end of the year is not unknown.

The ones who have gone from yearly contracts to land ownership, or who manage to economize most or all of their salary are those who are able to honor their fixed contract and find each month a week or two of daily wage work in addition. This is the only way to ensure their pay will not be eaten away by the inevitable incidentals during the year. Most on year contracts try to work additional days for others. Nonetheless, there are some bosses who forbid their workers from working for anyone else while they are under a yearly contract with them (although rates in this case are above average at Rp 500,000). They will find activities to keep their workers busy throughout the year: maintaining the plantation in top shape, helping out with a store or simply cleaning up around the house. Others do not expressly forbid outside work, but if the work is heavy it is impossible to manage more than a few days a month of wage labor elsewhere[70].

Even the lowest yearly pay found (Rp 100,000) may still seem attractive compared to some employment alternatives in the sending area as one way of building capital, however modest. Balinese coffee plantation workers met in South Sumatra said that back home they were paid only 25 kg (about Rp 25,000 at current prices), with no rice or other payment, for taking care of one hectare.

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[70] See Appendix, cases 4 and 11.

Piecework

Hiring by the job is about as common as hiring by the day, whether in the lowland and food crop or highland coffee areas. As long as the price is right, workers and bosses profess a preference for this system because they each feel they can come out ahead: workers can earn more than the going day-wage rate and are assured of having several days of work; patrons can avoid cost overruns and usually do not need to provide meals for the workers.

In reality, workers do not always come out ahead if one considers the value of the meals that is lost. For routine weeding of coffee plantations, the flat-rate contract equals from Rp 1250 to 2500 per person-day without meals. If the work is heavy or specialized, such as clearing *Imperata* or building houses, one can usually equal or exceed normal daily wages, earning from Rp 2500 to over 4000. One probably exceptional example was given of four men opening up a hectare of *Imperata* for Rp 1.5 million. It took them forty-five days to finish hoeing the parcel three times over, resulting in a daily rate of Rp 8333. This can be regarded as a maximum figure for piecework.

Picking coffee *(motil kopi)* can provide earnings of up to Rp 3500 or even 7000 per day if trees are heavily laden, but early and late in the season workers can drop below the day-wage rate. In this case, growers sometimes offer day-wages in lieu of the usual per can *(kaleng)* rate as a way of ensuring their trees will be completely picked.

In Cahaya Mas and Kampung Baru, the preparation of *gaplek* (dried cassava) provides small additional income for men and women. Workers are paid for peeling and cutting in half the cassava roots before they are to be dried in the sun. This work is usually done in the evening from 7 to 11 p.m., and is paid Rp 1 per kilo. It takes four men and women four hours to prepare one ton, working out to a pay of Rp 250 each for one evening (equivalent to Rp 500 a day). The low pay is accepted because the work allows for socializing, is relatively light, and does not interfere with a normal day's work.

In Sabutan, removing maize from the cobs is paid at the rate of Rp 25 per kilo, and one can remove from 15 to 25 kg per hour (Rp 375 to 500 per hour, without meals).

Sometimes working for others can interfere with the work that has to be done in one's own or shared fields. In the coffee areas, those who own or share yield from a small plantation occasionally need to work for others in order to support themselves while awaiting the once-a-year harvest returns. The daily pay may take on an immediate importance deflecting attention away from the job of weeding and pruning one's own coffee. The consequences of this neglect will be felt at harvest time.

OFF-FARM EMPLOYMENT IN RURAL SETTLEMENTS

Off-farm activities include trading, transport of people and goods and numerous informal occupations. On the whole, off-farm opportunities are limited in spontaneous settlements due to their remoteness and the weakness of economic linkages.

The purchase and sale of agricultural products is practiced by migrants arriving with capital or who have been able to amass earnings from several years of work in the region while building close contacts with those in the villages and in the marketplace. Generally migrant traders have already exercized this activity in their region of origin, and are fluent in the ways of commerce, borrowing, lending and networking, and they will be found based in the larger market towns.

Petty traders and those who open a small shop or food stall are sometimes exceptions to this rule. Some have put together capital after years of agricultural labor. We had the opportunity to meet this type of trader in several villages. The returns from their business is usually too small to be anything but a complement to farming, which in any case is not abandoned. Petty traders buy small quantities of grains, vegetables, fruit or other local production from farmers to resell in the market or door-to-door. As for those who open their own place, customarily the wife remains at home with the children and minds the shop or *warung* during the day while the husband tends to the farm or plantation[71]. In the evenings, when business usually picks up anyway, he helps serve and entertain customers. As a community develops, more sophisticated shops or *warung* may be opened by outsiders who have capital but not necessarily land.

Transport is a key activity in a region of spontaneous transmigration still poorly served by roads and vehicles. Trucks, passenger vans or four-wheel-drive vehicles ply most of the main roads outside of the highland coffee areas, but in many areas only the latter can get through in heavy rains. Only a very few spontaneous migrants have been able to purchase these vehicles. In the main towns, one does come across migrants hired as drivers or manual helpers of trucks and vans transporting people or goods.

Spontaneous migrants, however, account for some 60% of the motorcycle transport drivers in the Simpang coffee area[72]. They are well-represented in other coffee-producing areas dependent on trail motorcycles *(ojek)* to bring the coffee yield down the hill and re-supply the isolated *talang:* Gunung Raya (Kec. Banding Agung), Tenang (Kec. Muaradua Kisam), Ujan Mas (Kec. Pulau Beringin), etc. Most drivers *(tukang ojek)* are young men, migrant or local, who undertake this strenuous and dangerous occupation for a limited time, lured by the high profits to be made. These profits may be as high as Rp 50,000 or more (average is Rp 30,000) per day during the 3-month height of the picking season. Some *tukang ojek* own coffee plantations of their own, though most do not own their own motorcycle, but instead share profits 50/50 with an owner. Some circulate from one coffee area to another, taking advantage of the slight shift in coffee season between areas, the season running later in higher elevations. In the off-season, work for *ojek* is greatly reduced. Migrants do agricultural labor in the coffee plantations or return to Java for up to six months at this time.

Special non-agricultural talents can be of great advantage to a rural migrant as a complement to his crops, if they can provide him with cash for daily needs. There are a wide variety of sideline occupations encountered in spontaneous settlements even off the beaten track:

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71 See Appendix, cases 15, 19 and 21.

72 See Appendix, case 20.

carpenter[73], sawer, radio-cassette repairman, bicycle or motorcycle repairman, tailor, barber, photographer, midwife, traditional healer, musician, singer, dancer, to name a few. Generally, those who exercize an activity parallel to agriculture do better in the short and long term.

On the other hand, it must also be noted that migrants often give up hopes of exercizing an activity practiced in their former homes. Usually lack of capital is the reason; the capital needed to enter the above occupations, for example, may be almost nothing for a midwife, Rp 50,000 for a carpenter's tools, or up to Rp 1.25 million for a power saw. Migrants usually cannot absorb the risk of failure should the venture fail to bear fruit. Sometimes the area settled does not correspond to the type of business one is qualified for. A migrant might have the skill to set up a *tahu* factory, but if there is not a regular and abundant supply of water it will not come about. Batik-dyeing, woodwork or performing arts may not correspond to local tastes and the purchasing power of the migrant community may still be too weak to support them. For these reasons, the majority of migrants in rural areas have remained involved strictly in agricultural pursuits.

Women work with their husbands or brothers in the coffee areas to help in their own or in a sharecropped plantation, or to do paid labor picking coffee. If the plantation is large and workers need to be hired to work in it, the wife will have an important role to play in cooking the meals that are part of the worker's pay, a job which can be very time-consuming. Many small plantations are run and worked by a young couple who will do most of the work themselves. The wife will work alongside her husband, in the plantation when it comes time to weed under the trees and pick the crop, in addition to her daily cooking and child-rearing chores. Women are often responsible for watching over the drying coffee when they are at home. As men drive the motorcycles, they take care of selling and transporting coffee and buying and bringing up supplies to the isolated plantations.

In the food crop based settlements, women also do agricultural work along with the domestic chores. Were any detailed time-allocation data collected, it might be found that women do more work (productive and reproductive combined) than their male counterparts, as has been found in many peasant societies. They take care of much of the buying and selling of farm produce and household consumption items in the markets. Women and children make important contributions to animal husbandry and the processing of agricultural crops for marketing or consumption.

Sites that are isolated from other similar sites, like Sukorejo, provide less competitive returns to labor than other areas, where workers can range widely in search of good conditions. Sukorejo is the end of the line for many older migrants with their families who cannot easily vote with their feet. These people cannot afford the risk of jeopardizing low-paying yearly or low-yielding sharecropping arrangements to seek better conditions elsewhere.

Consideration of the opportunities open to spontaneous migrants suggests that an inverse relationship exists between employment security and returns to labor. One who has contacts, is enterprising and is lucky enough to find well-paying flat-rate jobs and work by the day to fill

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[73] See Appendix, cases 16 and 23.

in some of the free time, can usually make out better than a person who sharecrops or is hired by the year.

As is the case in general transmigration schemes, a settlement's chances for success are greatly enhanced when there are possibilities for off-farm employment. Migrants who can take advantage of various opportunities as they present themselves can gain security through diversifying their income-gathering pursuits, so long as off-farm work does not interfere with farmwork.

The limited opportunities for off-farm work in many spontaneous pioneer settlements located in remote areas impede evolution towards alternative farming systems. Tree crop systems may be more suitable for many lowland food crop areas, but they will be difficult if not impossible for settlers to establish on their own if they do not have off-farm income and credit facilities.

2.3. Migrant household economy

NUTRITION

In coffee-producing areas, proper nutrition is beyond the reach of most families. This is due to the difficulty if not impossibility of planting any crops other than coffee in the highlands. Wild pigs, endemic in the highlands, attack food and root crops, fruit trees and vegetables, however close they are to the living compounds. Only enclosing the plants in rugged bamboo and barbed wire fences can afford a measure of protection from these pests, though most farmers do not feel the returns justify such investments.

A few selected areas in the upper elevations are relatively free from wild pig infestation, due to colder weather and assiduous trapping. Cassava, maize, peppers and papaya can be planted in some of these areas, but vegetables are unknown, aside from cassava leaves. Also in the highlands, the difficulty of raising animals greatly limits affordable protein sources. One exception is the small brackish-water fishpond in Danau Jaya that is seeded each year by residents who chip in Rp 2000 to buy baby fish. Their part in the yield amounts to about a kilo of dried fish.

Given the distance and cost of transportation to markets, and the added cost of transporting up supplies, including food (Rp 50-200 per kilo), coffee growers and their workers in the isolated highland plantations are constrained to a diet lacking in variety. Rice, the staple food, is often consumed simply with hot peppers and salt, perhaps supplemented by cassava leaves or a condiment made from jackfruit, durian, dried fish and hot peppers *(tampoya)*. Often dried and salted fish is bought, since it can keep up to a month. It is not surprising that Javanese in coffee plantations complain of having to eat the same foods all the time. Some early settlers, speaking of their first months or year in isolated areas, tell of a diet composed of rice with with bamboo shoots and forest mushrooms for vegetables and an occasional deer trapped for meat.

Nutritional variety is greatly improved in and near market villages and *talang* (such as Sukorejo, which has small weekly market or *kalangan*, and Curup, a hub of the Simpang coffee region) where it is possible to find *tempé, tahu,* local river fish, eggs and vegetables, but the quantities of meat and other protein consumed are about the same as in other coffee areas,

economic level remaining equal. An average-income Javanese family owning a small coffee plantation close to market, at Sukorejo for example, might have beef only once or twice a year, at the Moslem holiday of Lebaran, following the Ramadan fasting month, chicken twice a year and eggs once every two months or so. A small piece of *tahu* or *tempé* or salted fish is bought at most weekly markets and a fresh river fish perhaps once a month. Some highland dwellers buy soybeans to make their own *tempé*. Poor landless workers in these same areas subsist almost exclusively on rice, leaf vegetables (i.e., cassava leaves), and if there is any protein source it would come from small quantities of salted fish[74]. Some families clearly stated that they ate rice and salt or rice and chili peppers three times a day, rarely ate vegetables of any kind, and only had meat once a year at *Lebaran* when they would buy, for example, a chicken or some beef. These people claim that feeding their family would be much easier if only they could plant cassava or even purchase the less-expensive tuber in the market.

Sabutan, located twelve kilometers south of Muaradua along the road to Danau Ranau, has regular and comparably inexpensive transportation to town (Rp 200 one-way). In terms of variety, the settlers can find many of the same vegetables and products they had in Java, and in their fields can grow *kacang panjang*, hot peppers and other common foodstuffs. There is even a *tahu* factory in Sabutan. Most families go to market in Muaradua at least once every two weeks to buy and sell. According to the Javanese farmer's groups, nutritional status has neither declined nor improved from what it was in Java, though a few migrants report increased protein consumption[75].

The rice harvest comes in February, but by the beginning of June, most have begun to mix cassava and maize into their rice. Those without rice fields may end up eating cassava or maize by itself for up to six months out of the year. The difficulty of poultry-raising in upland regions such as the Muaradua valleys means higher prices as fowl must be sent from the Belitang area.

The low nutritional level of the diets and the physically demanding work involved in agriculture both in the lowlands and the highlands is reflected in the high incidence of migrants reporting bouts of exhaustion and fatigue *(sakit leso)*. Increased allotment of household budgets to improve nutrition might be feasable for better-off families. Yet elasticity is low for food: the diet of well-off families is only marginally better than the average. This is due to the fact that almost all spontaneous migrants are drawn from less privileged classes having similar habits of nutrition, and they are willing to sacrifice nutrition, a reducible budget item, to advance the short and long-term goals that brought them to Sumatra in the first place. On a day-to-day basis, nutrition must be weighed against household economic security and possible future prosperity. One long-time settler who began as a laborer in coffee plantations and eventually became the head of a large highland neighborhood spoke of one year when he even drank his coffee without sugar in order to economize.

In sum, spontaneous transmigrants in South Sumatra on the average probably have not experienced significant dietary improvement since their coming, despite an overall improvement in economic welfare in comparison to Java.

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74 See Appendix, case 4.

75 See Appendix, case 9.

HOUSEHOLD ASSETS, INCOME AND DEBT

As should be expected, residents of migrant settlements have very few valuable possessions besides their homes, farmland and perhaps farm animals. When surplus is available and is put to work locally, rather than sent back to the sending area it is generally used to expand productive activities. Some of the more successful people in the coffee plantations have a coffee huller or a motorcycle, items used to generate additional income. A smaller surplus can be used to repair a house, do an extra weeding of the plantation or rejuvenate a section that had been neglected. In food crop areas, additional capital can be used to purchase cattle or gold. In all settlements, surplus that is placed in assets that can be readily liquidated provide a margin of security and manoeuvre. This is very important when markets are volatile. A farmer with some capital can afford to wait and sell his crop once prices have risen. He is protected if his crop is late and prices have already fallen. As long as he has cash to tide him over, a coffee-grower can store his harvest with his dealer to be sold when prices rise.

Consumption items and home furnishings are for the most part lacking in spontaneous settlements. In all the areas, most of the homes do not have much in the way of furniture; in the highland areas, notably in houses on stilts, tables, chairs, beds, dressers and other furniture are lacking. Some migrants have radio-cassette players and a few own televisions, running on car or motorcycle batteries.

Life-cycle and other cultural events, from the circumcision or marriage of a child to the collective purchase of musical instruments, may at one time or another require sizeable expenditures. These costs can usually be scheduled in order to be met with the help of harvest surplus, and the contributions in cash and in kind by guests cover about half of the outlay.

Often when surplus is realized, the profits are reinvested in the sending area. There are numerous ways in which spontaneous migrants transfer and reinvest earnings at home. A cow or buffalo might be purchased in Java and left to be raised by a family member. School expenses for a younger brother can be sent home[76]. When larger sums are available, land can be purchased and houses bought.

In the older neighborhoods of Cahaya Mas and Kampung Baru most families own a bicycle. They have become a common sight in recently-opened areas since many children depend on them for transportation to school. Motorcycles remain extremely rare in spontaneous settlements outside of the highland coffee areas. They are used as in the coffee areas, to generate income through marketing and transport of agricultural production, or to transport passengers.

Generally, a high degree of relative equality exists in new spontaneous settlements. Usually the first settlers bring little capital and clear and plant similar parcels of land collectively. As settlements develop, income disparity increases, more so in the highland coffee regions than in planned spontaneous settlements designed on the government transmigration model.

Household budgets of poor migrant families in the coffee areas are characterized by the large part devoted to satisfying day-to-day consumption needs. In these families, income is barely sufficient to cover the cost of food, transportation, school fees (if any) and medical expenses.

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[76] See Appendix, case 20.

Expenditures for food and basic necessities for a family of four do not exceed Rp 25,000 to 35,000 per month, and there is no surplus to fall back on in case of major illness or other difficulties. In better-off families, saving is possible, if irregular, and this permits or holds open the possibility of land acquisition. Well-off families can save every year, expand their holdings, educate their children above the primary level, and prepare for the possibility that their area might be closed for reforestation.

One might roughly classify the various types of spontaneous settlers in the coffee areas by their economic situation, as follows:

Poor workers	This group includes those who share small or unproductive plantations, and are unable to do regular wage employment. Those working on low-paying yearly contracts are also in this category. In mid-1990, it was still common in some areas (such as Sukorejo) to pay 100 kg of coffee for a year's management when coffee prices were barely above Rp 1000/kg. Sharing yield on a poor-yielding plantation can also mean incomes little better than Rp 250,000 (for 3000 trees), necessitating additional sources of income for the family.
Better-off workers	They usually share high-yielding plantations and often combine sharecropping with day or piecework employment. Some have high-paying yearly contracts, with the right to work on the outside. With day wages, one can avoid having to borrow on the yearly salary and perhaps even save some of the wages. This strategy enables some workers to save from Rp 200,000 to 500,000 per year. Drivers of *ojek* can earn over Rp 2 million a year from transporting coffee and goods during the busy months of harvest (over Rp 1 million if they share profits with the owner). They can increase their earnings in the off-season doing wage work.
Poor landowners	They own small, old or overgrown plantation. Once purchased, the lack of capital prevents expansion or improvement, and the low resulting yield prevents saving. An older 1000-tree plantation, though well-maintained, might only net Rp 250,000, barely enough for subsistence.
Better-off landowners	People and families in this category usually own young plantations of sufficient size to provide steady work for all family members and perhaps additional paid laborers. Some own a small plantation and share another. Profits of from a few hundred thousand to over a million rupiah a year are possible.
Well-off landowners	Rich planters own large plantations cared for by a number of live-in workers paid yearly. One with 10,000 trees can expect to make a profit of from Rp 1 to 3 million per year. The control of hulling and the buying of coffee in highland settlements, or the transport of coffee (by *ojek*, usually rented out) can increase income well beyond this figure. Larger landowners with holdings of 35,000 or more trees account for only a few percent of all migrant coffee planters.

In the food crop areas of Cahaya Mas and Kampung Baru where most residents purchase a standard parcel of land, income disparity is reduced in comparison to the coffee areas, and reflects the similarity with government transmigration settlements. In areas like Cahaya Mas where unused land can be rented to supplement one's own holdings, those with larger families or available labor can augment their income. Increased earnings are also a function of the access one has to other sources of income. These might include the sale, transport or processing of

agricultural products, retailing of various items in the market, ability to do skilled manual work, or a position as a village or neighborhood leader.

In the organized spontaneous villages, the first few years for a new family are often difficult, while the land is cleared and put under till. Any profits during this time are usually absorbed by the cost of the land authorizations and home construction. In the first and subsequent years, however, basic welfare is easier to assure in the food crop settlements where education and health care are accessible and where adequate food for the family can be grown on one's own fields. Though saving is difficult in the first few years, one or two good harvests on 2 ha can net up to and even over Rp 1 million, enough to buy a pair of cattle.

Despite their overriding concern with amassing capital for land purchase or to satisfy other plans, spontaneous migrants very often fall into debt. Often the debt is incurred to pay for rice for subsistence while awaiting harvest, to finance a life-cycle event (circumcision, marriage, etc.), schooling, or medical treatment[77], or to make up for crop failure or destruction due to rats or other pests. Borrowing to pay for land is common though the debts are usually cleared up with the first harvest.

It is usually difficult for farmers to find co-settlers from whom they can borrow large sums. Most everyone claims they have to look after their own security and investment plans first. In the lowland food crop areas, borrowing is from family or from very good friends. Poor people with no access to credit are sometimes forced to return to their original homes in case of serious illness.

Stores will extend credit to farmers and growers in all areas for the purchase of day-to-day essentials. In the highland coffee areas, planters borrow from their *toko* without interest but must in return promise to send them their coffee harvest. In the isolated *talang*, those with sufficient capital will lend rice to others during the slow season, to be paid back with coffee when the harvest comes in. The interest involved can be substantial. It is difficult to determine how many people are constantly in debt, but a person's debts are usually limited to a few hundred thousand rupiah at the most. A few of those interviewed owed upwards of Rp 1 million.

To sum up, as far as migrant incomes, working conditions and overall welfare are concerned, much depends on the deals workers and owners can strike with each other. To take one example mentioned above, yearly contracts in the coffee areas can vary from Rp 100,000 to 500,000 or more. Generally, better terms for workers can be had with family and acquaintances from the sending area. This explains why so few migrants come without any contact in the receiving area. As most migrants come with little or no capital, they cannot "shop around" very long for better employment terms before their money runs out and they are forced to work.

Almost all migrant landowners in the coffee areas arrived in Sumatra with little capital and started out working for others. The most successful of them came earlier, in the late 1970's or early 1980's, and worked a relatively short time as laborers before opening up forest land to

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[77] See Appendix, case 9.

plant new coffee, alone or in groups. With few exceptions, all of those owning 10,000 or more coffee trees arrived before 1985. The contacts and deals they could make to gain access to or purchase their land were determinants of their success. Large land-owners often added to their original holdings by purchasing plantations at low prices from departing planters.

It goes without saying that personal and familial factors have a great deal of influence on employment options and welfare. Sickness and infirmity place great strains on family budgets and can lead to impoverishment or a return to the sending area. Young strapping workers are eagerly hired with good terms by plantation owners while older migrants have to take what is offered them. In the relatively new rural settlements chosen in the sample, it seems that physical condition and the amount of capital at one's disposal are more adequate determinants of successful adaptation than, say, higher educational level. The latter would be expected to have more importance in developed and diversified village communities offering opportunities for innovative entrepreneurship. Nevertheless, those who attain junior high school level *(SMP),* whether they finish or not, usually do well; they place high priority on their children's education and they are more often found in leadership positions. Finally, those with more contacts and sources of information are in a better position to react to changing markets and opportunities.

3. SOCIAL AND CULTURAL LIFE IN SPONTANEOUS SETTLEMENTS

Outside of some community-wide agricultural work, opportunities for socialization occur mainly in the markets, and during artistic, sportive and religious activities.

At least during the first few years in the new area, the spontaneous migrant's social network is limited to the members of his family, those who brought them to the settlement or hire them, immediate neighbors, and the neighborhood leader. Few have any network alliances or contacts in Sumatra outside the village or even the neighborhood, except family or acquaintances who provided information or assistance between the village of origin and the final place of migration. Though these contacts are precious for the migratory process itself, they do not constitute the core of the migrant's social network.

The social network that is actively maintained, if in an irregular fashion, is that linking the migrant and the family in the village of origin. Since the exchange of letters is exceedingly rare, this network can only be maintained by visits. Migrants sometimes return to their village of origin once the main harvest of the year is in. They usually have a number of reasons for returning: to give earnings to their family, assure school fees and housing costs for remaining children, help family in the sending area bring in their own harvest, check up on the work in any fields they own (or rent or sharecrop out), or invest earnings acquired in the receiving area by purchasing a house, land, cattle, or other asset. Trips home at Lebaran (when bus fares rise) are rare, and are made by those who have substantial and regular income year-round.

3.1. Social, cultural and sportive organizations

Social and cultural or not directly productive activities develop only in settlements having a sufficient number of long-standing residents and a secure status as far as land-tenure is concerned.

Once Javanese, Madurese and Balinese have gotten beyond the first difficult months of settlement creation, have built their homes and perhaps have a few harvests under their belt, they tend to recreate the sorts of social activities that exist in their places of origin. Revolving-credit associations *(arisan),* sports competition and traditional music or performing arts from the area of origin, are examples of social institutions that are found in most established settlements.

A settlement with as little as ten families rarely lacks a prayer-house *(langgar)* for Islamic worship. Larger communities aspire to build a mosque. Moslems, Christians and Hindus coexist in many settlements.

As can be expected, Sabutan, Cahaya Mas and Kampung Baru have more sportive and artistic groups, as well as masculine and feminine revolving-credit associations[78]. In Sabutan, there is a *ludruk* and a *karawitan* group. The Sabutan *kentongan* group has even appeared on Palembang television. Kampung Baru has *karawitan, janger, ludruk* and *kuda lumping* groups.

In the highlands of Kotaway, such groups do not exist, but the lower villages where land certification is possible have dance and music groups such as the Sundanese *jaipongan.*

In Sukorejo, several Madurese do *jaipongan* from time to time with cassettes. The locals watch but do not take part in this unfamiliar dance. A group playing religious music *(rebbana)* composed of young local and migrant women led by a Javanese was formed but soon broke up due to the lack of instruments. Another religious group *(hadramaouth),* composed entirely of local men, could not function long with its members separated between the riverside village of Pedataran and the highland plantation settlement of Sukorejo eight kilometers away. These three attempts suggest the various possibilities of migrant and local interaction through such activities.

When they exist, these activities are always referred to with delight, for they are a pleasant part of migrant life. The communities of Sabutan, Cahaya Mas and Kampung Baru devote a portion of their budget to forming the groups and purchasing or fabricating the necessary instruments and costumes. Up to two or three evenings a week are spent learning and rehearsing. These efforts are all the more remarkable in the poor material context of a hard-working migrant settlement.

Compared to Java, Kampung Baru is as active from an artistic point of view. As one migrant put it, "if you're landless in Java, entertainment is for the others" *("kalau tak punya tanah di sana, ramainya orang lain").* In the migration area, those who live close to an artistic group participate in or at least watch the rehearsals. There are many artistic activities, including gamelan and various theatre forms. The gamelan was purchased for Rp 400,000 with the proceeds from harvests. The musicians practice every Sunday, though in the planting season and before, rehearsals are suspended to enable the members to prepare their fields. During the performances, the residents note "everyone mixes, once they are here everyone is invited, local

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[78] See appendix, cases 13 and 16.

people and Javanese, all of them" *("sama-sama campur, kalau sudah ada di sini, diundang semua, orang asli, orang Jawa, semua").*

There are more artistic groups than sportive groups in the spontaneous settlements. In a context where physical activity is hardly lacking, they are created on the initiative of a community leader explicitly to strengthen the cohesion of the group, primarily its younger members.

Revolving-credit associations are present in all the stable settlements and are organized around a neighborhood or village leader in order to facilitate borrowing or the acquisition of collective or individual articles (such as kitchen utensils or dishes) by the members[79].

Unfortunately, in many spontaneous villages devoted exclusively to coffee farming, one of the main leisure activities is playing the Departemen Sosial nomor lottery. Although the weekly gatherings around the radio to hear the results do in fact bring people together for social interaction, the lottery has an unhealthy impact on the local economy. A significant part of individual savings, a large percentage of which comes from agricultural laborers on yearly contracts or receiving low wages, is thereby drained out of the local community. Winnings, if any, are never on a par with the amounts wagered, of course, but many feel the lottery is a worthy gamble, considering it as the only possible way of amassing capital. Perhaps the presence of small investment opportunities (BRI or other) would encourage more productive use of earnings.

One neighborhood head *(kadus)* in the highland coffee area east of the Saka called a meeting of his residents where it was decided as a group to foreswear all games of chance, the rationale being that they were not there to take useless risks but to use their profits for long-term secure investment. A few still play the *nomor* lottery.

3.2. Relations with local communities

The lowland settlements with dense migrant populations (Cahaya Mas and Kampung Baru) are somewhat isolated from the local communities situated along the rivers and roads and near the market centers. In the foothills, the migrants are more dispersed, living in the middle of their plantation, some grouped in hamlets, far from local communities situated below, along the roads and rivers and near the markets (as in Sukorejo, Bayur and Kotaway). This spatial organization is at the root of the rather distant social relations existing between migrants and locals.

Most migrants who have been present several years in Sumatra have a working knowledge of one of the local languages. Fluency is difficult to obtain, however, since most Sumatrans in the markets and other places of interaction speak enough Indonesian to communicate with the newcomers.

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[79] See Appendix, case 13.

Thus, though there are many exceptions, migrants and locals tend to keep to themselves. Interaction and exchange between various ethnic groups takes place in defined spheres: when seeking employment and land and when selling agricultural production or at markets, for example. This separation is not necessarily more pronounced in areas where Javanese have opened up new land than in Sumatran villages which have received Javanese workers. Where one group represents only a small minority, interaction is often more integrated than in communities with two sizeable ethnic groups. Religious differences also distinguish and set off groups. These tendencies, not only limited to interaction between local and migrant but also among migrants themselves, are illustrated in settlements that receive a number of immigrants at one time, such as Sundanese, Christian Javanese or Balinese. Such groups form neighborhoods of their own where they can immediately pool resources and set about building their new community, drawing on common language, religion, culinary practices and relations existing prior to the move. Interaction also seems to be most active among people of similar socio-economic position, a factor sometimes prevailing over ethnic origin.

In the coffee plantations, meals are not always included in the labor arrangements made between locals and migrants for the simple reason that the locals have their main house far from their plantations and rarely work with their hired hands. Meals are always included in work contracts between migrants, as in the foothill (Sabutan) or lowland (Kampung Baru, Cahaya Mas) food crop zones. This situation sometimes diminishes exchanges between locals and migrants to the simple monetary exchange and exchange of uncooked rice. This low level of interaction between employer and employee is the same in the tobacco factories and the coffee and rubber plantations of East Java, where daily salaries do not include meals *(lepas makan).*

Local population in towns such as Muaradua and Baturaja often remark that migrants, both transmigrant and spontaneous, contribute to local activity, to the development of trade and transportation in their region, bring new agricultural techniques, and provide the justification for increased governmental aid to the region. Local youths also seem influenced by the new trends brought by the Javanese--most of whom are young unmarried men, it should be remembered. This has brought rapid changes to areas long considered hinterlands, far from the sociocultural transformations of the large urban centers (quite obvious at first glance being the changes in clothing styles, musical tastes and relations between young men and women).

INTERMARRIAGES

In every village there are examples of intermarriage, though it still remains an exception to the general practice of marriage within one's own ethnic group. When marriage between migrants and Sumatrans occur, they usually involve a migrant man and a Sumatran woman. This would seem normal, given that most migrants are men, many of them young and unmarried. Case histories and interviews suggest, however, that in some cases Sumatran families seek a Javanese husband for a daughter for economic reasons (Balinese are not considered because of their religion). According to common stereotypes, Javanese men are considered harder workers than Sumatran men, who are said to leave much of the plantation work to their wives. Sumatran

women are considered harder working than their Javanese counterparts (as well as less "emancipated"), perhaps offering other reasons why Sumatran men rarely marry Javanese women.

From the migrant point of view, and besides reflecting the abundance of eligible young men among the migrants, marriage to a local corresponds to a migrant strategy for access to land. In effect, through marriage, the migrant stands to inherit the land of his wife. If she is not the designated heiress (the eldest daughter for the Semendo, for example), she offers access at least to a human and material network that will guarantee his future welfare (through the provision of loans, aid for young children outside of the plantations, and other services). The hand of a daughter in marriage sometimes comes as a climax to a successful work contract for the opening or the rehabilitation of a coffee plantation[80]. Most Sumatran parents now recognize that future spouses choose each other more than before and that the number of marriages entirely arranged by the parents is declining while increasingly one sees marriages between people of different social classes. This could also contribute to an increase of inter-ethnic marriages in the future.

CULTURAL EXCHANGE

Migrants have also made their presence felt in the cultural domain. Artistic groups of the older zones of immigration in Belitang or Lampung circulate throughout the region of Muaradua and Baturaja, not only among the migrant communities but also by invitation to local marriage festivities. The most stable and homogeneous settlements maintain musical, dance and theatre groups which perform within the migrant community and in front of the entire local community during school and national festivities, for example. This sometimes calls for adaptations. As in the case of the *ludruk* theatre group of Sabutan which, attracting spectators from Danau Ranau to Muaradua, has its feminine roles played by men in order not to shock the locals who are unaccustomed to seeing women on stage. The dialogue is composed of a mixture of Indonesian, Javanese and the local Daya languages and the story entitled "Hidup Berganti" ("The Changing Life"). Local art forms, on the other hand, have virtually no impact in the migrant communities.

As most studies of ethnic change have noted, the weakening of ethnic boundaries begins to be significantly felt only in the second and third generations following the migration. Schools are an important part of the two-way assimilation process. In the Belitang area, where transmigration has been going on for several generations, youngsters seemed genuinely at a loss to explain what differences existed between various ethnic groups or what sorts of problems could arise among groups. Of course, conflicts do arise along ethnic lines, particularly in areas which have not reaped any economic benefits from the increasing presence of migrants from Inner Indonesia around them. Nevertheless, in most areas the issue has shifted over the years from one of conflict over ethnic issues to one of mutually--if not equally--beneficial contact and cooperation in economic affairs. Many, if not most of those who migrate to Sumatra eventually feel at home in a place with, as the anxious parents of one future migrant warned, "man-eating tigers, large snakes and a mix of tribes".

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[80] See Appendix, case 5.

fourth part

CONCLUSION

It is difficult to present a general picture of spontaneous migration. The process by which people decide to leave the security of their home and family and migrate is as complex as are diverse the family histories of the migrants themselves. Many familial and extra-familial factors will influence the trajectories they take in their migration. The process of creating and developing spontaneous settlements also varies considerably. Stressing again that our data are drawn exclusively from a handful of field study sites, and allowing for many exceptions, some generalizations can nevertheless be made.

Economy is the factor pushing the vast majority of those interviewed to migrate. Unsuccessful in acquiring land or amassing capital in their village of origin, spontaneous migrants set off in order to acquire land or more lucrative employment in the receiving area and with the proceeds either settle down there or return to invest in their home village. In a few cases they retain homes or livelihoods in both areas.

Most of the migrants in the sample villages selected for this project are of peasant background; only a few have off-farm occupational skills. Those who leave, however, are not usually the landless or the most impoverished but, in most cases, come from the level just above them. These are the small landowners with less than O.5 ha, an insufficient land base for the present and/or future needs of the family or its children. One fifth of the migrants interviewed are children of landless peasants.

Family migration history is another important determinant of migration behavior. Sixty-eight percent of spontaneous migrants interviewed have been through a family migration experience, whether it be through Transmigration or on their own.

Ninety percent of spontaneous migrants come from families having more than three children, and there seems to be a tendency toward the migration of eldest male children.

In some cases, migration provides a way for young people to escape familial or social problems at home.

With few exceptions, migrants choose spontaneous movement over Transmigration because only spontaneous migration allows one to choose the destination and moment of departure. Once in the receiving area, the migrant can shop around for a suitable settlement, change settlements, or return to his place of origin without the constraints imposed by the Transmigration program.

Migrants look for the following in potential migration areas:

- access to relatively fertile land;
- the possibility of rapid and/or sizeable profits;
- the opportunity to readily obtain work on a daily basis;
- daily, monthly, yearly or piece-work salaries that are relatively high and/or include attractive fringe benefits; and
- in many cases, paradoxically, an isolated area where the rarity of distractions and other occasions to spend money enables saving and the amassing of capital.

Spontaneous migrants are not adventurers who set off into the wild unknown. More than three quarters of the migrants questioned already had a contact in Sumatra the first time they came. The contacts established prior to departure determine the routes that are taken.

Local and regional authorities often play an important role in stimulating spontaneous immigration through the voluntary search for inhabitants to qualify for a future village development allowance dependant on a minimum population of 250 or 500 families. Private individuals, both local and migrant, have long encouraged migrants to come work their plantations, particularly in the coffee areas.

Migration takes many forms. Men frequently migrate alone before marriage, or alone following marriage. Once a relatively secure situation has been found in the receiving area, the wife and perhaps some children will join him. Though men are the most visible actors in the spontaneous migration process, migration is not a strictly masculine experience. While the husband almost always determines the migration destination, the wife determines the migration viability and duration.

Numerous routes are taken by migrants. Migration directly from the place of origin to the site when the migrant was interviewed do not account for the majority. Out of all the migration histories collected, half pass through Belitang or Lampung before continuing to another site. Some spontaneous migrants started out as transmigrants. Others migrated in a circular fashion between the village of origin and spontaneous sites before settling down. Differentiating types of migrants once and for all often has little meaning.

It is also difficult to distinguish between migrants choosing the food crop regions or the coffee plantations, because these two destinations are frequently associated during a migration history. In one third of the cases, the migrants went through both Belitang and Lampung and through one or more zones of coffee cultivation.

Several migration strategies have been identified:

- constantly inform oneself of the opportunities for employment and access to land by taking advantage of all close and distant contacts;
- send an active member of the family (father, husband or son) on a scouting mission to the place of potential migration;
- accept to separate members of the family depending on the situation and needs for periods of from a few months to several years;
- retain, to the extent possible, land and housing (even if rudimentary) in addition to that possessed at the most recent migration site.

The young age of migrants at their first departure was noted in interviews. It is likely that the difficulties of educating children above the primary level encourage the migration of youths, by combining the factors of unemployment, a possible adolescent need to "get away," and the family pressure to be self-sufficient or to contribute to the family's budget.

In sum, it appears that spontaneous migration results from the conjunction of specific and evolving living conditions and opportunities to be seized at a given moment.

Broadly speaking, migrants who enter spontaneous settlements in food crop areas buy their land, either from the village administration at a fixed price or from residents based on market value, while migrants in the coffee-growing highlands open secondary forest or, increasingly, purchase established plantations from former owners. The first type of migrants can expect to obtain some sort of legal title for their land, usually the *SKT,* while most owners of recently-opened coffee plantations cannot.

Spontaneous migrants often remark that in settling near a general transmigration scheme, they can benefit from more complete infrastructures, such as roads, markets, schools and health facilities. Those living on the edge of transmigration schemes, on the reserve land or outside always have access to such facilities.

Spontaneous settlers themselves have had to undertake much, if not all, of the work involved in creating and maintaining access roads to homes and fields.

While the schooling of most spontaneous migrants does not exceed the primary school level, all have high hopes that their children will be able to go farther than they did. Once a settlement is established, migrants build rudimentary schools buildings and hire teachers using their own manpower and capital.

Migrant health and health care accessibility pose major problems in all the sites visited. Many women complain that birth control pills and follow-up are difficult if not impossible to come by in their area. Proper nutrition is beyond the reach of most families in coffee-producing areas, due to the isolation of settlements, the high cost of transportation and predators which destroy crops other than coffee. In food crop areas, in terms of variety, the settlers can find in the markets or grow in their fields many of the same vegetables and products they had in Java. Spontaneous transmigrants in South Sumatra on the average probably have not experienced significant dietary improvement since their coming, despite an overall improvement in economic welfare in comparison to Java.

In the eyes of spontaneous migrants, a settlement truly comes of age when it can open its first government-subsidized market. Most migrants are only marginally involved in marketing, if at all. Lack of capital is the primary factor limiting their marketing activity.

Wet-rice *(sawah)* cultivation is practiced only marginally, on humid depressions, if at all. Therefore, most non-coffee spontaneous settlements must depend primarily on dry field cultivation systems (similar to the Javanese *tegalan* agriculture), based on a rotation of food and sometimes cash and vegetable crops. This is done through mixed-cropping *(tumpang sari)* regimes including upland rice, maize, cassava, soybeans, peanuts, beans (green, string, mung and green gram), or chili peppers. Home-garden *(pekarangan)* trees and crops provide important supplemental income for family budgets. These include banana, coconut, durian, duku, rambutan and other crops. Fertilizer applications are low for all crops.

Much variation exists in work arrangements in South Sumatra, but most migrants agree that rates of pay and working conditions represent an improvement over what they were used to in Java. Even considering the lack of continuous work in the slack season, most notable in the coffee-producing regions, migrants feel they can earn more or at least save more by working in Sumatra. Some migrants do sharecropping, receiving one third or more often one half of the yield. The system of land-sharing was commonly used during the first few years of pioneer settlement in the case study areas, when land had to be cleared and coffee planted. The worker

would clear land and plant coffee in exchange for rice and ownership of one half the land opened. Many young migrants come to Sumatra to work in a coffee plantation on a yearly contract previously arranged in Java. Hiring by the job is about as common as hiring by the day, whether in the lowland and food crop or highland coffee areas.

Off-farm activities include trading, transport of people and goods and numerous informal occupations. On the whole, off-farm opportunities are limited in spontaneous settlements due to their remoteness and the weakness of economic linkages.

Consideration of the opportunities open to spontaneous migrants suggests that an inverse relationship exists between employment security and returns to labor. One who has contacts, is enterprising and is lucky enough to find well-paying flat-rate jobs and work by the day to fill in some of the free time, can usually make out better than a person who is hired by the year.

Residents of migrant settlements have very few valuable possessions besides their homes, farmland and perhaps farm animals. Consumption items and home furnishings are for the most part lacking in spontaneous settlements. This is perhaps understandable for most of the settlements were less than ten years old.

Generally, a high degree of relative equality exists in new spontaneous settlements. As settlements develop, income disparity increases, more so in the highland coffee regions than in planned spontaneous settlements designed on the government transmigration model.

Household budgets of poor migrant families in the coffee areas are characterized by the large part devoted to satisfying day-to-day consumption needs. This group includes those who share small or unproductive plantations, and are unable to do regular wage employment. If they own land, it is often a small, old or overgrown plantation.

Better-off workers usually share high-yielding plantations and often combine sharecropping with day or piecework employment. Landowners in this category usually own young plantations of sufficient size to provide steady work for all family members and perhaps additional paid laborers.

Rich planters own large plantations cared for by a number of live-in workers paid yearly.

In the food crop areas of Cahaya Mas and Kampung Baru, increased earnings are also a function of the access one has to other sources of income. In the organized spontaneous villages, the first few years for a new family are often difficult.

To sum up, as far as migrant incomes, working conditions and overall welfare are concerned, much depends on the deals workers and owners can strike with each other. The most successful of them came earlier, in the late 1970's or early 1980's. It also seems that physical condition and the amount of capital at one's disposal are more adequate determinants of successful adaptation than, say, higher educational level. Those with more contacts and sources of information are in a better position to react to changing markets and opportunities.

In general, a migrant's social network is limited. They tend to recreate the sorts of social activities that exist in their places of origin. Interaction and exchange between various ethnic groups takes place in defined spheres: when seeking employment and land and when selling agricultural production or at markets, for example. Intermarriage, though it still remains an exception, usually involves a migrant man and a Sumatran woman.

On the whole, migrants see their lifestyle as somewhat or even clearly better than it was in the sending area. However, many say they feel less "at home" in the new area, either because they do not yet have their own land, agricultural yields are insufficient, they feel isolated from their family and friends, or feel a sense of isolation because they are cut off from social activities and services. Therefore, they clearly state that they are staying there because economic conditions force them to. Usually, once they possess sufficient land, with legal title, to enable satisfaction of household needs, migrants express a desire to settle in Sumatra rather than move back to their place of origin. In areas where legal title is not available, farmers generally plan to return to Java when and if their area is closed to settlement, or if they amass enough capital to make a living in the sending area.

fifth part

RECOMMENDATIONS

Successful integration of spontaneous migrants depends on a number of factors, many of which are beyond the control of the migrants themselves. There are limits to the types of village development migrants can do on their own. Like most people, migrants want to live in villages where their basic needs, and the future needs of their children, can be met as well as, if not better than, they were met in Java, Bali or Madura. They are willing to do their part to see that development is implemented.

Below are the main recommendations that emerge from the study carried out in the sample villages. Many were formulated by the migrants themselves or by local and district officials.

SETTLEMENTS

The provision of roads and services

Though spontaneous migrants have so far been primarily responsible for the development of their settlements, aid for the further development of roads, health facilities, wells and schools is needed. The lack of adequate infrastructure and welfare services is noted as a prime reason for abandoning the settlement or for leaving children in the sending area.

Some of these, such as markets and schools, can be financed in part from receipts from their operations. Settlement leaders we met suggested the residents could help, to the extent of their means, in the continued financing and construction of such services.

Legal status of settlements

Where legal title to land is obtainable, communities are more likely to seek sustainable yield agricultural and conservation techniques. Where status is unclear, farmers tend to opt for strategies maximizing short-term yield at the expense of long-term.

Yet, many spontaneous migrants are settled in areas where legal title to their land is unavailable. Much uncertainty persists concerning the legal status of many coffee-growing areas and local officials themselves are unable to delimit the boundaries of exploitable and protected areas. This situation hardly encourages sustainable practices and conservation, since farmers feel they must make their profits and get them out before they are ejected from the area. They are

most inclined to reinvest their profits in their place of origin, the only place where they see a secure future.

The government should provide clear indications to local officials and farmers of which areas are off-limits. This will require the drawing-up of accurate and legible maps and their distribution to the local level. For those areas outside protected forests and reserves, the government should consider possible mechanisms for facilitating land certification to allow farmers to obtain legal title to their land. This measure would encourage conservation, sustainable agriculture and local investment, and provide an important impetus to spontaneous migrants to settle down in Sumatra and live as responsible lifetime migrants.

For those migrants who find themselves settled in protected areas, they should be given prior warning of their illegal status and a certain period, at least two years, during which they may not replant or maintain their plantations but may harvest it. These final harvests can give these migrants the minimum of capital necessary to rebuild a livelihood elsewhere. In some cases, where reforestation is envisaged, such settlers might be given employment in the reforestation program during a transitional period.

AGRICULTURE

Aid for agricultural inputs

Most spontaneous migrants have limited capital when they arrive in South Sumatra or after they have purchased land, and they are therefore unable to properly fertilize and maintain their fields. Cattle are needed in many areas to permit proper and timely land preparation, provide a form of family investment and maintain soil fertility. Aid in the form of credits for inputs might be extended to spontaneous settlements in all areas, and cattle breeding programs (such as the IFAD Program) could be extended widely in food crop areas.

Aid for tree crop conversion

Spontaneous settlements which appear adapted for tree crop development, such as Kampung Baru and Cahaya Mas, should be evaluated and credit programs tailored to aid farmers plant rubber or other tree crops. In many of these settlements, the rarity of off-farm work makes it virtually impossible for a farmer alone to finance the establishment of a plantation. The long-term viability of many lowland settlements depends on the possibility of conversion to tree crops.

It is postulated that migrant motivation is not a fixed phenomenon. A temporary sojourn is often transformed into a long-term if not lifetime stay. Migrants who leave with only a desire to earn capital to start a family or business in Java can be encouraged to stay and build lives

for themselves in Sumatra if security and a reasonable quality of life is attainable. In the absence of these, migrants will have only the incentive to seek short-term gain in the perspective of returning to his place of origin, and will make a minimum economic contribution to and investment in the local community.

sixth part

APPENDIX
MIGRANTS CASE HISTORIES

Case 1:

N., 21 and unmarried, arrived in Sabutan three months before being interviewed in June 1990, from Pojonegoro, East Java, where he was born. His parents possess O.25 ha, which will be divided later between their six children. He is the eldest. In Java, he did agricultural work by the day, and was able to amass a bit of capital in the form of a bull, bought for Rp 125,000 in 1986. He came to Sumatra for the first time in 1988, to Sekinjo, Lampung Utara, with his uncle, who had been living there beforehand, and a friend. He worked in Sekinjo for a year, as a day laborer in the coffee plantations and food crop areas, for Rp 1500 plus three meals per day. He then returned to Java and by chance met a Madurese who had just married one of his neighbors. This Madurese told him that he had a coffee plantation at Danau Ranau, and N. realized that he was describing the place where a great-uncle of his was living, at Way Ling. He therefore decided to take advantage of the Madurese plantation owner's return to Sumatra to go have a look. Once in Ranau, he "climbed up" *(naik)* directly to Talang Java, where he worked by the day for a year at the same rate of pay as in Lampung. Ranau being a hilly region, he had no wish to invest his earnings in land there. He recalled that an aunt of his lived about 20 kilometers from Ranau, at **Sabutan,** and decided to go see her. She is the second wife of a Daya from Gunung Tiga who has a great deal of land in Sabutan. N. decided to buy land in Sabutan, and returned to Java to sell his bull for Rp 425,000. Two weeks following his return to Sabutan, he purchased a hectare of land from an ethnic Aji. He plans to plant soybeans, maize and cassava, using the *tumpang sari* mixed-cropping system.

Case 2:

S., 20 and unmarried, was born in Madiun, East Java. His parents have two rice fields, totalling 0.5 ha. He arrived a month earlier (June 1990) from Lubuk Linggan, Musi Ulu Rawas district. This is in fact the third time he has come to **Danau Jaya** as a seasonal worker *(musiman).* His elder brother came before him and indicated the way. He goes from one coffee or rubber plantation to another between Bengkulu (Subayur, Curup, Pagar Dewa), Kota Lubuk Linggan and Danau Jaya. He went home to Java once for a year, worked in construction, and then left again for a year of migrant work in Sumatra. He wants to return to Java next year for good with his earnings from migration. From the work he has done in Sumatra, he has been able to buy a *sawah* plot measuring 8 x 20 meters and two buffalo.

Case 3:

S., 23 is unmarried. He was born in Cilandak, Central Java. He is the fifth of six children and his parents have one *bau* (0.8 ha) of rice field in their village. He finished primary school, but was not able to continue to secondary school for lack of means (one of his brothers was able to continue). At 16 (in 1983), he decided to leave the family circle to "find friends and a future" *("ingin mencari kawan-kawan, masa depan").* He left for Jakarta with Rp 20,000 in his pocket, which left him Rp 7000 after bus fare. He sought work for a few days before finding a construction job; he estimates it takes about one week to find a job in Jakarta. His salary was then Rp 1500 per day without meals. At that time, a plate of rice, vegetables and fermented soy cakes *(tempé)* cost Rp 200, leaving him with Rp 900. He slept on the work site. In fact, he found that he could not save anything once deductions were made for cigarettes and an occasional movie. He did construction work for several periods of time lasting from one to five months. He also worked in a shop, sold bread door to door and worked as a porter *(kuli).* He sometimes would spend a month without work.

When asked if he wasn't afraid to go alone to Jakarta without any address, to a city reputed to be "more cruel than a mother-in-law," he replied laughingly that he "was forced not to be afraid" *("terpaksa tak takut").* For five years he worked in this informal manner in Jakarta, returning to the *kampung* when he became homesick for his parents *("rindu orang tua"),* sometimes bringing them a little money, sometimes not.

After five years of battling with life in Jakarta, he finally came to the realization that he was unable to make a living and build any capital. He decided he was ready for a change. Returning to his *kampung,* he met the son of the leader of this *dusun* of Kotaway, who in fact was a neighbor in his village of origin, and thus learned that there was an opportunity to work here in **Danau Jaya**. Two months ago, in May, 1990, he "entered Sumatra" *("masuk Sumatra"),* paying his own way. He was hired by the neighborhood head for a year, but they have not yet discussed the conditions *("belum ada janjian, cari consensus").* He will be paid only at the end of the contract. If he is not happy after five months, he can leave. During the harvest season, the house of the *kepala dusun* is full of young unmarried men hired for short or long term and housed under his roof, but in a few months, it will be calm again. Is he happy here? "We have to like it here" *("terpaksa kerasan di sini"),* adding "I miss my friends" *("rindu kawan-kawan").*

All his brothers and sisters are already married; one of his elder brothers left for Transmigration in Jambi. The family lands are not yet shared among the children. He does not yet plan to go through Transmigration nor acquire land in Sumatra.

Case 4:

T. 32, was born in Sukoarjo, Central Java. Unmarried, he is the eldest of four children. He attended up to the fifth year of elementary school. His parents have 2000 meters of house-gardens *(pekarangan)* and 1 ha of *sawah.* His three brothers and sisters, 25, 22 and 20 years of age, live with the parents, on the family's land. He first migrated at 17, because, as he said, he "didn't own anything" *("ta' punya-punya").* He left for a year to North Sumatra, Paja Peringan,

to sell meatball soup *(bakso)* with a friend from his village a little older than himself; His parents gave him the fare, Rp 7500, for the boat from Tanjung Priok to Pelabuhan Belawan, then to North Sumatra. Once there, he rented a cart *(gerobak dorong)* with all the utensils for Rp 2000 per month and bought the rest of the ingredients. He would wake at 4 a.m. to cook, start selling at 8 a.m., and return at 2 p.m. to rest. He returned to Java with his friend after a year, in 1976, since their earnings were diminishing, he returned to Java and went back to working the family's land without any other job on the side. In 1978, he departed again with the same friend for Semarang. This time, his friend lent him the money to buy a cart, Rp 20,000. He sold *bakso* again for a year, earning an average of Rp 1000 per day, but could only put aside a total of Rp 15,000. He returned to his parents house once again in 1979 and worked their farm.

After nine more years with his parents, in 1988, he came to **Sukorejo**, on the advice of a friend who had already worked there. His parents gave him Rp 10,000, and since he only spent Rp 8000 on the way, he arrived with Rp 2000.

He now works an annual contract *(tahunan)* on a plantation belonging to an Enim. According to the contract, he receives 1 *pikul* (100 kg) of coffee beans per year and 5 kg of rice per week for taking care of 3000 coffee trees by himself. Part of his job as first was to clear a great deal of *alang-alang* and tree stumps. The first year, the plantation gave two tons of coffee, the second year one ton. He also tries to work for day wages (Rp 2000 per day, paid in coffee beans, and three meals), one week per month, but has not been able to do so during the last two months (harvest season). He works, roughly, from 7:30 a.m. to 11:30 a.m. and from 1 p.m. to 5 p.m., sometimes only a half-day in case of rain. He weeds every month, a job requiring about a week. His boss pays his medicine, if necessary, particularly the injections for malaria attacks. The small house on stilts he lives in was already built when he arrived; it has a corrugated iron roof and bamboo walls. He will perhaps obtain a sharecropping arrangement *(paroan)* next year with his boss, to replace the current annual contract.

Besides rice, he buys his own sugar, clothes and other necessities. He spends about Rp 15,000 a month, which he tries to earn through day work so as not to spend his annual salary. His diet consists of rice, cassava leaves, chili peppers, jackfruit cooked as a vegetable and a little dried fish (0.5 kg per month). He buys clothes once a year, at Lebaran. For shopping, he goes twice a month to the market at Sugihwaras, an hour's walk one way, rather than the weekly market right in Sukorejo, deemed too expensive.

He has not yet returned to Java since coming to Sukorejo. He wants to go home once he has accumulated the earnings from two coffee seasons. He hopes to collect Rp 200,000 net. He is not in debt, and will only have to pay his trip back to Java, about Rp 20,000. His plan is clear: he will buy a gold necklace, will work the land of his parents and will marry. He does not want to look for a wife in Sumatra, he says, because he is poor.

Case 5:

Born in Blitar, East Java, S., 32, is the eldest of seven children. His parents have 0.5 ha of *sawah* and 0.5 ha of dry land. He left Java at the age of 21 because it was too "crowded"

("padat") and because he wanted to "obtain experience" *("cari pengalaman")*. He left for Sumatra in 1979, thus, with Rp 50,000 after having paid the way. He first stayed a month with family in Belitang who had 3 ha of *sawah*. But the rice harvest provided insufficient earnings, so he decided to go to Pengandonan to work in the coffee plantations. Since he had no capital to buy a rice field, nor did he have money to buy land from the locals, he worked as a laborer for Rp 1000 per day with meals. When he arrived in **Sukorejo** in 1979, there was only one other Javanese (from Central Java), who had arrived in 1964 and had married a local woman. "In time, those who work as laborers want to marry" *("lama-lama yang ikuti upah, mau kawin dengan perempuan")*, as he says, and in November 1980 he married with one of the daughters of his boss. In fact, his boss had been looking for a Javanese son-in-law because the Javanese are reputed to be strong and hard-working; it is said that they can carry 50 kg of coffee to the local's 30 kg. The girl's family only asked S. to pay Rp 10,000 for the bride price. His wife is 29 and was educated up to the fourth year of primary school. They now have four children, aged 8, 4, 6 and 2. The two eldest go to school in Pedataran.

Let us see how he acquired his coffee plantations. His wife brought them 3000 trees through her inheritance; it was this plantation that he had first rehabilitated in 1979 when he was still merely an unmarried worker. The trees were seven years of age and the plantation had returned to forest. With the earnings from three years of harvests from this plantation, he bought 3500 trees (1 year old) for Rp 300,000 in 1982. This coffee is now nine years of age, and the plantation is sharecropped out. With the earnings from the harvest of the second year, he bought another 3500 trees (2 years old) for Rp 400,000, in 1985. This plantation is sharecropped by his third brother. Now, his entire 10,000-tree plantation procures him three tons of coffee per year. He has just built a house along the road which cost a total of Rp 700,000. The other house, amid his plantation, was in poor shape. He also possesses a coffee huller and a four-wheel-drive Toyota Landcruiser.

His youngest brother (the third) has been here for six years, the second since three years, and a sister with her Javanese husband has been here for two years; "they no longer want to go home" *("tak mau pulang lagi")*, he says. The three siblings are with the parents in Java.

S. returns every year to Java, following the coffee harvest, for ten days. The trip home is only to see his parents and friends because he always wants to return here rapidly: "I think of the work there is to do here and I worry (the plantation) here might get ruined (overgrown)" *("ingat kerja di sini, takut rusak di sini")*. Concerning his migration and his success, he declared with a smile: "I couldn't become a regular civil servant, so I became a plantation civil servant" *("tak bisa jadi pegawai, jadi pegawai kebun")*.

Case 6:

S., 38, left Surakarta, Central Java, in 1984 with his wife and two children who now are 7 and 10 years of age. His parents own a 0.25 ha infertile upland dry field planted with mixed cropping and tobacco, and a 0.15 ha house-plot. There are very few opportunities for daily agricultural work, sharecropping or land rental. He is the fifth of eight children. The three youngest still live with the parents and are unmarried, he says, adding "for the poor, there are

no suitors** *(untuk orang miskin, tidak ada jodoh")*. The family plans that one of the two youngest daughters will stay with the parents, and the other will follow her husband; the youngest boy, 17, will look for work. S. doesn't know if this brother wants to come to Sumatra. "I don't know his thoughts," he said. "He doesn't have any plans if he doesn't have capital" *("tak tahu pikiran adik saya; ia tak punya rencana, kalau tak punya modal")*.

His four elder brothers and sisters went through Transmigration, at SP3, Pematang Panggang, close to **Kampung Baru**. An encouraging letter from one of his brothers clinched the decision to follow them. In 1984, the future village chief of Kampung Baru, then in charge of "security" at SP2 and SP3, was seeking families to open land on the new site he discovered. They decided to join the first settlers. Now there are only two brothers left at SP3, the sister having followed her husband to Semarang and one of the brothers having returned to Java with his wife.

In Kampung Baru, S. and his wife were able to acquire two parcels of 2 ha each, so that their eldest could later have a parcel in his own name. They also have two IFAD cows.

S. returned once to Java for twenty days in 1989, but he said of this trip: "I am no longer happy in Java; I don't have a house nor land, I just stay in my parents' house" *("tidak kerasan lagi di Jawa, tak punya rumah, tak punya tanah, hanya numpang di rumah orang tua")*. He also sent a letter once, and received a response, but has never sent money home. He is the only one from his village of origin to come to Kampung Baru, but he has told others that they could find land here.

According to him, people are happy in Kampung Baru, and feel at home. The rare families who leave do so because they have an opportunity to acquire land elsewhere.

Case 7:

A. is 39, a Balinese from Bangli. He is married with three children. He has six brothers and sisters still in Bali and his wife five. A. attended school up to the fifth year of primary school, his wife up to sixth grade. In Bali, they were landless. He had been working in the coffee plantations in the hills near Singaraja since 1973 on an annual contract paying 25 kg of coffee for weeding 1 ha three times a year. He built his home with an *alang-alang* roof there and lived with his wife and children. In 1989, he followed his brother-in-law to **Cahaya Mas** for 24 days to have a look at the situation. His brother-in-law, who also was once a plantation worker in Singaraja, had already been in nearby Nusa Bali for 13 years, and had just moved to the new site of Cahaya Mas with seven Balinese families.

Upon his return to Bali, A. spoke to his wife, sold his three cows for Rp 1 million, and left with other Balinese families. Each family paid Rp 100,000 for the trip by a specially chartered minibus. When they arrived, there was no road and so they got to work clearing the *alang-alang* and planting with the help of draft cattle.

He still retains his house in Bangli, now inhabited by his elder brother. He was unwilling to sign up for Transmigration because he wanted to choose his own destination. He knows of many transmigrants who returned to their village of origin because they could not bear the lifestyle in the *pasang surut* tidal swamp areas of South Sumatra. He returned last year to Bali

for a temple ceremony *(upacara lancong pura),* and plans to return next year for the same reason.

He has already paid Rp 150,000 for his 2 ha lot, and he has a cow. He also rents land from the village for Rp 10,000 per year. For shopping, he goes to Nusa Bakti or Nusa Tenggara and for the health clinic to Nusa Bakti, at four hours on foot or 1.5 hours on bicycle. Here, he says, "one is sure to get sick, to come down with a fever, and right away malaria" *("pasti sakit, pasti kena panas dingin, langsung malaria").* For injections, he prefers to go to a "real" doctor in Gumawang, the main town of the neighboring sub-district of Belitang, because he feels one gets well quicker than by simply relying on the government health center.

Case 8:

T., 35, comes from Blitar, East Java. His parents have 0.25 ha of dry land and a house. He is the second of seven children (the youngest is 25 years old); his father remarried and had a child with his second wife. His entire family, save for one brother, is in Blitar.

T. got married in 1982, and has three children aged 6, 3 and 2. His wife, 30, has a 10-year old child from a first marriage. She is an only child; her parents are still in Blitar where they have 0.75 ha of coffee. In Java, T. and his wife stayed with her parents; they had no land or home of their own. T. worked as a day laborer in the rice fields.

In 1989, T. decided to follow the child of a neighbor who wanted to move to **Kampung Baru.** He left the village with three other men. They cleared their land, planted cassava and built their houses in the first four months. All that was left was to bring their families *("tinggal masuk").* In this way, ten families in all came directly from Blitar.

He has a 2 ha plot (0.5 ha of *pekarangan* and 1.5 ha of dry land), for which he has already paid Rp 100,000, or about half the price. He has already brought the garden and 1 ha of the field under cultivation.

Case 9:

N. and his wife come from the same village, Blambangrejo, in Banyuwangi district, East Java. He is 36 and she 27. Both went up to the fifth grade of primary school. He is the eldest of eight children (two brothers are in Sulawesi, another in Sumatra) and she is the second of three children (the first is in Malang on his land and the third has just arrived in Muaradua). N.'s parents has 0.5 ha of rice field in Java. When the father died, the mother remarried and had a second child with her second husband. They have just acquired a hectare of land near Sabutan, after having spent two years in Lampung as sharecroppers.

Landless, N. rented a rice field in Java. He also participated in the plantation and care of another rice field *(ikut nanam)* with a share in the harvest of one part for the workers to four for the owner. He would change owners every year. N. once took care of a buffalo, and worked in fisheries (earning Rp 2000 to 5000 per day). If he could find no other work, he would weave baskets out of bamboo. His wife would also work planting rice (Rp 500 in 1986 for four hours

in the morning). During the rice harvest, both worked for the same pay (Rp 2000 per day, three meals, cigarettes and coffee, from 7 a.m. to 5 p.m.). Through all these agricultural jobs, they were able to buy a house in Java.

In 1987, when his half-brother returned from Sumatra to Java, he explained that one can make a decent living in Sumatra *("katanya bisa hasil di Sumatra").* N. left for Muaradua and worked three months in the market with his half-brother. He returned to Java and sold everything: the house, the buffalo he ended up acquiring, the bicycle, and the poultry to amass the capital necessary for Sumatra. He stayed for nearly a year at the Muaradua market with his wife and two children. She sold sugar, beans and vegetables. He sold maize, soybeans, beans, goats and cows. They were in fact people who *"numpang jual,"* sellers who depend on a trader from whom they borrow merchandise to sell. N., would roam with his half-brother by motorcycle from market to market, transporting merchandise by pickup truck, and returning to Muaradua often late into the night. They lived in the half-brother's house under construction. He encouraged them to look for land in **Sabutan** when their rental contract expired and trading becoming less profitable with the arrival of many new market people.

In 1987, after five months in the town of Muaradua, they acquired 1 ha of forest regrowth *(tanah belukar)* for Rp 400,000 from a Bayur Semendo who had obtained the land from the Veteran's Project. N. gave up trading to work his land. He hired help for the land-clearing (at the rate of Rp 1500 and three meals per day or Rp 5000 without meals for clearing 15 m^2). While he cleared the land and planted crops, his wife continued to work in the market.

Just recently, she came to join him in Sabutan for the first harvest and they built their house together. Unfortunately, as soon as she moved to Sabutan, she fell sick with anemia five months into pregnancy and had to be hospitalized in Baturaja to receive blood transfusions (once for eight days and again for five days); she was not completely well until three months after delivery of their third child. These treatments absorbed all their savings and they went into debt, a week of treatment costing Rp 30,000. N., his wife and three children (aged 13, 5 and 1) also suffer from malaria.

N. has reduced his debt to his brother-in-law to Rp 600,000. Once he has cleared his debt, he wants to buy cows to till his land, otherwise he has to rent a team for Rp 5000 the half-day. He gets one harvest of maize, two of soybeans (11 quintals per harvest), plants green beans and plans to grow peanuts. He wants to plant dryland rice next September-October for household consumption. When it is the season for green beans, he sells them every two days in the Muaradua market; off-season he only goes once a week to sell maize and shop. He only goes to Baturaja for medical treatment.

He has 17 hens and one rooster; the eggs are used for reproduction and are very rarely consumed. He feels that he has better nutrition here than in Java, where he ate neither eggs nor fish. Here, the diet includes rice, vegetables, chili, beans, sometimes eggs and fish, and meat only on important occasions.

N. built their first house on stilts *(di atas),* but it was too small. He has almost completed a large house with wood planks for walls, baked roof tiles and dirt floor. The nice houses on stilts owned by the locals are too expensive, given the price of the planks and flooring.

Water is drawn from a spring 100 m away, and in an hour five days worth of wood for the kitchen can be gathered in the woods nearby. What is lacking, he says, are cows and

agricultural tools (such as a sprayer). In general, the settlement "lacks agricultural tools" *("kurang alat-alat pertanian"),* and good roads *("jalan kurang bagus"),* and there is still the problem of malaria. He does not note any particular problems with the locals. He was used to associating with them at the Muaradua market. Outside of farming, he participates in the Bina Karya gamelan group and his wife takes part in a women's revolving-credit association.

Case 10:

C. was born in Madiun, East Java, in 1925. He attended primary school for five years, from 1933 to 1938, and married in 1952. He was the eldest of five children. His parents have 6 ha of land that has still not yet been shared among the descendants. His wife, the eldest of three children, should have inherited herself 0.5 ha of rice fields, but her family asked her to give up her part to her younger siblings. C. himself owned 1.5 ha of *sawah* and 0.5 ha of dryland in Java, but he was forced to come to Sumatra following three straight years (1974, 1975 and 1976) when his crops were destroyed by insects.

In 1977, he decided to follow a friend who was going to Bayur, in the Semendo country. He left without capital and worked in Bayur by the day *(harian)* or by the job *(borongan)* in the rice fields and plantations, where he learned the art of growing coffee. A year later, he returned to Java to look for his eldest son, 15, and bring him back to Bayur. Soon after, he brought the rest of his family. In 1980, with the earnings from Bayur, he bought 5000 coffee trees (aged 2 years) in the settlement opened by the Semendo, **Danau Jaya.** The plantation was completely destroyed in the great fire of 1982 that ravaged the whole region. In 1982, he re-opened 4 ha of secondary forest, cleared only of its large trees, paying Rp 100,000 to a Semendo who had opened the land earlier. He first planted 5000 trees and subsequently enlarged the land "on the edges" himself to total 8000 trees. C. gave part to his son before the son died at the age of 26.

In 1987, C. bought a 8000-tree plantation from a Javanese for Rp 1.5 million. Two years later, he bought a hectare of secondary forest for Rp 700,000 from a Javanese who was returning to Belitang, and planted 3000 coffee trees. In all, he owns 20,000 coffee trees. He also has a coffee huller and two motorcycles.

He sometimes hires up to 15 workers in one season. They all come by themselves. He hires them by the "weeding" *(redan)* or by price as per contract *(borongan).* For weeding 8000 trees, he pays Rp 100,000, meals and cigarettes included. This takes four experienced men about eight or nine days, or more than fourteen days for beginners.

His house has plank walls and wood tiles for roofing. It is built on the ground, but the wood flooring gives the strange impression of a Semendo or Kisam home without stilts. One room serves as a storage area for a small shop managed for the last three years by he and his wife, selling soap, cigarettes, candy and other common items. He had six children: a daughter of 29 married and living in Java, one son who passed away, two other sons aged 23 and 20, a daughter of 18 married, with one child, and a boy of 12 in his first year of secondary school (SMP 1) in Madiun. His 3rd, 4th and 5th children are living here in the same highland neighborhood with their families. The widow of his son lives with him along with a nephew and

an unmarried worker hired by the year (paid Rp 350,000 per year plus transport to and from Java).

This hamlet *(talang* RT2) of Danau Jaya now has 100 families, three quarters of which are Semendo, Kisam or other Sumatrans. It began to grow in 1984.

Case 11:

Y., 48, is from Cilacak, Central Java. He is the sixth of twelve children. His parents have past away. They left 1.5 ha of *sawah* and 1 ha of garden around their house. Two brothers moved by Transmigration to Lampung Utara, one in 1956 and the other in 1972. The nine others are farmers in Java. Y. did not want to sign up for Transmigration because he was afraid of being "stuck"; he wanted to be "free" to choose his destination *("terikat, mau bebas").*

In 1978, he obtained the address of a Javanese owner of a coffee plantation in Gunung Raya. He left his home town with three other male friends, with only the bus fare, no capital. He left his wife (married in 1962) with their three children in their home surrounded by one-sixteenth ha in Java.

The four men first worked for three months in Gunung Raya with the Javanese landowner, sharing a *pondok* (shelter on stilts located amid the plantation). Beholding the splendid coffee trees of Gunung Raya, the four men decided to look for land of their own. In 1978, however, there was practically no forest left to open in Gunung Raya, and none of the four had the capital necessary to buy a plantation. So they went to Simpur, near **Danau Jaya,** to open 8 ha of forest *(tebas tebang hutan),* using the *kungsi* system of sharing land opened and planted collectively. There was nothing to pay. They spent three months cutting down the trees, clearing the land and burning the debris. Some trees were more than two meters in diameter, and the four men required two days to cut one down. They then planted *padi gogo,* and with 9 *kaleng* of seed (110 kg) they harvested 11 tons of rice. They divided their 8 ha into four equal parcels; with the rice harvest in they could wait for the coffee to grow. They also looked for work elsewhere in the area *("minta tolong upahan dari tetangga").* After two and a half years, the coffee began to yield beans.

In 1981, he returned to Java to bring his family. He also brought back four young unmarried relatives to work for him on yearly contracts. From then on, workers would come by themselves without him having to go recruit in Java. His wife and children only stayed five months because the problems of education forced them to return to Java. The nearest school in Curup was, in effect, two and a half hours away by foot.

In 1982, Y. married a second wife, met here but originally from his home village in Java. She is now 27 and they have two children with them, aged 4 and 6. Like his first wife, she was schooled up to the third year of primary school. As for Y., he finished the primary school of the time *(sekolah rakyat).*

In 1984, he sold two hectares of the plot opened by *kungsi* and bought a 4 ha plantation with 12,000 trees aged six years.

Y. owns a vast, elevated hose with wood-plank walls and a wood-shingled roof. Eight people live there year-round: Y., his second wife and their two children, and four single men from their village who work for Y. He gives them Rp 500,000 per year, lodging, meals and clothes, but forbids them from working on the side; they must remain available for work that has to be done in the plantation, the house or elsewhere. He only keeps them for one year, preferring to change his work force regularly. Since he does not work his plantation himself, he also hires workers by the day and by the job. A radio, a television and a video cassette player are the main distractions available for the youths who stay with him for the season or the year. Y. also has a motorcycle which he uses for transport, sharing half the proceeds with a driver.

The settlement of Simpur exists in an informal manner since 1982 with Y. as the leader; it seems to have succeeded from Danau Jaya in order to be recognized administratively as a *dusun* of Kotaway village in its own right. Covering about 6 km², Simpur has 100 families divided into four *RT,* the heads of which are all Javanese. During the harvest season, 200 to 300 unmarried youths *(bujang)* and a few couples come to look for seasonal work. They arrive through Gunung Raya, much closer than Kotaway by foot, directly from Java or the transmigration zones of Belitang and Lampung. This *dusun* is composed of 90% Javanese and Madurese, and 10% Semendo and other Sumatrans. All land in his *dusun* is now covered with coffee, the forest disappearing in 1984, when many new arrivals came to add to the 50 families living there at the time. Before, there were tigers and elephants, but now the only animals that remain are wild pigs, which prevent any food crop cultivation. The *dusun* has four coffee hulling machines, twenty motorcycles, four televisions, and one video (Y.'s). The *RT1,* where Y. lives, has ten families. There is also a small store *(warung)* run collectively by 16 residents. They each pitched in 50 kg of coffee to build the stall, and profits are used to purchase tools that can be borrowed by the 16 or rented out to others.

Since 1981, Y. returns to Java at least twice a year to visit his family. His three friends from Java who came with him originally only stayed six years in Sumatra. With their earnings, they bought houses and rice fields in Java and set themselves up as traders. Y. also plans to return one day to his village in Java.

Case 12:

S., 25, was born in Cilacak, Central Java, the last of a family of five children. His father is deceased and his mother married again and has a child from the second marriage. In 1971, at the age of 6, his whole family, except one brother, followed neighbors who were leaving for Natar, Lampung Selatan. There they shared a house and in the market sold teak leaves and fish they caught in the river. S. soon got a job as a agricultural laborer hired by the day in Lampung, and later in Kotaway, hoeing the soil *(nangkol).* In 1979, at the age of 14, he was hired with a brother (the third eldest) by a Javanese in the highland *dusun* of Tenam, at Talang Tebing Angin, attached to Kotaway village, to weed under the coffee trees. They were paid Rp 30,000 per weeding, and would do 4 to 6 per year. He continued to do this work for 9 years, until 1988, when he was able to buy a plot covered half with *alang-alang* and half with forest regrowth. He cleared it and planted 3000 coffee trees.

He married a Javanese this year who went to school up to the fourth grade (he stopped at the third grade). S.'s mother lives with them in their house, built of wood planks and shingles, with a dirt floor. It is situated at the entrance to a large *talang* with about 10 houses aligned on each side of a central square used for drying coffee. Exclusively Javanese, the *talang* was opened in 1978. Now there are two televisions and three motorcycles. If he is not chased out by the creation of a forest reserve *("kalau tidak kena kawasan")*, S. wants to remain here.

His brother he followed to Kotaway, now 35, is back to live again in the *talang*. In 1971, at the age of 16, he and three friends followed a Sundanese with a plantation in Gunung Raya who was looking for workers in Lampung. He remained in Gunung Raya until 1976 working annual or piecework contracts. He then returned to Lampung to help his parents for two years and got married with a Javanese who is now 27. In 1978, he returned to Gunung Raya for six more months of work paid as per contract. In 1979, he learned that there was "a new clearing of forest here," and "moved in" *("bukaan baru di sini, masuk")*. With his wife, he opened 2 ha for a fee of only Rp 3000 *pancong alas* paid to the head of the hamlet at the time. There were only 25 families in all, and his wife did not "feel at home" *("tidak kerasan")*, so in 1981 they sold everything for Rp 60,000 and returned to Lampung to work the parent's land. They had their first three children there. In 1987, they returned to Kotaway, buying 2 ha of land covered with *alang-alang* for Rp 150,000, and built a house in the *talang*. Now they have four children with them, aged 5, 4, and 3 years and one aged 18 months. With all these young children, he cannot take care of the two hectares himself; only one is planted with coffee, the other remains to be cleared. As for health problems, he says "here it's normal you get malaria" *("di sini, biasa, sakit malaria")*.

S.'s eldest brother, 43, just spent ten days in the *talang* and on the day of the interview was on his way back to Lampung Selatan. He has 0.25 ha and a house, with land ownership papers. He plants beans and rice, and rents a 1 ha plot for Rp 50,000 on which he plants maize and beans. He went up to the first year of upper secondary school (SMA1) in Java, before the departure of the family to Lampung. His wife, a Javanese of 42 years of age, has never been to school. They have eight children, all in Lampung except the eldest, 20 and married, who came to Talang Tebing Angin in 1984 buying a 3000-tree plantation. To fill in his meager agricultural gains, he works also in a *gaplek* (dried cassava) and coffee factory in the city of Bandar Lampung. He works there about 10 nights a month, from 4 p.m. to 4 a.m., with two one-hour breaks. He makes about Rp 3000 a night, on a piecework rate. At the present time, he is in debt 25 kg of rice. He borrowed them to feed his family after having spent all their savings for his wife's last delivery three months ago. Between the Puskesmas health clinic (Rp 25,000) and the midwife, the birth cost them Rp 70,000. He has no wish to settle in Kotaway because there is no school or other services. He might come by himself to increase his earnings, but for the children, it's "no good." The primary school is a two hour walk, and he already has six children of school-age. For the market and medical clinic, it is necessary to go to Talang Karet, because a nurse passes only once a month in their area. He admits that he has no plan for the future. He leaves the *talang* perched atop a 100 kilo sack of coffee.

None of these three brothers have ever returned to Java.

Case 13:

S., 50, is a native of Banyuwangi, East Java, and the eldest of seven children. All of the others are deceased except a younger brother, married and living in Java. This brother learned how to do sculpture in Sanur, Bali as a bachelor, and lives from this now. His mother is in Java, "divorced, rents land and is penniless" *("janda numpang tanah, tidak ada nafkah")*. In Java, S. is an agricultural worker (sharing one part for himself, four for the owner). He married in 1963 with a woman from his village, whom he divorced soon after. He married again with a woman from Yogyakarta and they had a boy who is now 15; they divorced in 1968. He did not remarry again for 11 years.

During that period, in 1976, his father, who had left to join his parents-in-law at Lebak Kunir, South Sumatra, in 1965, asked him to come live with him, and sent the money for the voyage, Rp 25,000. His father had left for Sumatra after two months of deliberation following reception of a letter from the parents-in-law, in Sumatra since 1964. With responsibility for many children in Java, he wanted to improve the family finances. For his departure, he sold a 1 ha coconut grove, 1 ha of dryland, 1.6 ha of *sawah*, 12 goats and his house. With this he acquired a *pancong alas* for Rp 12,500 per ha, 15 ha of land belonging to the community *(marga)*, a swampy forest covered with rattan and palm trees *(Pholidocarpus sumatrana (serdang)*. He still has about 4 ha of rain-fed rice fields, the rest having already been shared amongst his children. In the meantime, he remarried in Sumatra and has two children from that marriage.

When S. arrived in 1976, the lands of his father were already planted. He stayed six months with his father, or one harvest period. He then followed a friend to Muaradua Kisam with the money earned from the rice and cassava harvest. There he worked as a day laborer and for piecework for two years on the plantation of a Kisam (for three weedings a year, he received 100 kg of coffee). Seventy Javanese families were already living there, not counting the unmarried youths. Javanese are also married to Kisam women. With his earnings, he bought the land of a friend, who had to return to Surabaya to take care of his sick parents, for the price of Rp 150,000. The land had been newly cleared and the debris burned, leaving just the planting of 3000 coffee trees.

He was a day's walk from the nearest settlement. A cholera epidemic broke out in 1978, and claimed victims until 1979 (injections cost Rp 500 and medicine was 23 km away in Tenang). He married for the third time, in 1979. His wife and their first child were and still are constantly sick. "The soil is fertile, but we are far from everything" *("tanah subur tetapi hubungan jauh")*.

In 1980, a friend from Ponorogo, a 60-year-old member of his wife's family, came to visit him in Kisam. He was too old to work, but he wanted to move to **Cahaya Mas** and spoke to him of the possibility of acquiring 2 ha there, urging "come if you can no longer handle Kisam" *("datang kalau tidak kerasan di Kisam")*, and leaving his address. S. thought about the proposition for three months, then went to see for himself the situation at Cahaya Mas, staying two nights. His opinion: "it's dry, and the earnings are less, but the land is flat and easy to work and the place is accessible" *("kering, hasil kurang, tetapi tanah datar dan gampang, dekat hubungan")*. Returning to Kisam, he sold his 3000 trees for Rp 500,000 and came to Cahaya Mas. He lived

for the first two months with his wife's relative and acquired 2 ha for Rp 27,500 in *pancong alas,* with the ownership papers *(akte).* The land was covered with *alang-alang* and a few trees.

He planted in his 0.25 ha garden about 40 coconut trees. Other trees planted were banana, pineapple, mango, jackfruit, coffee, *cengkol* and *petai,* part for sale and part for household consumption. Out of his 1.75 ha, he cultivated maize, soybeans, green gram, rice, cassava and peanuts. He just exchanged land with another settler three weeks ago (June 1990) He sold his house and his garden to a trader who wanted to be along the main road, and bought his current house and 0.25 ha plot (unplanted) on a secondary road. This transaction allowed him to pay off a debt of Rp 800,000 contracted from a friend two years earlier for the circumcision of his son and because rats had destroyed his 2 ha of rice and his chickens died of disease. He also possesses a cow, a bull and a bicycle.

His third wife is 27. She was born in Telungagung, East Java. She is the second of three children. One of her younger sisters, married to a Madurese, also lives in Cahaya Mas. Her parents signed up for Transmigration in 1963, and received 2 ha in Nusa Jaya. They are still there, aged about 75. She was also divorced before and has a son from her first husband, a Sundanese. When she was divorced, she had to begin selling dried and salted fish *(ikan asing)* door to door with other friends to support herself. She left her son with her mother in Nusa Jaya during this time. When he was six (in 1981), she took him back with her and her second husband S. They have a son, 10 and a daughter, 4 of their own.

S. also lives with a half-brother, 25 and single, who followed him since his departure from Java in 1976. The land is in the name of S. but in fact one hectare is worked by the brother. Therefore, they are six in this house built of wood planks, having a roof of baked tiles and dirt floor.

Here, the children get sick from cholera, malaria, and respiratory ailments. His family was treated for 13 months for various ills, and for 15 days for cholera last September. The health clinic is at Nusa Bakti and the hospital at Gumawang.

At his arrival in 1980, there were only six families. In 1983, he became neighborhood head *(RT),* and in 1989, *dusun* head. This *dusun* now has 275 families. There is a collective field planted with cassava. The proceeds from this field go into the *dusun* chest to be used for buying necessary equipment for the *dusun* and for lending out to residents, at 5% interest per month. There is also a men's and a women's revolving-credit association *(arisan)* which enables its members to borrow kitchen utensils for festive occasions. The *dusun* also has a musical theatre group from Banyuwangi, called *janger,* composed of 22 members.

As head of the *dusun,* he often goes to the sub-district office at Pematang Panggang, but he has never gone to the district town. His wife has never been to either town.

S. has not returned to Java since 1976, and has never sent a letter either. The trip would be too expensive (more than Rp 200,000 for the whole family), and he's afraid that if his mother decided she wanted to follow him to Sumatra, she would be a burden.

What does he think is necessary now for his community? He said: "I want it to be active, secure and beautiful" *("Minta ramai, aman dan bagus").*

Case 14:

In the absence of her husband, it was the wife, S., who replied to our questions. She was born in 1955 in Madiun, East Java. She married in 1970 to H., from the same neighborhood, and they have two children. Her husband was born in 1945. She is the last of six children. Her five brothers and sisters are in Madiun, all married, farmers and owners of their land. Her parents still own and cultivate 1 ha of *sawah* and 0.5 ha of dryland. The rice field will be shared amongst the six children, giving 0.2 ha for each.

Her husband is the last of three children; his parents have 0.5 ha of *sawah* and 0.5 ha of dryland which will be divided in three. The two eldest are married and live near their parents. S. and her husband themselves bought 0.8 ha of *sawah* and 0.25 ha of dryland in Java. Their two children wee born in 1972 and 1976.

On August 10, 1977, they left for a year and a half in Belitang, at BK10-Gumawang. They had family there and wanted to increase their family revenue. They bought right away 2 ha of dry land and 0.25 of garden with a house for Rp 250,000, and still had Rp 350,000 left over. They rented out their rice field in Java for that year and a half for a total of Rp 400,000. In 1979, S. returned to Java for two months and sold the land and house. Returning to Belitang with the Rp 2 m proceeds from the sale, they built a house, and bought two cows and a motorcycle. But their field in Belitang was not fertile. After two or three harvests, it produced hardly anything. Worrying about how they were going to find the money to educate their children, the father started looking for work on the side. Beginning in 1979, he would go to the coffee plantations for a month, three or four times a year. S. stayed with the children in Belitang.

At that time, two locals from Pengandonan came to look for workers *(cari tenaga kerja)* in Belitang and hired eight men. From then on, the place was known, and he could return when he wanted or send others. In 1986, S. and her husband decided to move together to **Sukorejo** because they were not earning enough in Belitang. They still have their house, their garden and their land, which they have worked by a Javanese. In their house, they leave their two children alone (the eldest is 14). One of the two parents returns every month to see them. The youngest is in his second year of junior high school (SMP2). The eldest girl has just finished secondary school and wants to pursue her studies at IKIP in Surabaya in mathematics and physics. Her father is going to accompany her this week. S. has a nephew who teaches at IKIP Surabaya. As for the parents education, S. went up to the third year of secondary school and her husband finished primary school.

The first year in Sukorejo, S. and her husband sharecropped 2500 coffee trees. Since 1987, they have been sharing 4250 trees belonging to a local trader. The harvest is shared in half, but they receive neither meals nor rice. The small house on stilts they live in was already built when they arrived. It has bamboo walls, plank floors and a corrugated iron roof.

To increase their earnings, S. and her husband work about a week every month as day laborers. They have never been sick from malaria here, but S. has been undergoing treatment for hypertension at the Pengandonan health clinic. The wild pig eat everything, including vegetables, pineapple, and papaya, making it impossible to plant anything but coffee. Upon their arrival in Belitang, there were still wild pig, but they have now completely disappeared. Since

their house is located near the market, the family can eat fruits and vegetables, which is impossible here. With her hypertension, S. cannot eat meat, but her family doesn't eat any either (at the most, four times a year they eat chicken). S. sometimes plays volley-ball or the flat *rebbana* drum in a women's musical group, when her husband allows. Neither of them has been to Baturaja, except in transit to and from Belitang.

Their plan is to plant rubber on their land in Belitang. They are waiting to see how the planned irrigation program in that zone of Belitang will be carried out. The education of their two children is their primary concern.

Case 15:

B., 21, was born in Banyumas, Central Java. He attended school up to the fifth year of primary. His wife, also from Banyumas, went up to the third grade. He is the eleventh of twelve children, all of whom are in Java. His parents have 0.25 ha of dryland in Java. Before, he worked in a rice mill as a day worker paid Rp 1000 per day without meals. In 1987, he came directly to **Danau Jaya** with a friend who had already worked there; the friend has since returned to Java. He had only the money for the trip to Sumatra. B. has been working with another young migrant as sharecroppers for a Javanese who owns vast plantations. They share the harvest from the 8000-tree parcel half for the owner and half to be divided between the two workers. The owner furnishes meals and tobacco. The wife of B. joined him two years ago (in 1988), with their son, who is 4 now. She was wary of coming earlier with a young child. Just recently, B. bought a 3 ha parcel of land covered with *alang-alang* which he will clear with the hoe. He bought it from the brother of the Semendo *dusun* chief in Danau Jaya. He plans to plant 8000 coffee trees. He also has a motorcycle. He has never returned to Java. He wants to open a small *warung*, or stall with his wife next to the rudimentary house he has just built. Before, he stayed with the owner.

Case 16:

W., 56, is from Trenggalek, East Java. His parents were peasants, owning 1 ha of dryland planted with cassava and soybeans. He is the second of six children. The first is in Sumatra. W.'s wife, 48 years old, also hails from Trenggalek. She was a seamstress, but in Sumatra she damaged an eye while manipulating the rib of a palm frond and can no longer sew. She was hospitalized in Palembang for one month.

Their land in Trenggalek being too small, W. left with his elder brother in 1961, at the age of 27, to stay with their uncle living at Belitang since coming with the *kolonisasi* program in 1939. He had a *sawah* and they were able to stay a year working agricultural jobs. They then returned to Trenggalek for six months because they "missed their parents" *("rindu orang tua")*. With the gains from Sumatra, W. learned to make furniture with some neighbors, and began to sell them. He married in 1963, then left with his wife for Belitang to stay with a cousin. This time, he intended to set himself up as a cabinet-maker and carpenter, and leave agricultural

work behind *("mau tukang kayu di Sumatra, tidak tani lagi")*, because the salary was better. He built furniture by order, but had no time or money to build his own house so he had to stay with his family. His wife sold snacks *(tahu* soy-cakes and *lontong* steamed rice) at the market with her sister. They lived this way until 1966, when with two children, they finally had enough of living with the cousin and went to look elsewhere for a place to build their own house. Belitang was too expensive, so with his earnings from cabinet-making, he bought a house-plot and garden and 4 ha of land, and built a house. There were already Javanese there, a few of them craftsmen but most peasants with their farms spread out in all directions. He hired Javanese to open his land for him, because at that time many migrants were coming from Java. He planted maize, beans, peanuts, cassava and rice. The village is now very busy, with a market and two story houses.

In 1974, following a season of poor crop yields, he went to Muaradua to work on the NRC road and ended up staying two years. He left his wife and children in Sumber Agung; she continued her small retailing in the market and hired Javanese to cultivate their land. They now had five children. In 1976, he returned to pick up his family to move to Ruos which he knew was an area suitable for coffee growing. He and his family worked there as sharecroppers, dividing the harvest equally with the owner, and built a home on the main road where they stayed until 1982-83.

By 1982-83, the family had grown to 8 children. Using savings amassed in Ruos, they bought a plot along the road in nearby **Sabutan**. They cleared 16 x 60 m, planted a garden and built a house. In 1984, W. bought from the Veteran's chief a 2 ha plot of secondary forest. These lands, which were not cultivated by the locals, were attributed to the Veterans and civil servants of Muaradua, many of whom sold the land off rather than cultivate it. On one ha, he grew coffee, on the other beans, maize, green beans, soybeans and fruit trees. He hired Javanese to work his land and build his current plank house, located off the road. In 1986, he sold his house and garden along the road to a Daya to pay for his eldest son's schooling, but it was not enough. He continues to this day to work as a cabinet-maker and carpenter.

His house is large enough to provide a practice area for the Kelompok Tani Bina Karya, for which he has been the secretary since 1987. He also directs a theatre group *(ludruk)* which has already produced twice in public. There are thirty participants paying dues to buy instruments and costumes.

Almost all his children were schooled in Java because here schools are limited and expensive. The eldest, born in 1964, finished high school (SMA) and entered the marines in Surabaya; the second oldest, born in 1966, finished junior high school (SMP) and works in a private company in Palembang; the third, born in 1968, finished junior high school also and works in a fashion house in Surabaya; the fourth, born in 1970, is still in a technical school (STM) in Tranggalek and is taken care of by his grandparents; the fifth, born in 1973, is still in a SMEA school and stays with an uncle in Tranggalek; the sixth, born in 1976, is in his first year of junior high school (SMP1) in Muaradua and lives in Sabutan; the seventh, born in 1978, is going to enter SMP in Muaradua and lives in Sabutan; the eighth, born in 1980, is in his fourth year of primary school in Sabutan. The ninth and tenth children died soon after their births in 1982 and 1984.

W. says that while in Belitang one can only plant rice, here one can plant anything, and what's more there is a demand for craftsmen. Their land is not for the children's inheritance, but for the parents, for their retirement *("pension")*. All their money goes to the education of their children; the parents keep nothing for themselves, but the children must learn to find their own sustenance, "like chickens" *("seperti ayam")*. They educate them so they will be able to stand on their own two feet.

Case 17:

S., 40, is originally from Ponorogo, East Java. He is the fourth of seven children, three of which are in Java and three others in Lampung since 1972. His parents in Java have a house and 0.125 ha of garden. In 1977, at the age of 27, he followed a man who offered him work in Belitang. He was paid Rp 500 per day without meals for hoeing. He only stayed two weeks, because he "was not very happy, the salary was too low" *("kurang senang, hasil kurang")*.

He heard from a big landowner *(tuan tanah)* he met in Belitang that in **Danau Jaya** "there was empty land" *(ada tanah kosong")*. With his address, he went to Talang Imus to work for him for one year. With three other men, they open 4 ha while all along being fed by the *tuan tanah*. Once the rice and the coffee were in the ground, the group obtained half of the land, or 2 ha, which they divided into equal 0.5 ha parcels. The rice harvest was enough to feed them for a year and they worked on the side by the day. Over the years, without buying any more land, S. enlarged his half hectare on the fringes to where it measured some 4 ha, containing 10,000 coffee trees. The plantation was bordered by forest with large trees. Each of the others did likewise, opening up whatever they were capable of *("sekuatnya tenaga")*, without having any *pancong alas* to pay or land to buy. In this *RT,* there is no longer any forest, all land is planted. He now employs day workers on his plantation. He met his wife here. She is 30, from Jember, and she followed her parents to Sumatra. They have one child.

S. returns every year to Java.

Case 18:

B., 60, and his wife, 40, are Madurese from Sampang, Madura. B. attended school for three years, but not his wife. B. is an only child. He first migrated to Surabaya and then in 1959 signed up for Transmigration with his wife and son. They were sent to Labhuan Maringgai, Lampung Selatan. They received a house, 1.75 ha planted with dry rice, and food aid for the first eight months. But the harvests were insufficient, and they are transferred to Gaya Baru, Lampung Tengah in 1969 where they received 1.75 ha which they planted with maize and dry rice. They also received maize and *gaplek* (dried cassava) for the first four months. But the harvests always fell short and the sandy soil could not support even cassava over the long run. In looking for a way out, he came to **Sukorejo** with his son in 1986. He found work sharecropping for 1.5 ha (3000 trees, harvest shared 50/50) belonging to a local. He sold his

lot in Labhuan Maringgai, but up to now holds on to the lot in Gaya Baru, which is cultivated by Javanese who take the harvest. If he cannot buy land here, he will go back to Gaya Baru.

His son S., aged 40, his wife and his three children share his house along the road. His first wife, met in Lampung Jepara, died after giving him four children, one of whom died. His second wife, 23, married at Gaya Baru, also gave him four children, one of whom died. His children range in age from 3 to 18. His wife's parents were landless in Java, and so they and their four children followed what they called a *proyek* in Gaya Baru in 1964. His wife has never been to school while S. only reached the second grade. Neither have any land at Gaya Baru. In Sukorejo, they work 2 ha (5000 coffee trees) belonging to a local.

S. and B. said that "if they weren't so tired, they would go more often to Gaya Baru" *("mon ta' lesso sering è Gaya Baru"*, in Madurese). Neither have ever returned to Madura.

Case 19:

K., 47, is a Balinese from Singaraja. He came with Transmigration to Nusa Bali in 1963 following the eruption of Gunung Agung. His wife also comes from Singaraja. K. finished primary school, and his wife went up to fifth grade. They have seven children (the youngest is in the fifth grade). To pay for the education of their children, they sold 1.5 ha of their 2 ha originally given by Transmigration. They had to look for land outside of Nusa Bali because for two years in a row their field was devastated by rats. They ate everything, including the rice and corn on the stalks. They could no longer survive, even if they worked as farm laborers on the side. Even if there were no pest problems, yields were scanty without fertilizers.

A younger sister of the wife came to work seasonally in **Kampung Baru** before moving there definitively four years ago. It was she who told K. and his wife about the availability of land in Kampung Baru. They were the first to arrive in *Kampung* (neighborhood) 8, in 1989. Everything was covered with *alang-alang*, and some trees. They acquired 2 ha, payable by installments. The land and land-ownership papers *(sertifikat)* cost Rp 275,000. They have just opened a *warung*, with plank walls, a dirt floor and an *alang-alang* roof. Three of their children are still with the eldest daughter who, married, lives in their house in Nusa Bali and tends their land. One son followed them here, another works in Bogor, West Java, and another daughter is married.

Case 20:

W., 29, was born in Bali of a Balinese father and Javanese mother, the oldest of five children. His parents, landless, went to Lampung in 1962, leaving him in Bali with his paternal grandmother. At the age of 14, in 1979, he went to Talang Padang, Lampung, to work in the coffee plantations; he had "the soul to migrate" *("jiwa merantau")*, he said. Returning, he had an argument with his mother, so he asked the head of the *kampung* to find him work close by. He signed up for an annual contract sawing wood for Rp 170,000. He went to Bengkulu for eight months in 1981-82, but didn't like the work and looked around for something else. In

1983, he was in Sekaca, Bukit Kemuning, where he planted potatoes and cabbage, as a sharecropper.

From there, he went directly to **Danau Jaya** in 1985, a year when the price of coffee was high and motorcycle drivers *(tukang ojek)* like him were making Rp 250 per kilo transporting coffee. He returned to Sekaca in 1989, bought a plantation (3000 trees) for Rp 2.6 million by selling 1.5 ha he had acquired in Lampung. But by the end of the year, the zone was closed to settlers *(kawasan)*. He lost everything. Returning to Danau Jaya, he went back to driving the motorcycle. He gives half of his earnings to the owner of the 125 cc. trail bike. He has not bought anything in Danau Jaya; he simply has a house on land belonging to the hamlet *(tanah talangan)*. He preferred to build his house here in the hills rather than below in Talang Karet, because here during the off-season one can still find work by the day. He married in 1985 with a Javanese. She is 19 and stays in Lampung with their child of 2. He has been asked to return to Bali *("disuruh pulang ke Bali")* but he has not gone home in 12 years.

He shares his house with his younger brother, who has been following him since 1983. He was born in Lampung in 1965. The younger brother also drives a 125 cc. trail bike and shares his earnings with the owner. He also drove a motorcycle at Sekaca. He married an 18-year-old Javanese whose parents had migrated to Lampung. She stays in Lampung with their 10-month-old baby. He prefers Danau Jaya to Lampung, because here it is more serene* *("tenang")*. He already bought a cow and a little land in Lampung, which his sister-in-law cares for.

One of the two brothers was to have competed in a motocross race in Bandung but he didn't have the necessary money at the right time for registration.

With their earnings since 1985, they have been able to pay for the education of their younger brothers in Lampung, contributing a total of Rp 700,000 over the last three years. One is still in Lampung, the other two in Palembang.

Their long-term plans are, in order of preference: buy land here, that they "really want to do" *("ingin benar")*; return home to their mothers-in-law in Lampung and open a motorcycle repair shop or another kind of store; buy their own motorcycles. The younger brother declared that he would follow whatever his brother decides, but the decision will be made by consensus.

Case 21:

A., 32, was born in Banyuwangi, East Java. He is the second of six children. His parents had 0.25 ha in Java. He followed his parents when they left by Transmigration to Gunung Balak, Lampung Tengah. In 1981, the zone was closed for reforestation *("kena reboisasi")*, and they were forced to follow the Translocation scheme to Mesuji, Pematang Panggang SP3. They received 2.25 ha. A., however, did not receive his own parcel because he was still unmarried. A year later, he visited a friend in Kota Bumi, and there he met his future wife. Originally from Semarang, Central Java, she is also 32 now. She is the fifth of six children and also followed her parents with Transmigration to Lampung. Three of her brothers are in Lampung and another is in Transmigration at SP3 Pematang Panggang, Mesuji.

A. came to **Danau Jaya** for the first time in 1983 with one of his younger brothers, going on the advice of an uncle who was already there. His uncle gave him land which he opened

and planted with 3500 coffee trees. He got married in 1985, but didn't bring his wife to his plantation in the hills until 1988. In 1987, he bought 3 ha more with the earnings from his coffee for the price of Rp 2 million; half was overgrown, half was planted with young coffee. He has since sold his first lot of 3500 trees. Three months ago (April 1990), he moved to the center of the *taiang* of Danau Jaya and opened a small store *(warung manisan)*. He lives in part of the house owned by the *RT1* chief, and assures with him the security of the whole *dusun* by making rounds at night. Another of his brothers lives at Danau Jaya.

Case 22:

P., 38, was born in Jember, East Java. He has only one other brother. At the age of 21, in 1973, he went to Metro, Lampung, to look for work *("cari upah")*. He bought 0.25 ha of dryland and got married in 1977 to a woman three years younger. The zone where he lived was then closed to cultivation *(ditutup)*. In 1978, he went to Gunung Raya and worked as a coffee sharecropper, eventually earning enough to buy 5000 coffee trees. Again, the zone was declared closed, but this time he was lucky enough to sell his plantation just beforehand, in 1984 and move to **Sabutan**, where he was able to buy right away 1.25 ha of overgrown dry field from a Javanese for Rp 280,000.

P. has a child in Sabutan and another with the grandparents in Java.

Case 23:

Born in Telungagung, East Java, S. is 35 years old. The second of four children, he finished primary school. His parents had 1 ha of dryland in Java. In 1963--he was eight at the time--his parents sold their land in Java and came with seven other families to Nusa Jaya. The whole family followed, grandmother, parents and children. They bought 2 ha of dry land from transmigrants who "couldn't handle Transmigration" *("tidak tahan di Trans")*. His father was also a cabinet-maker and carpenter and he taught him his art. S. worked his parents land and worked for day wages about one week a month. He also went to do the coffee harvest at Pulau Beringin (villages of Pecah Pingan, Simpang and Cukuran) and Muaradua in 1977-78. He lived in the plantation shelters *(pondok)* during the picking months, and was given Rp 150 per *kaleng* (10 kg), rice, salt, chili peppers, and dried fish by the owner. He could pick from 5 to 7 *kaleng* per day. Big landowners came to Nusa Jaya looking for manpower for their coffee plantations.

In 1979, S. married a 30-year-old woman from his hometown. She was the last of seven children and had a fourth-grade education. Her parents went to Nusa Jaya as transmigrants in 1961, and received 1 ha of *sawah*, 0.75 ha of dry fields and 0.25 ha of garden around their house. Her mother is still in Nusa Jaya. S.'s parents have since passed away.

In 1980, S. decided to look for land in **Cahaya Mas**; one of his wife's sisters and an older brother of hers also followed (the four others are still in Nusa Jaya). In Nusa Jaya, there was no longer any land available for the many offspring of the residents. In 1980, the area around Cahaya Mas was still forested. The new settlers used the trees to build houses or simply cleared

them. The first settlers who came with S. from Nusa Jaya would shuttle between the two, leaving in the morning on bicycle and returning to their homes in the evening. Once their homes were built, several at a time, in Cahaya Mas, they would bring their families. Each person was attributed 2 ha. While awaiting the first harvests, S. hired himself out as an agricultural laborer. When there was no work available, he looked for wood that could resold in Nusa Jaya. He would leave home atop his bicycle and return pushing the overloaded bicycle with wood strapped to the frame. Since the PT Way Hitam sawmill nearby, owner of the forest, did not allow the cutting of trees exceeding 25 cm in diameter, houses were built with posts measuring as little as 10 cm. His own house measures 6 m x 11 m. It is built on the ground with plank walls, baked tile roof and a dirt floor. He has just moved it, changing locations with another migrant.

He has two children, aged 12 years and 17 months. The *dusun* he heads is composed of 4 *RT* or about 60 families. He has 2 ha, and rents in 2 ha of the "village land" *(tanah desa)*. He cultivates dryland rice, maize, cassava, peanuts, peppers and green beans. He has two IFAD bulls and one cow. His chickens were killed off recently by disease. He also has a motorcycle, a bicycle and a clock. He gave up his part of his parents inheritance, because he could support himself *("usaha sendiri")*. He has been able to save money from the sale of his harvests. He wants to "build a house" *("bikin rumah")*, by "house" meaning a brick and cement construction, and stay in Cahaya Mas.

Case 24:

S. was born in 1948 in Madiun. He followed his parents and his three siblings to Belitang in 1953 to a Transmigration site. They received 1.5 ha of *sawah*, a garden, rice for one year and seed for 0.5 ha. But the rice field was not productive; the rust-colored irrigation water destroyed the crops. They finally acquired an additional 2.25 ha, but even that was destroyed by the water. In 1977, he went to Banding Agung to work as a sharecropper in the Ranau coffee plantations. The land was very rugged and he lived far from the road.

In 1982, he moved to Gunung Raya where he lived in an elevated shelter in the middle of the plantation. Troops of thirty or more elephants would tramp about the *pondok* every month. He sold 0.5 ha in Belitang (though he still retained his house) to buy 3 ha of plantation (6000 trees) from a Javanese for 1 ton of coffee. He had up to 16 workers on his plantation during the harvest season. He married and had 6 children. The first and the second are now in Banding Agung, the third died in the plantation, the fourth is at Gunung Raya, and the fifth is in Belitang to attend primary school (he lives with his maternal grandmother, near their 1.5 ha rice field that only yields 500 kg of *padi* and one harvest per year.

Visiting **Sabutan** where his brother already lives, he was wondering if it wouldn't be a good idea to sell his plantation in Gunung Raya to move there. His coffee trees are already old, there are still elephants roaming about, and the area might eventually be closed by the government.

Case 25:

N., 45, was born in Banyuwangi, East Java, one of four children. His parents had 0.25 ha of *sawah* and 0.25 ha of dryland. As an adolescent working his parents land, he began to feel "dissatisfied and needed to leave home" *("kurang memuaskan, harus merantau")*. Fifteen years old in 1960, he left for Metro, Lampung Tengah with friends. He had only enough money for the trip there. In Metro, he worked by the day or by the job but after two years was not able to buy land in the region. He left for Belitang, thus, in 1962-63, and had the same experience: he worked, but soon found that it was already "dense, packed" *("sempit")* as far as land availability went. He "ran" *("lari")* to Gunung Raya in 1964 for four years, returned to Belitang in 1968 and went back to Gunung Raya in 1970. Saving what he could from working for others, he built up little by little his coffee plantation out of the forest *("upah-buka")*. His land was a day's hike from the market, he said, reminding that Gunung Raya is supposed to have about fifty hills. His plantations grew, finally totaling about 25,000 coffee trees. In 1985, he sold everything just before the area was closed above the markings *("tutup di atas patok")* and came to **Sabutan.** He was the first from Banyuwangi to arrive in Sabutan. He first bought 1 ha of *sawah* for Rp 1 million, then a 1 ha dry field for Rp 500,000, and another for Rp 300,000, all from locals. The dry fields were overgrown with old coffee trees.

His wife, 30, is from Jember, East Java. They met in Gunung Raya, where she had followed her parents (now returned to Java). N. and his wife have two children who live with them.

He often returns to Java, sometimes twice a year. He never stays more than two weeks and no longer looks for young men to work his land in Sabutan, like he did for his coffee plantations in Gunung Raya.

COASTAL WETLANDS

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INTRODUCTION

1. APPROACH TO THIS STUDY ON THE COASTAL WETLANDS

The experience of researchers and a review of the literature is summarized in Chapter 1. Then, in order to carry out this assignment, two teams conducted surveys in the coastal wetlands of South Sumatera. The first team was assigned to do a rapid appraisal of the villages and types of settlers in the Kecamatan of Sungsang. They mapped the locations of the spontaneous migrants, determined the number of families on each parit, and interviewed a few of the village leaders. The results of this rapid appraisal are presented in Chapter 2 below.

The second team selected several villages and carried out in-depth interviews of a ramdon sample of the villagers. They stayed in these villages for several weeks getting to know the settlers and understanding their institutions. This information is presented in Chapters 3 to 7 below.

2. CONDITIONS IN THE TIDAL WETLANDS

Seen from a national perspective, the coastal wetlands of Indonesia have a considerable potential for agricultural development and in the past for transmigration. Therefore, the past efforts to develop the resources of coastal wetlands was primarily aimed at giving support to the development of agriculture and transmigration. With this in mind, the present development program of coastal swampy lands is aimed at improving the utilization of swampy coastal lands already under exploitation.

Of the 39 million hectares of coastal wetlands distributed over the larger islands of Indonesia, only 1.3 million hectares have been opened and of this amount only 700,000 ha (or 60%) have actually been cultivated.

Swampy coastal lands can be conveniently classified as tidal wetlands, those influenced by tides, and non-tidal wetlands, those located more inland and not influenced by tides. In Indonesia approximately 24 million hectares of swampy coastal lands are Tidal wetlands and 15 million hectares are Non Tidal Wetlands. Of the Tidal Wetlands approximately 16 million hectares are considered not suitable or less suitable for agriculture due to the deep peats and excessive high tides which cause serious flooding. In the case of the Non Tidal Wetlands it is estimated that six million hectares are suitable for agriculture. As is the case in Tidal Wetlands, deep peats form the major constraint faced in the development of these lands for agriculture.

According to their potential to be developed for agriculture, coastal wetlands are classified into four categories. Category I and II are suitable for the development of wet rice fields (sawah) due to year-round availability of water. Category III is suitable for dryland or tree crop agriculture, while Category IV is only suitable for tree crop agriculture.

For many years the Buginese, Bandjarese, Madurese and Malays have pioneered agricultural activities, especially of food crops, in coastal wetlands. More recently, this was also carried out by farmers from Java, Lampung, Riau, Jambi and South Sumatra. Presently, the problems faced in the use of coastal wetlands for agriculture are related to the improper cultivation technology applied, which in turn produces low agricultural yields, and insufficient attention to soil conservation measures.

The approximately 700,000 hectares of coastal wetlands that are presently utilized as agricultural lands, consists of about 350,000 ha of Tidal Wetlands and 360,000 ha of Non Tidal Wetlands. Of the total acreage of wetlands in agricultural use presently, 66% are in Sumatra, 33% in Kalimantan, and 0.5% in Irian Jaya. Of the 450,000 ha of Tidal Wetlands and 100,000 ha of Non Tidal Wetlands presently not utilized, 68% are located in Sumatra, 13% in Kalimantan and 0.5% in Irian Jaya. Nowadays, utilization of coastal wetlands involves primarily Category II and III Tidal Wetlands, while Category I and IV Tidal Wetlands are less utilized. In the case of Non Tidal Wetlands, the so-called Lebak Tengahan (swamps of medium depth) are primarily used, while the so-called Lebak Pematang (swamps bordering river levees) are less used. The so-called Lebak Dalam (deep swamps) are mainly used for extensive aquaculture.

Since Pelita I the Government of Indonesia has attempted to introduce methods, technologies and irrigation systems to achieve increased but sustainable agricultural yields. The methods developed were primarily focused on water control which was expected to raise agricultural yields. Aside from this, efforts to conserve the natural resources of the area have emerged. The introduction of improved irrigation systems such as the fork system and rice fields irrigated by tertiary canals have resulted in improved yields. Lately the introduction of the surjan system is considered to be a promising alternative to increased agricultural production through intensification, as well as horizontal and vertical diversification.

Excessive peat depths, poor drainage, acid soils, saline water and poor water management, all these lead to low agricultural production. Field experiences indicate that if water control management is applied both improved production and productivity of reclaimed wetlands can be achieved. If subsequently the surjan system and diversification are applied, these may raise agricultural yields, even more.

In general Tidal Wetlands of Category II show higher yields than Category III and IV if food crops (rice and palawija: secondary crops) are cultivated. However, farming on Tidal Wetlands give lower returns than rice farming on wetlands (sawah) but higher returns than rice farming on dry fields (ladang).

The poor condition of social-institutional support to coastal wetlands communities, such as supporting institutions as BPP (Balai Penyuluhan Pertanian: Agricultural Extension Service) with its PPL (Penyuluh Pertanian Lapangan: Agricultural Field Extension Worker) and PPS (Penyuluh Pertanian Specialis: Specialist Agricultural Extension Worker), and KUD (Koperasi Unit Desa: Village Unit Cooperative), frequently constrain development of the coastal wetlands. The general tendency is that institutional support does not meet the needs and demands of coastal wetland communities.

The development of coastal swamps is primarily a manifestation of efforts to open and utilize a natural (though marginal) resource on a sustainable basis for the benefit of the people in the context of national development.

Such public facilities as schools, clinics and mosques are usually located together as one cluster, both physical, technical as well as socio-economic requirements. Until the termination of Pelita IV it can be stated that a considerable amount of funding had been provided by the Government of Indonesia, through self-help (swadaya) by communities and foreign aid.

3. CULTIVATION OF THE TIDAL WETLANDS OF SOUTH SUMATRA

Agriculture, specially rice cultivation, in coastal wetlands has been pioneered Migration and Settlement Process: Coastal Wetlands about a century ago by Banjarese and Buginese in Sumatra, and subsequently by Javanese, Madurese and Malayans.

The farming system established is characterized by its extensive nature, low capital and labor inputs, and the existence of fallow periods which allows the farmer to have outside jobs which frequently gives the farmer higher returns than farming. Such a farming system is less beneficial seen from the point of view of national land utilization and proper application of wet rice field (sawah) technology.

Many studies have been carried out on traditional sawah farming in tidal wetlands accompanied by efforts to improve and extend it on a large scale. Also, research has been undertaken on the water system of coastal wetlands and its utilization for agriculture, as well as in types of farming systems which conform with the environment. Beside these activities efforts were initiated to improve the infrastructure of coastal wetland agriculture. All these endeavors were aimed at assuring sufficient farmer income.

Practically all tidal wetlands along the coast of South Sumatra were initially opened by the indigenous people and spontaneous transmigrants. Usually these wetlands which were initially opened have the best potential for agriculture. Primarily, these more suitable wetlands were near to the river and the peat soils were not very deep. Understandably, the reminding tidal wetlands which were transformed to agricultural lands and transmigration sites by the government had the less suitable only marginal soils.

Several studies concluded that there are three groups of inhabitants in the tidal wetland areas of South Sumatra: local people, spontaneous migrants and government sponsored transmigrants. The number of Buginese of South Sulawesi outnumber by far the other spontaneous transmigrants.

Presently tidal wetland crops are not only rice but also other crops such as coconuts, bananas and pineapple. The main concern confronting agriculture is the decline in agricultural yields, especially in areas with deep peats. Aside from these soil fertility problems, other constraints on agriculture are (1) agricultural pests, primarily wild pigs and rats; (2) weed infestation, (3) inadequate farm technology and (4) insufficient availability and access to agricultural production facilities and inputs.

Periods of drought during the dry season are a serious constraint, which frequently limits rice cultivation to only one crop per year. Pest outbreaks also constrain the stability of these farming systems, especially in recently reclaimed tidal wetlands. This is particularly true for rice, which is the crop recommended for tidal wetlands but very susceptible to pest attacks. Based on the experience in the Upang Delta transmigration project, it may take up to ten years for the achievement of stable and sustainable farming systems in these tidally influenced wet lands.

In general the tidal wetland farmers in South Sumatra own larger farmlands than farmers in Java. Although farming larger areas, yet the productivity of these farmers in South Sumatra is low compared to that of farmers in Java, while greater risks are faced by those in South Sumatra compared to those in Java. In respect to cost of production, the tidal wetland farmers of South Sumatra have low costs compared to farmers in Java due to the intensive use of family labor, the low cost of renting land and the limited use of production inputs such as fertilizer and pesticides.

In view of the circumstances faced by the tidal wetland farmers of South Sumatra, actually they have the opportunity to attain higher standards of living than farmers in Java. However, the extreme instability of rice production and returns from rice culture, the high risk of crop failure due to pests and low soil fertility, and the ever increasing production costs after several cropping seasons, all adds up to the considerably high risk involved in rice farming in tidal wetlands.

The alternative to a rice based farming system is to follow the example of the spontaneous migrants and local residents, by adopting a coconut based farming system with rice cultivation in the newly opened fields. However, this is a more extensive system which requires more land than the two hectares provided by the Government in the transmigration projects.

The Buginese spontaneous transmigrants present an interesting picture. They have been able to develop a farming system which adapted to natural conditions in tidal wetlands. Therefore in many aspects these Buginese transmigrants are more successful than other ethnic groups of transmigrants. Usually, the Buginese initially plant rice on the cleared forest. For several years simultaneous with enlarging the forest clearing, rice is planted. However, after all the forest area claimed is cleared which takes four to five years, usually in the fifth year rice yields are already in decline and they begin planting coconuts, bananas, pineapple, cassava and other crops usually on raised mounds of soil interspersed with the rice plants. While waiting for the coconuts to fruit, their source of income is the cash crops which are usually annual crops, such as bananas and pineapple. After the coconuts can be harvested, the settlements of Buginese and indigenous people become more permanent. Also, after the Buginese can depend totally on their coconuts as cash crops, their prosperity improves. There is a highly significant correlation between coconuts and prosperity in Buginese communities settled in the tidal wetlands of South Sumatra.

The area of tidal and non-tidal wetland rice fields totals 262,887 ha or 65.2% of the area of rice fields in South Sumatra. The area of tidal and non-tidal rice fields in function in South Sumatra is respectively 119,831 ha and 143,056 ha.

4. RESEARCH SUPPORT FOR THE DEVELOPMENT OF WETLANDS IN SOUTH SUMATRA

Considerable research has already been carried out to support development of these wetlands in South Sumatra, primarily concentrating on hydrology and agronomy. Research findings were tested and demonstration plots established in the wetlands in South Sumatra as well as other provinces.

The major research findings were:

a. The surjan system has been developed for both the rainy season and the dry season. For areas with shallow peat (F cm before reclamation), the surjan system can be implemented by taking into consideration the positive characteristics of peat and avoiding the negative impacts, i.e. (1) the water table level should be above the pyrite layer but permanent inundation should be avoided since this will induce Zn and Cu toxicity; (2) burning peat may result in improved yields but it can stimulate the oxidation of pyrite and thus ultimately accelerating the formation of acid sulfate soils.

b. Liming acid sulfate soils may increase soybean yields. Liming can be in the form of application of 2.5 - 5.0 mt/ha agricultural lime or 10 - 15 mt/ha peat organic matter. The application of 25 kg/ha of phosphate (P) fertilizers in combination with lime or peat organic matter gives decreasing yields. To obtain optimum yields a combination of 5 - 10 kg/ha phosphate (P) fertilizers and lime or peat organic matter should be applied.

c. Supply of high yielding rice varieties. Research on obtaining high yielding rice varieties for cultivation in the tidal as well as non-tidal wetlands have been conducted. The rice varieties that can be used are as follows:

   - The Kapuas and Batang Ombilin variety recommended to be cultivated in wetland showing high iron (Fe) concentrations.
   - PB-36, IR-42, IR-46 and IR-54 for high salinity wetlands, especially during the dry season.
   - The Barito, Krueng Aceh and Cisedane variety, recommended to be used in freshwater wetlands (lebak) with a water depth of 0.5 - 1.0 m. For freshwater wetlands with a water depth of 1.0 - 1.75 m, recommended are the Alabio, Tapus and Nagara variety.
   - Specifically for South Sumatra recommended are the Rening, Benter, Merdeka and Ketan Ketek variety.

d. Pest Control.Improved methods for control of rats and pigs have been developed:

   - To place poisoned baits continuously on the same location does not give optimal results. Better results are obtained by regularly placing poisoned baits on different locations, because compared to the method of using fixed locations to place poisoned baits 50% more of the baits are consumed and the damage by rat infestations can be reduced by 50%. Recommended are the use of poisoned rough rice bran, coconut hush fibre, banana leaves and taro leaves.

second part

SPONTANEOUS MIGRANTS AND SWAKARSA TRANSMIGRANTS

1. LOCATION

The rapid appraisal of spontaneous migrants and swakarsa transmigrant was conducted in Muara Telang Sub-district, Sungsang District, Musi-Banyuasin Regency, South Sumatera Province. The sample villages where field surveys were conducted are Terusan Tengah, Muara Telang, Karang Anyar, Sumber Jaya, Telang Karya and Mekar Sari.

The selection of the above mentioned sample villages where considerable numbers of spontaneous migrants and swakarsa transmigrants live, was based on information from the Muara Telang Sub-district office. The Muara Telang Sub-district is located approximately 121 km North-East from Palembang.

2. GOVERNMENT

Sungsang District consists of two sub-districts, i.e. Muara Telang and Makarti Jaya (Upang). The government center of Muara Telang Sub-district is located in Muara Telang Village. Muara Telang Sub-district consists of 18 villages, of which five villages (Terusan Tengah,

Muara Telang, Karang Anyar, Telang Lubuk and Terusan Dalam) are former traditional (marga) villages, while 13 (Sumber Jaya, Marga Rahayu, Sumber Mulya, Telang Jaya, Telang Makmur, Telang Karya, Panca Mukti, Mekar Sari, Mukti Jaya, Mulia Sari and Telang Sari) are former sites of government sponsored transmigrants and swakarsa transmigrants.

The Muara Telang Sub-district was established in 1985 and is administered by a sub-district head supported by two staffs.

Of the 18 villages of Muara Telang sub-district only Mekar Sari is not under full control of its village head. The Head of Transmigration Placement Affairs (Kepala Urusan Penempatan Transmigrasi) in the village still holds full authority, since it has not yet been transferred to the local government and is still under the care of the Department of Transmigration.

3. LANDUSE

Muara Telang sub-district covers an area of 54,800 ha. Landuse in this area is as follows :

1. Agricultural lands:
   - Wet fields (sawah)
   - Dry fields

2. Homesites and yards
3. Reserve land
4. Forests
5. Public facilities sites
6. Rivers and roads

Landuse in the sample villages is as follows :

1. Karang Anyar covering an area of 9000 ha, landuse in Karang Anyar is as follows:
   - Wetfields (sawah) : 4000 ha
   - Gardens (kebun) : 1000 ha
   - Homesites and yards
   - Forests
   - Public facilities sites
   - Others
2. Muara Telang

   It covers an area of 4000 ha, while landuse in this village includes :
   - Wetfields (sawah)
   - Gardens(kebun)
   - Forests
   - Homesites and yards
   - Public facilities sites
3. Terusan Tengah

   This village extends over an area of 4000 ha; landuse includes :
   - Wetfields (sawah)
   - Gardens (kebun)
   - Homesites and yards
   - Forests
   - Public facilities sites
4. Sumber Jaya

   Covering an area of 2450 ha, landuse in this village includes :
   - Wetfields (sawah)
   - Gardens (kebun)
   - Homesites and yards
   - Reserve land
   - Public facilities sites
5. Telang Karya

   Extending over a 2450 ha, landuse in this village is as follows :
   - Wetfields (sawah), about 90% of the village area
   - Gardens (kebun)
   - Homesites and yards
   - Reserve land
   - Public facilities sites

6. Mekar Sari

It covers an area of 2450 ha ; landuse includes :

- Wetfields (sawah) ; about 90% of the village area
- Gardens (kebun)
- Homesites and yards
- Reserve land
- Public facilities sites

4. POPULATION

Muara Telang sub-district has a population of approximately 40,000 people in 9250 households. In general swakarsa transmigrants and spontaneous migrants have settled in all the villages which are under the authority of Muara Telang sub-district.

The indigenous people of this sub-district are the Telang Melayu, while the migrants settling this area consist of Buginese, Javanese, Sundanese, Balinese and relatively small numbers of other ethnic groups. Aside from the Telang Melayu, Melayu from other areas have settled in this sub-district also.

4.1. Formal and Non-formal Institutions Supporting Migration

In Muara Telang there has been two major systems promoting migration. These are the formal Government sponsored transmigration program and the non-formal spontaneous migration. Each one of these systems has a number of variations depending on the dialect group.

The formal Government Assisted Program is made up of the general Transmigration System managed by the Department of Transmigration and consists of two types, i.e. the general transmigration system fully managed and sponsored by the Department of Transmigration and the Swakarsa transmigration system with partial involvement of the Department of Transmigration. Only the swakarsa transmigration system will be described in this study since it is a combination of the non-formal spontaneous and formal assisted Governmental programs. The Swakarsa transmigration system falls into two types, i.e. swakarsa transmigration without government financial aid and swakarsa transmigration with government financial aid.

1. Swakarsa transmigration without government financial aid. Transmigrants under this category have to cover the cost of moving to the receiving area and the cost of building a house in that area. The Department of Transmigration reserves land for them on the transmigration site to use it as agricultural fields. There are three types of swakarsa transmigrants :

   - Swakarsa transmigrants who replaced government sponsored transmigrants who abandoned their allocated land in the transmigration sites;

- Swakarsa transmigrants who are off-spring of government sponsored transmigrant families or former members of transmigrant households.
- Swakarsa transmigrants who are not programmed to come but arrive in the area possessing a P6 Letter, a certificate of noninvolvement in the 30 th of September 1965 attempted coup by the communists and a Certificate of Good Behavior from the authorities in their place of origin.

2. Swakarsa transmigration with government aid. In this type of swakarsa transmigration the Department of Transmigration allocates agriculture land, a house and living allowances for three months. The cost of moving to the receiving area is financed either by the government of the receiving province or the government of the province of origin of the transmigrants. The institutions promoting swakarsa transmigration are the Department of Transmigration and the Provincial Government of the place the of origin of the transmigrants. They also have informal institutions that make it possible to inform their relatives, acquaintances and former neighbors living in the receiving area of their arrival.

The truly spontaneous settlers are spontaneous migrants who migrate independently to a transmigration area. There are two types of spontaneous migrants i.e. permanent spontaneous migrants and seasonal or temporary spontaneous migrants.

1. Permanent spontaneous migrants. These are the migrants who came as traders or farmers and stayed permanently as an inhabitant of the village of destination.
2. Seasonal (temporary) spontaneous migrants. These are the migrants who migrate on a seasonal (temporary) base and consists of traders, farmers and farm laborers.

The spontaneous migrants move into an area based on information from relatives, acquaintances and farmer neighbors living in the receiving area. The information received concerns:

- the availability of extensive lands suitable for agriculture;
- the successes of the settlers (transmigrants) in the area;
- the shortage of labor during pre-planting soil preparation and harvest.

The group with the best developed institutions for promoting migration are the Buginese from South Sulawesi who have setup major informal networks to assist relatives, friends and persons from the same general region.

The Javanese system is less developed partly because they do not have a cultural tradition for migration, whereas the Buginese have a very strong tradition of migration to frontier areas.

4.2. Motivations to Migrate

There are similarities in the motivations of swakarsa transmigrants and spontaneous migrants to settle in the area in this study. These are:

- The prospect of better living standards and higher income levels than in their places of origin;
- The desire to own either some farm land or a larger farm;
- The desire to seek new experiences;

- The desire to own a large smallholder coconut estate (especially in the case of Buginese spontaneous migrants), and becoming more frequent the Balinese and Javanese;

The difference between the two categories of migrants mentioned above is primarily based on the selection of the potential settling site which is related to the information received and the method of land acquisition.

4.3. Population Mobility

Those transmigrants and spontaneous migrants who are successful in their farm operation and have sufficient surplus funds, visit relatives living in their home village or village of origin. The Javanese and Buginese migrants may stay for one to three months in their villages of origin. As an example of the intensity of these visits to native villages, the Village Head of Telang Karya estimated that annually 120-130 persons of this village visit their native or village of origin.

4.4. Income Sources of The Population

The majority of the population of Muara Telang Sub-district derive their income from cropping wetfields (sawah) and dry fields. Other income generating activities are by working as traders, civil servants, blacksmiths, fishermen etc.

4.5. Settlements in Muara Telang

The local or indigenous people in this district are the Telang Melayu who have settled here for more than a century along the river banks. In general they live in the former traditional (marga) villages. These local people usually settle along the Telang River, Muara Telang River, their tributaries and ditches dug from a main river. Settlements of indigenous people are usually zero to 3 km from the banks of the river trunk.

The indigenous population derive their income mainly from farming. Some are fishermen, traders, or have an income from coconut farming in their home yards. Some of the people in this area believe that the local people are rather lazy and are afraid to live in the backcountry or inland areas in Muara Telang.

The spontaneous settlers are the Buginese, Javanese, Balinese, and persons from other areas of Sumatera. The majority Buginese live in the former traditional (marga) villages, namely Muara Telang, Karang Anyar and Terusan Tengah. The distribution of these Buginese settlers in the three villages is as follows:

Terusan Tengah	
Jalur 5	70 families
Parit Gotong Royong	63 families
Muara Telang	
Telang Pasar Sub-Village	50 families
Parit 1	20 families
Parit 3, parit gantung	28 families
Parit Usaha Baru	20 families
Jalur 3	10 families
Karang Anyar	
Parit 4	27 families
Parit 5	11 families
Parit 6	13 families
Parit 7	3 families
Parit 8	6 families
Parit 10	20 families
Parit 11	10 families
Parit 8	38 families
Jalur P.U	12 families

- Also there are Buginese settling in the Government assisted transmigration villages. Their number is less than in traditional (marga) villages (less than 20 families). This is due to the limited availability of land in transmigration villages. An exception is Sumber Jaya where 81 Buginese families live.

Generally the Buginese settle along a parit on or near their landholdings, within a distance of three to seven kilometers from the main river trunk. Many of the Buginese who are successful in farming or who own extensive landholdings live in Telang Pasar which is a sub-village of Muara Telang Village. The reason for this is that Telang Pasar is the administrative center and trade center as well of the Muara Telang Sub-district.

On Saturdays and Sundays, the market days of the market in Telang Pasar, people and boats carrying a variety of commodities come here not only from villages located in Muara Telang Sub-district but also from villages out side it, such as from Sugihan, Karang Agung and Pulau Rimau. They come here to conduct business transactions such as selling from products and buying commodities to meet their daily needs. The Buginese are considered to be diligent workers showing considerable perseverance.

a. Javanese and Balinese Settlers. Javanese and Buginese settlers usually settle in transmigration villages, although some of them live in former traditional (marga) villages. The estimated number of Javanese and Balinese migrants living in former traditional (marga) village areas is as follows:

Figure 1.

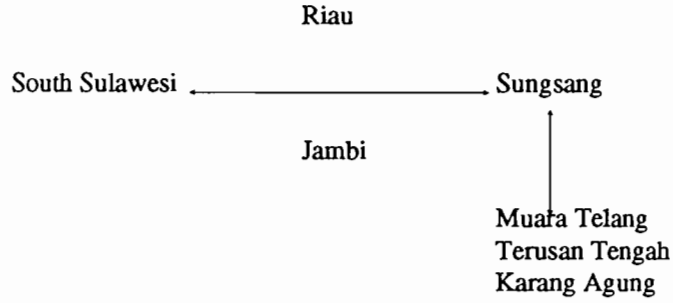


Diagram of the Migration Process of the Buginese.

Diagram of the Migration Process of the Javanese.

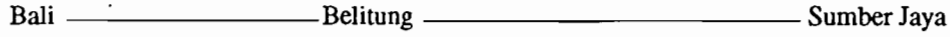


Diagram of the Migration Process of the Balinese.

Muara Telang	
Parit 5 Sungai Selat	30 Families (from Indramayu, West Java)
Parit 3, Parit gantung	3 families
Parit 1	3 families
Telang Pasar Sub-Village	3 families
Karang Anyar	
Jalur 8	10 families
Parit 8	5 families
Parit 7	3 families
Terusan Tengah	
Jalur 5	2 families
Parit gotong royong	5 families

No Balinese were observed settling along the canals. Usually they prefer to live as a group with fellow Balinese Probably, this is related to certain religious traditions, e.q. in the building of places workshop. Balinese migrants are only found in Sumber Jaya Village, consisting of 37 families.

c. Other ethnic groups. In small numbers migrants from other regions settle in the area study, such as Malayans from Ogan Komering Ilir and Sekayu in South Sumatra, Bataks from North Sumatra, and migrants from Kalimantan. The Malaysians usually are merchants.

5. HISTORY OF THE MIGRATION PROCESS.

1. The Buginese. The migrating Buginese come from South Sulawesi, mainly from Wajo, Bone and Sidrap Regency. Between 1950-11968 many Buginese migrated to Riau and Jambi, where they farmed rice and established coconut gardens. Eventually, they could not expand their land holdings, and searched for other areas where there are still extensive lands which they could transform into agricultural fields. After receiving information from relatives, friends and former neighbors that the tidal wetlands in South Sumatra still contain extensive areas which are suitable for agriculture, they started to migrate to the South Sumatran tidal wetlands. Already in 1968 and presently still continuing, Buginese migrated to the Sungsang area. From this area the Buginese moved into Muara Telang, Terusan Tengah and Karang Anyar (all farmer traditional (marga) villages) and the transmigration villages after 1980. There are also Buginese who came straight from South Sulawesi.

   The reasons stated to migrate into the area under study are:

   - to seek better living standards;
   - to own extensive agricultural fields;

- to move out of areas with severe security disorders caused by the Darul Islam/Indonesian Islamic Army;
- to seek experience outside their native area.

2. The Javanese and Sundanese. The Javanese migrant come from Central Java (mainly from Pati, Salatiga, Solo Banyumas and Cilacap), East Java (mainly from Lamongan, Surabaya, Lumajang and Kediri, West Java (Indramayu). The Sundanese come from West Java (mainly from Karawang, Tengerang, Cianjur, and Bogor). They generally migrated by the government sponsored transmigration program.

There are three categories of Javanese migrants, namely the government sponsored transmigrants, explorers and spontaneous migrants.

a. Javanese transmigrants. Come to the area under as government sponsored transmigrants or swakarsa transmigrants in 1977-1987.

b. Javanese pioneers. These Javanese came to Sumatra since around 1960 before the initiation of the government sponsored transmigration program and worked as plantation laborers.

In South Sumatra most of these Javanese migrants settled in the Talang Betutu area, from where they spontaneously migrated to Muara Telang around 1978, hoping to be able to improve their living standards here.

c. Javanese spontaneous migrants. The Javanese spontaneous migrants came directly from Java to Muara Telang around 1983 till 1989. Usually these Javanese migrate after receiving information from relatives and acquaintances living in Muara Telang that good yields can be obtained from agriculture in the Muara Telang Area.

3. The Balinese. The Balinese migrants settling in Sumber Jaya come from Nusa Penida, Klungkung Regency. In 1964 these Balinese were transmigrated by the government to the Belitung area in South Sumatra. However, in 1979 they spontaneously migrated in groups to Sumber Jaya after receiving information from friends and relatives settled as government transmigrants here that many of the transmigrants in Sumber Jaya had left the area, while the agricultural lands gave good yields of crop. The reasons for migrating to Sumber Jaya was to own land holdings with good yields of crops.

6. FARMING SYSTEMS

6.1. Irrigation System

There two irrigation systems in Muara Telang Sub-district, i.e., the Jalur System and the Parit System.

1. The Jalur System. This system is established in government sponsored transmigration sites. A Jalur is a Primary Canal construction by the Department of Public Works. A Jalur connects two rivers in the area

passing through transmigration villages. Extending from a Jalur, Main Drainage Canals (MDC) and Primary Drainage Canals (PDC) are dug. An MDC is a Secondary Canal. Extending from an MDC usually nine Tertiary Canals are dug. It is through the secondary and Tertiary Canals that the transmigrants agricultural fields (sawah) are irrigated. A Village Drainage Canal (VDC) is a village canal passing through human settlements.

2. The Parit or River Tributary System. The Parit or River Tributary System is used in former traditional (marga) villages. A Parit is a primary or secondary canal dug by the villagers by community self-help (gotong royong). A natural river tributary is frequently used as primary or secondary canal. Extending from a parit or natural river tributary are dug secondary or tertiary canals.

6.2. Soil Preparation Methods.

1. On wetfields (sawah). Wetfields (sawah) are usually located on low areas easily inundated by tides and cropped with rice (Oryza Sativa).

   a. Without soil preparation. Here the field is cleared of grasses and weeds and afterwards the rice is planted.

   b. With soil preparation. Soil preparation here consist of tilling the soil, after the sawah has been cleared of grasses and weeds. After tilling the soil, rice is planted. Tilling the soils is usually done by using mattocks. However, there are some instances like in Telang Karya and Mekarsi where tractors are used.

2. On dry land. On elevated dry lands which are not flooded by tides, farmers usually cultivate among others secondary food crops (palawija), vegetables, coconuts, coffee, cocoa, mangoes, oranges and bananas.

   a. Soil preparation on forested land. The forest is cleared from all trees. The bigger trees felled are sold as logs, while the wood of the smaller felled trees is sold as firewood. After the forest is cleared from trees, the underbrush and tree stumps is burned. After this process of burning, the land is left fallow for about two to four weeks, and subsequently put under the desired crop.

   b. Soil preparation on cleared land. After the land is cleared from grasses and weeds, it is put under the desired crop.

6.3. The Cropping System.

MONOCULTURE

Monoculture of rice is practiced on the wetfields which are readily inundated by tidal action. The rice varieties cultivated are :

a. Local varieties such as the Padi Kuning and Padi Tambara which can be harvested after five to nine months after planting. Local varieties produce one crop a year and yield 1.5 to two tons/ha if soil tillage is done by using mattocks. If tractors are used the yields may increase to about three tons/ha.

b. High Yielding Varieties (IR 42) which are harvestable after three to four months after planting. Using high yielding varieties two crops per year can be obtained. The yield is around three tons/ha. Usually the rice cropping season extends from October to March.

THE SURJAN SYSTEM

In this system a field is divided into several plots which will be under different crops. A number of plots are more elevated than others by piling soil on them. Usually this system is applied to fields which are readily inundated by tidal floods, to enable the farmer to diversify his crops. The low lying plots are used as wetfields (sawah) which the farmer put under rice. The elevated plots are put under palawija (secondary crops), coconuts, coffee etc. Mainly the government sponsored transmigrants apply this system of cropping.

INTERCROPPING (TUMPANG SARI)

In intercropping a piece of land is under two or more crops. In Muara Telang Sub-district intercropping is conducted in the farmers dry field garden (kebun) and home yard. The crops cultivated in the dry field garden (kebun) are coconuts, maize, sweet potatoes, cassava, mung beans (glycine sp.), coffee, cocoa, fruits and others. The home yards are usually under coconuts, bananas, pine apples, vegetables, cassava, sweet potatoes and maize.

On dry field gardens (kebun) which are coconuts, usually before the coconuts are two years old also maize, cassava, sweet potatoes and bananas are cultivated. After the coconuts are more than two years old intercropping is conducted by also planting coffee, cocoa and bananas.

6.4. Methods of Land Acquisition.

1. The Transmigrants. The Department of Transmigration allocate land to the government sponsored transmigrants and the swakarsa transmigrants. Each transmigrant family head receives two hectares of agricultural fields and 0,25 ha home yard.

2. The Spontaneous Migrants. The spontaneous migrants settling in former traditional (marga) villages are usually Buginese. The methods of land acquisition is as follows :

   a. Before the establishment of villages under the administration of the Department of the Interior:

      - the Buginese obtained information from the Pesirah (Traditional Village Head) on available lands (usually still under forest) and how to obtain it;
      - land acquisition is by paying a sum of money to the Pesirah called forest clearing money (uang pancung alas).

   b. After the establishment f villages under the administration of the Department of the Interior:

      - land acquisition of lands which were already under cultivation but obtained by the owner is conducted by paying to the owner a sum of money.

- land acquisition of lands still under forest is by paying forest money (uang pancung alas) to the parit head.

Usually the spontaneous migrants who obtain land holdings by the mentioned methods are not provided a certificate of Land Holding. The extend of the land holding and its boundaries are not delineated on a written and based on mutual confidence by the pesirah or parit head and the spontaneous migrant.

3. The Spontaneous Migrants settling in transmigrant villages. The methods of land acquisition by spontaneous migrants settling in transmigrant village are as follows:

   a. Direct procurement. Agricultural fields and houses which are abandoned by transmigrant can be obtained by paying a sum of money to the Head of the Transmigration Settlement Unit (Kepala Unit Pemukiman Transmigrasi: KUPT) if the village is still under the administration. If the village has been transferred to the Department of the Interior, payment us extended to the village head. There are also instances where the spontaneous migrants directly negotiate with and procure agricultural land an houses from transmigrants who are ready to leave transmigration villages. It is mainly the Buginese spontaneous migrants who practice it, since they usually are high skilled in assessing the good prospects offered by the agricultural fields they want to buy. This method of land acquisition by Buginese was observed in Sumber Jaya.

   b. Payment of Forest clearing money. In transmigrant villages were an excess of forested lands still exist, a spontaneous migrant may clear a part of it by paying forest clearing money (uang pancung alas) to the village head. This is for instance conducted in Sumber Jaya.

6.5. Specific Matters Observed and Derived from Interviews

1. The Buginese mainly cultivated coconuts. Coconuts are productive till they are 30 years old. A coconut field can be harvested once a month. Other crops planted are only of secondary importance. The motto of the Buginese farmers is, "Cultivating coconuts brings prosperity to the family".
2. The Malayans and Javanese concentrate on rice farming, while other crops such as coconuts and secondary crops (palawija) are cultivated as a side activity.
3. The Buginese own on the average two hectares of coconut fields.
4. Compared to the Malayans and Javanese, the Buginese are more prosperous.
5. Since the economic conditions of the Buginese are better than that of the Malayans and Javanese, these two ethnic groups frequently adopt the farming methods of the Buginese, especially in coconut farming.
6. Before planting rice seedlings in the fields, the process of raising seedlings is conducted two times.

7. PROBLEMS FACED BY THE FARMERS

1. Animal pests infestations, mainly by wild pigs
2. Insufficient extension and counseling services to improve farming
3. Serious constraints in obtaining high yielding varieties, especially that of coconut and rice
4. Highly insufficient availability and accessibility to agricultural production inputs such as fertilizers.

third part

SURVEY OBJECTIVES AND METHODOLOGY

1. INTERVIEW SURVEY OBJECTIVES

The field survey was conducted from February to mid-March 1991. The objective of the survey was to obtain information or the problems faced by spontaneous migrants related to:

a. the farming activities of the spontaneous migrants;

b. the institutional framework; and

c. the process of spontaneous migration.

2. METHODOLOGY

The survey was conducted in Kecamatan (District) Sungsang, Kabupaten Musi Banyuasin, South Sumatra, Referring to the survey objectives, two specific locations in Kecamatan Sungsang were chosen, i.e.:

1. Sumber Jaya Village area which stretches along the third primary canal (Jalur 3) and is a former transmigrant village area (13 transmigrant villages under the administration of Muara Telang Sub-District).

2. Karang Anyar Village area representing former marge (clan) villages (five former marga villages under the administrative of Muara Telang Sub-District).

Aside from these two sample areas, visits to surrounding areas were conducted in:

- Sungsang II Village,
- Panca Mukti Village,
- Administrative area of Muara Telang sub-District,
- Administrative area of Makarti Jaya Sub-District.

Secondary data was obtained from relevant sources, such as the South Sumatra Transmigration Office and the Sriwijaya University (several publications and resource persons). Secondary data was also obtained through interviews with several regional leaders (village heads, former marga chiefs, marga village heads (pesirah), Sub-village heads, etc.). Prepared questionnaires were used to obtain primary data, primarily those related to farming activities and migration process.

The initial phase of the field survey consisted of conducting a census of the spontaneous transmigrants in the sample area. From the population of spontaneous transmigrants 23 persons were selected by sample random sampling to act as respondents.

Conducting the census faced limitations imposed by the limited time provided and the limited data available at the government offices. In addition, the high mobility of the newcomers, especially the Buginese, caused difficulties in getting information from them.

fourth part

GENERAL EVALUATION

1 AREA CONDITION AND LAND USE

The Muara Telang Sub-District is bounded in the north by Sungsang and in the south by Upang. In the west and east it is bounded respectively by Tanjung Lago and Sungsang.

The Muara Telang Sub-District covers an area of approximately 54,800 ha. The Sub-district office is located in Muara Telang Village. It consists of 18 village, of which 13 villages (Sumber Jaya, Marga Rahayu, Sumber Mulia, Telang Jaya, Telang Makmur, Sumber Hidup, Telang Rejo, Telang Karya, Panda Mukti, Mekar Sari Mukti, Mulia Sari and Telang Sari) are former transmigrant villages and 5 villages (Karang Anyar, Muara Telang, Terusan Tengah, Terusan Dalam and Telang Lubuk) are former marga (clan) villages.

The area has a flat topography with elevation varying from zero to three meters above sea level. Rainfall amounts to 860-2400 mm/year. May and September are the months of high rainfall. The average air temperature ranges from 24 to 25^{0}C. Moderate winds prevail in the area.

Soil types in the area are latosol and peat soils in the upper layers and alluvial soils in the lower layers. Poor drainage and a water table of less than two meters deep characterize this area. The soils are acid with pH of 5.6 - 5.7, while its texture is sandy with clayey silt in the lower layers.

The area is under the influence of brackish and saline water, causing the existence of dense stands of nipah (Nipa fructiana) along the rivers.

Land use is dominated by agriculture in the form of sawah (rainfed or tidally irrigated fields), coconut small holdings, house gardens, and dry fields. Other parts of the land area is used to locate public facilities and roads. Aside from this there are reserve lands and forested areas. The area of the villages varies. For instance Sumber Jaya has an area of approximately 2,450 ha comprised of rice fields, tree crop holdings, house gardens, reserve lands and public facilities, while Karang Anyar Village, a former marga village, covers an area of about 9,000 ha comprised of rice fields (40%), tree crops (12%), house gardens, areas under forest, etc.

2. POPULATION, EDUCATION AND SOURCES OF INCOME

Population data are poorly recorded in Muara Telang Sub-District. It is estimated that around 40,000 people consisting of about 9,000 household inhabit this sub-district. Previously the area was occupied by indigenous people the Telang Malays, but through transmigration, both government sponsored and spontaneous, a variety of ethnic groups such as Malayans, Javanese, Buginese, Sundanese, Balinese and Madurese occupy the area.

Each household consists of 2-10 people or 5.7 people on the average, while 2-6 people or on the average 3.4 people in each household are more than 14 years old.

The indigenous (Telang Malays) household are generally big, compared to the other ethnic groups. On the average it consists of 6.3 people. In comparison Buginese households consist of 6.0 people, while Javanese households average 4.9 persons.

A low level of formal education prevails among the inhabitants of Muara Telang Sub-District. Only 65% of the respondents families acquired primary education. Of the population about 20% were educated to the level of junior high school, while 10% to senior high and university level. Probably this condition is caused by the poor infrastructure and facilities related to transport and educational institutions.

Interviews indicated that the younger educated people, especially those with a high level of education, have the tendency to choose jobs outside the agriculture sector.

Job opportunities are provided by agriculture, fisheries, commerce, small industries, providing services and other activities existing in the area under study. Providing services like holding jobs as tailors, barbers, mechanics, and drivers of motorized boats (ketek), speedboats and motorbikes is common in the area. In general although the inhabitants may hold jobs outside agriculture they never leave farming completely.

Table 1. Percentage of Labor Force Engaged in Agriculture and Non-Agriculture Activities in Muara Telang (n = 30)

Type of Occupation	Ethnic group			Total (%)
	Indigenous	Buginese	Javanese	
Agriculture	70.0	73.3	33.0	58.8
Agriculture and civil servant	16.7	-	6.7	7.8
Agriculture and commerce	6.7	20.0	13.3	13.3
Agriculture and laborer	6.7	-	40.0	15.5
Agriculture and Service Provision	-	6.7	7.0	4.6

Source: Ali, B. 1989.

Table 1 shows that 58.8% of the labor force is engaged only in agriculture. Although probably engaged in other activities than agriculture, it seems that the indigenous people and Buginese are primarily engaged in agriculture.

In the case of the Javanese, it seems that they need outside jobs to obtain additional income to meet the needs of their families. The Javanese tend to work as agriculture laborers (buruh tani/tani numpang) since this is the kind of work that is the easiest for them to find compared to other kinds of work. On the other hand, Buginese prefer to work in non-agriculture activities such as trading.

3. INFRASTRUCTURE, TRANSPORT AND INSTITUTIONS

There are two types of transportation in the area, i.e. road transportation and water transportation. There are roads along navigation canals, and primary and secondary canals which are only suitable for bicycle and motor-bicycle traffic and primarily during the dry season only. During the rainy season and even after rainfall

during the dry season, these roads are difficult to pass by bicycles and motor bicycles, and usually people just walk if they have to go anywhere.

Rivers, navigation canals and primary canals are used as waterways. Small motorized boats (ketek), large motorized boats (motor), speedboats (spit), and non-motorized canoes are the means of water way transportation. The small and large motorized vessels are usually used to transport goods and people while speedboats are primarily to transport people.

fifth part

FARMING SYSTEMS AND INCOME

1. FARMING SYSTEMS

1.1. General Problems Faced by Farming Systems

SOIL PROBLEMS. As stated before the upper soil layer consists of Latosols and Peats, while the lower layer of Alluvial Soils.Drainage is poor with a water table less than two meters deep and the presence of acidic soils (Ph: 5,6-5,7). A sandy soil texture with clayey silt in the lower parts of the soil prevails in the area.

Such soil conditions result in serious problems for agriculture. Practically all the respondents stated that soil conditions are the major problem faced in farm management. Although 12 years have elapsed since the first transformation of coastal wetlands in the area (Sumberjaya was opened for transmigration in 1977/1978), not all lands allocated as agricultural fields have been opened or are under crop cultivation.

Only 50-60% of the land allocated for agricultural fields (lahan usaha) is under rice, with one crop a year and using local rice varieties such as the Lembusawa variety.

It is generally observed by the farmers that by the simple farming methods practiced, a progressive decline in soil fertility occurs. More than 30% of the respondents stated this, which is caused by the steady decrease in peat depth. In several locations peat has disappear completely. This steady decline in peat depth is aggravated by the fact that farmers are not using chemical fertilizers. The reason for this is that these fertilizers are not available locally, while the farmers have no access to places where it is available, for instance in Palembang.

Several contradictory opinions were stated on the progressive decline of the peat layer related to rice yields. On one hand the decrease in peat depths was stated to be the cause of declining rice yields, while on the other hand it was stated that at certain peat depths (for instance at peat depths of 20-30 cm) above average rice yields could be obtained.

Presently peat depths of 20-30 cm seems to prevail in Sumberjaya and Karanganyar. It seems that extension activities related to soil conservation and the application of fertilizers should be emphasized, as well as the supply of agro-chemicals (pesticides and fertilizers) and seeds. The fact that part of the land allocated as agricultural fields is not yet utilized, forces the farmers to seek other sources of income. With the expectation that non-farm or outside jobs can provide additional income to meet family needs, a small percentage of the farmers are engaged in non-agriculture activities such as trading.

LABOR FORCE. Another problem faced by the respondents is the availability of farm laborers. Frequently labor is provided solely by the farmers family. Clearing the fields, planting, weeding and pesticide fumigation are all carried out with family labor. This is customary among Javanese farmers, while the Buginese who own relatively large land holdings, usually hire laborers.

Aside from the scarcity of farm laborers, it seems that intensification of agriculture is constrained by several interrelated issues, such as the limited capital available, no mutual cooperation (gotong royong) among farmers, especially in forest clearing, and the excessive growth of weeds and prevalence of wild pigs.

CAPITAL. The limited capital available to farmers creates a serious constrain to farming. Several respondents stated that they need mechanized methods, such as the use of tractors, for land clearing and in the management of agricultural fields. However, the farmers have no access to capital sources, so that this constraint cannot be solved.

Capital is also needed to hire laborers, since the extent of their land holdings allotted to each family impedes the intensive or even appropriate utilization of these land holdings by only using family labor.

WEEDS. Infestation of weeds in agricultural fields is a very serious problem faced by farmers. It was stated that frequently after one week that a field was cleared from weeds, excessive growths of weeds already can be observed, thus severely complicating the farming of food crops, such as rice and secondary crops (Palawija).

Weeding is done by hand or by using sickles, machetes or mattocks. Only about 10% of the farmers use herbicides, since it is too expensive for most of the farmers. Another factor that should be taken into consideration is tidal action. Fears of distributing herbicides, especially when used in excess, by tidal currents to surrounding areas and thus endangering human life should be taken into consideration. Faced by insurmountable weed problems, frequently the agricultural fields appear to be in a state of gross neglect.

IRRIGATION. Serious problems related to irrigation are also faced by the farmers. Many irrigation canals have been constructed in reclaimed coastal wetlands, for instance in Muara Telang. However, frequently many of them do not function. Especially in Panca Mukti Village (between canal (jalur) no.6 and no.8) since canal no.7 has not been constructed by the Public Works Department, the rice fields in this area are all rainfed due to the absence of irrigation canals.

A considerable number of irrigation canals do not function properly due to the shallowness of the canals and the inaccurate excavation of canals. Since the main canals excavated are too shallow, water cannot be supplied to secondary canals. Therefore only wet fields (sawah) bordering these main canals can be supplied with water, while in the dry season only seepage water reaches these wet fields.

Due to inaccuracies during canal construction, the middle parts of canals are often deeper than the other parts; thus causing water not to flow but to be stagnant in certain parts of the canal. This means that not all the water flowing through canal inlets during the incoming high tide is transported out of the canals through existing outlets. Part of the in-flowing water is retained in the deeper parts of the canal.

The effect of this improper functioning of a considerable number of irrigation canals is that there are wet fields (sawah) which are always arid except during the rainy season, while there are also wet fields that are perpetually inundated because of a supply of water in excess. Mutual cooperation (gotong royong) may solve these problems, although temporary, so that nowadays only one cropping season in a year is common in the area.

To overcome irrigation problems in areas where water supply is in excess (such as in several sites in Sumber Jaya), the farmers dig narrow drainage ditches in their wet fields (sawah). These ditches are usually dug during the dry season, so that during the rainy season they can hopefully function as drainage ditches. The farmers believe that the drainage ditches will drain off the acid accumulated in the previously stagnant water. This process of continuous draining which also means continuous flushing, may reduce soil acidity and thus improve conditions for rice growth.

Improper functioning of drainage canals may result in the creation of pools of muddy stagnant water, which not only is a serious constraint during the process of rice planting, but also hazardous to the health of the farmers and their families since usually they live near the rice fields. The farmers are aware of this, and are therefore strongly motivated to dig these narrow draining ditches.

AVAILABILITY OF AGRICULTURE PRODUCTION AGENCIES. The availability of agriculture production inputs is of vital importance for the farmers. Limited availability of these materials may constrain agriculture production or effectively restrain efforts to improve agriculture production.

In former transmigration sites like Sumber Jaya Village, during the period when the Department of Transmigration held the responsibility over the transmigrants and the area allocated for transmigration, problems related to agriculture production facilities which supplied the farmers with fertilizers, pesticides and seeds seem to be few, since these were provided through a specific project, the Transmigration Development Project (Proyek Pembinaan Transmigrasi). However, after the transfer of responsibilities to the Department of the Interior, serious problems emerged. It was expected that the Village Unit Cooperatives could be the agency which supplied the farmers with fertilizers, pesticides and seeds. Although such institutions as the Village Unit Cooperative seem to function, their capability of supplying farmers with agriculture production inputs proved to be very limited and frequently not precisely on-time when urgently needed. Therefore, farmers generally employ the services of merchants (who are usually also friends) to buy production inputs in Palembang, even in very limited quantities.

POST HARVEST ISSUES. A major issue related to the farm produce concerns their post harvest processing. In the Muara Telang area, farm products are usually sold fresh on market days. This holds true for fruits (including coconuts) and vegetables, while rice is usually sold as hulled rice. There is practically no post harvest processing practiced in the area and thus no opportunity for the farmers to obtain added value for their products. The limited availability of transport facilities also aggravates the problem of post harvest processing, since this means that the inability to store their products, e.g. by processing it, forces the farmers to sell their crop as soon as possible after harvesting it.

In the case of rice, in general a kind of production sharing is practiced in the area. The common practice is that the fee received by the rice huller owner amounts to 10% of the quantity of rice milled. Due to the limited availability of drying and storing facilities, the quality of the hulled rice is relatively low, since it is mixed with dirt and small gravel. 5.1.2. A Profile of Rice Farming

The fact that farms in tidal wetland areas such as Sumber Jaya and Karang Anyar are extensive farming systems which are not yet well managed, makes it difficult to analyze farm activities. Therefore, cases are presented here with the expectation that these represent general conditions in the area. This is justified, because the farming systems are extremely homogenous in the area, while also farming technology is of the same level. It should also be noted that only rice farming was analyzed, because rice is the only commodity on which the farmers rely.

The profile of rice farming practiced by the respondents is related to the level of technology adaptable for the area under study. The following are the different farm production factors in rice farming in the area under study.

FARM LAND. The area under rice of the respondents shows a great variety with a median mode of around 1.25 ha. The average area of wet fields (sawah) utilized is larger in Sumber Jaya than in Karanganyar.

SEEDS. A great variety in the quantity of seeds used was observed. In Sumberjaya where the utilization of wet fields for rice is on the average larger than that in Karanganyar, the quantity of rice seeds used tends to be higher than in Karanganyar. It could only be concluded that local varieties are used. The use of the local Lembusawa variety, a variety with a long life span, prevails in the sample areas.

FERTILIZERS. In Muara Telang the quantity of fertilizer used per hectare is extremely low. The use of fertilizer is not yet common; there are still areas in Muara Telang where no fertilizers are used at all. Only two respondents (less than 10%) from Sumberjaya use urea to the amount of only 25 kg/ha in their rice fields.

OTHER AGRO-CHEMICALS. The use of agro-chemicals such as pesticides and herbicides is not yet common in the sample areas. If used on the average two liters per hectare of herbicides is used. Several respondents stated that the major constraint is that herbicides are too expensive.

LABOR FORCE. The input of labor depends on the stage of rice culture which extends from the preparation stage to the harvesting stage. Generally, the input of the labor in the preparation stage is needed to clear the rice fields, prepare the seedbeds and transplant the seedings from the seedbeds to the rice field proper. These activities absorb 60% of the total input of labor in rice culture, or amounting on the average to 27 mandays per hectare. This activities that in the sample areas rice culture is of the extensive type of agriculture. In the case of harvesting the input of labor needed amounts to 10-15 mandays per hectare.

OTHER EXPENDITURES. With other expenditures is meant expenditures to covers the cost of farming such as harvesting, transporting and other farming related activities. Considerable variety in the amount of these expenditures disbursed exists in the sample area, ranging from Rp. 70,000 to Rp. 100,000 per hectare.

YIELDS AND PRODUCTIVITY. A great variety in yields are obtained in the sample area with a median value of 1.3 mt/ha of hulled rice.

2. INCOME LEVELS OF FARMER FAMILIES

The income of a farmer family can be calculated from income derived from on-farm and off-farm activities. Generally farmers in the sample areas are engaged in activities related to food crops and perennial crop agriculture, both within and outside the sample areas. Activities outside the agriculture sector include among others trading.

Farm income is defined as the total revenues received from farming substracted by the costs in cash of the production inputs.Table 6 gives the yields of various crops in Muara Telang.

Table 2. Average Yields of Various Crops in Muara Telang (100 kg/ha)

Crop	Ethnic Group		
	Indigeneous	Buginese	Javanese
Rice	23.50	39.51	17.29
Corn	11.23	10.45	14.50
Cassava	89.25	100.15	97.30
Red Pepper	7.75	10.10	9.50
Sweet Potato	110.21	98.75	100.10
Taro	42.32	45.00	44.21

Source: Ali, 1990.

Table 3. Return-Cost Ratio Anlysis of Various Food Crop Commodities in Muara Telang

Commodity	Farm		
	Indigeneous	Buginese	Javanese
Rice	0.98	1.84	0.78
Corn	0.85	0.80	1.02
Cassava	0.92	0.87	0.83
Red Pepper	1.96	2.46	2.22
Sweet Potato	0.97	0.99	0.99
Taro	0.94	0.98	0.99

Source: Ali, 1990.

Table 4. Income per Hectare Based on Cost in Cash From Various Food Crop Commodities in Muara Telang (in thousand Rupiah)

Commodity	Farm		
	Indigeneous	Buginese	Javanese
Rice	334.1	639.4	205.9
Corn	192.3	179.3	275.5
Cassava	170.4	189.9	193.5
Red Pepper	834.3	1097.7	1028.7
Sweet Potato	238.3	212.5	220.9
Taro	262.0	278.3	271.7

Source: Ali, 1990.

Table 5. Income per Hectare based on Total Cost from Various Food Crop Commodities in Muara Telang.

Commodity	Farm		
	Indigeneous	Buginese	Javanese
Rice	132.9	388.6	-81.5
Corn	-37.0	-48.6	7.0
Cassava	-18.1	31.6	41.7
Red Pepper	95.7	719.4	627.3
Sweet Potato	111.3	99.7	271.7
Taro	73.6	102.2	116.8

Source: Ali, 1990.

The highest rice yields are obtained by the Buginese, the lowest by Javanese farmers. It seems that this is caused by the better condition of irrigation on Buginese and indigenous farmers ricefields. Aside from rice other dominant food crops in Muara Telang are corn, cassava, and sweet potato. Crops promoted for development in Muara Telang seen to be rice, corn and re pepper.

The economic condition of food crop farming in Muara Telang can be derived from a Return-Cost Ratio analysis, as presented in Table 3.

Table 3 shows that it is not feasible to produce several commodities since they show a Return- Cost Ratio of less than one. However, the analysis is based on total costs. If it is calculated based on costs in cash, it is still feasible to produce them. The notable difference between total costs and costs in cash is the considerably high cost of family labor which is actually not a real cost expended by the farmer (Table 4 and 5).

The average annual income of food crop farmers amounts to Rp. 392,882. per family. The Buginese show the highest average annual income, i.e. Rp. 491,800. per family. The highest contributor to the farmer family income comes from rice farming. This is especially true for the Javanese farmers. In the case of the Buginesefarmers, they get considerable earnings from their coconut gardens which contribute significantly to their high income. The Buginese coconut gardens are indeed more productive than that of the Javanese.

The farmers also plant perennial crops, of which the coconut is considered to be economically the most valuable. In general the coconuts of the transmigrants are in rather poor condition and are only planted on ricefield dikes. A transmigrant farmer usually owns 100 coconut trees which are not too productive, since it is rice farming on which the farmer concentrates.

The Buginese farmers rely primarily on coconut farming which they consider to have bright economic prospects, compared to other crops. As can be observed, the larger their land holding under coconuts and coupled with profitable levels of coconut prices, will also produce higher income.

Aside from planting food crops the farmers also are engaged in animal husbandry as a supplemental source of income. Generally poultry (chickens and ducks) is reared. Although still on a subsistence scale, poultry rearing is important for the farmers at times when cash is needed, for instance to cover the cost of ceremonial feasts. I is estimated the average annual income from poultry rearing amounts to Rp. 25,061 per family.

If the returns from coconut farming is included, the average annual income of the Buginese farmers amounts to Rp. 2,800,000 per family, while that of the indigenous farmers Rp. 276,800 per family and the Javanese farmers Rp. 513,200 per family (Table 6).

Table 6. Farmers Family Income from Agriculture in Muara Telang (in Rupiahs/family/year).

Ethnic Group	Annual Income Per Family
Javanese	513,221
Buginese	726,187
Indigenous	1,800,256

Source: Ali, 1990.

Table 7. Farmers Family Income from Off-farm Activities in Muara Telang (in Rupiahs/family/year)

Occupation	Ethnic Group		
	Indigeneous	Buginese	Javanese
Civil Servant	201,031	-	12,388
Merchant	80,653	180,474	24,592
Farm Laborer	79,449	-	73,960
Services	-	60,459	12,943
Total	361,133	240,933	123,833

Source: Ali, 1990.

Table 8. Total farmers family income (in rupiahs/family/year)

Source of income	Ethnic group		
	Indigeneous	Buginese	Javanese
Off-Farm	361 133	240 933	123 883
On-Farm	726 187	2 800 256	513 221
Income	1 087 320	3 041 189	637 104

Source: Ali, 1990.

Table 9. Per capita rice equivalent income of farmers families in Muara Telang.

Item	Ethnic Group		
	Indigeneous	Buginese	Javanese
Total Income	1,087,320	3,041.189	637,104
Average Number of individuals in farmer family	6.3	6.0	4.9
Per-Capita Total Income/year Per-Capita Rice Equivalent	172,590	506,864	130,021
Income/year	493	1,448	371

Source: Ali, 1990.

More than 30% of the farmers in Muara Telang are engaged in off-farm activities to earn supplemental income. Aside from farming farmers also work as merchants, form laborers, or extending services as civil servants, teacher etc. Table 7 gives the average annual income per family obtained from off-farm activities. From Table 11 it can be concluded that a considerable part (65%) of the income of indigenous farmers derived from off-farm activities is obtained by working as civil servants, while the remainder by working as merchants and farm laborers (numpang tani). The Buginese derive their off-farm income primarily from trade and to a lesser extend from providing services such as operating boats.

The Javanese obtain the major part of their off-farm income from working as farm laborers, probably due to insufficient skills to engage in non-agricultural work.

Total farmer family income computed by adding the values as presented in table 6 to that in table 7, the total income of a farmers family is obtained. Table 8 shows that the Buginese farmers have the highest income, followed by the local (indigenous) farmers. The Javanese farmers who are all farmer transmigrants or their offsprings have the lowest income.

If the total income for the different ethnic groups is converted into rice sufficiency levels (table 9), it can be concluded that all the farmers families in Muara Telang live above the poverty level according to the criteria of the Central Bureau of statistics.

sixth part

PROCESS OF SPONTANEOUS MIGRATION

1. PRESENT CONDITION

To determine the number of spontaneous migrants in the area under study, a census was conducted in various RTs (Rukun Tetangga, the smallest administrative unit of a village). Table 10 presents the result of the census.

Table 10. Number of Spontaneous Migrant Families and Family Members in Various RTs of Sumber Jaya Village

RT	Number of Families	Number of Family Members
RT 13	13	85
RT 16	8	28
RT 19	9	45
RT 22	13	58
RT 23	7	12
RT 24	3	8
RT 25	24	91
Total	77	327

Usually the spontaneous migrants come to this area after receiving information on the area from acquaintances or relatives who have already settled in the area. Most of the spontaneous migrants are Buginese from South Sulawesi and Javanese from Central and East Java.

Based on information from administrators in Sumber Jaya, seven to ten percent of the population of Sumber Jaya are spontaneous transmigrants.

The poor state of village administration made it impossible to list all the spontaneous migrants. This is especially true in the case of Buginese migrants, since they frequently do not settle in a certain administrative unit and this creating difficulties for the village administration.

Generally the settlement site selected by the spontaneous migrants depends on their ethnic background and major occupation. The Javanese usually settle in abandoned houses or build houses near business centers such as markets, since aside from food crops farming (rice and /or coconuts) they are also engaged in commerce. Usually the Buginese build houses near markets with the permission of the village head.

The village head issues permits (Surat Ijin Lokasi Usaha: SILTU) to build structures (so called units of enterprises) on "open" lands under the authority of the Department of Public Works. As long as these lands are not utilized by the Department of Public Works any one can request az SILTU from the village head. A SILTU is issued for one unit of enterprise covering and area of 4 m by 4 m and costs Rp. 40,000. The permit and thus the land occupied including the structures build on it will be claimed by the Department of Public Works the moment that the land is needed by the department.

Administratively, the spontaneous migrants from Java are more disciplined than others. Usually the spontaneous migrants from Java are provided with a Surat Keterangan Pindah which states that the holder is moving from the region of origin. This is not the case of the Buginese. A side from this, Buginese usually do not settle permanently on one site, but primarily show the circulatory type of migration which is repetitive,

temporary, short timed or cyclical in character. They do not show clear indications to settle in one place, except if they consider themselves successful in their ventures in a certain location

The majority (90%) of the spontaneous migrants are engaged in agriculture and commerce. However, the Buginese show great diversity in their ventures. Besides being farmers they also are merchants, rice huller owners, shop owners, boat owners etc., while the Javanese are usually share croppers (tani numpang) or farm laborers. As stated in the preceding chapter, the Buginese migrants who are practically all spontaneous migrants are the most successful due to their success in coconut farming and commercial ventures.

Table 11 shows the time of arrival of the spontaneous migrants in Margajaya. It shows that during the last five years the inflow of spontaneous migrants tends to be considerably high. Around 53% of the existing spontaneous migrants settle in Margajaya based on economic motives. Achievement of better levels of prosperity than that experienced in their region of origin is the prevailing motive to migrate, although migration is also caused by family conflicts or to seek experience.

Table 11. Number of Spontaneous Migrant Families in Various RTs Sumber Jaya According to Time of Arrival

Location	Number of Migrant Families	Number of Migrant Families Arriving at Various Times in the Past		
		> 5 years ago	2-5 years ago	< 2 years ago
RT 13	13	2	4	7
RT 16	8	-	-	8
RT 19	9	1	3	5
RT 22	13	4	3	6
RT 23	7	1	-	6
RT 24	3	2	1	-
RT 25	24	10	6	8
Total	77	20	17	40

Table 15 also shows that spontaneous migrants tend to settle in regional centers such as RT 25 which is the center of the Sumber Jaya area. Here the majority of spontaneous migrants are Buginese. Javanese spontaneous migrants are concentrated in RT 22, 23 and 24 which are near agricultural fields. This conforms with the tendency among the Javanese to engage primarily in agricultural activities.

2. THE PROCESS OF SPONTANEOUS MIGRATION OF THE BUGINESE

Differences exist in the process of migration of the various ethnic groups. This report is focussed on the differences in the process of migration between the Buginese and Javanese.

Research conducted by the Survei Agro-Ekonomi (SAE) revealed that practically all the tidal wetlands of South Sumatra were opened by the indigenous people and spontaneous migrants in the past. The soils in these wetlands were of good quality. Therefore, it is understandable that what was left for the government sponsored transmigrants are soils of marginal quality.

Nowadays the population of the tidal wetlands of South Sumatra consists of three groups, namely the indigenous people, government sponsored transmigrants mentioned the Buginese are by for the numerous.

Generally the Buginese spontaneous migrants come from South Sulawesi, specifically from Kabupaten Wajo, Bone and Sidrap. During the 1950s these highly migratory people migrated to Sumatra, especially to Riau and Jambi.

During the 1970s these Buginese migrated to areas farther South, among others to South Sumatra through Sungsung District which borders Jambi Province. The motive of this migration was to seek wetlands which could be transformed to agricultural fields to cultivate rice and coconuts. Thus presently it can be observed that there are many coconut plantations in the area of Sungsung I, Sungsung II, Sungsung III and Sungsung IV Villages owned by Buginese. From these areas the Buginese spread to the south to the Muara Telang area and other areas during the 1980s.

It appears that the Buginese were able to develop a system of agriculture most suitable to tidal wetland conditions. This Buginese compared to other spontaneous migrants in the area.

Initially the Buginese clear wetland forests to cultivate rice. For several years until all the forest is cleared, the cultivation of rice is maintained to meet their needs for food. However, after four years of forest clearing the productivity of rice farming starts to decline due to decreasing soil fertility and weed infestations. It is during this period that the Buginese start to diversity by cultivating bananas, coconuts, pineapples, cassava and other crops on soil piled and prepared beforehand in their field. While waiting for their perennial crops (usually coconuts) to produce, they harvest bananas, pineapples and other crops which can be sold to meet their daily needs. For the Buginese the moment their coconuts start to produce gradually their way of life becomes more "permanent", although still striving to extend their landholdings for agriculture in other areas. However, in general the Buginese believe that with their coconut plantations in production, simultaneously their standards of living change. Indeed, the Buginese are firmly convinced that a positive correlation exists between "prosperity" and "coconuts". Therefore, it is understandable that the Buginese settle near the canals they dug, with the coconut plantations developed in cleared forest areas, while rice cultivation is only a side activity.

The process of land acquisition before the introduction of Law No. 1979, which annulled the existence of traditional (marga) villages, differs from that after its introduction.

Before the introduction of Law No. 5, 1979 the Buginese obtained forest clearing permits from the Pesirah, the head of a traditional district (marga). At that time there were five marga villages in Muara Telang, namely Muara Telang, Terusan Tengah, Karang Anyar, Terusan Dalam and Takang Lubuk. The Pesirah or also the Kriau (head of a marga village) holds the authority over the lands in the marga area. The Buginese had to pay the Pesirah or Kriau to be permitted to clear a forest (pancung alas) in the marga area. The Buginese who is permitted to clear land under forest has the authority over it and is called kepala parit (canal chief). He may allocate the land under his authority to his team members if they meet certain requirements. It should be noted that there were instances that Buginese did clear forest areas under marga authority without payments to the Pesirah or Kriau.

After the enforcement of Law No. 5, 1979 which annulled marga villages, the Buginese acquired land by paying compensation money (ganti rugi) to owners of already cleared forested lands, or as observed in one case in Karanganyar, to a kepala parit (canal chief).

3. SPONTANEOUS MIGRATION OF THE JAVANESE

Generally the Javanese spontaneous migrants come from East Java (Blitar, Lamongan, Kediri and some other areas), Central Java (Pati, Cilacap and Banyumas) and Yogyakarta.

Javanese spontaneous migrants usually are offspring of government sponsored transmigrants in the area or their relatives previously living in the provinces mentioned above. The last mentioned category of Javanese spontaneous migrants come directly from their locations of domicility. They are provided with information their relatives or acquaintances on the good prospects of farming and livelihood in the area. Javanese spontaneous migrants started to arrive in 1983 and it is still in progress nowadays.

4. SPONTANEOUS MIGRATION OF THE BALINESE

The Balinese spontaneous migrants are a community in the area under study. They usually arrive by groups in Muara Telang (specifically in Sumber Jaya Village) via Belitang and previously live in Kabupaten Klungkung. They are provided with information by former neighbors or acquaintances on the good prospects of farming and livelihood in the area.

In Sumber Jaya the Balinese occupy houses and land abandoned by the majority of West Javanese transmigrants by paying compensation money (ganti rugi).

5. INTERVIEWS WITH SELECTED RESPONDENTS

To give a more detailed personal picture of the spontaneous migrants, the following is a result of interviews with some of the selected respondents.

5.1. Wala

Wala (age: 39 years), his wife and two children migrated from Ponorogo, East Java, to Marga Jaya on August 9, 1990 where he and his family live in RT 19, RK 7. Information on conditions in Marga Jaya was provided by this first cousin who is government sponsored transmigrant in the area. He sold his landholdings (about 0.3 ha) to cover the cost of moving to Marga Jaya.

The house presently occupied by this family was bought for Rp 200,000 from a Buginese. The house garden (20 x 40 m) was acquired by requesting a "Surat Pengakuan Hak Tanah" (Certificate of Acknowledgement of Land Right) issued by the village head and affirmed by the Camat (District Head), for which he had to pay Rp 35,000.

Presently he owns about five hectares of agricultural land in Sungsang I acquired from Balla a Buginese, at the cost of Rp 250,000 per hectare. Aside from cultivating rice, he also plants red pepper and bananas, and rear some chickens in his house garden.

He admits that conditions in the area where he is living now offer him better prospects for income generating activities now as well as in the future compared to the conditions that he faced in Ponorogo. Also, the existing educational facilities in Marga Jaya are Sufficient, while interaction with and adaptation to the population in his neighborhood did not constrain him, since they come from the same area in Java.

5.2. Bejo

Bejo (age: 32 years) and his Wife Ginah (age : 27 years), a childless couple, moved from Wonosari, Yogyakarta, to Marga Jaya on August 8, 1988, where they now live in RT 18. Information on conditions in Marga Jaya was obtained from Sukarjo, an acquittance, who told him that the area shows good potential for agriculture development and good prospect for gaining a better life than in Wonosari.

In Wonosari besides being a becak (tricycle) driver also he was a common laborer. To cover the cost of migrating he sold all his goats for Rp 70,000, motivated by the better prospects for life in Marga Jaya.

In Marga Jaya he build a house without support from anyone on a piece of land reserved by the village government for transmigrants offspring and spontaneous migrants. He had to pay Rp 45,000 in installments to obtain a Surat Pengakuan Hak Pemilikan Tanah (Certifacte of Acknowledgement of Land Right) for the piece land where his house now stands.

The income that this childless couple now earns is derived from share cropping on an approximately two hectare piece of land owned by a Buginese. He has to contribute 200 kg of dry unhulled rice of each harvest of rice to the landowners. Aside from ricefarming, he plants red pepper and bananas and areas chickens in his housegarden.

He feels that his welfare in Marga Jaya is better than in Wonosari. Also, both the and his wife feel that life is better in Marga Jaya, since in Wonosari they often had to be separated from each other since he had to work far from home.

5.3. Wagiyan

He comes from Kulonprogo, Yogyakarta. In 1978 he joined his brother's family who were transmigrated by the government to Tirta Kencana, a transmigration village in South Sumatra. He married here but stayed with his brother's family. For five years he was a sharecropper in Tirta Kencana, but he was not satisfied with the level of prosperity achieved.

In June 1987 he and his wife moved to Sumber Jaya and from their savings bought land for Rp. 300,000 in Rt 16, R VI Sub-Village 3. He built a house with material that he bought. He spent about Rp 900,000 to build it.

He holds two land certificates, respectively for his house garden and rice field that he owns. His reasons to move to Marga Jaya was that aside from having relatives here at that time the price of land here was still low. Presently he has three children, aged seven, five and three.

He grows rice on his field and has planted some coconut palms around it, which are not yet producing fruits. He also raises 15 chickens in his home garden.

While in Kulonprogo he worked as a coconut tapper. In one day he could tap 25 coconut trees, from which he could tap 6-10 of palm juice from the flowerstem. He could meet his daily needs as a bachelor, but was not able to save money. Presently aside from the returns of his rice fields, as a skilled carpenter he is able to raise his daily income.

5.4. Wero

He is a Buginese, age 38, and he moved with his family from the Teluk Payau area (in Sungsang I Village, Sungsang District, Kabupaten Musi Banyuasin, South Sumatra) to Sumber Jaya in July 1989. He sold his house in Teluk Payau to fellow Buginese, and bought a house in Sumber Jaya from a Buginese in which he now lives with his wife and six children. This house has no building permit, since it is located on a canal levee which should be free from buildings. His house is located on Jalur (Canal) 3 RT 19, near crossing Platform III. He bought it for Rp 500,000.

He as a grocery stand managed by his wife, while he daily operates a motorized boat (tongkang) that he owns. He still has a five hectares coconut plantation in Sungsang I village.

His major motive to move from Sungsang I village was to trade. He buys coconuts in Sumber Jaya and transports it with his tongkang to in Palembang. The return from selling coconuts in Palembang and the grocery stand seem to considerably improve his prosperity. Moving from one place to another seem to be relatively easy, since this family owns a boat which is big enough to transport the whole family plus the furniture they need and even material to build a house.

Since Wero and his family have been settled in Sumber Jaya for quite a time, they feel no constraints in their interaction with the society in Sumber Jaya. He admits to have no definite plans for the future, but it seems that if there is an area which presents better prospects economically, he will migrate to that area. He seem not to worry about the education of his children, since they are still in primary school.

5.5. Umar

Umar and his family moved in May, 1990 from Sungsang I village where he was a transmigrant from the Mount Kawi area in East Java. He, 55 years of age, his wife and Six Children lived in Palembang attending an Islamic Senior High School (Madrasah Aliyah). He sold his house, land and citrus to cover the cost of moving to Sumber Jaya.

Presently this family occupies a house formerly inhabited by an employee of the Department of Public Works attached to the Tidal Irrigation Project. He holds a Certificate of Occupancy issued by the head of Sumber Jaya village, for which he had to pay Rp. 25,000. The house is located on a piece of land of about 500 m2.

The prime motive to move to Sumber Jaya was to be able to finance the education of his child studying in Palembang and the education of the other children in the future.

Umar derives his income from working as a part-time mechanic of boat engines in the Sumber Jaya area aside from share cropping on a rice field owned by a Buginese.

seventh part

INSTITUTIONAL SUPPORT

1. DIVERSIFICATION

Tidal wetlands show specific characteristics and constraints. The acid soil, saline water and salt intrusion, toxification due to certain macro-and micro elements to crops, plant disease and pests infestations, and poor accessibility to settled sites, all of these constraints result in a relatively low level of prosperity for the settlers in tidal wetlands. Therefore, it is imperative that development of tidal wetlands should be conducted in stages. This staged development should take into consideration specific characteristics related to improved environmental maturation, soil maturation, socio-cultural capabilities and economic progress of the society. Thus each activity aimed at supporting staged development in wetlands will always change in type and intensity in conform with major needs.

Considering the specific characteristics of wetlands mentioned above and the important position of wetlands in the development of agriculture and transmigration on a national scale, efforts to develop better knowledge and understanding of the potential of wetlands and the utilization of this potential is of prime importance. It can be expected that with this better knowledge and understanding, optimal development can be achieved in line with the stated objectives.

Nowadays the development of agriculture in wetlands is primarily focused on food crops. This is understandable from the point of view of the potential of wetlands to contribute to the self-sufficiency in rice, considering the limited availability of irrigated rice fields. However, wetlands also prove that aside from having the potential to develop food crop agriculture, they also can be developed as a site for tree crop agriculture and animal husbandry. Therefore diversification of agricultural activities should be an alternative that needs serious consideration in efforts to develop wetlands. In this context it is imperative that institutional support should be given the highest priority.

2. ECONOMIC INSTITUTIONS

Generally people inhabiting tidal wetlands are poor and need capital. Government economic incentives insufficiently meet the needs of tidal wetland farmers. The tidal wetland farmers who use traditional methods of agriculture have no control over the water system and just surrender to the existing natural conditions.

The existing institutions are not able to meet the need of the farmers, specifically the tidal wetland farmers. Also there are as yet not many service and extension institutions specifically tending the tidal wetland farmers.

2.1. Marketing Support Institutions

Generally marketing institutions in tidal wetland areas are still insufficient. therefore the marketing of farm product still face unfavorable conditions. since agriculture based production prevails in the area,

marketing institutions should be able to cope with such problems as the bulkiness and perishability of farm products.

Apparently marketing activities in the area under study are mainly concentrated in platform (jerambah) 2 on Wednesdays. Such a condition which in mainly caused by the inadequacy of transportation facilities is not conducive to the best prices that the farmers can obtain for their farm products.

Obviously under such a condition where the farmers can only market farm product on a certain day and in a certain location, the role of middlemen become very important. Usually it is these middlemen who own considerable capital that buy the farm products. These middlemen who have better accessibility to transportation facilities transport farm products to Palembang. therefore it is the middlemen who will receive the greater part of the added value of farm products. However for the farmers who are in urgent need of cash, these middlemen are an alternative to dispose their farm products quickly. Usually the commodities that are sold in quantity to the middlemen are rice, palawija (secondary food crops) and peas. An estimated 75% of the volume of trade is conducted through middlemen, while the remainder is sold by the farmers in retail.

Faced with such marketing conditions, the role of the existing Village Unit Cooperatives (Koperasi Unit Desa : KUD) is far from the satisfactory. Presently these cooperatives are primarily occupied with the multitude of problems they face than with the operational aspects of cooperatives. In the case of providing production inputs to the farmers, the cooperatives have yet no role at all, as is the case marketing farm products. Therefore, serious attention should be given to these cooperatives to enable them to function properly.

2.2. Operation and Maintenance of Irrigation Canals

The area under study is a reclaimed tidal wetland where the agricultural fields are laid out in strips along navigation canals, primary canals and tertiary canals. it is through these canals that the farmers irrigate their fields.

Maintenance of these canals should be carried out continuously due to the high sensitivity of canals to clogging by aquatic weeds and bank erosion induced by waves produced by boat traffic. Maintenance of navigation canals and secondary canals is the responsibility of the Department of Public Works, since it is obviously too laborious to be tackled by the farmers individually. This also holds true for the maintenance of watergates, dikes and such structures as bridges and piers.

Maintenance of tertiary canals is the responsibility of the farmers since these canals are relatively small and easy to maintain. The farmers form Water Users Associations which manage the maintenance of tertiary canals.

Due to the important function of these canals both in irrigation and boat transportation, the establishment of a canal management institution is urgently needed. Considerable apprehension is caused in instances where no canals exist, such as in Panca Mukti Village, since only rain-fed agriculture can be practiced by the farmers. Under conditions like this it is difficult for the farmers involved to farm properly.

2.3. Government

The village government consist of a village head supported by a Village Consultative Council (LMD : Lembaga Musyawarah Desa) and a village administrative board. The village administrative consists of a secretariat and Sub-village heads. The secretariat is headed by a Village Secretary who supervises several bureau heads.

This structure of village government as stipulated in Act. 5,1991 is better than that of the traditional (Marga) village government previously existing before the introduction of this law. In traditional (marga) villages the government consisted of a village head (Krian) assisted by two officials (Punggawa) and a village Representative Council.

However, in some instances the village government structure as stipulated in Act. No.5, 1979, is not yet completely functional.

Frequently, the Village Consultative Council does not function properly. There are even instances where the Village Consultative Council seldom assemble to deliberate on programs produced by the village head. As a consequence administratively village programs are concentrated at the village head. Also, the village secretariat functions far from that expected. In some villages where economic conditions are good, the village secretariats are actively functioning. On the contrary in villages such as Karang Anyar where economic progress is poor, the Village Secretariats also function poorly. Village Secretariats processing adequate basic village data, village maps etc. are still rare in the area under study.

In general the village head and the village administration board are respected by the villagers, so that his leadership in implementing administrative aspects of village government is highly prominent. It can be stated that the village head and the village board play a decisive role in village life.

It should be noted that many villagers do not know properly the functions of the village government, so that in many instance the handling of certain document needed for village administration is still unsatisfactory.

Several important village organizations such as the Pendidikan Kesejahteraan Keluarga (PKK, an organization at village level to educate women on various aspects of family welfare), Village Youth Organization (Karang Taruna) and Farmers Groups. However, frequently these organizations are not yet active, mainly due to poor economic conditions in the village.

2.4. Agrarian Institutions

Soils hold a central position in village life, because of its close linkage to productive activities related to the economic welfare of the villagers. The major issue that is related to soils is that of the status of land holdings. Which frequently create complex problems.

According to Article 16, Act No. 5, 1960, there is a variety of land rights, such as land property rights, land renting rights, land utilization rights, rights to utilize a piece of land to construct a building on it, right to open a piece of land, and rights to harvest forest products. Each of these rights offer different freedoms of action as well as different rights of transfer in the area under study land utilization rights prevail.

Taking into consideration the multitude of Buginese, Javanese and other spontaneous migrants moving into the area, the matter of land acquisition becomes very important. In this context, all the institutions involved in agrarian affairs should be mended properly from now on, so that in the future they are more capable to manage problems arising from land acquisition by the spontaneous migrants. Cases involving certificates of acknowledgment of land right, permits to build structures on "open " lands under the authority of the Department of Public Works (SILTU, see page.....), forest clearing permits and permits to settle on a certain site are all closely linked to land acquisition problems. To prevent that land acquisition problems become more complex in the future, it would be highly appropriate to initiate extension activities on the various agrarian laws and regulations. That such extension activities are urgently needed can be concluded from past cases where the transfer and acquisition of certificates of acknowledgment of Land Right from transmigrants to spontaneous migrants were conducted without notification or knowledge of the proper authorities.

2.5. Socio_Cultural Institutions

Educational and public facilities exist in the village area, although on a limited scale. For instance in Sumber Jaya are two primary schools and one junior high school. A senior high school is located in Makarti Jaya, about 5 km by boat from Sumber Jaya. The distance between the pupils homes and their schools in Sumber Jaya varies from zero to six kilometers. The physical condition of these educational facilities, the number of teachers and educational material available is sufficient. Public facilities such as a village meeting hall exists, although frequently it is the home of the village head which is the center of village activities. There are several houses of workshop, generally in good physical conditions.

Public health facilities are available for the inhabitants of Sumber Jaya, although located on Canal (jalur) 8. Here a physician supported by several paramedics practice. However, for the Sumber Jaya villagers, it is closer to go to the public health facility in Makarti Jaya where also a physician supported by several paramedics practice. Despite the existence of public health facilities, generally the intensity of consulting doctors is still low, probably because the location of these facilities are rather far from human settlement sites.

Social interaction by the spontaneous migrants with the indigenous people usually takes the form of economic interaction, participation in traditional ceremonies and other social activities. On the other hand the spontaneous migrants usually invite the indigenous people to participate in their traditional ceremonies, so that social interaction is quite intensive.

Social interactions also takes place during mutual help (Gotong royong) activities which are usually conducted on a certain days in a certain village. Such activities result in intensive social interaction, since these activities are aimed at the common interest of the people.

Fig. THE SETTLEMENT OF THE MUSI RIVER DELTA
L'AMENAGEMENT DU DELTA DE LA MUSI

MAP 1
DRAFT

settlement based on rice fields - *aménagement basé sur la culture du riz* :
first projects, already existing in 1969 - *premiers projets, existants en 1969*
projects finished between 1969 and 1986 - *projets réalisés entre 1969 et 1986*
projects in process - *projets en cours de réalisation* :
drainage and main canal finished - *drainage et canaux primaires achevés*
first stage of preparation work - *début des travaux (1990)*
canal network - *réseau de canaux*

settlement based on tree crops - *projet fondé sur plantations commerciales (PIR TRANS)* :
finished in 1986 (coconut tree)- *réalisé en 1986 (cocotiers)*
planned for 1991 - *programmé pour 1991*

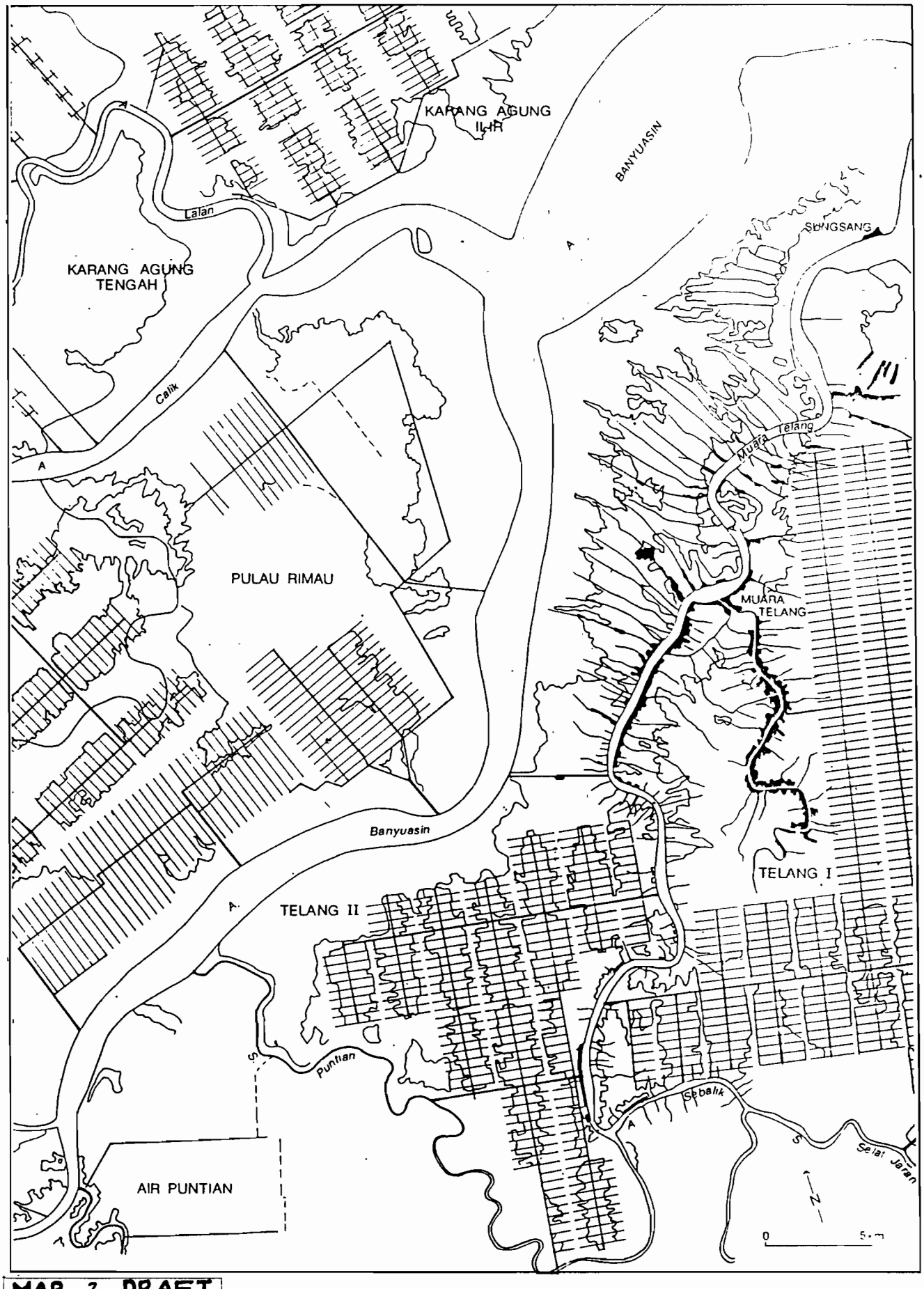
former irrigated project, now turned into nature reserve - *projet d'irrigation abandonné et converti en réserve naturelle*

Palembang city in 1969 - *extension de Palembang en 1969*
Palembang city in 1986 - *Palembang en 1986* :
built up area - *espace bâti*
area under construction - *espace en voie d'occupation*
villages - villages

main roads - *routes principales*
secondary roads - *routes secondaires*
approximate limit - *limite approximative*
swampy area - *marais*

sources ~ *sources*
topographic maps - *cartes topographiques* (JANTOP 1969)
SPOT satellite imagery - *images SPOT* (1986)
field survey - *enquêtes de terrain* (1990-1991)
KANWIL DEPTRANS SUMSEL

M. P / y. why 1991


KARANG AGUNG ILIR
BANYUASIN
Lalan
SUNGSANG
KARANG AGUNG TENGAH
Calik
Muara Telang
PULAU RIMAU
MUARA TELANG
Banyuasin
TELANG I
TELANG II
Puntian
Sebalik
Selat Jaran
AIR PUNTIAN
N
0
5 km

MAP 2 DRAFT