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Landownership, Tenancy, and Sources of Household Income: Community Patterns from a Partial Re-census of Eigh Villages in Rural Java*

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A. Introduction

This paper is based on a partial re-census of eight wet rice villages in Java previously surveyed by the Agro-Economic Survey (Survey Agro-Ekonomi, SAE) in 1976-1978. The paper provides an overview of landownership, tenancy and sour-

* An earlier draft report by the authors of this paper and Sri Hartoyo (See Wiradi, Manning and Sri Hartoyo, 1983) covered much of the same data and variables included in this paper. That analysis, however, was preliminary covering 100 variables from an only

ces of family income in each of the villages. It is intended primarily to provide an overall picture of land and labor market conditions in each of the villages. The analysis is therefore primarily descriptive, seeking to identify dominant patterns and inter village variations, rather than inter relationship between variables. Moreover we have only been able at this stage to analyze a limited range of key variables included in the re-census study. Explanation of some of the patterns described here will need to await further analysis.

Some Recent Issues in Research and Policy on Rural Employment and Incomes in Java

As a background to the empirical analysis we will look briefly at some current issues in discussions of changes in rural employment and incomes in Java. In the last few years there has been a marked shift in opinion in government and some academic circles in Indonesia concerning the major problems of employment and income generation faced by rural people in Java. For the most part of the 1970s, spanning the first two five year plans (PELITAs), increased rice production was the overriding concern in rural development programs, primarily through the introduction of new inputs–high yielding variations, fertilizer, pesticides and irrigation water–through package programs, BIMAS, INPRES and the like, and backed by public provision of credit subsidies and price controls. Economic researchers, in addition to debating the econo-

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partially edited data set. The data has been re-edited and although there is some overlap with the previous report, almost entirely rewritten.

mic costs and benefits of various government policies, paid special attention to the adverse employment effects of the new technology, first in rice milling, then in rice harvesting and towards the end of the 1970s (and, indeed still a controversial issue) in soil cultivation through the subsidized introduction of paddy tractors in selected areas of Java[1].

The long awaited goal of rice self sufficiency was close to achievement by 1984: with national production estimated at 24 million tons President Soeharto announced in his 17th of August address to the Parlement that Indonesia had now entered the 'phase' of rice self sufficiency. During the 1970s the proportion of the labor force in agriculture in rural Java declined from 68 to 61 percent, agriculture absorbing less than 10 percent of the increase in the labor force–female employment in this sector actually declining in Java (Lluch and Mazumdar, 1983: 39)[2].

Partly as a result of these developments, government attention has now begun to shift away from preoccupation with both production and employment in the rice sector. The Department of Agriculture's concept of a 'resilient' agricultural sector, both more diversified and vertically integrated with industry, as the key to increasing rural incomes and employment (see Indonesia, Department of Agriculture, 1984) and the very recent proposals for replacement of the sector specific BIMAS programs with a broader credit and technical as-

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[1] See especially Collier (1974), Collier, Wiradi and Soentoro (1973), Ihalauw and Utami (1973), Sinaga (1978).

[2] The 1971 Census data is based on the Series C Publication.

sistance program to income earners in a wide range of sectors, are two good examples of a shift in government thinking. Moreover, after showing rice wage stagnancy for the decade 1968/69–1977/78 (see Makali, 1978), micro studies now suggest real wages in the rice sector have risen over the past 5–6 years. One study tentatively suggests that labor shortages, may be quite widespread in Java, particularly in lowland areas close to major urban centers and at peak periods in the rice agricultural cycle (Collier, et al., 1983; see also Kasryno, 1983; Husein Sawit, Saefudin and Sri Hartoyo, 1984).

The importance of non agricultural employment as a source of rural incomes in Java is by no means a very recent theme in the literature on the rural economy. White's study of Kaliloro (Yogyakarta) in 1972/1973 showed that despite extraordinarily low returns per hour, households worked long hours in cottage industry (White, 1976). A series of surveys conducted by the Agro Economic Survey (SAE) 1976–1978 in villages in West and East Java indicated that a wide range of non agricultural activities were a major source of employment for both poor and better off households, although there were major interclass differences in the role which these activities played in the household economy: for poorer, landless or near landless families the proportion of total income from nonfarm sources was relatively high despite large labor inputs and low returns per hour worked (especially, as White found, in cottage industry). On the other hand, among larger land owing families returns tended to be much higher but the contribution of non agricultural employment to total income was on average smaller than income from the rice sector

(Memed Gunawan et al., 1977; Rozany et al., 1978; Memed Gunawan et al., 1979). Employment 'multiplicity' is clearly a key feature of the rural economy in Java (White and Makali, 1979) and has probably increased in recent decades.

What is new is the growing belief that especially in predominantly wet rice communities, economic status may no longer be closely related to access of land. Mubyarto, for example, has suggested that incomes of landless farm laborers tend to be higher than those of small landowners operating less than 0,5 hectares of sawah land (petani gurem); the petani gurem's low mobility owing to attachment to land being offered as an explanation for the difference (Kompas, 22 July 1984: 4). By contrast, the SAE studies mentioned above and those of other scholars (see especially Hart, 1978 and Penny and Singarimbun, 1972) identified control of sawah land as the major determinant of household economic status, incomes and access to high earnings opportunities, landless families being forced rather than drawn into non agricultural jobs to meet subsistence needs. Rural poverty and lack of jobs rather than urban rural wage differentials were identified in studies undertaken in the early and mid 1970s as playing a central role in decisions to search for urban jobs (Temple, 1975; Hugo, 1978: 1979–1985).

Collier et al (1982) hypothesized that growing and relatively high wage (compared to rural wages), urban employment opportunities, especially in self employed and wage labor activities in major cities, have begun to attract growing numbers of the rural poor; in their attempt to explain increased rural wages and farmer complaints of shortages of agricultural

wage labor. One implication of this hypothesized development in employment structure is that the notion of an earnings 'ladders' (with rice sector employment at the top and self employed cottage industry activities at the bottom of the ladder), which determines labor allocation and incomes of different economic classess in rural Java (Lluch and Mazumdar, 1983: 83-84, 103-106) needs to be reconsidered. If indeed poor households are being pulled out of agriculture by higher non agricultural wage opportunities, then the specific form of the ladder, and its employment and income distribution consequences, proposed by Lluch and Mazumdar is no longer appropriate.

One important theme in previous SAE research on rural employment has been contrasts in lowland and upland village employment structure and differential class access to income opportunities within and outside agriculture. The studies mentioned above emphasized in particular the importance of farm laboring as a source of incomes for poorer lowland families and also a major source of nonfarm employment for better off families in the lowland: in upland villages, however, extremely low productivity cottage industry was the major source of employment for the poor, whereas better-off households obtained much higher earnings in trade and other non agricultural pursuits (see especially Memed Gunawan, 1979). In this paper we will also look at lowland and upland differences in employment structure by landowning and cultivation class.

In the next section (Section B) we look at major data sources, sampling methodology and overall characteristics of the sample villages. This is followed by a detailed description of *sawah* land ownership patterns, including distribution of land

owned, the relationship between land owned and both land operated and other indicators of economic status (Section C). The Section D examines the tenancy market, and relationships between tenancy and land owned and operated. In the Section F employment structure is introduced to the discussion, relating sector of employment and major income sources to sawah owned and tenancy status.

B. Data Sources, Sampling and General Characteristics of the Sample Villages

Data on which this paper is based is taken from a partial census of households of nine villages in rural Java conducted in November–December 1983. The census provides a general picture of land tenure and agricultural labor relationships, household characteristics and economic status, and employment structure in each of the communities.

Eight of the nine villages surveyed in the re-census are included in the analysis in this paper[3]. Six are located in West Java and two in East Java (See Map 1). All are predominantly wet rice villages, three located in lowland areas (Wargabinangun, Lanjan, Gemarang), two approximately 300 meters above sea level (Sukaambit, Sukosari) and three more in upland regions 500 meters or more above sea level (Gunungwangi, Malausma, Ciwangi). In the baseline study the sampling units differed between villages, covering selected blocks of households, *Rukun Tetangga* (neighborhood units), *Rukun*

[3] One of the villages (Petung), where dry land agriculture predominated, was not included.

Kampung (Collection of Neighborhood Units) or Kampung depending on prevailing administrative structure (see Table 6.1.). The re-census covered a randomly selected sample of administrative units surveyed in the baseline study[4]. Owing to the much larger baseline sample in East Java, a smaller proportion of households were resurveyed compared with the baseline census (41–47 percent) whereas the percentages ranged from 70–97 percent in West Java.

In all, 1615 households were covered, ranging from 165 households in Wargabinangun to 223 in Ciwangi. The percentage of households surveyed compared to all village households ranged from 11 percent in the largest village (Gemarang) to 72 percent in the small village of Lanjan; in the majority of villages it was around 20–25 percent.

As mentioned above, all the villages are predominantly wet rice communities. In the discussion of village differentials we have distinguished two major groups to facilitate exposition. The three lowland villages (Wargabinangun, Lanjan and Gemarang) are combined with Sukosari which, although 300 meters above sea level, shares many of the characteristics of lowland villages (high landlessness, heavy dependence on rice and sugar cane, and little dry land agriculture). Sukaambit, the other intermediate village, is combined with the three upland villages (Gunungwangi, Malausma and Ciwangi). The name of villages are refered to according to the order in which they

[4] In two of the villages, Sukaambit and Ciwangi, administrative units had been reorganized on the basis of Rukun Tetangga (RT) and the re-census of households was undertaken in randomly selected RT located in Kampung covered in the baseline.

Table 6.1. Baseline Census and Re-census Sampling Units and Household Sample

VILLAGE	REGION[5]	BASELINE (1976/1977)				RE-CENSUS (1983)				
		Sampling Unit[6]	No. of sampling units	SAMPLE		Sampling Unit	No. of sampling units	No. of households	SAMPLE	
				No. of sampling units	No. of households				No. of sampling units	No. of households
I. Wargabinangun	WJ	BLK (RK)	4	2	237	BLK (RK)	4	672	2	165
II. Lanjan	WJ	RT	9	9	253	RT	7	290	5	210
III. Gemarang	EJ	RT	60	18	453	RT	61	1908	7	213
IV. Sukosari	EJ	RT	110	45	502	RT	76	1760	16	207
V. Sukaambit	WJ	Kp.	5	3	299	RT	32	1090	9	202
VI. Gunungwangi	WJ	BLK	7	4	225	BLK	7	849	2	198
VII. Malausma	WJ	Kp.	7	2	217	Kp.	4	861	2	206
VIII.Ciwangi	WJ	Kp.	7	4	247	RT	34	1115	9	223
TOTAL HH		-	-	-	2379	-	-	-	-	1615

[5] WJ = West Java
EJ = East Java

[6] BLK = Block
RK = Rukun Kampung = Administrative unit consisting of several RT.
RT = Rukun Tetangga = Neighborhood unit
Kp = Kampung

appear in tables (Village I–Village VIII).

It should be noted that, in contrast to the previous preliminary report (see Wiradi, Manning and Sri Hartoyo, 1984), no analysis has been conducted by aggregating data from the groups of lowland and upland villages. Owing to quite substantial inter village differences especially in land tenure and employment structure, and to the small size of the sample, it was felt that aggregation of this nature can provide a misleading picture of lowland and upland contrasts; what appears to be a prominent feature of one group in reality frequently reflects the pattern of one village only. Disaggregation complicates exposition but does provide a clearer picture of considerable diversity, one of the themes of this paper.

In the following sub section a brief overview is presented on general village conditions, prior to a more detailed discussion of sawah patterns in Section C.

Table 6.2. Topography and Transportation in the Sample Villages

Village	Elevation (meters)	Distance (km) to		Kabupaten town	Connecting Road	Major forms of passenger transport from the village
		Kecamatan town	Kabupaten town			
I. Wargabinangun	8	4	35	(Cirebon, Nth-E, W-Java)	Dirt-All Season	Becak, Bycycle
II. Lanjan	2	7	17	(Indramayu, Nth -E, W - Java)	Dirt-Dry Season	Becak
III. Gemarang	45	6.5	9	(Ngawi, Cen-W, E-Java)	Asphalt	Bus, Colt
IV. Sukosari	334	3.5	28	(Jember, Nth-E, E-Java)	Asphalt	Carriage, Colt
V. Sukaambit	330	3	10	(Sumedang, Cen-W-Java)	Asphalt	Colt
VI. Gunungwangi	>700	5	15	(Majalengka, Cen -E,	Gravel	Colt, on foot
VII. Malausma	>700	12	52	West Java)	Asphalt	Colt, Motorcycle
VIII. Ciwangi	700	3	33	(Garut, Cen-E, W-Java)	Gravel	On foot

Source: Village secondary data

General Characteristics of The Sample Villages

Table 6.2. presents information on the location of the villages. None were situated within 50 kilometers of a major pro-

vincial city of Java. Nevertheless although access to commercial transport differed between villages, households from almost all villages have all felt the benefits of the "transport revolution" which swept Java from the mid 1970s, associated with the improvement especially of secondary and tertiary roads and the spread of public, Mitsubishi colt transport to villages throughout the island.

The lowland villages are generally more exposed to urban contacts, a situation which prevailed at the time of the baseline survey. Both villages II and III (Lanjan and Gemarang) are located on major interprovincial highways (although Village II, set about one kilometer from the main road, is for the most part inaccessible by road transport during the wet season). Village I (Wargabinangun) is less favourable located, villagers having to travel 4 kilo by bicycle or non foot to connect with public transport taking goods and people to major urban centers. Villages IV and V were located on busy, sealed kabupaten roads providing easy access to the large kabupaten capitals of Sumedang and Jember respectively.

The other upland villages were less open. Both Ciwangi and Gunungwangi are close to *kecamatan* (district) centers and major transport routes but the short (approximately 3–5 km) gravel and stone connecting roads to the villages are hazardous. Only the occasional truck or jeep is able to enter Ciwangi, porters having for the most part to carry goods (at Rp 1.000,- - Rp 15.000,- for @ 60–70 kilogram load) as far as 10 kilometers up steep slopes to outlying hamlets; and only the few colts owned by villagers in Gunungwangi and trucks from outside the village make infrequent trips carrying goods pas-

sengers in and out of the village. Malausma is accessible by sealed road but it is the farthest of all villages from a kabupaten center (52 kilometers), villagers often having to wait some time and frequently change vehicles before arriving at Majalengka.

None of the villages are located in the extremely densely populated areas of Java (see for example, Horstmann and Rutz, 1980), nevertheless the population to agricultural land differed substantially between villages.

The three lowland, almost exclusively sawah, villages indicated a much lower density per hectare of sawah and all agricultural land than the medium and upland areas. More recent settlement, poorer water control and less variety in agricultural production patterns may help to explain this in the two lowland West Java villages, and especially in Village II (Lanjan), but the relatively low population density on agricultural land in Village III (Gemarang) (8 persons per hectare) is puzzling. One explanation for the latter be the relatively high proportion of village land, especially sawah, in Gemarang owned by non village residents. In 1978 village informants estimated that as much as 50 percent of all sawah land in Gemarang was owned by outsiders, both urban residents and farmers from nearby villages[7].

There seems moreover be no clear relationship between agricultural population density and the intensity of agricultural cropping. The three villages with relatively intensive crop-

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[7] In Section C III we shall see that landlessness was relatively high in Gemarang and average land holdings per owner did not differ significantly from other villages in the sample.

ping patterns–III, IV and V–did not record high levels of population density. Table 6.3 indicates that in almost all villages rice-rice was the dominant cropping pattern on sawah. Only Village VII (Malausma) did a non rice crop (sweet potatoes) predominate on sawah land as a second season crop (although soya beans and peanuts were an important third season crop in Village III, the one village where sugarcane was also of some importance). One other important development since the baseline study has been the intercropping of various dry land *palawija* crops (sweet potato and cassava) with chili and rice on sawah land in Village I.

Table 6.3. Agricultural Production Patterns on Sawah Land by Village Land Type

Village	Pattern I	Pattern II	Pattern III
I. Wargabinangun	Rice-Rice-Fallow	Chili/Palawija + Rice	-
II. Lanjan	Rice-Rice-Palawija	Rice-Rice-Palawija	-
III. Gemarang	Rice-Rice-Soybean	Rice-Rice-Peanut	Sugar Cane
IV. Sukosari	Rice-Rice-Tobacco	Rice-Rice-Tobacco	Rice-Tobacco-Palawija
V. Sukaambit	Rice-Rice-Rice	Rice-Rice	Palawija-Rice
VI. Gunungwangi	Rice-Rice	-	-
VII. Malausma	Rice-Sweet Potato	Rice-Rice	Rice
VIII. Ciwangi	Rice-Rice	-	-

Source: Village secondary data

In addition to sawah groups, dry land cultivation was also important in all the West Java upland villages. In all three, *palawija* crops (and various bean crops in Ciwangi) have continued to be the major dry land crops, *palawija* providing an important secondary staple food. The most important dry land crop to spread since the baseline study has been chilies in Village VI which for a small proportion of families rivals *padi*

as a source of income, mainly as a consequence of the harvest considering with peak prices in chilies.

Perhaps the most important agronomical change since the baseline study is the more widespread use of improved varieties on sawah land and together with this, improved water control (especially in the two West Java lowland villages) and widespread use of chemical fertilizers (in many of the villages purchased more commonly on the open market) on both sawah and dry land. The "green revolution" was well underway in 1976-1977; by 1983 as far as rice is concerned it was largerly completed in all lowland villages and in the upland villages new inputs widely used although local varieties predominated in several. Nevertheless significant yield gains may still be attained through improved water control in the lowland West Java villages and especially in Lanjan.

The major development in agricultural technology has been the introduction of hand tractors in soil cultivation in the three lowland villages. In the lowland villages tractors owned by villagers and rented from nearby villages are used primarily in the second, dry planting season when wage labor is most difficult to obtain and the cultivation period shortest. In all these villages approximately 20 percent of all sawah operators reported using tractors in soil cultivation; moreover, since tractors tended to be used by the larger land operators, it is most likely that a considerably higher proportion of sawah land was cultivated by tractor (especially in Village II where the land is merely harrowed in the second season). With the spread of high yielding varieties, the sickle is now almost universally used for harvest by males, and also by females in all villages.

C. Patterns of Sawah Ownership and Relationship to Economic Status

1. Introductory Note

As has been mentioned in the previous sections, six of the eight villages observed are located in West Java, and the rest are in East Java. As a general overview, therefore, a very brief macro description of regional differences will be useful in getting a better understanding of the rural areas studied.

In several aspects, West Java's agriculture differs from that of the rest of Java. About 17 percent of all agricultural land in West Java, compared to only 11 percent for all Java, is occupied by modern plantation sector constituting almost one-half of all Java's estate land[8]. Compared to East Java as well as to Java as a whole, West Java has relatively more sawah lands (55 percent of its total, compared to 46 percent of East Java, and to 48 percent for all Java). Although sawah cultivation came relatively late to Western Java, being introduced in the Priangan only during the mid eighteenth century, it now spreads to nearly all parts of the province, leading to the present conditions; compared to 16 percent in all Java, only 10 percent of West Java's small farmers have no sawah lands (farming dry land only). While sawah landlessness is relatively higher in West Java (45 percent in 1973) than in other Java provinces, tenancy rates are also slightly higher in West Java (29 percent in West compared to only 26 percent for all Java)[9].

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[8] BPS, Sensus Pertanian 1973: See also, Benjamin White and Gunawan Wiradi (1981)

[9] See White and Wiradi (1981)

Different parts of the region in West Java where the six villages studied are located could be also distinguished. Historically, quite distinct forms of colonial extraction during the 19th century were experienced by three different parts of the region. The upland Regencies of Sumedang and Garut (in which two villages studied, namely Sukaambit and Ciwangi respectively, are located), being subject to the so called "Preanger System" of forced cultivation system, underwent less direct intervention of a colonial administrative system[10], so that they were rather isolated from colonial enterprises before the system was abolished in 1870. As a consequence of the colonial Agrarian Law enacted in that year, an "opening up" of this region led to a rather spectacular development of upland plantations, construction of rice cassava mills, infrastructure (roads, etc.). The lowland Cirebon region where one of the present observed villages, Village I, is located, underwent different experience. It was subject to the pattern of sugarcane-paddy "symbiosis" of the "culture-system" (as described by Geertz, 1963). Indramayu, on the other hand, (where village II is located) experienced a different history. Being sold by Raffles in 1813, this region comprised two giant private estates and, thus, dominated by the production of high-quality rice for export. In 1910, the Dutch colonial government bought back the estates, coincided with the construction of the railroad track Cikampek-Cirebon[11]. From the available historical sources, however there is no clear information con-

[10] See, for example, Ger Teitler (1979); also White and Wiradi (1981).
[11] See, Frank (1979).

cerning the implication of this selling and buying land by the souvereign on the pattern of land tenure, except on the matter of the so called tribute system, that is, the obligation of the tillers to deliver part of both their crops and the labor to those who controlled the area (either the government or the private landlords).

Closely related to the historical experience mentioned above, one of the apparent differences is in the basic form of land-tenure itself. While in Cirebon communal tenure was predominant (92 percent of the villages), in upland Priangan sawah was exclusively held in individual possession (Kano: 1977). In 1868, the presence of *tanah bengkok* (or Village Official salary lands), another aspect of communal nature of land-rights, was found in 92 percent of villages in Cirebon, whereas in upland Priangan it was found in only seven percent of villages.

It must be kept in mind that except *tanah bengkok* and *tanah titisara* (or village "treasure" lands), other forms of communal possession of sawah such as tanah *kesikepan, playangan, kecacahan*, etc.[12], have been abolished since the 1960 Agrarian Reform, being then recognized as individual possession provided for the last cultivators of these lands.

Being held in "communal" possession, with equal share of cultivation among the villagers, the pattern of land tenure in 19th century was considered as a pattern in which land was

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[12] This refers to arable lands of which a villager can get a share for his use. This is a form of tenure in which an individual (or family) uses only a predetermined share of communal land of the *desa*, and usually a periodic rotation of shares takes place (Kano, 1977). The term used for this land varied widely from region to region.

equally distributed. As will be seen, today's pattern of ownership in the lowland Cirebon village is very skewed. The likely explanation is that since individual land ownership rights as stipulated by the Agrarian Law of 1960 are no longer subject to communal restriction (such as prohibition of disposing of, or handing over the land to others), land sale becomes more common than before. It is likely that the larger farmers then bought some lands from those new small landowners, thus resulting in considerable land concentration.

This historical background described very briefly above will be useful in looking at the present pattern of land tenure, some problems of which cannot be explained satisfactorily without taking this into account. It must be acknowledged, however, that our understanding of land problems cannot be separated from a broader analysis of relations in which the problems of labor and village economic conditions would be given greater attention. Since we believe that landownership determines so many other features of agrarian society, however, it seems appropriate to start with this subject.

2. Sawah Ownership

First of all, it should be noted that in this paper *sawah ownership* rather than operational holdings (or cultivation), is chosen as the basic unit of analysis for several reasons. First, land ownership is relatively constant while operational holdings are liable to change every season. Second, while operational holdings are of course required as the basic unit of farm management analysis, the re-census data which form the basis of this report do not allow such an analysis (although culti-

vated holdings will be also discussed here especially as they relate to tenancy status). Thirdly, sawah is preferable simply because all villages observed in this study are located in major rice producing areas.

As expected, the overall distribution of sawah owned in all villages (the total number of Households in eight villages being 1615) is very skewed, the Gini index being 0.69 (See Table 6.4.). More than 36 percent of all households were landless and slightly more than 49 percent belonged to a class of tiny farm owners (*petani-gurem*, owning below 0.5 ha) and controlling only around 36 percent of total sawah owned area, with a mean of ownership 0.195 ha. At the other extreme, a very small number of households (6 percent) belonged to a class of one hectare and above controlled 42 percent of the total sawah owned area.

The overall distribution of sawah ownership for all eight villages is, thus, more skewed than that for all Java, the Gini index among owners for the latter being 0.49 in 1973 (Ann Booth, 1983).

Table 6.4. Overall Distribution of Sawah Owned, Re-census, 1983

Area of Sawah Owned (Ha)	Distribution of Households (HH)		Mean Area (Ha)	Distribution of sawah area (%)
	All HH (%)	Landowners (%)		
1. Landless	36.3	-	-	-
2. <0.125	15.1	23.7	0.070	4.0
3. 0.125 - <0.250	18.5	29.0	0.175	12.3
4. 0.250 - <0.375	11.8	18.5	0.314	14.1
5. 0.375 - <0.500	3.8	6.0	0.418	6.1
6. 0.500 - <0.750	6.6	10.4	0.594	14.9
7. 0.750 - <1.000	2.0	3.1	0.866	6.5
8. 1.000 - <1.500	2.0	4.6	1.195	13.2
9. 1.500 - <2.000	0.8	1.3	1.648	5.0
10. 2.000 - <5.000	2.0	3.1	2.514	18.9
11. 5.000+	0.2	0.3	7.050	5.0
All Households	100 (1615)	x	0.264	100

Landowners	x	100 (1116)	0.414	100 (428.076)
Gini Index	0.69	0.54	x	x
(%) Area for:				
Botttom 40% (of owners only)	x	x	x	10.0
Top 10% (of owners only)	x	x	x	43.7

Source: Primary data, Re-census, 1983.

The distribution among owners (leaving out the landless) tells the same story. Although the Gini index is considerably lower (0.54), but the difference between the two extremes is still clearly marked. The bottom 40 percent of owners controlled only 10 percent of total sawah area, whereas the top 10 percent controlled almost 44 percent. More than 75 percent of owner households belonged to small owners (less than 0.5 ha) owning only around 36 percent of the total sawah owned area (Table 6.5. and Appendix Table 6.1.).

As has been known from previous SAE studies, in general three points characterize village group variation: the degree of landlessness, inequality, and average size of sawah ownership per owner, all tend to be lower in the upland than in the lowland villages (e.g. see, Faisal, ed., 1983).

When we look at inter village variations, however, especially concerning the degree of landlessness, it appears that in Village II (Lanjan), one of lowland sample villages, the proportion of landless households is only 28 percent, even smaller than that of Village V Sakaambit (31 Percent) in the upland (Appendix Table 6.1). But since in Village II about 21 percent of total households belonged to the land-owning class of one hectare and above, controlling 67 percent of total sawah area owned, inequality is still relatively high. The Gini index in Village II, for all households as well as among owners only (0.632

and 0.503 respectively), still represents one of the lowland's characteristics, i. e. relatively more skewed than in the upland (For the Gini indices, see Table 6.5.).

The highest degree of landlessness was recorded in Village I Wargabinangun (roughly 75 percent), followed by Village III Gemarang (65 percent) and Village IV Sukosari (52 percent). By contrast, except in Village V mentioned above, in each of the upland villages the proportion of landless households is lower than 25 percent. These variation in landlessness, consequently, determine the variations in the difference between the mean area for all households and the mean area among landowners only, in each village.

As can be seen in Appendix Table 6.1. in each of the lowland villages the mean area for all households is about half or less than that among owners, once again with the exception of Village II precisely because of relatively low landlessness. Two extremes can be noted in overall: one is Village I (Wargabinangun) where landlessness is high and the difference between those two means of area is also high; and the other is Village VII which is exactly the opposite.

When we look at inter village variations in terms of Gini indices and of the gaps between the bottom 40 percent the top 10 percent of owner households, several points are worth noting (Table 6.5.). It appears that, overall, the percentages of landless households and the Gini indices for all households are the highest also, whereas in Village VII (Malausma), having the lowest proportion of landless, the Gini index for all households is the lowest.

Looking at owners only, lowland-upland contrasts are not

Table 6.5. Gini Indices by Sawah Ownership, and by Village, Wet Season, 1982/1983

VILLAGE	Total HH (N=)	Sawah Ownership											
		Including Bengkok*							Without Bengkok				
		Nb. of Bengkok holders	Bengkok Area (Ha)	(%) Landless	GINI		(%) Area among Owners		(%) Landless	GINI		% Area among Owners	
					All HH	Owners	Bottom 40%	Top 10%		All HH	Owners	Bottom 40%	Top 10%
I. Wargabiangun	165	5	11.894	73.3	0.859	0.622	**6.7**	**49.6**	75.8	0.854	0.502	10.8	36.1
II. Lanjan	210	0	-	28.1	0.632	0.503	11.1	35.7	-	-	-	-	-
III. Gemarang	213	3	4.270	65.7	0.810	0.540	11.0	47.3	66.7	0.809	0.514	12.2	46.6
IV. Sukosari	207	2	0.790	51.7	0.742	0.496	12.6	40.9	51.7	0.741	0.494	12.9	41.8
V. Sukaambit	192	0	-	31.3	0.642	0.493	11.8	38.7	-	-	-	-	-
VI. Gunungwangi	198	1	3.000	23.7	0.577	0.454	11.8	31.8	23.7	0.554	0.422	12.7	26.8
VII. Malausma	206	6	10.500	2.4	0.499	0.484	13.1	41.8	2.4	0.423	0.406	15.8	32.1
VIII. Ciwangi	224	1	0.179	21.0	0.633	0.542	**9.6**	**43.5**	21.0	0.633	0.541	9.7	43.6
ALL	1615			36.3	0.694	0.537	**10.0**	**43.7**	36.7	0.684	0.619	**10.6**	**41.6**

Source: Primary data, Re-census, 1983.

Note: *) Since it is a partial re-census, the number of village officials (for whom *Bengkok* land were allocated as salaries) covered in the enumeration was likely to vary considerably between villages.

so marked. Indeed one is struck by similarities rather than differences between the two groups. This implies that although holdings are small in the upland villages, but this does not necessarily imply a markedly more equal distribution. Nevertheless, in three of upland villages (Sukaambit, Gunungwangi, Malausma) the Gini indices are lower than that in each of lowland villages, with only Village VIII (Ciwangi) as an exception (0.542, second highest in rank following Village I Wargabinangun). The top-bottom gaps among land owners indicate the same pattern. The extremely wide gaps occurred in Village I and Village VIII. In the latter, this is partly because of the influence of inter-hamlet variation.

When we look at inter-village variations in terms of Gini indices and in terms of the gaps between the bottom 40 percent and the top 10 percent of owner households in relation to the treatment of *bengkok* lands, several points are worth noting. Since *bengkok* lands were allocated to village officials for a relatively long period of time (i.e. as long as the officials hold their positions), in most of the previous studies carried out by SAE, these lands (together with mortgaged lands) were treated as owned. This is acceptable especially since *bengkok* lands more often than not also enter the tenancy market (being rented out or sharecropped out). However, from the point of view of distribution of all sawah land, some points should be considered. Firstly, the area allocated is not the same for each official, depending on rank in the administrative hierarchy, and also varies between villages even for the same rank. Secondly, since this study was based on partial census where not all village officials were covered, it does not represent village pat-

terns in terms of *bengkok* land. Thirdly, not all villages have *bengkok* lands. Fourthly, some officials may have been landowners from the outset, whereas the others may not.

For these reasons, an attempt is made in this paper (just in discussing the distributions) to examine separately the ownership pattern with and without *bengkok* included, simply in terms of Gini indices and top-bottom differences in area controlled. Since Lanjan and Sukaambit have no *bengkok* lands, we will examine the variations between the other six villages.

Overall, the influence of *bengkok* inclusion is very small. The Gini indices for ownership with and without *bengkok* included, are 0.694 and 0.684 respectively, but the gap between the "top 10 percent" and the "bottom 40 percent" becomes narrower when *bengkok* is excluded (Table 6.5, last row)[13].

In the case of Village I (Wargabinangun) the Gini index for all households is not much influenced by the exclusion of *bengkok* lands. But the proportion of landless households increases a little (from 73.3 percent to 75.8 percent). It means that most of the village officials do not have land of their own, thus, adding up the number of landless. Consequently, the Gini index for among owners decreases considerably from 0.62 to 0.50 reflecting relatively less unequal distribution[14].

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[13] When we look at each village, however, the pattern varies. In Village IV and Village VIII the influence of *bengkok* is very little. This is simply due to the small number of *bengkok* holders covered, and hence the small area of *bengkok* land included.

[14] This is supported by the narrowing gap between the top 10 percent and bottom 40 percent groups. When *bengkok* land are included the bottom 40 percent of total owners controlled 6.7 per-

In Village III (Gemarang) the story is more or less the same as in the case of Village I, but the changes (in the Gini indices as well as in the difference in the top-bottom gap) are relatively smaller. This is simply because of the smaller number of *bengkok* holders covered and also the smaller hectarage of *bengkok* included, compared to Village I. Village VI and Village VII are rather different. In these villages, *bengkok* holders have some sawah of their own so that when *bengkok* is excluded, the proportion of landless households remains the same. And since most of *bengkok* holdings are relatively large in size, their exclusion in these two villages leads to a considerable drop in the Gini indices both for all households and for among owners, and at the same time the top-bottom gaps narrowed significantly.

Indeed, it would be interesting to examine changes in the distribution of sawah ownership during the last six to seven years. However, we have not yet been able to make comparisons between the present data and data from the baseline study. In fact, full census rather than partial census is considered as being more appropriate for such a comparison, particularly concerning land ownership distribution. Viewing that even among hamlets within one village there is a considerable variation, a larger coverage of villages would be needed for such a comparison.

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cent of total sawah area owned, whereas the top 10 percent of total owners controlled almost 50 percent of total sawah owned. If *bengkok* lands are excluded, the corresponding figures are 10.9 percent and 36 percent, a considerable change.

3. Sawah Ownership and Economic Status[15]

From a sociological point of view, land ownership itself is a reflection of its owner's social status in Java. Several sources mention that in rural Java, social stratification based on land ownership was apparent especially during the colonial period[16]. In general, villagers who owned land enjoyed a higher respect from other people in the community, than those who did not. Depending on the norms that were followed in a certain community, the form of land tenure also determined the degree of respect from other fellow villagers. Before 1960 when the national Basic Agrarian Law was enacted, in many areas the rural population was divided into classes based on different rights of access to land and the obligations of tribute, tax and labour services that went with them. They were, thus, stratified into several layers. The highest stratum consisted of 'nucleus' villagers, that is those whose ancestors settled the area in the distant past, owned land in the village and possessed their own houses and house gardens. Among them were those who had access to communal land provided they were prepared to fulfil obligations in the execution of communal repair and maintenance projects.

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[15] Economic status in this paper simply refers to "wealth". In view of the nature of the data collected, i. e. data from the re-census, this "wealth" is measured by three indicators namely, value of consumer durables, farm animals and dry land owned. Dry land here includes all agricultural land on which various crops that do not need special water treatment can be cultivated, thus including house gardens (excluding the land on which the house is built).

[16] See, for example, J. M. Van der Kroef (1960).

The second layers were those who were nominated as candidates for the first status mentioned above. Generally they had their own compound and garden. The next stratum were landless laborers who live in their own houses built on someone else's compound; and the lowest stratum consisted of absolute landless laborers who have nothing to offer but their labor. In between these categories were various statutes of a transitional or mixed character, and all put together constituted a complex pattern of land tenure relations with many local variations.

The purpose of mentioning social stratification described briefly above is simply to give an overview which may be helpful in understanding the importance of land ownership in rural areas. In this paper, however, owing to the lack of such qualitative data it is impossible to examine whether or not such a "social portrait" still persists. More attention is therefore paid to the possible links between land ownership and economic status as will be discussed below.

Before we discuss in detail, it is necessary to look at the overall pattern of relationship between sawah owned and economic status, as presented in Table 6.6. It clearly appears that the data from this table support our belief that land ownership is closely related to economic status. When we look at the correlation coefficients for each indicator, the data for all households indicate a positive and significant correlation, although the coefficients are not high (see last column). By village, however, the results vary. In the lowland villages (except for Village I), dry land variation is less important than in the upland villages, especially in terms of *pekarangan* (house gardens) which is much less significant. In most upland villages on the

other hand, correlation coefficients are high and significant, with the exceptions of Village VI (Gunungwangi) where quality of dry land varies greatly, and of Village VII (Malausma) in terms of all house gardens. In terms of "all dry land" and "all dry agricultural land", the correlation coefficients are especially high in the upland.

Looking at farm animals owned, results from the correlation exercise were variable. The coefficients are very high and significant in Wargabinangun and Gemarang. The likely explanation is that in these two villages, buffaloes, one of the expensive farm animals, also represent social status which went along with sawah ownership. In Village II (Lanjan), the correlation is negative. For technical reasons, land was prepared in Lanjan by ploughs only in wet season and only by a few farmers, while the use of tractors has become more common. This may explain the small number of buffaloes or cattle owned in this village.

In the upland villages, sawah ownership is correlated significantly with farm animals owned (except in Village VI where only a few farm animals were found), although the coefficients were not high.

Looking at the other indicator of economic status, namely, value of consumer durables, it appears that this variable was the most consistent of all, though correlation coefficients were also not high ranging from 0.23–0.47. If we exclude extreme values, it turns out that the coefficient increases significantly in all villages (See row III b in Table 6.6) although it unexpectedly falls in Village VI (Gunungwangi).

An additional point may be noted when we look at corre-

Table 6.6. Pearson Product Moment Correlation Coefficients Between Area of Sawah Owned and Several other Indicators of Economic Status by Village (All Households)

Indicators of Economic Status		Village								All Villages
		Wargabinangun (I)	Lanjan (II)	Gemarang (III)	Sukosari (IV)	Sukaambit (V)	Gunungwangi (VI)	Malausma (VII)	Ciwangi (VIII)	
I. OTHER LAND OWNED										
1. All Dry Land (ha)		0.37**	0.17*	0.50**	0.21**	0.70**	0.41**	0.55**	0.60**	0.30**
2. All dry agricultural land owned (ha)		0.28**	0.14*	0.59**	0.20**	0.67**	0.42**	0.50**	0.58**	0.27**
3. House garden (excl. house) (m^2)		0.36**	0.12	0.08	0.10	0.53**	0.02	0.44**	0.59**	0.20**
4. All house garden (incl. house) (m^2)		0.33**	0.12	0.11	0.21**	0.54**	0.17	0.12	0.60**	0.23**
II. VALUE OF FARM ANIMALS (Rp)		0.51**	-0.01	0.81**	0.14*	0.27**	0.04	0.41**	0.48**	0.22**
III. VALUE OF CONSUMER DURABLES (Rp)	a.[2)]	0.45**	0.39**	0.30**	0.45**	0.23**	0.47	0.27**	0.40**	0.24**
	b.	(0.52)	(0.39)	(0.40)	(0.45)	(0.37)	(0.29)	(0.27)	(0.40)	(0.31)
N =	a.[2)]	155	210	213	297	192	198	206	224	1615
	b.	(164)	(210)	(212)	(297)	(187)	(195)	(206)	(224)	(1605)

**) = Level of significance 0.01

*) = Level of significance 0.05

1) Excluding house garden

2) Excludes extreme values (≥ Rp 2.000.000,-); 10 cases)

lation coefficients for sawah owners only (See Appendix Table 6.2.). Overall, there is less significant in the lowland than in the upland villages. The other economic status indicator, consumer durables, tends to be more highly correlated with land owned, especially in the lowland villages. This may be because of the importance of farm labour incomes among landless households (see Section E below).

The figures on the means and the extreme values of three indicators by area of sawah owned are presented in Table 6.7 and Appendix Tables 6.3; 6.4 and 6.5. In general, the first two indicators of socio economic status, namely the area of dry land owned and the value of consumer durables show a positive correlation with the area of sawah owned. For dry land owned, for example, the figures on the mean areas as well as on the proportion of households who own 0.25 ha or more, increase concommittantly with the area of sawah owned (see Table 6.7.). The same pattern occurs with the second indicator consumer durables. The figures on the mean values, and also on the proportion of households owning Rp 150.000,- or more of consumer durables, are clearly related to the area classes of sawah owned. This is supported by the figures on the proportion of households who own less than Rp 25.000,- of consumer durables, which is inversely related to the area classes of sawah owned. As for the third indicator, namely the value of farm animals owned, while its mean values show the same pattern as that of the other two indicators, the figures on the proportion of households who own Rp 50.000,- or more do not seem to show a clear trends. The latter appears to be positively related to area classes of sawah owned up to owner-

ship of less than 0.5 ha, then drops considerably from 32.8 percent to 27.4 percent in the largest class of sawah owned.

Despite the slightly unclear trends of farm animals owned, however, based on the three indicators as a whole these overall data show that it would not be unreasonable to suggest that sawah land ownership is a major determinant of economic status of the rural households.

Table 6.7. Overall Mean Values of Dry Land, of Farm Animals, and of Consumer Durables, by Area of Sawah Owned, 1983

Non-Land Asset	Area of Sawah Owned (ha)				All Households
	0	<0.25	0.250 - <0.500	0.500+	
DRY LAND OWNED					
a) Mean (ha)	0.029	0.100	0.164	0.257	0.107
b) HHs owning <0.25 ha (%)*	1.7	10.2	23.3	27.8	11.7
CONSUMER DURABLES					
a) Mean (Rp 1.000,-)	106.9	135.5	156.4	321.1	155.1
b) HHs owning <Rp 25.000 (%)*	24.2	13.1	6.3	4.7	14.7
c) HHs owning ≥Rp 150.000,- (%)*	17.4	26.1	35.2	58.5	29.0
FARM ANIMALS OWNED					
a) Mean (Rp 1.000,-)	20.5	35.7	61.8	99.9	43.6
b) HHs owning Rp 50.000,- (%)*	10.9	22.4	32.8	27.4	20.6
TOTAL Households (N=)	587	651	253	234	1315

Source: Primary data, Re-census, 1983

Note: *) Percentage to total households in each class of sawah area owned.

Inter Village Variation

(a) Dry Land Owned

As expected, in terms of dry land owned, there is a clear difference between lowland and upland villages. In each of the lowland villages, mean dry land owned for all households are less than one-tenth of a hectare, the highest mean being only 0.053 ha (in Village III); whereas in the upland land villages

they are relatively much larger with the lowest means of 0.143 ha in Village VII (Malausma) (see Appendix Table 6.3.). Similarly, in terms of the proportion of households who own 0.25 ha or more, the difference between lowland and upland villages are more than 10 percent, with the lowest figure 14 percent (in Village VI). More important than this, however, when we look at the two measures (the means and the proportion of households) by classes of sawah owned in each village, all indicate a positive relationship between dry land owned and area of sawah owned, except in Wargabinangun and Gemarang where, in terms of the proportion of households owning 0.25 ha or more the relationship is not so strong as in the order villages.

(b) Consumer Durables

For this indicator, three measures were applied in examining its possible relationship with the area of sawah owned. First is the mean values (in rupiah), second is the percentage of households who own less than Rp 25.000,- of consumer durables (here after, the "bottom"), and the third is the percentage of households who own Rp 150.000,- or more (here after, the "top").

As mentioned earlier for all villages as a whole, by all measure the data show that there is a relationship between ownership of consumer durables and the area of sawah owned (Appendix Table 6.4 last three rows). Looking at each village, however, large variations between villages are identified. In Village IV, VII and VIII, the relationships are very clear by all measures. In Village I and III it is slightly unclear by the first measure (in Village I, the mean value of consumer durables in

the sawah owning group of less than 0.25 ha is Rp 104.900,- whereas in the next higher group it drops to Rp 79.000,-; the corresponding figures in Village III are Rp 158.000,- and Rp 156.700,- respectively). Similar tendencies occurred in Village II and V, not only by the first measure but also by the third measure. Most unclear is the case of Village VI (Gunungwangi) whereby all measures the data show fluctuating trends, perhaps because of the importance of dry land commercial crops (especially chilies) in recent years. Nevertheless, one thing is clear: in the highest group of sawah owned area (i.e. the ownership of 0.5 ha and above), the mean that taking 0.5 ha as a cutting line (the Sajogyo cutting point for *petani gurem*) between the haves and the have-nots seems realistic.

Another point worth noting is the inter village variations concerning the data for all households in each village (Appendix Table 6.4.; last column). One extreme is in the case of Village V (Sukaambit), where the mean value of consumer durables owned is extremely high (319.700 compared to Rp 156.100,- for all villages). Even in the landless group the figure is still very high (Rp 265.600,- compared to only Rp 106.200,- for all villages); indeed the mean for landless in this village is higher than that for all classes except 0.5 ha and above in all the other villages. Only one percent of the total households belonged to the "bottom" group (owners or less than Rp 25.000,-) whereas the "top" households included more than 60 percent; Village V clearly has relatively better socio-economic conditions compared to the other villages. There is quite a number of white collar and professional employees, off farm employment is more important and the level of educa-

tion is relatively higher than in the other villages (see, Wiradi, Chris Manning and Sri Hartoyo, 1983).

The other extreme is in the case of Village IV (Sukosari) where the mean value of consumer durables for all households is the lowest among all villages (Rp 104.800,-). The likely explanation for Sukosari being so low is that this village has a relatively high population density (14 persons per ha of agricultural land) and many off farm jobs are available mainly in low wage activities. In contrast with Village V, the figures on the "top-bottom" comparison, the data in Appendix Table 6.4 (last column) also suggest that in the upland villages the number of wealthier households is relatively larger than that in the lowland villages.

As a final remark on this section, the above description can be summarized into two points. First, the degree of inequality, overall as well as in each village, is much higher than that for all Java, except in Village VI (Gunungwangi) and Village VII (Malausma) (the Gini index being 0.454 and 0.484 respectively, thus slightly lower than 0.49 for all Java). Secondly, although land ownership did have influence on economic status, the question as to what extent land ownership influences income status still needs to be further studied since economic status may not always reflect income status. Since effective control of land involves tenancy arrangements, it is therefore logical that income is influenced by tenancy. However, tenancy, which is related to land cultivation, may be influenced by land ownership. In the following section, therefore, sawah cultivation and tenancy will be discussed first before we come to discussing sources of income in Section E.