

Assigned by the Ministry of Agriculture, Forestry and Fisheries

**Report on the Survey of Rural Population
and Agricultural Development
in Asian Countries
– Indonesia –**

FEBRUARY 1987

**The Asian Population and Development
Association (foundation)**

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1. Discussion on survey outline at the Ministry of Transmigration. Assistant Minister, Mr. Soedijino, in front.



2. Courtesy visit to the Japanese Embassy. From left: Dr. Shigeto Kawano (Chairman), Mr. Toshiaki Muto (Ambassador), Dr. Yonosuke Hara, Ms. Junko Koizumi, and Mr. Shoji Suzuki (First Secretary).

Foreword

The following report represents the results of a "Survey of the Rural Population and Agricultural Development in the Asian Countries," consigned by the Ministry of Agriculture, Forestry and Fisheries in 1986, and entrusted to be implemented by the Asian Population and Development Association (APDA) for Indonesia. The survey and compilation of the results were carried out mainly by members of APDA's survey committee (Chairperson: Dr. Shigeto Kawano, Professor Emeritus, the University of Tokyo).

The survey was conducted to pursue the following objective: In extending cooperation in terms of rural and agricultural development to Asian countries, it is necessary to give due considerations to enhance productivity, to develop rural community, and to improve the standards of rural life. In particular, special note must be taken to assist in sustenance of rural population carrying capacity. For this goal, a field survey will be conducted in a model district selected from among the Asian nations to determine the rural community and agricultural development programs to be implemented, with the objective of maintaining and enhancing the population carrying capacities. The results will establish a guideline for Japan's international cooperation in the area of agriculture, forestry and fisheries.

The field survey in Indonesia was conducted with the guidance and cooperation of His Excellency Mr. Martono, Minister of Transmigration, Mr. Toshiaki Muto, the Japanese Ambassador in Indonesia, Mr. Yushu Takashima, Minister, Mr. Shoji Suzuki, First Secretary and Mr. Yutaka Matsuno, First Secretary of the Japanese Embassy. Also, officials of the Ministry of Transmigration of Indonesia extended their support in the implementation of the survey. In Japan, members of the International Cooperation Division, Economic Affairs Bureau, the Ministry of Agriculture, Forestry and Fisheries, and Aid Policy Division, Economic Cooperation Bureau, the Ministry of Foreign Affairs, cooperated in the guidance of the survey substance and arrangement of the field survey. I would like to extend my deepest gratitude to these people.

In conclusion, I sincerely hope that this report would hopefully contribute to the advancement of the rural community and agricultural development programs in Indonesia, as well as support the Japanese Government's cooperation there in an effective manner. Furthermore, I would like to note that this report was compiled by and is the sole responsibility of APDA, and does not reflect any views nor policies of the Ministry of Agriculture, Forestry and Fisheries or the Japanese Government.

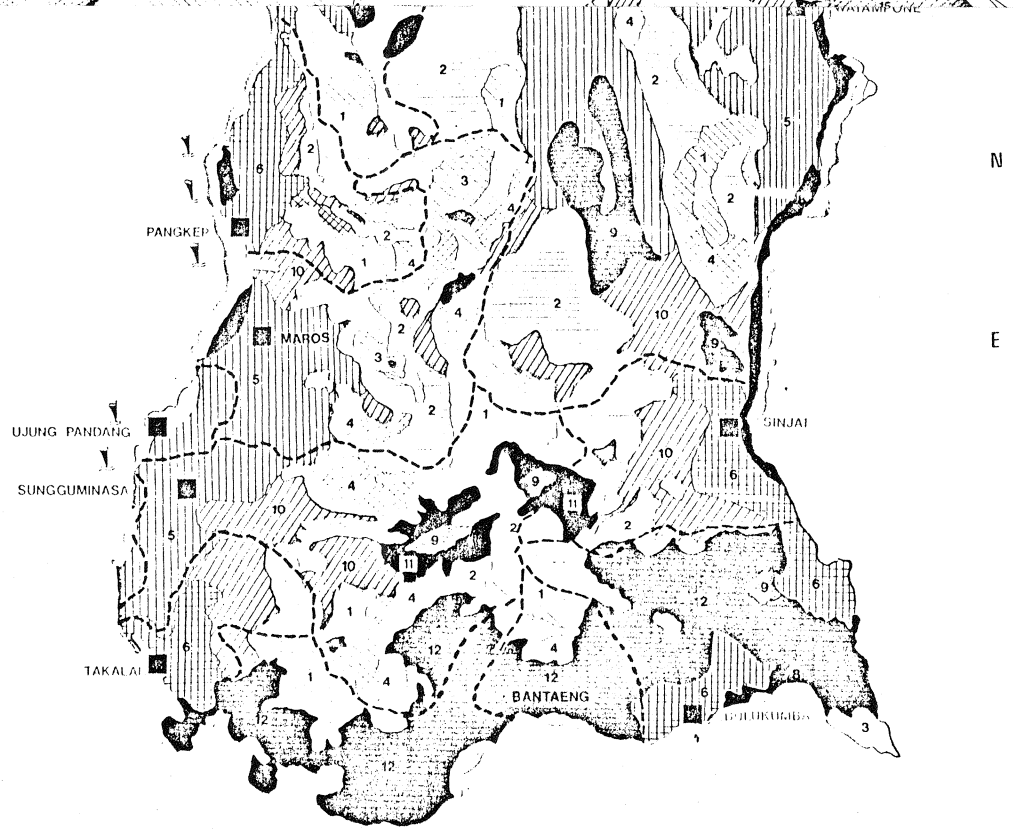
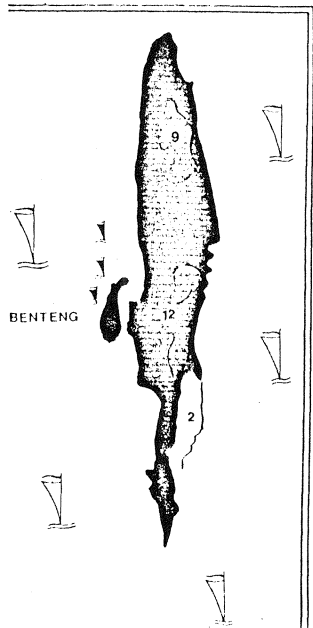
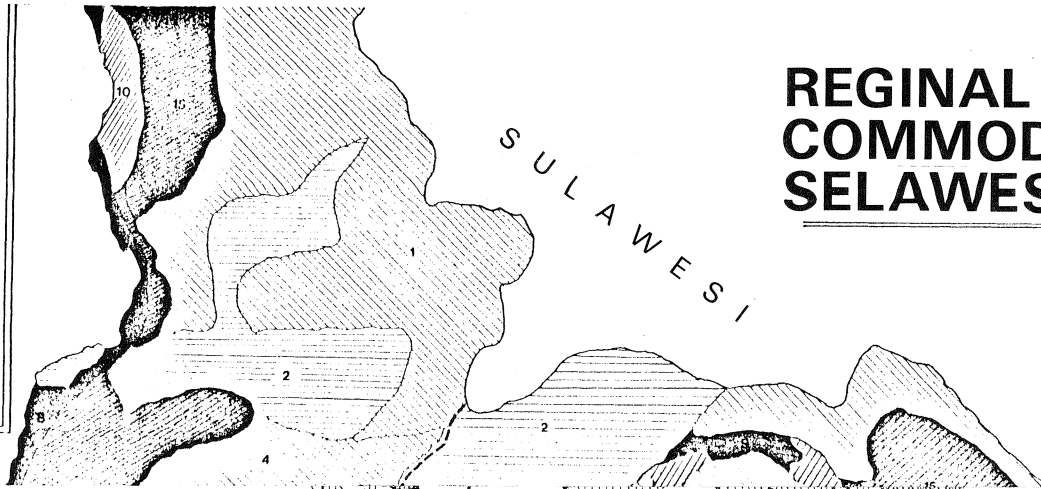
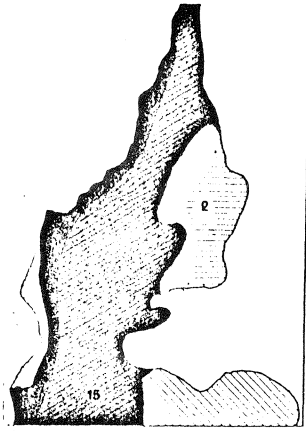
Tatsuo Tanaka
Chairman
The Asian Population and
Development Association
February 1987

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REGIONAL MAP OF AGRICULTURAL COMMODITY IN SOUTH SULAWESI PROVINCE

Scale 1 : 500,000



DEPARTEMEN PERTANIAN



CHAPTER 1 INTRODUCTION : SUBJECTS AND METHODS

Indonesia is one of those countries in which Japan places special emphasis in terms of foreign aid. In order to support economic development, Japan has been extending a great deal more cooperation to this nation in various areas in comparison to many other developing countries. Varied forms of cooperation and huge amounts of financial aid have been granted in a wide variety of fields such as agriculture, forestry and fisheries; health and medical care; and industrial development.

Regarding cooperation in the field of agriculture, forestry and fisheries, the following projects have been in effect since 1985.

- | | | | |
|---|-----------|---|-----------|
| 1. Agricultural Study Project | Oct. 1978 | - | Oct. 1985 |
| 2. Project for Training Mid-level Technical Experts (Agriculture) | Mar. 1979 | - | Mar. 1988 |
| 3. Remote Sensing in Agricultural Development (Agriculture) | Apr. 1980 | - | Mar. 1987 |
| 4. Crop Protection Project (Agriculture) | June 1980 | - | Mar. 1987 |
| 5. Technical Cooperation in Planting Trees in the Woods of South Sumatera (Afforestation) | Apr. 1979 | - | Mar. 1988 |
| 6. Shallow-sea Fish Cultivation (Fisheries) | Aug. 1978 | - | Mar. 1986 |
| 7. Project of Technical Center for Execution of Irrigation and Drainage Works (Agriculture) | Apr. 1981 | - | Mar. 1988 |
| 8. Study on Tropical Rain Forests (Forestry) | Jan. 1984 | - | Dec. 1989 |
| 9. Official Approval of Pharmaceuticals for Animals (Livestock Hygiene) | Apr. 1984 | - | Mar. 1989 |

(1986 Annual Report of Japan International Cooperation Agency)

All the above projects have been effectively implemented in such a way as to reinforce the human cooperation system by sending Japanese specialists to Indonesia, receiving and training their counterparts in

previous level of 2.4% (1971). The social system of family planning, under the guidance of health centers and other public organizations, has gained acceptance of both husbands and wives.

Based upon the above-mentioned premises, future proposals in agricultural cooperation by our country will be made as follows.

CHAPTER 2 AGRICULTURAL DEVELOPMENT IN SURVEYED AREAS

1. Outline of Three Provinces

As stated in the following chapter, the survey was conducted in villages in three regions, namely the suburbs of Bogor, in Province of West Jawa, North Lampung District, in Province of Lampung and Maros District, in Province of South Sulawesi. Therefore, an outline of these regions, with emphasis on agriculture, is introduced in this chapter.

Population

The total population of Indonesia in 1984 was 161.58 million as shown in Table 1, of which the population of the Province of West Jawa amounted to 30.40 million, that of the Province of Lampung 5.77 million, and that of the Province of South Sulawesi 6.48 million, accounting for 18.8%, 3.6% and 4.0% of the total population, respectively.

When calculating the growth rate of the population after 1961 based upon Table 1, the total population of Indonesia registered an annual growth of 2.1% between 1961 and 1971 and 2.4% between 1971 and 1981. The growth rates in the population of the Province of West Jawa during the same periods were 2.1% and 2.7%. The population growth rates of the Province of West Jawa are approximately equal to those of the whole of Indonesia.

The growth rates in the population of the Province of Lampung were 5.2% between 1961 and 1971, and 5.8% between 1971 and 1981, considerably higher than the growth rates in the total population of Indonesia. The primary reason for this is obviously migration from Jawa.

The growth rates in the population of the Province of South Sulawesi during the above-mentioned periods were 1.4% and 1.8%, respectively. The growth rate registered a slightly accelerated trend in the early 1970's. The growth rate of this province was lower than that of Indonesia as a whole. The Province of South Sulawesi has Ujung Pandang, which is the central city in Eastern Indonesia. However, it appears that this province is not able to contribute in accepting of migrants so much as the Province of Lampung, which is adjacent to Jawa, since South Sulawesi is far from Jawa.

Table 2 Land Utilization of Indonesia's Agriculture

| Province | Residential Area | Garden | Shifting Cultivated Area | Pasture | Swamps Not Cultivated | Dyke | Water Pond | Preliminary Land Not Utilized | Land with Grown Wood | (Unit: ha) |
|----------------------|------------------|-----------|--------------------------|-----------|-----------------------|---------|------------|-------------------------------|----------------------|-------------|
| | | | | | | | | | | Paddy Field |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| Daerah Istimewa Aceh | 378,747 | 328,506 | 106,572 | 142,722 | 347,588 | 29,492 | 8,461 | 225,674 | 509,674 | 282,642 |
| Sumatera Utara | 315,009 | 402,322 | 234,785 | 265,823 | 175,054 | 912 | 24,780 | 470,808 | 258,817 | 420,407 |
| Sumatera Barat | 115,738 | 278,906 | 160,697 | 78,301 | 64,238 | 493 | 7,720 | 130,941 | 464,105 | 215,952 |
| Riau | 206,415 | 316,415 | 61,980 | 5,536 | 652,871 | 26 | 434 | 289,236 | 764,267 | 125,316 |
| Jambi | 229,403 | 176,364 | 90,055 | 52,972 | 77,497 | 205 | 11,390 | 273,446 | 462,525 | 166,762 |
| Sumatera Selatan | 180,554 | 230,058 | 154,328 | 153,093 | 2,179,801 | 1 | 9,540 | 1,716,062 | 1,213,166 | 344,145 |
| Bengkulu | 29,216 | 37,724 | 30,180 | 13,235 | 79,610 | 620 | 2,730 | 113,579 | 139,661 | 55,532 |
| Lampung | 168,372 | 248,142 | 202,641 | 47,028 | 158,440 | 713 | 6,581 | 242,798 | 462,867 | 158,248 |
| D.K.I. Jakarta | 31,212 | 8,379 | 196 | - | 155 | 472 | 109 | 1,534 | - | 9,451 |
| Jawa Barat | 338,580 | 705,156 | 228,280 | 65,269 | 48,952 | 12,736 | 39,039 | 70,171 | 183,306 | 1,190,173 |
| Jawa Tengah | 569,896 | 779,328 | 11,679 | 3,847 | 2,640 | 24,987 | 1,145 | 5,027 | 26,946 | 1,014,987 |
| D.I. Yogyakarta | 89,898 | 106,417 | 14 | 13 | 30 | - | 141 | 1,260 | 13,741 | 74,249 |
| Jawa Timur | 568,268 | 1,085,916 | 11,617 | 3,443 | 6,639 | 37,046 | 1,695 | 7,082 | 31,768 | 1,198,165 |
| Bali | 23,819 | 156,254 | - | 2,008 | 257 | 653 | 82 | 6,765 | 13,830 | 98,609 |
| Nusa Tenggara Barat | 17,280 | 137,835 | 28,863 | 122,522 | 2,495 | 2,629 | 1,794 | 26,430 | 204,507 | 187,746 |
| Nusa Tenggara Timur | 106,421 | 258,521 | 299,804 | 844,615 | 6,377 | 56 | 18,211 | 812,930 | 352,725 | 79,491 |
| Timor Timur | - | - | - | - | - | - | - | - | - | - |
| Kalimantan Barat | 73,857 | 192,211 | 182,936 | 34,500 | 1,118,787 | 22,083 | 1,315 | 122,126 | 68,246 | 234,099 |
| Kalimantan Tengah | 306,627 | 128,548 | 116,276 | 147,805 | 769,918 | 7,829 | 1,187 | 1,295,569 | 286,308 | 96,458 |
| Kalimantan Selatan | 91,565 | 138,597 | 73,315 | 75,146 | 285,698 | 790 | 4,887 | 203,271 | 133,487 | 318,795 |
| Kalimantan Timur | 160,745 | 33,965 | 92,540 | 67,675 | 258,768 | 2,120 | 14,030 | 163,084 | 681,047 | 196,851 |
| Sulawesi Utara | 53,712 | 134,872 | 123,401 | 88,417 | 14,856 | 2,161 | 1,370 | 86,572 | 69,059 | 42,940 |
| Sulawesi Tengah | 366,868 | 79,162 | 108,961 | 88,597 | 54,863 | 593 | 335 | 189,277 | 572,282 | 78,018 |
| Sulawesi Selatan | 152,171 | 563,362 | 251,950 | 494,385 | 106,264 | 40,189 | 32,777 | 775,218 | 607,635 | 563,314 |
| Sulawesi Tenggara | 108,371 | 102,312 | 81,985 | 213,872 | 30,788 | 521 | 878 | 410,986 | 310,291 | 43,596 |
| Maluku | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Irian Jaya | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| INDONESIA | 4,682,744 | 6,629,272 | 2,653,055 | 3,010,824 | 6,442,586 | 187,327 | 190,631 | 7,639,846 | 7,830,260 | 7,195,946 |

Woodland, covered with shrubs, accounts for 17.4%, and low swampy land, amounts to 3.0% in the Province of South Sulawesi, a little higher than the 2.2% of West Jawa. The swamps are located in areas adjacent to Bone Port in the northern part of the Province. One characteristic of land utilization in the Province of South Sulawesi is the large pasture (Penggembalaan Padang Rumput) that amounts to 0.49 million ha in total, with a share of 14.2%.

From the viewpoint of regional differences within the Province, the Province of South Sulawesi can be roughly divided into two parts. One part includes basins in mountainous areas, alluvial land and volcanic fertile land in the southern part of the Province. The other has low swamplands that surround Bone Port. Like Jawa, the former has been inhabited for a long time of history. This region has high population densities as shown in Table 3. Although the population density of the entire Province of South Sulawesi is 83 persons/km², that of this region is considerably higher. For example, the population density of Maros Barru, which includes villages subject to the survey that are reported in the following chapter, is 190 persons/km². The size of arable land is small in this region, and the size per farming household is almost the same as the standard in Jawa. Since in the early 17th Century this region experienced permanent out migrations, as well as short-term out migration. These migrants are famous in Indonesia as the "traveling Bugis."

In contrast to this region, the coastal region around Bone Port is not well suited to agriculture, just like the coastal region in the northern part of the Province of Lampung, and has rather small population. As is the case of the Province of Lampung, it was only recently that people started to utilize such land for agriculture. It can be said that Province of South Sulawesi consists of region like Jawa and that like Lampung.

2. Current Conditions and Problems of Agricultural Development in the Three Provinces Surveyed

In the past 20 years or so, the emphasis of the agricultural development in Indonesia was put on increasing production of rice. The three Provinces are compared in terms of land productivity of rice.

Table 4 shows the yield of rice per hectare in different regions of Indonesia. It can be seen that Jawa has high yield of both paddy and upland rice compared to other regions. Within Jawa, Central and East Jawa tend to record slightly higher yields than West Jawa. It can be noted that yields of both paddy and upland rice of Lampung and South Sulawesi are not considerably lower than that of West Jawa. It can be said that, among the outer islands, Lampung and Sulawesi have, at least in terms of rice yields, comparatively high level of agricultural technology.

West Jawa

Agriculture in West Jawa has problems similar to those of Central and East Jawa. Then, an overall view of agricultural development in Jawa as a whole will be presented here.

In Indonesia, there are two types of farming systems, namely plantation and small-scaled family farming. Most plantations are seen in the outer islands. In Jawa, only tea is cultivated by way of plantation and the major type of farming item is small-scaled family farming. The major crop of Jawa, needless to say, is rice, and the area of rice fields accounted for 52.4% of the total arable land in 1971, followed by corn (22.4%), cassava (12.9%), soybeans (6.9%) and peanuts (3.6%).

Food crops, other than rice, are called palawija, and are cultivated not only in upland fields but also in wet rice fields as secondary crops in the dry season. After rice self-sufficiency was achieved, increasing the production of palawija has become the major target of the agricultural development strategy. Recently increase of soybean production is strongly emphasized in Indonesia.

The total area of arable land in Jawa is 7.20 million ha, and accounts for 53% of the total area of the island, of which 48.5% (3.49 million ha) is rice fields. The ratio of irrigated area is high in Jawa, reaching 72% of the total area of rice fields. There are three types of irrigation: namely, technical irrigated, semi-technical irrigated and non-technical irrigated, accounting for 37%, 14% and 21% of the total area of rice fields, respectively. Of the total irrigated area, the technically irrigated area accounts for 51%, semi-technically, 20%, and non-technically, 29%.

(2) Upland

| Province (1) | 1979 (2) | 1980 (3) | 1981 (4) | 1982 (5) | 1983 (6) |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| 1. Daerah Istimewa Aceh | 14.53 | 14.40 | 15.36 | 17.08 | 17.81 |
| 2. Sumatera Utara | 16.53 | 16.11 | 16.15 | 18.77 | 19.79 |
| 3. Sumatera Barat | 14.09 | 14.99 | 15.88 | 17.14 | 19.52 |
| 4. Riau | 12.01 | 13.00 | 13.58 | 15.14 | 14.29 |
| 5. Jambi | 11.09 | 11.06 | 12.51 | 14.96 | 16.88 |
| 6. Sumatera Selatan | 14.26 | 15.44 | 15.16 | 16.11 | 16.80 |
| 7. Bengkulu | 12.75 | 13.97 | 15.71 | 16.74 | 16.98 |
| 8. Lampung | 15.51 | 15.09 | 15.20 | 16.68 | 16.02 |
| SUMATERA | 14.79 | 15.00 | 15.17 | 16.79 | 17.03 |
| 9. D.K.I. Jakarta | 10.35 | 14.97 | 15.04 | 17.03 | 16.13 |
| 10. Jawa Barat | 15.26 | 15.83 | 17.29 | 18.45 | 21.45 |
| 11. Jawa Tengah | 16.21 | 17.16 | 18.09 | 19.14 | 23.32 |
| 12. D.I. Yogyakarta | 11.79 | 16.04 | 15.78 | 17.00 | 24.96 |
| 13. Jawa Timur | 14.22 | 15.20 | 19.87 | 19.90 | 22.27 |
| JAWA | 14.88 | 15.93 | 17.85 | 18.73 | 22.39 |
| 14. Bali | 11.23 | 13.28 | 12.02 | 15.35 | 13.61 |
| 15. Nusa Tenggara Barat | 12.69 | 13.46 | 15.41 | 16.34 | 16.90 |
| 16. Nusa Tenggara Timur | 10.47 | 11.26 | 12.47 | 13.20 | 11.53 |
| BALI & NUSA TENGGARA | 10.89 | 11.80 | 12.94 | 13.81 | 12.53 |
| 17. Kalimantan Barat | 13.43 | 11.42 | 12.82 | 13.77 | 15.36 |
| 18. Kalimantan Tengah | 11.81 | 12.67 | 12.50 | 13.59 | 13.42 |
| 19. Kalimantan Selatan | 13.71 | 13.81 | 14.26 | 15.86 | 14.28 |
| 20. Kalimantan Timur | 13.56 | 13.94 | 15.01 | 15.59 | 15.29 |
| KALIMANTAN | 13.17 | 12.37 | 13.44 | 14.41 | 14.80 |
| 21. Sulawesi Utara | 14.26 | 14.50 | 15.98 | 16.48 | 15.68 |
| 22. Sulawesi Tengah | 10.54 | 12.24 | 13.98 | 14.04 | 14.33 |
| 23. Sulawesi Selatan | 12.90 | 13.20 | 14.10 | 15.16 | 17.74 |
| 24. Sulawesi Tenggara | 13.64 | 12.61 | 13.56 | 14.45 | 16.88 |
| SULAWESI | 12.23 | 12.78 | 14.12 | 14.86 | 16.11 |
| 25. Maluku | 7.61 | 9.60 | 10.32 | 9.20 | 10.38 |
| 26. Irian Jaya | 11.37 | 12.66 | 13.61 | 12.99 | 13.08 |
| MALUKU + IRIAN JAYA | 7.70 | 9.69 | 10.42 | 9.39 | 10.48 |
| LUAR JAWA | 13.47 | 13.54 | 14.17 | 15.48 | 15.80 |
| INDONESIA | 13.74 | 14.05 | 14.99 | 16.20 | 17.45 |

The technically irrigated area is constructed, maintained and managed by the Ministry of Public Works, and water can be supplied throughout the year. It basically enables the farmers to conduct the stable double-cropping or triple-cropping of rice. On the contrary, in semi-technically irrigated areas, the period during which irrigated water is supplied is limited, and then cultivation of paddy in the dry season is unstable.

of the households engaged in agriculture own less than 0.25 ha of arable land (*1).

Type of land ownership in rural villages in Jawa can be roughly divided into two. Namely, village-owned land (tanah desa), and privately-owned land (tanah milik rakyat). Village land can then be divided further into village-budget land (tanah kas desa) and village-officer's land (tanah bengkok). Although the size of privately-owned land per household is small, the size of village land allotted to village officials is large. In some areas of Central Jawa (*2), 7-15% of the total arable land is village land (*3).

Farming households can be roughly divided into owner farmers, marginally landed farmers and tenant farmers. According to the 1980 population census, these farming households accounted for 73%, 12% and 15%, respectively. However, in the 1973 agricultural census, they accounted for 75%, 22% and 3%, respectively. Furthermore, the Ministry of Agriculture estimated in 1960 that 60% of the total farming households were share tenants (*4). Among the tenant farmers, there are share tenant, leasehold tenant and debted-tenant (mortgage, gadai), etc. However, the majority are considered to be the share tenants. Share tenants are further divided depending upon the ratio of shares between landowners and tenant farmers. The majority is the "maro" who share the profit cost equally with the landlord.

What are the important problems in the future development of agriculture in Jawa? First, the major source of income of farmers in Jawa is originated from producing rice and, consequently, profitability of rice crops must be improved so as to increase the income of the farmers. Profitability is dependent upon yield, and price relationship of the crop to the production factors. Since price is a given factor for individual farmers, the major measures to improve the profitability would be to improve the level of yield and to reduce the production costs.

The level of yield has been raised to quite a high level as a result of the intensive rice production program. However, there are considerable differences in the yields of individual farming households, and it is possible to further raise the level of yield of individual farmers by various measures. Especially, improvements in crop manage-

(*1) Hitoshi Yonekura, "Jawa Noson ni okeru Kaiso Kosei to Nogyo Kanko (Class Structure and Agricultural Custom in Rural Areas in Jawa)," Ajia Keizai (Asian Economies), April 1986.

(*2) Hiroyoshi Kano, Sawahan - Kaihatsu Taisei ka no Chubu Jawa Noson Sawahan - Rural Areas in Central Jawa under Development Regime, Ajia Keizai Kenkyujo, 1981.

tant to devise the strategy of distributing the gains from technological innovation more to the rural poor. Agricultural development strategy should be formulated within the broader framework of regional development. In terms of agricultural production, it is desirable to systematically combine the production, processing and distribution of palawija. It is also necessary to absorb the labor force of landless-farmers by promoting industries in agricultural villages.

Lampung

Major food crops include rice, cassava, corn and soybeans. The production of paddy and area of rice fields (total of paddy and upland rice plants) in 1984 were 127,500 tons and 309,200 ha, respectively, and the yield per ha was 2.4 tons. Production and cultivated area of cassava were 1.257 million tons and 114,000 ha; those of corn, 121,000 tons and 78,000 ha, and those of soybeans were 61,000 tons and 74,000 ha, respectively. Major perennial crops are coffee, rubber, pepper and coconuts. The former three crops are important export products of this province. Of these, export of coffee was the largest in value. In 1984, the export volume and value of coffee were 85,800 tons and \$170 million, respectively. In terms of volume, "gaplek" which is dried cassava chips was the largest and 172,000 tons were exported. The export value was \$14 million. Pepper has the second largest export value following coffee with \$44 million, followed by rubber with \$36 million.

Concerning the area of land on which perennial crops are cultivated by small farmers, the largest area of 122,000 ha was allotted to coffee, followed by 108,000 ha to coconut, 52,000 ha to clove, 42,000 ha to pepper and 19,000 ha to rubber. Coconut and clove are consumed domestically and are not exported. Regarding private plantations, the largest area of 24,000 ha was devoted to rubber cultivation followed by 13,000 ha to sugar cane and 12,000 ha to cashew nuts. There are two government plantations in the Province of Lampung (PTPX and PTPXIX), on which rubber (15,000 ha) and oil palm (7,500 ha) are planted mainly. However, since volume of rainfall is very large in Lampung, it is not well suited to the cultivation of oil palm.

A major problem that the Province of Lampung is faced with is the rapid increase in its population. Throughout the 1970's, the population of the Province of Lampung grew at a high annual rate of 5.8%, mentioned previously. By smaller regions, the growth rate of the population of Tanjungkarang and Telukbetung was 2.1%, that of South Lampung, 4.0%, Central Lampung, 6.4% and North Lampung, 7.5%. As can be seen from Table 6, the lower the population density of the area is, the higher the growth rate of population. Faced with such rapid increases in population, the Indonesian Government terminated the government-led migration to the Province of Lampung after 1981. One fact that should be noted is that migrators not only include immigrants who want to settle in this

however the improvement and consolidation of the infrastructure, including expansion of farmlands, require a tremendous amount of funds and therefore the program will be further delayed because of the current financial stringency of the Indonesian government.

Table 7 Migration to the Province of Lampung

| | South Lampung | Central Lampung | North Lampung | Total |
|---------|------------------|--------------------|------------------|-------|
| 1971/72 | 77 | 106 | 1346 | 1529 |
| | 437 | 417 | 5910 | 6764 |
| 1972/73 | - | 362 | 2398 | 2760 |
| | - | 1736 | 10772 | 12508 |
| 1973/74 | 874 | 1237 | 6605 | 8716 |
| | 3903 | 5238 | 30370 | 39511 |
| 1974/75 | 54 | 117 | 1242 | 1413 |
| | 227 | 829 | 5717 | 6773 |
| 1975/76 | 13 | 20 | 1100 | 1133 |
| | 72 | 97 | 4778 | 4947 |
| 1976/77 | 8 | 98 | 524 | 630 |
| | 42 | 435 | 2346 | 2823 |
| 1977/78 | - | - | 350 | 350 |
| | - | - | 1490 | 1490 |
| 1978/79 | - | - | 1650 | 1650 |
| | - | - | 7068 | 7068 |
| 1979/80 | - | - | 1815 | 1815 |
| | - | - | 8071 | 8071 |
| 1980/81 | - | - | - | - |
| | - | - | - | - |
| 1981/82 | - | - | - | - |
| | - | - | - | - |

Source: Provincial Statistical Office in Lampung, Lampung Dalam Angka, 1981, 1982, p.311

Note: Figures in the upper columns are numbers of households, those in the lower columns are number of migrants.

Expansion of agricultural land is approaching its limit not only in terms of funding, but also in regard to the ecological factors. The truly fertile land is found in an extremely narrow area in the piedmonts in the west, and such regions are now faced with problems such as forest denudation and soil erosion. It is impossible to develop farmland at a stretch in low regions, especially in the low swamplands, as it requires a tremendous amount of developmental funds. The Provincial Government

Figure 1 Cropping Pattern in the Province of South Sulawesi

| Region | Topography | Land | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|------------------------|--------------------|-----------------|--------------|------------|----------|------------|------------|----------|-------|------|----------|-------|------|------------|
| <u>West Coast</u> | | | | | | | | | | | | | | |
| Bantimurung | Mountainous Region | Rainfed Field | ----- | padi sawah | ---- | ---- | kedele | ---- | | | | | | |
| " | " | Dry Land I | --- | ----- | kedele | - | | | | --- | jagung | ----- | ---- | jagung |
| " | " | Dry Land II | - | padi gogo | ----- | | | | | --- | jagung | ----- | | ---- |
| <u>Central Lowland</u> | | | | | | | | | | | | | | |
| Sidrap | Basin | Irrigated Field | ----- | | | --- | padi sawah | ---- | | - | palawija | - | -- | padi sawah |
| <u>South Coast</u> | | | | | | | | | | | | | | |
| Tamalatea | Hilly Regions | Irrigated Field | - | padi sawah | ----- | | --- | palawija | ----- | | | | | --- |
| " | " | Dry Land | | -jagung | ----- | | ---- | jagung | ----- | | | | | ----- |
| | | | | ----- | ubi kayu | ----- | | | | | | | | ----- |
| <u>East Coast</u> | | | | | | | | | | | | | | |
| Sinjai | Coastal Terrace | Rainfed Field | kacang tanah | - | --- | padi sawah | ----- | | | | | | | --- |

CHAPTER 3 RESULT OF SURVEY IN THREE SAMPLE VILLAGES

1. General Remarks

(1) Way Abung Area (Lampung Province)

The survey was conducted in three villages, namely Tatakarya, Sidmukti, and Purbasakti, selected from among ten villages in Way Abung Subdistrict, North Lampung District, Lampung Province. They are situated about 130km northeast of Tanjungkarang, the capital of the province. All of them are the settlements established under the early migration program (Tatakarya was founded in 1969 and Purbasakti in 1965). Most of the inhabitants came from Central and East Jawa, including Bali, and had been landless laborers. In some cases more than ten families, and in extreme cases fifty families, migrated to these settlements together as group.

The three villages, each of which was populated by about 500 families in the early days, have gained population up to the present as shown in Table 1.

Table 1

| | Tatakarya (1986) | Sidmukti (1984)(1) | Purbasakti (1986)(2) |
|---------------------|---------------------|-----------------------|-------------------------|
| Population | 4664 | 3713 | 2304 |
| (No. of households) | (912) | (753) | (506) |

Notes: 1. The statistics of Tatakarya and Purbasakti were collected by hearings at the respective village offices, while that of Sidmukti was based on the village offices' data in fiscal year 1984.

2. The number of households declined to the present level because it had once increased to 1,198 in 1984, so they were divided into three villages.

The principal occupation of the inhabitants is agriculture. Although the ratio may differ slightly among the villages, 80 to 90% of the population is engaged in farming. Since they were granted two hectares of land from the Government when they migrate, most of them are independent farmers; but, there are some tenants and agricultural laborers. In addition, there are some others including merchants, craftsmen such as tailors and carpenters, and owners of small-scaled factories.

Electricity depends on independent power generators. Nevertheless, 70% of 50 sample households own radios, and nearly 20% have television sets and cassette tape recorders. Five households out of 50 own motorbikes.

than 3 % . The total land covers an area of 537 ha which is composed of 30 ha of housing land, 195 ha of paddy fields, 303 ha of dry fields, one hectare of aquaculture, six hectares of graveyards, and two hectares of roads. It is a typical village of West Jawa which is densely populated. Between 1984 and 1986, 119 households were migrated from this village. Also as many as 200 villagers work in other villages (though the village also receives about 20 laborers from other villages).

The composition of the population by occupation follows: agriculture-1,427; plantation-worker-310; aquaculture-20; livestock farming-25; commerce-125; and civil service and others-29. As for agriculture, the village is suited for clove cultivation and clove is grown on a large scale. The present number of livestock and poultry is: buffaloes-20, cattle-3, goats-75, ducks-500, fowls-200, and sheep-150. It was found that the people have a higher level of education than expected. The village contains three primary schools, two junior high schools and two kindergartens. At present 25 students attend a senior high school, while 15 are university students who are living away from this village. It seems also to be better equipped with health facilities, as well as sports facilities than expected. There are one polyclinic, one family planning clinic, one pharmacy, and 10 midwives; in addition to seven football fields and seven badminton courts. (See Map 2)

(3) Alatengae Village (South Sulawesi Province)

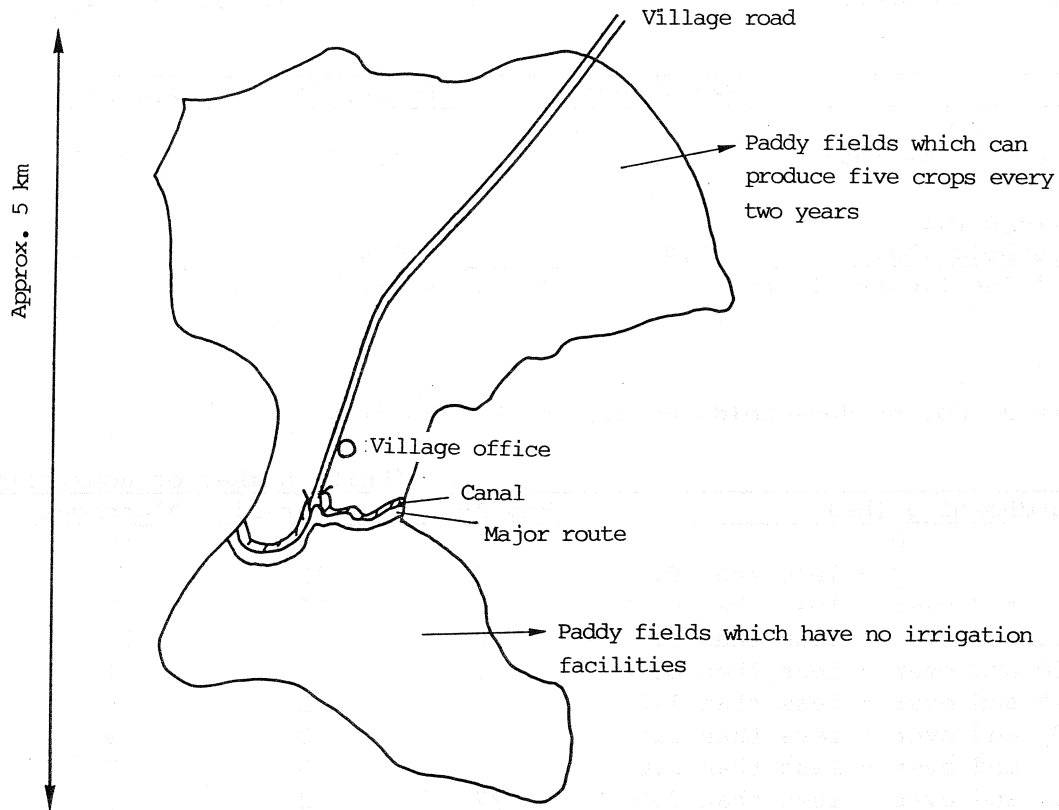
Alatengae Village in Bantimurung Subdistrict, Maros District, South Sulawesi Province is situated about 25 km northeast of Ujung Pandang, the capital of the province. The village faces the mountains about 3-4 km away, and has a canal of about 10 meters wide which has been developed since the Dutch Colonial era. The village lies on the western coast of the Peninsula and is affected by the southeastern monsoon, with an average annual rainfall of 3,500 mm. The heaviest rainfall occurs in December and January. The village presents typical green scenery of a paddy region with water.

The population is 5,451 (2,026 males, 2,825 females). The population density is 307/km². Of the total 1,123 households, 793 are engaged in agriculture, among which 27 are livestock farmers. Most of the non-agricultural laborers are merchants, as well as soldiers and public servants. There are 26 private rice mills.

As for public facilities, the village has seven primary schools, one warehouse, and one market. There is also a rice mill run by the agricultural cooperatives KUD. One paramedic is stationed in the village, and two doctors are available at the subdistrict level.

Electricity was installed three to four years ago. The survey results show that acquisition of radio and television has increased during these two years. Radio and Television have penetrated 20% and

Map 3 Map of Alatengae Village



2. Agricultural Production

(1) Size of Landholding and Operation

As shown in Tables 2 and 3, the average size of land owned per household in Way Abung is remarkably large compared to those of the other two villages. Table 2 reveals that the average size of landholding in Alatengae Village is as small as in Purasari village in West Jawa.

The following will examine the size of operation.

Table 4 Operational Holdings of Sample Farms

| | Way Abung | Purasari | Alatengae |
|--|-----------------------|--------------------|------------------|
| No. of Samples* | 48 | 43 | 45 |
| Average Size of Operational Holdings | 1.64 ha | 0.47 | 0.88 |
| Total Size of Operational Holdings (Area of land irrigated) | 78.75 ha (23.5 ha) | 20.265 (10.957) | 39.75 (30.84) |
| Total Area of Land Rent Out (no. of cases) | | 1.5 (1) | 2.3 (4) |
| Total Area of Land Rent In (no. of cases) | 0 | 1.1016 (6) | 16.38 (22) |

* Excluding those cases in which the area of operational holdings was not available.

Table 5 No. of Sample Farms by Size of Operational Holdings

| Operational Holding (ha) | Way Abung | Purasari | Alatengae |
|--------------------------------|-----------|----------|-----------|
| 0 - less than 0.1 | 0 | 8 | 0 |
| 0.1 and over - less than 0.25 | 0 | 11 | 3 |
| 0.25 and over - less than 0.5 | 0 | 8 | 12 |
| 0.50 and over - less than 0.75 | 3 | 7 | 6 |
| 0.75 and over - less than 1.0 | 3 | 2 | 9 |
| 1.0 and over - less than 1.5 | 9 | 3 | 8 |
| 1.5 and over - less than 2.0 | 21 | 2 | 3 |
| 2.0 and over - less than 3.0 | 7 | 2 | 3 |
| 3.0 and over - less than 4.0 | 3 | 0 | 1 |
| 4.0 and over | 2 | 0 | 0 |

All 48 farm-households of Way Abung are owner-operators.

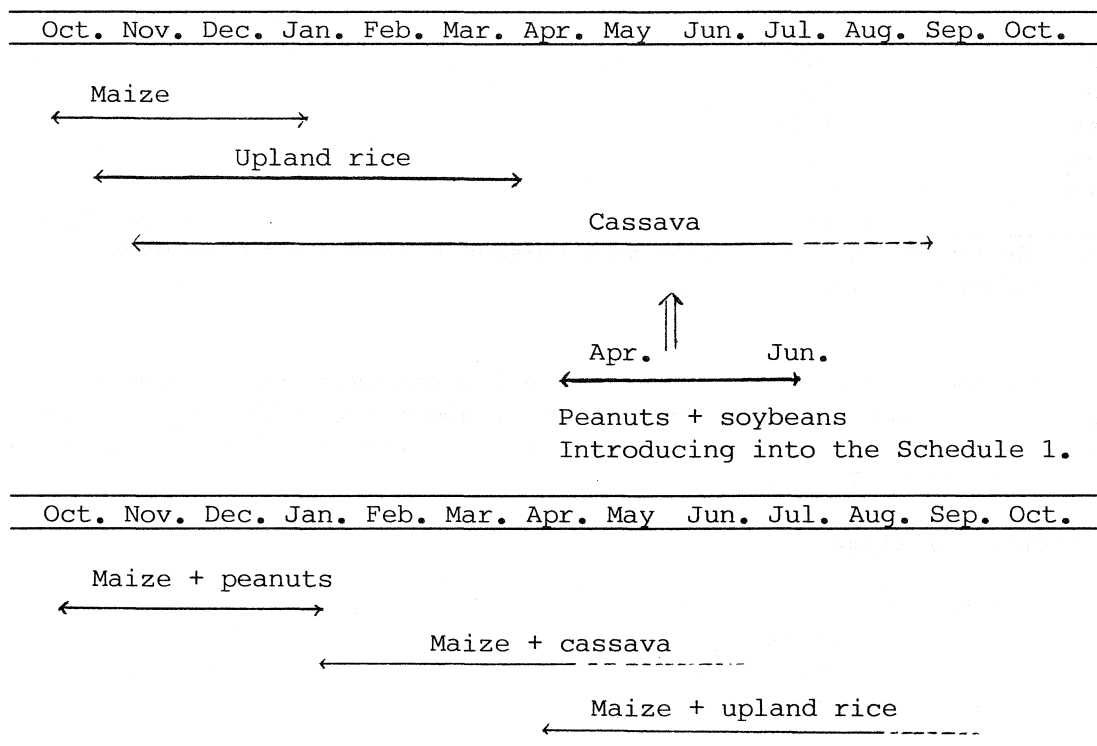
In Purasari, the majority is also owner-operators. However six households lease land; among which one is a tenant farmer with no landed property and four are small-sized farmers possessing less than 0.1 ha of land. The average size of operation of farmers of both owner-operator and tenants is 0.21 ha. This size is rather small. Only one household, which owns the rather large size of 2.5 ha, leases out 1.5 ha. Four households out of seven non-farmers are agricultural laborers.

In Alatengae, the number of the owner-operator farms is 22, and there exist nine pure tenant farmers and four landlords. Those 13 part-owner and part tenant farmers own an average of only 0.3 ha, but as for their average size of operational holdings, the figure stands at 1.02

and the Province is divided into 833 Agricultural Extension Districts in each of which there is at least one Agricultural Extension Officer. Also in Way Abung there is an Extension Center with two extension officers. The officers have rather strong contact with "kelompok tani," that is a farmers' group, through which information about new technology is disseminated.

In dry fields the mixed-farming system prevails in the rainy season. Usually upland rice and cassava are grown together in the same field. (See Figure 1: Cropping Schedule (1)). At present the extension officers are encouraging incorporation of peanuts and soybeans into Schedule (1), and this suggestion is being gradually accepted. And later they are planning to shift over to the mixed-cropping system (3) shown in Figure 1.

Figure 1 Cropping Schedule of the Mixed-farming System



Note: Compiled based on the explanation of an Extension Officer.

Of 50 sample households, 34 farms engage in mixed-farming during the rainy season. Among them, 31 follow Schedule (1) or some variations of it, while three plant soybeans. As for the varieties of upland rice, three replied "local varieties" and others "improved varieties". The

Table 8 Land Use and Agricultural Production of Sample Households in Purasari Village

| | Rainy season | | | Dry season | | |
|----------|--------------|----------------------|------------------|--------------|----------------------|------------------|
| | No. of cases | Area cultivated (ha) | Yield per ha (t) | No. of cases | Area cultivated (ha) | Yield per ha (t) |
| Rice | 34 | 10.895 | 2.64 | 35 | 10.9445 | 2.44 |
| Maize | 1 | 0.1 | 0.27 | - | - | - |
| Cassava | - | - | - | 20 | 3.135 | 0.79 |
| Soybeans | 1 | 0.2 | - | - | - | - |
| Clove | 4 | 0.5 | 0.27 | 21 | 5.67 | 0.099 |
| Coconut | - | - | - | 5 | 0.3 | - |
| Fish | 1 | 0.0625 | - | 1 | 0.0625 | - |
| Others | 3 | 0.293 | - | - | - | - |

The villagers indicated that rice in irrigated paddy fields and banana and pineapple cultivations within the house gardens are the most important in agricultural production of this village. The survey results also showed that double-cropping of rice is the main form of agricultural production. All the sample households responded that they used local varieties. In addition to double-cropping of rice, many farmers are engaged during the dry season in growing cassava and clove which is worth as much as Rp.9,000 per kilogram. However, only about a half of the total farming land of 43 sample households has been irrigated and there are still eight farmers who have not yet received the benefit of irrigation. In most cases, these farmers engage in growing cassava on a small size and three farmers cultivate clove as well.

Thirty-one out of 35 rice-growing households utilize fertilizers. It is estimated that Rp.26,000 is invested for fertilizer per ha.

With regard to cloves, 14 households out of 21 apparently use fertilizers and they invest about Rp.5,000 per hectare on an average. When making a comparison of the money invested in fertilizer, and the yield per hectare between nine largest households with over 0.75 ha of operational holdings and nine smallest households with below 0.125 ha of operational holdings, both the invested value and the yield of the smaller-sized farmers are larger than those of the largest farmers.

(C) Alatengae Village (South Sulawesi Province)

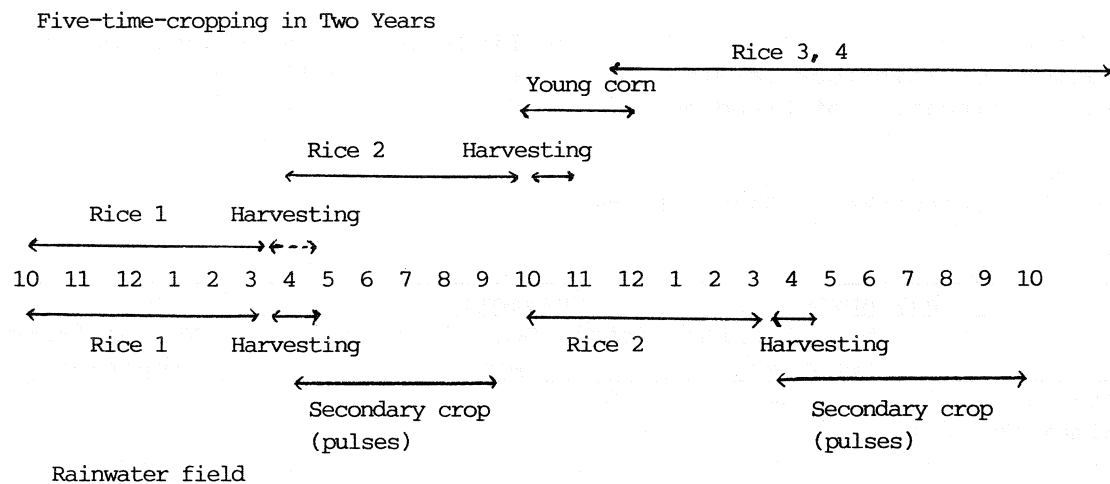
Alatengae Village as well as its peripheral region is the rice cultivating area with much rain and the rather well-established irrigation systems. Specialization in paddy cultivation is also seen in

during the rainy season is 3.8t and that during the dry season is 3.2t.

As for the rice varieties, all the sample farms use high-yielding ones. In 1963/64 this village introduced an improved local variety which can be cultivated in a shorter period and then began the double-cropping of rice in the irrigated paddy fields. At the same time, the village farmers started using fertilizers. As a result, the yield per hectare increased from 1.5-2t to 2-3t. This improved variety began to be widely used around 1967. Also since 1968, the village has been participating in the Bimas Project.

In 1983 the Agricultural Extension Officers began to give guidance in changing the cropping system from double-cropping to five-time-cropping in two years in irrigated paddy fields. And for non-irrigated fields, they are suggesting the introduction of some secondary crops during the dry season. The cropping schedule is given in Figure 2. The reasons for their advice to introduce young corn into five-time-cropping in two years are: 1) the favorable market price and 2) kernels cannot grow too large due to heavy rain.

Figure 2 Improved Model of Cropping Schedule



* In the above figure, months are shown as numbers - i.e., Jan.=1, Feb.=2, etc.

The Province Governor regards the change of cultivation from rice to other crops as one of the serious problems. The Maros District Governor also recognizes that the change in cultivation to soybeans or kacang ijo (peas) is one of their vital tasks. None of the sampled farmers is engaged in cultivating pulses, however, when our observation was conducted, we could find some soybeans, peanuts and kacang ijo were being cultivated in the field. The gross earnings per hectare of these

ownership is limited to the farmers with relatively large size of operation. In Way Abung, for example, whereas 10 of the sample farms (excluding one whose size of operation is unknown) which own more than three head of cattle have an average size of 2.22 ha of operation, those farmers without any cattle possess an average of 1.25 ha of operational size. The survey in Alatengae Village also shows that the average operational size of the farmers without any buffalo, 0.71 ha, is only half that of the farmers with three buffaloes. Those farmers without any cattle nor buffalo rent them from the farmers having them as mutual help called Gotong Royong.

Effort has been made to increase the number of work cattle to compensate the labor shortage in the whole Province of Lampung, particularly in Way Abung. It was reported that in Way Abung a program to increase the number of cattle to one head per five households has been carried out with assistance from the World Bank. Labor shortage is one of the most serious problems confronting the farmers there.

Fowl and ducks (or fish in Purasari Village) are important as a source of protein supply as well as a source of additional income. In Alatengae Village, especially, some sample farmers breed from few hundreds to a thousand of fowl, or 80-100 ducks, from which they derive good income. According to the April 1986 statistics of Alatengae Village, more than 16,000 fowl, of which leghorn origin called Ayam Ras, are raised in the village. This number far exceeds the number of the local breed called Ayam Biasa which amounts to 9,000. Also 1984 subdistrict statistics said that the number of Ayam Ras in the village has increased by about two and a half times in a few years. In Purasari Village the important role that aquaculture plays is well recognized. Since it can employ human labor throughout the year, its promotion would be the key to future development of the village.

Although the respective situation of each village may differ, the importance of livestock farming, as the employment opportunity and as a source of additional income and work force, should be one of the main points to be taken into consideration.

3) Labor force and mechanization

Table 12 shows labor supply situation of the sampled households in three villages.

facilities, storehouses which are indispensable after harvesting, and the difficulty of marketing due to inadequate road. The problem of marketing is also mentioned in the Bogor District, in Purasari Village. These problems are not merely those of transportation but are also closely related to of price.

Table 13 shows how farmers use and dispose their products after harvest in the respective villages.

Table 13 Amount of Crops of Sample Farms by Way of Usage and Disposal

| | Way Abung | Purasari | Alatengae |
|--|-------------|--------------|------------|
| Rice | | | |
| Self-supply and self-consumption by household members | 55.53t (49) | 37.4092 (34) | 34.05 (49) |
| Repayment | 0 | 2.267 (35) | 9.1 (42) |
| Sale | 92.26 (36) | 21.655 (16) | 34.95 (40) |
| Maize | | | |
| Self-supply and self-consumption by household members | 2.645 (14) | 0 | |
| Repayment | 0 | 0 | |
| Sale | 51.08 (38) | 0.05 (1) | |
| Cassava | | | |
| Self-supply and self-consumption by household members | 15.0 (1) | 1.063 (20) | |
| Repayment | 0 | 0 | |
| Sale | 233.15 (37) | 1.522 (7) | |
| Soybeans | | | |
| Self-supply and self-consumption by household members | 0.12 (1) | 0 | |
| Repayment | 0 | 0 | |
| Sale | 1.89 (5) | 0.01 (1) | |
| Peanuts | | | |
| Self-supply and self-consumption by household members | 0 | | |
| Repayment | 0 | | |
| Sale | 0.8 (2) | | |
| Coconut | | | |
| Self-supply and self-consumption by household members | 0 | 0 | |
| Repayment | 0 | 0 | |
| Sale | 15,209 (29) | 480 (1) | |
| Clove | | | |
| Self-supply and self-consumption by household members | | 0 | |
| Repayment | | 0 | |
| Sale | | 0.866 (17) | |

Note: Amount is in ton. Numbers in brackets are no. of cases reported.

among the three villages. There are seven farmers with the income more than Rp.1,000,000. At least three of them engage in fowl and duck raising in large scale. Moreover, the farming lands of these seven households are all irrigated and the average size of their operation is as large as 1.9 ha. In contrast, the average income of the farmers without any irrigated land is only Rp.371,000. Thus irrigation facilities is a major factor of widening the income gap among the farmers. When examining the average income by tenure, that of nine tenant farmers is as low as Rp.514,000. As for the source of non-agricultural income, only one case out of 17 farmers runs a small shop.

2) Households not engaged in agriculture

Among the sample households, non-farmers numbered seven in Purasari Village and five in Alatengae Village. Among them the number of households of agricultural laborers is four and one, respectively. In every case the income is very low. There are carpenters and vehicle drivers in Purasari Village, whose incomes are less than the average of the farmers. On the other hand, the remaining four households of Alatengae Village are all landowners. Some of them also work as village officers, taxi drivers or run shops. Their average income exceeds Rp.1,200,000.

(4) Farmers' organizations

In every village there was agricultural cooperative KUD which owns warehouses for harvested crops and rice mills, and also serves as the distribution channel of fertilizers and agricultural chemicals. However some farmers indicated that KUD is not functioning properly. One of their complaints about KUD is inefficiency of management and lack of administrative ability.

We also often heard of the activities of kelompok tani, a farmers' group which maintains contact with extension officers, thereby establishing channels for dissemination of new technology. Not only the extension officers make contact with their leader, kontak tani for the extension of new technology, but also the members of kelompok tani, for example, lend work cows to each other and help mutually in other labor. In Maros District, South Sulawesi Province, the District Governor makes contact with the kelompok tani every three months to give guidance and advice to the members of each group to pool their resources in order to purchase tractors and pumps. As is mentioned before last year a total of 79 tractors were purchased, and this is thought to be as little, or less, than two tractors per village.

In Alatengae Village, we also met with a women's group called kelompok wanita tani. A wife of a "guru," a teacher in the religious school of the village, serves as the chairman. This group carries on such activities as religious study, congregation called "arisan,"

deaths, in Way Abung are smaller than in the other two villages, and that there is a tendency in all three villages for the numbers of both births and deaths to increase as mothers' age advances. A gap, both in the number of births and the number of deaths, is noticed between the mothers' in 20's and the 30's, and this indicates that the infant mortality rate has been declining concurrently with the decrease of the birth rate.

Table 16 Average Number of Children Born (and Dead) by Age of Wife in Sample Households

| Age of wife | 10's | 20's | 30's | 40's | 50's | 60's |
|---|------------|---------------|---------------|---------------|---------------|--------------|
| Way Abung | | | | | | |
| No. of cases for birth (no. of death cases) | 0 | 3 (1) | 21 (5) | 20 (8) | 6 (4) | 0 |
| Average of total children born per head (no. of deaths) | - | 2.0 (0.33) | 5.0 (0.33) | 6.4 (0.75) | 6.5 (0.67) | - |
| Purasari | | | | | | |
| No. of cases for birth (no. of death cases) | 0 | 13 (3) | 16 (10) | 9 (8) | 8 (5) | 2 (1) |
| Average of total children per head (no. of deaths) | - | 3.6 (0.5) | 6.4 (1.1) | 8.7 (2.1) | 6.9 (1.4) | 6.0 (1.5) |
| Alatengae | | | | | | |
| No. of cases for birth (no. of death cases) | 1 | 7 (3) | 21 (14) | 14 (10) | 3 (3) | 0 |
| Average of total children per head (no. of deaths) | 1.0 (0) | 3.9 (1.0) | 5.5 (1.3) | 6.0 (1.5) | 4.7 (1.7) | - |

In all the areas, the majority of infant deaths occurred below the age of one year. The major causes of death are tetanus (25 cases in Purasari and 24 cases in Alatengae), Typhus (three cases in Way Abung, five in Purasari, and 25 in Alatengae), and fever with convulsion (15 cases respectively in Way Abung and in Purasari), followed by diarrhea.

(2) Social Mobility

First we examine the birthplaces of the sample population. Way Abung is an artificially built village under the government's migration program and all the sample people there were born in Jawa: Central Jawa Province 24, D.I. Yogyakarta 13, East Jawa Province 12 and West Jawa

number of the households hoping to migrate to other villages is also limited to two. As mentioned before, there is a seasonal labor shortage and inflow in this village.

(3) Family Planning

The idea of family planning has been gradually gaining acceptance over the past several years.

The majority of answers to the question about the ideal number of children was three to four children in Way Abung, four to six in Purasari Village and three to five in Alatengae Village.

Table 17 shows the responses to the question as to whether the family planning is implemented or not.

Table 17 Introduction of Family Planning of Sample

| | (Unit: person) | | |
|-----|----------------|----------|-----------|
| | Way Abung | Purasari | Alatengae |
| Yes | 39 | 15 | 23 |
| No | 11 | 35 | 27 |

In Way Abung family planning has been practiced for many years and those who answered "five years" and "more than seven years" account for more than half of the total number of the people who are practicing family planning. In Purasari Village fewer people practices family planning and do so for shorter periods of three-four years. In Alatengae the period during which it has been put into practice varies widely, but those who answered "a few years" accounts for almost half. According to the villagers, the approval of "ulama" (the authority of the religious leader of the village) which was obtained in the 1980s contributed to the success of family planning in this village.

The reasons for not practicing family planning that were given in the answers, except such as "single": "Still not enough children", "not good for health," and "the spouse does not care for it."

The methods used for family planning are sterilization, pill, IUD and injection, but they differ slightly among the regions. While in Way Abung and Alatengae villages the pill is utilized by many, in Purasari Village half of the people use injection. Whereas in Alatengae the majority take the pill, in Way Abung two-thirds use the pill and one-sixth an IUD, the rest have favored sterilization and injection.

The main source of information on family planning available to the villagers in Way Abung and Alatengae is the primary health center. In

CHAPTER 4 TASKS OF INTERNATIONAL COOPERATION

1. Fundamental Directions of Cooperation for Agricultural Development

Agricultural development in Indonesia is now reaching a turning point. The increased rice production which had been set as a central target of economic development in the country since the inauguration of the Suharto Administration, nearly accomplished self-sufficiency in 1984. The increase in rice production realized after the formation of the Suharto Administration was such that it drew attention throughout the world. For instance, in the World Bank's World Development Report 1986, issued in the current fiscal year, Chapter I notes that the rates of increase in rice production in Indonesia over the past twenty years were the most outstanding among all countries in the world.

In the past, agricultural cooperation activities with Indonesia, including those of Japan, were primarily concerned with a target of rice production expansion, which had been considered as Indonesia's country policy. The various agricultural cooperation activities which Japan has participated in the past range from testing and research in the Central Research Institute for Agriculture in Bogor to irrigation in the basin of the Brantas in East Jawa, many of which were centered around those projects which would most likely lead to increased rice production. And, in fact, a series of such cooperative activities could effect a substantial contribution to the rice production leverage of Indonesia. To cite an example, the irrigation project for the Brantas River succeeded in transforming the basin of this river, which had once been swampland not suitable for rice production, into the present stable rice production zone.

The following are considered as tasks for the future implementation of agricultural development in Indonesia. First, although self-sufficiency in rice has been nearly achieved, it is anticipated that the population growth rate will remain at around the 2.3% level in the future, accompanied by continuing increases in per capita demands for rice consumption according to the increased income level, necessitating increases in rice supplies at a minimum growth rate of 2.3% or more (*1).

Secondly, per capita income increases will result in increased consumption of wheat flour, soybeans, and corn. In addition, there will be an expansion in the demand for livestock products such as meat and milk, generating increased requirements of feed and feedgrains supplies. Frankly speaking, the livestock product supply in Indonesia is quite scarce. Further, not only dogs and cats but also lambs, pigs, and even chickens are extremely small, due presumably to the shortages in feed

(*1) S. W. Sadikin, "Indonesia: From Rice Self-sufficiency to Greater Food Security (1986)"

Domestic market prices are higher than minimum prices; and furthermore, the minimum prices for rice and soybeans are higher than world market prices. Under these circumstances, it seems that production priority has been shifted from rice to soybeans because of the market competitiveness. It could be analyzed that corn indicates its strength of external competitiveness, as the minimum price is lower than the world market price.

Fourthly, there is a problem related to the exportable agricultural products. Indonesia had, at one time, been acknowledged as a treasure house of tropical agricultural products, where plantations played an essential role in production and exports. However, after World War II, the plantation was dismantled or curtailed and efforts were enhanced to produce more food. We feel that the weight of agricultural products for exports is again being reconfirmed in the country's trade activities. This tendency has become more evident since the marked drop in petroleum prices. However, during 1984 and 1985, although export volume of agricultural products increased, prices declined and a decrease of 25% was registered in exports in value terms. The production shares by small individual farming and plantation are roughly indicated as shown in Table 2.

Table 2

| | Small Individual Farming | Plantation |
|----------|--------------------------|------------|
| Rubber | 80% | 20 |
| Coffee | 90 | 10 |
| Tea | 10 | 90 |
| Palm Oil | 10 | 90 |

The prices of palm oil dropped 50% in 1985, and rubber also experienced a similar decline. On the other hand, only coffee showed a price increase, yet Dr. Kasryno complained that coffee could not earn sufficient foreign currency due to the quantity quotas on coffee exports.

Fifthly, regional development must be promoted in a broad sense. It is as a part of such efforts that agricultural development must be encouraged. More specifically, the population concentrated in Jawa should be dispersed into outer areas. The population should be decentralized and transmigrated into the unexplored lands, especially in the outer territories. Settlement in such areas must be promoted. Accordingly, agricultural development must be promoted and unfolded as a principal industry there in order to achieve the end mentioned above.

For instance, in the plan of Repelita IV, a population growth of 3.0% is projected in the Sumatera Island, on the whole. An especially

involve the population ranging from local residents and farmers to others, closer communication and exchanges of information between the central and local governments will be increasingly more important.

Concerning the ability of formulating plans in the province government itself, at the provincial government level of the Province of South Sulawesi where we visited while conducting this survey, we saw that officials have drafted the land utilization plan for the whole area of the Province of South Sulawesi. It was formulated based on a total examination of what types of products are suitable for growing in each area of the Province of South Sulawesi, after taking into account various factors such as climate, soil conditions, etc. It is intended that the agricultural developments within the Province will be guided in compliance with the indications in this agricultural map. Among the Provinces in Indonesia, the Province of South Sulawesi was the first which implemented such a plan. It is the intention of the Planning Bureau of the Ministry of Agriculture in Jakarta to conduct similar work surveys in other provinces in the near future. As shown in this example, it can be said that the agricultural development plan, production effects by the local provincial governments in Indonesia have been gradually and steadily gaining.

Furthermore, it seems that the systems and capabilities to enable implementation of various agricultural development plans have progressed considerably. For instance, the Ministry of Agriculture in Jakarta has been positively promoting the organization of leaders within rural villages in order to disseminate updated agricultural technology. One example is the formation of a system called kelompok tani. The central government, through the farmers selected as kontak tani (leader of kelompok tani), will pass information on new agricultural technologies throughout the rural villages.

Within the rural villages, too, the formation of systems and organizations has been actively promoted to encourage farmers to participate in the various development projects for the rural villages. At present, the organizations of farmers called kelompok tani, established for various objectives, have been formed in an accelerated manner. These organizations are designed to enable the central government to easily and widely disseminate information on developmental projects throughout the rural villages.

However, it should not be overlooked that the unit agricultural cooperative association KUD, which we saw and heard in the site survey conducted in the Province of Lampung, may be less active when compared to other agricultural organizations, because the ability of the manager and the superintendent of the cooperative is insufficient. Setting aside the above facts, it is acknowledged that the systems have been consolidated to a point where they are effectively implementing the central government's development plans at all stages down to the rural

tion, the raising and feeding of buffalos is no longer necessary. Differentiation in the social classes starts with the possession of a tractor and relationships between lessees and lessors are born. As labor opportunities other than agriculture, and outside the villages, increase because of a growing construction field, the traditional mutual-aid practices of Gotong Royong are being shattered. In the rural village we visited near Bogor, we heard a petition claiming a government subsidy to alleviate the burdens to look after the common irrigation facilities, which are left up to the people remaining and living in the village. This is an indication of the aforestated changes. Additionally, it was heard in the villages we visited in Lampung that a part of the reason for the slackened KUD activities is due to corruption and embezzlement by managers. Such incidents require consideration in the light of the similar backgrounds. That is, in places where traditions and values are being relaxed and broken apart, incidents of morale degradation tend to occur frequently. Likewise, in the new environments, such as in settlements, it is likely that such incidents occur when unstable human relationships are the backdrop. In this sense, one approach of cooperation could be to render assistance in developing human resources, either at site or in Japan, in order to develop capable experts who will take charge of activities for the KUD. Nevertheless, it is essential to construct and produce environments at site where these human resources will be able to settle down. In other words, it is not sufficient to develop experts simply by teaching and training them in accounting techniques. It is also necessary to prove that the daily work activities could be carried out with efficiency and stability in real terms by drawing on the cooperation of human resources dispatched from external sources. Such stability would be recognized with confidence.

At any rate, unless the activities of the KUD are put into normal operation, the government's policies on agricultural products' price guarantees and supports would have no chance to function properly. The problem in regard to the control of water service also lies in the fact that there is still the absence of a new form of order. One possible way to cooperate in the future may be in the form of assistance to formulate a new order, through providing cooperation utilizing human resources.

Secondly, as was already stated, although self-sufficiency in rice has been achieved generally, there are still requests and needs to sustain the effort in the future. For instance, even though future irrigation facility construction may not necessarily be a large-scaled one like the Brantas River Basin Project, smaller-scaled projects or repair and improvement of the existing facilities could be implemented.

(*2) "Ani-ani" is a small-scaled knife for rice reaping.

in Jawa and Bali, and the radius of operation correspondingly extensive. There are difficulties in obtaining and procuring the livestock in spite of the need.

As a future task, demand for livestock products as foodstuffs should be expanded, as previously stated. In this respect, attention should be focused on the Province of South Sulawesi as it has substantial room for development, where suitable land is available and the ratio of pasture land high.

As for consolidation of infrastructures in daily life, deficient road paving was noted, though limited in villages we visited in Sumatera. Petitions were raised concerning the shortage of warehouse facilities, and deficiency or shortage of rice cleaning facilities, which relate to the problem of improving rice marketing. These deficiencies are also partly related to the issue of consolidation of the system and organization of the KUD. Complaints were also heard that, rice must be sold to merchants at prices lower than established minimum guarantee prices, and benefits were considered negligible.

Finally, as a possible form of cooperation that Japan could provide, cooperation should be more positively extended and promoted directly for the preparation of the regional development plan itself, which was pointed out earlier. The provincial government of South Sulawesi has already produced and completed an agricultural map, which is said to be the first of its kind in Indonesia. We received the impression that the Ministry of Agriculture of the Central Government has hopes for and intentions of producing such maps which cover the entire country of Indonesia. In a sense, this could be a form of cooperation from the software side.

CHAPTER 5 SURVEY MEMBERS AND ITINERARY

I. Members of the Survey

1. Survey Members

(1) Japanese Committee

| | |
|------------------------------------|---|
| Dr. Shigeto Kawano (Chairman) | Professor Emeritus, The University of Tokyo |
| Dr. Yonosuke Hara | Associate Professor of Economic Development, Institute of Oriental Culture, The University of Tokyo |
| Dr. Akimi Fujimoto | Lecturer, Nodai Research Institute, Tokyo University of Agriculture |
| Mr. Hitoshi Yonekura | Research Worker, The Institute of Developing Economies |
| Ms. Junko Koizumi | Doctor Course, Agricultural Economics, The University of Tokyo |
| Mr. Junji Funatsu (Coordinator) | Councilor, The Asian Population and Development Association (APDA) |
| Mr. Masaaki Endo | Senior Programme Officer, The Asian Population and Development Association (APDA) |
| Ms. Yuiko Nishikawa | Research Worker, The Asian Population and Development Association (APDA) |

(2) Preliminary Research Team (May 4 - May 11, 1986)

| | |
|-------------------|----------------|
| Mr. Junji Funatsu | Research chief |
| Mr. Masaaki Endo | |

(3) Field Research Team (July 24 - August 7, 1986)

| | |
|--------------------|----------------|
| Dr. Shigeto Kawano | Research chief |
| Dr. Yonosuke Hara | |
| Ms. Junko Koizumi | |

2. Cooperators

(1) Embassy of Japan in Indonesia

| | |
|---------------------|-----------------|
| Mr. Toshiaki Muto | Ambassador |
| Mr. Yushu Takashima | Minister |
| Mr. Shoji Suzuki | First Secretary |
| Mr. Yutaka Matsuno | First Secretary |

- | | |
|---------------------|---|
| Drs. Oscar Saaagih | Head of Public Relation, Bogor District |
| Drs. Mohamad Nahyan | Assistance of the Bogor District Secretary |
| Dr. Faisal Kasryono | Director, Agency for Agricultural Research and Development |
- (8) South Sulawesi
- Governor of Sulawesi Selatan
- | | |
|-------------------------|-----------------------------|
| Mr. Arif Wangsa | Bupati, Kabupaten Maros |
| Mr. Tahir-Alice | Pak Camat, Maros |
| Mr. JGN J.S. Soetijoadi | Transmigrasi, Ujung Pandang |
| Mr. Sunardi Wiyono | Transmigrasi, Ujung Pandang |
- (9) Jakarta Municipal Government
- | | |
|----------------|---|
| Mr. Durrundono | Project Manager, Kampung Improvement Programme |
|----------------|---|
- (10) Ministry of Population and Environment
- | | |
|------------------------|--------------------|
| Dr. Kartomo Wirohardjo | Assistant Minister |
|------------------------|--------------------|
- (11) United Nations Fund for Population Activities (UNFPA)
- | | |
|-----------------|---|
| Ms. Kazuko Kano | Deputy Representative and Senior Advisor on Population |
|-----------------|---|

| Date | Outline of the Survey |
|--|--|
| (Dr. Shigeto Kawano) | |
| July 31 (Thu.) | <ul style="list-style-type: none"> • Briefing on the outline of agriculture in Bogor at Bogor District Office. • Observation of Desa Pularsari. Discussion on agriculture and people's life with the representatives of community leaders, health workers and farmers. |
| August 1 (Fri.) | <ul style="list-style-type: none"> • Observation of Jakarta Central Market. • Discussion on rural survey with survey staffs. |
| 2 (Sat.) | <ul style="list-style-type: none"> • Briefing on the outline of agriculture in Indonesia by Dr. Faisal Kasryono, Director, Agency for Agriculture Research and Development. |
| (Dr. Yonosuke Hara, Ms. Junko Koizumi) | |
| July 31 (Thu.) | <ul style="list-style-type: none"> • Leave Jakarta, arrive in Ujung Pandang. • Pay Courtesy Call to Governor of South Sulawesi. • Briefing on the outline of agriculture in South Sulawesi. • Pay Courtesy Call to Mr. Tahir Alice Pac Camat, Maros. |
| August 1 (Fri.) | <ul style="list-style-type: none"> • Pay Courtesy Call to Head Alatengane village and briefing on the outline of agriculture by community leader. • Observation of farmers' houses and agricultural cooperative activities of the village. |
| 2 (Sat.) | <ul style="list-style-type: none"> • Collecting statistical data of agriculture at Ujung Pandang Statistic Office. • Leave Ujung Pandang, arrive in Jakarta. |
| 3 (Sun.) | <ul style="list-style-type: none"> • Observation of agriculture and fishery in West Jawa. |
| 4 (Mon.) | <ul style="list-style-type: none"> • Collecting data at Planning Office. • Final check of the questionnaires. • Reporting the survey results to Mr. Shoji Suzuki, First Secretary, Embassy of Japan. • Dr. Shigeto Kawano leaves Jakarta for Japan. |
| 5 (Tue.) | <ul style="list-style-type: none"> • Pay Courtesy Call to Minister Martono and reporting the survey. • Leave Jakarta, arrive in Denpasar. |

ITINERARY OF PRELIMINARY RESEARCH

(May 4 - 11, 1986)

| Date | Outline of the Survey |
|--------------|---|
| May 4 (Sun.) | <ul style="list-style-type: none"> • Leave Narita, arrive in Jakarta. |
| 5 (Mon.) | <ul style="list-style-type: none"> • Pay Courtesy Call to Minister Martono and discussion on the field survey. • Briefing on Family Planning in Indonesia by Dr. Soegeng Soepari, Deputy Supervision and Control, NFPCB. • Discussion on the field survey with Dr. Koril, Director, Bureau for International Cooperation, Ministry of Agriculture. • Discussion with Ms. Kazuko Kano, Deputy Representative of UNFPA. |
| 6 (Tue.) | <ul style="list-style-type: none"> • Pay Courtesy Call to Minister Yushu Takashima, Embassy of Japan and discussion with Mr. Shoji Suzuki, Mr. Kazuo Hirayama, and Mr. Yutaka Matsuno, First Secretary on field survey. • Briefing on population study in Indonesia by Dr. Prijono, Director, Demographic Institute, Faculty of Economics, University of Indonesia. |
| 7 (Wed.) | <ul style="list-style-type: none"> • Leave Jakarta, arrive in Lampung. • Briefing on the transmigration in Lampung and observation of Way-A-Bung district. |
| 8 (Thu.) | <ul style="list-style-type: none"> • Leave Lampung, arrive in Jakarta. • Mr. Funatsu leaves Jakarta for Narita. |
| 9 (Fri.) | <ul style="list-style-type: none"> • Observation of one Kampung Improvement Programme area in Jakarta guided by Mr. Durrundono. • Discussion on the method of survey, selection of survey area and cooperators with Minister Martono, Assistant Minister, Soedjino Hs and Mr. G. Djoko Oetoyo, Chief, International Cooperation Division of Transmigration Ministry. • Discussion on the survey with Assistant Minister Kartomo. |
| 10 (Sat.) | <ul style="list-style-type: none"> • Discussion on the method and field survey with staff of Transmigration Ministry. • Leave Jakarta. |

CHAPTER 6 QUESTIONNAIRE SAMPLE

COMMUNITY SURVEY QUESTIONNAIRE
(JAVA, INDONESIA RURAL)

Name of Village PURASARI

I. Household :

I-1 Name of the head [redacted]

I-2 Present members of the household

| Name | relation to the head | resi-dence | age | sex | marital status ¹ | age of marriage | education ² | occupation ³ |
|----------------|----------------------|------------|------|--------|-----------------------------|-----------------|------------------------|-------------------------|
| 1. [redacted] | Husband | RTI/RWI | 42 | male | 2 | 20 | 2 | 1 |
| 2. [redacted] | Wife | RTI/RWI | 39 | Female | 2 | 17 | 2 | 1/5 |
| 3. [redacted] | Son | Jakarta | 22 ✓ | male | 1 | - | 4 | 7 |
| 4. [redacted] | Daughter | RTI/RWI | 20 | Female | 1 | - | 2 | 4 |
| 5. [redacted] | Daughter | RTI/RWI | 15 | Female | 1 | - | 4 | 6 |
| 6. [redacted] | Son | RTI/RWI | 14 | Male | 1 | - | 4 | 6 |
| 7. [redacted] | Son | RTI/RWI | 10 | male | 1 | - | 2 | 6 |
| 8. [redacted] | Son | RTI/RWI | 8 | male | 1 | - | 2 | 6 |
| 9. [redacted] | Nephew | Jakarta | 22 ✓ | Male | 1 | - | 4 | 7 |
| 10. [redacted] | Niece | RTI/RWI | 15 | Female | 1 | - | 4 | 4 |

note:

1. Marital Status

1. never married 2. married 3. divorce
4. separated 5. widower/widow because spouse is dead

2. Education

1. no schooling 2. elementary school not complete 3. elementary school
4. Junior high school 5. senior high school 6. academy/university

3. Occupation

1. cultivator 2. agricultural labourer 3. working other than agricultural sector
4. seeking job 5. engaging in house duties 6. attending school
7. non agricultural sector

I-3 If you have any child who died before, please give details.

| | sex | age of death | cause of death |
|---|------|--------------|-----------------------|
| 1 | male | 2 years | fever with convulsion |
| 2 | male | 4 years | Tumour, growth |
| 3 | - | | |
| 4 | | | |

| | numbers | | numbers | | numbers |
|---------|---------|---------|---------|-------------------------|---------|
| cow | — | pig | — | duck | 7 |
| buffalo | — | chicken | 20 | others ^{sheep} | — |

III. for farmer

III-1. Size of your operation holding 1,75 (ha)

III-2. What kind of crops are you cultivating this year ?

| | | hectare | quantity(ton) | proportion | | seeds/ha | |
|---|--------------|---------|---------------|------------|----------|----------|-------------|
| | | | | local | improved | | |
| d r y s e a s o n | rice | 0,75 | 2,8 | 46 kg/ha | — | — | 1 years ago |
| | corn / maize | — | — | — | — | — | years ago |
| | cassava | 0,25 | 0,05 | — | — | — | 1 years ago |
| | soi bean | — | — | — | — | — | years ago |
| | coconut | 0,05 | — | — | — | — | 4 years ago |
| | others clove | 0,70 | 0,30 | — | — | — | 8 years ago |
| r a i n y s e a s o n | rice | 0,75 | 2,1 | 46 kg/ha | — | — | 1 years ago |
| | corn / maize | — | — | — | — | — | years ago |
| | cassava | — | — | — | — | — | years ago |
| | soi bean | — | — | — | — | — | years ago |
| | coconut | — | — | — | — | — | years ago |
| | others | — | — | — | — | — | years ago |

III-3. Labour pattern

1. only by you / your household member's labour
2. by you / your household member's labour and hired labour
3. only by hired labour
4. help from other community members (mutual labour exchange system like goton royong)

III-4. If you hire labourers, how many labourers per month do you hire ?

| | items | hire (rps) | land (ha) | period (days) | payment(rps/day) |
|--------|------------------|------------|-----------|---------------|------------------|
| rice | land preparation | 3750 | 0,60 | 5 | 750 |
| | planting | 3750 | 0,60 | 5 | 750 |
| | harvesting | 2250 | 0,60 | 3 | 750 |
| | others | — | — | — | — |
| corn | land preparation | — | — | — | — |
| | planting | — | — | — | — |
| | harvesting | — | — | — | — |
| | others | — | — | — | — |
| others | land preparation | — | — | — | — |
| | planting | — | — | — | — |
| | harvesting | — | — | — | — |
| | others | — | — | — | — |

VII. Production and Living Facilities

VII-i. What kind of facilities do you need?

① For agricultural production

| item | keen to need | better if available | not necessary |
|--|--------------|---------------------|---------------|
| equipment for irrigation | | ✓ | |
| equipment for drainage | | ✓ | |
| maintenance of a farm road | | | ✓ |
| accessibility of seeds | | ✓ | |
| accessibility of fertilizer | | | ✓ |
| accommodation of a loan with low interest | | | ✓ |
| stable sales network for production | | | ✓ |
| information for agricultural management (ex. selection of varieties of crops) | | ✓ | |

② For improvement of community life

| item | keen to need | better if available | not necessary |
|--|--------------|---------------------|---------------|
| sanitary water supply | | | ✓ |
| equipment of road network | ✓ | | |
| suitable health facilities | | | ✓ |
| good educational facilities | | ✓ | |
| electricity | | ✓ | |
| transportation facilities (buses & trains) | | ✓ | |

③ For improvement of individual life

| item | already possessed/supplied | keen to need | better if available | not necessary |
|-------------|----------------------------|--------------|---------------------|---------------|
| electricity | | | ✓ | |
| car | | | | ✓ |
| bicycle | | | | ✓ |
| sickle | | | | ✓ |
| plough | | | ✓ | |
| water works | | | ✓ | |

COMMUNITY SURVEY QUESTIONNAIRE
(LAMPUNG/SULAWESI, INDONESIA RURAL)

Name of Village Tata Karya .

I. Household :

I-1 Name of the head [redacted]

I-2 Present members of the household

| Name | relation to the head | residence | age | sex | marital status ¹ | age of marriage | education ² | occupation ³ |
|------------------------|----------------------|-----------|-----|--------|-----------------------------|-----------------|------------------------|-------------------------|
| 1. <u>[redacted]</u> | husband | RK.6 | 44 | male | 2 | 25 | 3 | 1, 3 |
| 2. <u>[redacted]</u> | wife | | 38 | female | 2 | 18 | 3 | 1, 3 |
| * 3. <u>[redacted]</u> | son | | 22 | male | 2 | 22 | 5 | 7 |
| 4. <u>[redacted]</u> | daughter | | 20 | female | 1 | - | 3 | 7 |
| 5. <u>[redacted]</u> | son | | 17 | male | 1 | - | 5 | 6 |
| 6. <u>[redacted]</u> | daughter | | 15 | female | 1 | - | 4 | 6 |
| 7. <u>[redacted]</u> | son | | 14 | male | 1 | - | 4 | 6 |
| 8. <u>[redacted]</u> | son | | 12 | male | 1 | - | 3 | 6 |
| 9. <u>[redacted]</u> | daughter | | 10 | female | 1 | - | 3 | 6 |
| 10. | | | | | | | | |

note)

1. Marital Status

1. never married 2. married 3. divorce
4. separated 5. widower/widow because spouse is dead

2. Education

1. no schooling 2. elementary school not complete 3. elementary school
4. Junior high school 5. senior high school 6. academy/university

3. Occupation

1. cultivator 2. agricultural labourer 3. working other than agricultural sector
4. seeking job 5. engaging in house duties 6. attending school
7. non agricultural sector

I-3 If you have any child who died before, please give details.

| | sex | age of death | cause of death |
|---|-----|--------------|----------------|
| 1 | - | | |
| 2 | - | | |
| 3 | - | | |
| 4 | - | | |

③ Cattles

| | numbers | | numbers | | numbers |
|---------|---------|---------|---------|--------|---------|
| cow | 1 | pig | - | duck | - |
| buffalo | - | chicken | 10 | others | - |

III. for farmer

III-1. Size of your operation holding 1,5 (ha)

III-2. What kind of crops are you cultivating this year ?

| | hectare | quantity(ton) | proportion seeds/ha | | |
|---|--------------|---------------|---------------------|----------|-----------|
| | | | local | improved | |
| d r y s e a s o n | rice | 1,5 | 0,5 | 40 kg | years ago |
| | corn / maize | | 1,2 | 30 kg | years ago |
| | cassava | 7,0 | | | years ago |
| | soi bean | | | | years ago |
| | coconut | | | | years ago |
| | others | | | | years ago |
| r a i n y s e a s o n | rice | | | | years ago |
| | corn / maize | | | | years ago |
| | cassava | | | | years ago |
| | soi bean | | | | years ago |
| | coconut | | | | years ago |
| | others | | | | years ago |

III-3. Labour pattern

- ① only by you / your household member's labour
2. by you / your household member's labour and hired labour
3. only by hired labour
- ④ help from other community members (mutual labour exchange system like goton royong)

III-4. If you hire labourers, how many labourers per month do you hire ?

| | items | hire (rps) | land (ha) | period (days) | payment(rps/day) |
|--------|------------------|------------|-----------|---------------|------------------|
| rice | land preparation | | | | |
| | planting | | | | |
| | harvesting | | | | |
| | others | | | | |
| corn | land preparation | | | | |
| | planting | | | | |
| | harvesting | | | | |
| | others | | | | |
| others | land preparation | | | | |
| | planting | | | | |
| | harvesting | | | | |
| | others | | | | |

IV-3. Are you practicing Family Planning now ?

YES. 2. NO.

If YES, since when you are practicing Family Planning ? 5 years ago

If NO, why have you not practiced Family Planning ?

1. I do not have enough children
2. Family Planning is not good for health
3. Family Planning is not good from moral point of view
4. Family Planning is not good from religious point of view
5. The partner / family member does not like Family Planning
6. Others

IV-4. if you are practicing Family Planning/have any experience of Family Planning, what's the method?

1. STERILISATION, PILLS, 3. I.U.D., 4. INJECTION, 5. CONDOM, 6. others

IV-5. From where do you get information and tools of Family Planning ?

PRIMARY HEALTH CENTER, 2. VILLAGE HEALTH WORKER, 3. PRIVATE CLINIC, 4. OTHERS

V. Migration

V-1. where is your birth place?

| | | | | | | |
|---------|-------------|---------|---------------------|----------|-------------|--------|
| Husband | <u>Mees</u> | village | <u>Central java</u> | province | <u>java</u> | island |
| wife | <u>Mees</u> | village | <u>Central java</u> | province | <u>java</u> | island |

V-2. where is your last residence?

| | | | | | | |
|---------|-------------|---------|---------------------|----------|-------------|--------|
| Husband | <u>Mees</u> | village | <u>Central java</u> | province | <u>java</u> | island |
| wife | <u>Mees</u> | village | <u>Central java</u> | province | <u>java</u> | island |

V-3. why did you move into this village?

government plan (regular tansmigration) 2. individual plan (spontaneous tansmigration)

3. others (specify _____)

V-4. do you have a plan to move to other place?

1. Yes No

if yes, where do you want to move?

1. go back to home place (state the name of place _____)

2. others (state the name of place _____)

why do you want to move?

1. to seek a job / economic reason 2. to get education

3. to live in home place

V-5. do you receive any remittance from your family who already gone out

1. Yes No

if yes, how much did you receive?

_____ rps/year

V-6. do you or any family members wish to go out from this village?

1. Yes No

if yes, what is the reason?

1. employment 2. education

3. others (specify _____)

VI. Community

VI-1. are you participating in any kind of community activity?

Yes 2. No

if yes, what kind of activity are you participating?

Agricultural group, Sport

VI-2. are you satisfied with this community?

yes, satisfied 2. more or less satisfied

3. more or less dissatisfied 4. no, dissatisfied

5. not stated

VI. 3. Why are you dissatisfied ?

1. Educational facility is not adequate
2. Medical care is not adequate
3. Transportation service is not adequate
4. Lose soil fertility
5. Others (specify).

