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Off-Farm Sector on Rural Java in Changes of Indonesian Economy: The Case of Community-Based Industry's Development

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Despite the good record of growth in some sectors of agricultural production which have been main targets of rural development in rural Java since the middle of 1960s, the prospects for further labour absorption in agricultural production itself are extremely limited. On the other hand, every field study in rural Java indicates a great variety of occupations in the off-farm sector; that the majority of rural households derive income from a combination of agriculture and non-agricultural sources; and that there are quite a big number of households which get all of their income from non-farm activities. This non-farm sector which has already played an important role in rural economies but so far has not been well researched is expected to absorb the increasing labour force, and contribute to raise income and welfare for rural households, especially landless and nearlandless people in rural Java, one of the most densely populated agrarian regions in the world, characterized by very small average farm size, high rates of landlessness, unequal distribution of house holdings and income among households, and the highest relative concentration of poverty among regions of Indonesia [White, 1986].

This paper intends to clarify the character of rural industries as a sector of off-farm sector in rural Java, in the socioeconomic rural setting, especially agrarian structure, and to present community based industry as a possible direction of their development, with a case study of the weaving industry in rural West Java. Besides agrarian changes, the industrialization policy, characterized by urban-bias, capital-intensity, and modern technology, has greatly influenced rural economies through the supply of industrial output (also input for agricultural production),

the change in labour markets, and direct competition with rural industries, and through organization of linkage industries in rural area. This paper will also pay attention to the dynamism of rural economies, and its differentiation with reference to off-farm sector changes.

I. Agrarian Setting and Off-Farm Sectors in Rural Java

SAE (Agro-Economic Survey) studies in 12 villages of West, Central and East Java in 1981 found that the proportion of non-farm incomes in average household incomes varied between 29% and 77%, and in 9 of 12 villages was more than 50% [Kasryno, 1984]. One analysis of 1978 SUSENAS (National Social Economic Survey) data for rural Indonesian households found non-farm incomes to be 43% of average rural incomes, 32% of "farm household" incomes and 72% of "non-farm household" incomes (The "farm" and "non-farm" households comprise respectively 67% and 33% of rural sample) [Cherinchovsky & Meesook, 1984]. Intercensal population survey in 1985 indicates that the labour force in rural West Java is comprised of 42% in non-farm sectors and 58% in agriculture/fishery/forestry.

This large labour force in rural off-farm sectors is closely related with agrarian structure in rural Java.

The 1983 Agricultural Census suggests that at least 12 million of Java's 15.8 millions households derive income from the 6.3 million ha of cultivated land in the small holder sector, as farm operators, agricultural wage labourers or (in a large number of cases) both. 10.88 million households have operated lands (both as owner-operators and tenant/sharecroppers), however among them, 1.64 million households are land holders of less than 0.1 ha, and 5.14 million households are holders of land more than 0.1 ha but less than 0.5 ha. Households with land more than 0.5 ha numbered 4.10 million (households with land more than 0.5 ha but less than 1.0 ha are 3.29 millions, household with more than 1.0 ha are 1.71 million. Average farm size for households with operated land is 0.63 ha). [White, 1986]. These data indicate that households with 0.5 ha holdings on more are only 26% of all households in rural Java. 31% of rural households are completely landless, and the rest (43%) are very small farmers with holdings less than 0.5 ha (10% of whole households can be called near landless, for their holdings are less than 0.1 ha).

These data show average farm size in rural Java is rather small (0.63 ha), and only one-fourth of all rural households have 0.5 ha operated land or more. 41% of households can be classified as landless and near landless. The rest (33%) are rather tiny/small land holders (0.1 – 0.5 ha).

Village-level field surveys show this proportion of rural households varied widely according to regions/villages. For example in West Java, surveys in villages of northern coast low plain found the bulk of households (45 – 80%) are landless, while there are a small number of households which occupy large areas of paddy

Table 1. Employment by sector, Rural Java, 1985 (% of employed population)

Industry	Male	Female	Total
Agriculture/Forestry/Fishery	65.1	62.1	63.9
Mining & quarrying	0.6	0.2	0.5
Manufacturing	7.2	11.6	8.9
Electricity/Gas/Water	0.1	0.0	0.1
Construction	4.7	0.1	2.9
Trade, Restaurant	9.1	18.7	12.8
Transportation, Communication	3.9	0.0	2.4
Financing/Insurance	1.3	0.1	2.4
Public service	9.0	7.1	8.3
Others	0.1	0.0	0.1
Total	100.0	100.0	100.0

Sources: Biro Pusat Statistik, *Population of Indonesia, SUPAS No. 5, Results of the 1985 Inter-censal Population Survey*, Jakarta, 1987.

field (20–100 ha). In other major paddy growing areas of West Java, Priangan highland, like Bandung basin, Cianjur basin and so on, there are 15–50% landless households, and households which have the largest paddy fields have at most 5 ha land. On the other hand, southern mountain areas of Priangan highland have little landless households although main agricultural fields are dry lands, and average holding per household are not large [various surveys of SAE, like Wiradi 1980, and PATANAS, Prayogo, 1985].

The 1983 Agricultural census indicates the number of households one of whose members or more work as agricultural wage labourer, to be 4.23 millions (27% of all rural households), while households which aren't engaged in agriculture are recorded as 3.55 millions, 22% of all rural households. From these numbers, we can calculate that households whose member(s) work as agricultural wage labourer but do not have operated land at all amount to 1.36 millions (9%), while 2.87 millions households (18%) are those whose member(s) work as agricultural labourer and have their operated land.

Village-level surveys usually show households whose member(s) join agricultural wage labour work are more than above numbers. But households whose member(s) join agricultural wage labour work can have member(s) who work in the off-farm sector, moreover the phenomenon of multiple occupations in rural Java can enhance the role of off-farm sector beyond the number given above.

Table 1 shows employment distribution by sectors in 1985 for rural Java. According to this table, the labour force in agriculture/fishery/forestry amounts to 63.9% (male 65.1% and female 62.1%), and the labour force in manufacturing is 8.9% (male 7.2% and female 11.6%). However these figures show only primary occupations. Table 2 shows the example of complexity of multiple occupations based on a field survey, and many workers who work as farmer or agricultural labourer as their primary occupation also work as workers of small scale industries and so on, as their secondary, third, or fourth occupation.

Table 3 shows distribution of farm and non-farm incomes among households by paddy field ownership class, based on 9 villages surveys in West, Central and East Java by SAE in 1981 [Mintoro, 1984]. This table shows the degree of contribution by agricultural wage labour to the households' income, especially for households of landless and near landless. This table indicates that the reason why millions of households with tiny owned/operated land can hold their living, is because they get more income from the off-farm sector than from the on-farm sector itself. The paddy field ownership class which gets more income from on-farm sector than off-farm sector is only that with 1.0 ha and more rice field. The non-owner class who are engaging in agricultural labour get only 18% from income by agricultural wage labour, while they get 69% of income from off-farm sectors. These figures, together with the above-mentioned number of landless households whose members do not do the agricultural wage labour, suggest that there exists a rather wide range of off-farm labour opportunities and a labour force itself which is not affected by the so-called M cycle demand of agricultural labour [Choe, 1986].

Another important feature of this table is that non-farm incomes for the larger landownership group are more than those for smaller landownership group. This feature means that the large landownership group with more income from on-farm sector also gets more income from off-farm sectors than does the smaller landownership group, with smaller income from on-farm sectors.

Paddy production growth since the end of the 1960s increased agricultural surplus which could be invested in off-farm sector by the rural elite group. Paddy production growth, however, did not increase the use of hired labour per crop, partly because of mechanization, and partly because peasants tend to prefer family labour use to hired labour use, although this change is not so drastic. The share of hired labour in agricultural income has proportionally declined, i.e. the growth in hired labour's (absolute) income has been slow compared to the much more rapid growth in farmer's income from crop production [White and Wiradi, 1988, White, 1986].

This information emphasizes the difficulty of increasing the income of landless and near landless people through agricultural production growth only. Also these data show the possible dynamism set up by this differentiation, that is the provision of labour and capital in rural area, as well as the vast problem of low income group, who can be continually poor.

In order to understand how these landownership groups including landless, interrelate with the non-farm sector, and how is the dynamism of non-farm sector in the changing Indonesian economy, I will present the case study in the following chapter. As a case study of off-farm sectors, I will present small scale industry in rural West Java, in particular the case of the weaving industry.

II. Small Scale Industry in Rural Java

In order to analyze the relation between off-farm sector and land ownership groups,

Table 2. Occupation of Respondent Household's Heads, by Primary, Secondary, Tertiary, Fourth Occupation at a Hamlet in Bandung District

Primary Occupation	Secondary Occupation	Tertiary Occupation	Fourth Occupation	Number of Respondent
Weaving producer	—	—	—	4
Weaving producer	peasant	—	—	3
Weaving producer	agricultural labourer	—	—	3
Weaving producer	<i>beca</i> (pedicab) driver	—	—	1
Weaving producer	<i>HANSIP</i> (civil police)	—	—	1
Weaving producer	peasant	agricultural labourer	—	1
Weaving producer	agricultural labourer	peasant	—	1
Weaving producer	pedicab driver	agricultural labourer	—	1 / 15
Peasant	agricultural labourer	—	—	4
Peasant	—	—	—	3
Peasant	fish breeder	—	—	1
Peasant	weaving producer	—	—	1
Peasant	fish breeder	village officer	—	1
Peasant	weaving producer	agricultural labourer	—	1
Peasant	agricultural labourer	head of <i>RT</i> (neighborhood organization)	slaughter	1 / 12
Cloth trader	peasant	—	—	5
Cloth trader	—	—	—	4
Cloth trader	agricultural labourer	—	—	1 / 10
Agricultural labourer	peasant	—	—	4
Agricultural labourer	—	—	—	2
Agricultural labourer	domestic servant	roll warp in a bobbin	—	1
Agricultural labourer	roll warp in a bobbin	pounding of rice	—	1 / 8
Pedicab driver	weaving producer	agricultural labourer	—	2
Pedicab driver	weaving producer	agricultural labourer	weaving labourer	1
Pedicab driver	agricultural labourer	peasant	—	1
Pedicab driver	<i>mi baso</i> (needle with meatball) trader	agricultural labourer	—	1 / 5

Table 2. (Continued)

Primary Occupation	Secondary Occupation	Tertiary Occupation	Fourth Occupation	Number of Respondent
Bred fish trader	peasant	—	—	1
<i>Warung</i> (daily goods stall) trader	—	—	—	1
<i>Mi baso</i> trader	peasant	agricultural labour	—	1
<i>Bajigur</i> (coconuts milk and spices drink) trader	peasant	—	—	1
Mobil parts trader	—	—	—	1 / 5
Manager of credit cooperatives	manager of garment factory	peasant	—	1
Employee of textile factory at Majalaya	peasant	—	—	1
Employee of textile factory at Banjaran	yarn trader	—	—	1
Gas station employee	fish breeder	—	—	1
Security guard of local Govt.	Security guard of private company	—	—	1
Employee of local parliament	—	—	—	1
<i>HANS/IP</i>	agricultural labourer	construction worker	wrapping gauze	1
Sewing	peasant	—	—	1
Roll warp in a bobbin	—	—	—	1
Fish breeder	Govt. pension	—	—	1
<i>Dukun</i> (shaman)	sewing	—	—	1
Military pension	village officer	—	—	1
decrepit woman	—	—	—	4
Total				71

Source: Interview by author in 1986.

Table 3. Distribution of Farm and Nonfarm Incomes among Households by Paddy Field Ownership Class: 1981

Paddy Field Ownership	Owner Farm Income			Agricultural Wage Income		Nonfarm Income		Total Income	
	% of All Households	Average	% of Total	Average	% of Total	Average	% of Total	Average	% of Total
1.0 ha and above	8.5	1,222	50	5	1	916	23	2,143	31
0.5 – 0.99 ha	10.4	289	15	12	3	410	12	711	13
0.25 – 0.49 ha	15.8	212	16	25	10	360	17	598	16
Less than 0.25 ha	16.2	105	8	46	18	180	9	333	9
Nonowners									
Engaging in Agricultural wage labour	41.6	50	10	67	68	255	31	372	26
Not engaging in agricultural wage labour	7.5	0	0	0	0	405	9	405	5
All household	100.0	205	100	41	100	382	100	589	100

Source: Abunan Mintoro, 1984.

Note: Aggregate for the nine sample neighborhoods, n = 1,113 households in Rp thousands per year.

and the dynamism of the off-farm sector and of rural society, we need to shed light on the off-farm sector itself, in this case, rural small scale industry.

In the manufacturing sector in Indonesia, rural industry still plays an important role in employment. In 1985, rural industry in Java accounted for 62.2% of total industrial employment in Java, and that in Indonesia is 66.2% (3.84 millions). This ratio of rural industry to total manufacturing sector is, however, declining. This rural industry ratio to the total manufacturing sector was 78.0% in Java, 77.2% (2.28 millions) in Indonesia in 1971, and 66.1% in Java, 69.3% in Indonesia (3.10 millions) in 1980. Manufacturing sector employment itself in whole economy is 9.1% (5.80 millions) in 1985, 8.4% (4.36 millions) in 1980, and 7.4% (2.95 millions) in 1971. Employment in manufacture is gradually increasing. That in the rural area is increasing more slowly than that in urban areas (Table 4).

Of employment in the manufacturing sector, small scale industry absorbs the major part in Indonesia. In 1986, small scale industry (household industry, employing 1 – 4 persons, plus small scale industry, employing 5 – 19 persons, definition of Central Bureau of Statistics, Indonesia) accounted for 67.3% of total employment, and numbered 3.48 millions. This ratio is, however, declining. In 1974, this ratio was 86.5% (4.24 millions), and in 1979 80.6% (3.62 millions) (Table 5).

From the above-mentioned numbers, the rural and small scale character of today's Indonesian manufacturing sector can be pointed out. Two-thirds of employment in manufacturing sector is in the rural sector, and also two-thirds was employed by small scale industry in 1985/86. This rural-based and small scale feature of the manufacturing sector in Indonesia has contributed much to off-farm

Table 4. Employment in Indonesian Manufacturing by Rural-Urban Distinction

	1961	1971	1976	1980	1985
Rural area					
Indonesia (%)	63.1	77.2	80.7	69.3	66.2
Java (%)	n.a.	80.0	n.a.	66.1	62.2
Urban area					
Indonesia (%)	36.9	22.8	19.2	30.8	33.8
Java (%)	n.a.	20.0	n.a.	33.9	37.8
Manufacturing % of total industry					
Indonesia (%)	5.7	7.4	6.5	8.4	9.1
Java (%)	n.a.	8.7	n.a.	10.0	11.0
Employment in Manufacturing					
Indonesia (1000 person)	1,856	2,953	3,560	4,361	5,796
Java (1000 person)	n.a.	2,302	n.a.	3,349	4,392

Sources: 1961; *Sensus Penduduk 1961*, Republik Indonesia, Biro Pusat Statistik, Kabinet Menteri Pertama, 1961

1971; *Sensus Penduduk 1971*, Biro Pusat Statistik, 1972

1976; *Sensus Penduduk Antar Sensus 1976*, *Keterangan Angkatan Kerja Indonesia*, Biro Pusat Statistik, 1977

1980; *Penduduk Indonesia, Hasil Sub-Sampel Sensus Penduduk 1980*, Biro Pusat Statistik, 1982

1985; *Penduduk Indonesia, Hasil Survei Penduduk Antar Sensus 1985*, Biro Pusat Statistik, 1987

Table 5. Employment in Indonesian Manufacturing by Scale of Industry

	1974	1979	1986
Large/medium scale industry			
number of person (1000 person)	662	870	1,691
% of total number	13.5	19.4	32.7
Small scale industry			
number of person (1000 person)	343	827	770
% of total number	7.0	18.4	14.9
Household industry			
number of person (1000 person)	3,900	2,795	2,714
% of total number	79.5	62.2	52.4
Small scale/household industry			
number of person (1000 person)	4,243	3,622	3,484
% of total number	86.5	80.6	67.3

Sources: 1974; *Sensus Industri 1974/75*, Biro Pusat Statistik

1979; *Statistik Industri Kecil, 1979*, Biro Pusat Statistik, 1982

1986; *Sensus Ekonomi 1986, Hasil Pendaftaran Perusahaan/Usaha*, Biro Pusat Statistik, 1987

Table 6. Employment of Small Scale Manufacturing, 1975 and 1986, and its Growth Rate per Year

Ranking	ISIC Code	Industry	1975	1986	Yearly Growth Rate
1	31410	Drying and Processing Tobacco	3409	93410	35.1
2	32210	Wearing Apparel	3922	60675	28.3
3	31161	Rice Milling and Polishing	60435	54677	-0.9
4	33211	Wooden Furniture Manufacturing	14440	43902	10.6
5	31251	<i>Kerupuk</i> Manufacturing	14835	37812	10.8
		Other Chip Manufacturing		7827	
6	36421	Brick Manufacturing	14462	32008	7.5
7	36422	Roofing Tile Manufacturing	13365	29299	7.4
8	33111	Saw Mills and Other Wood Mills	18336	25107	2.9
9	36320	Cement Products	7773	19224	8.6
10	34200	Printing and Publishing	7407	18796	8.8
11	32118	<i>Batik</i> Manufacturing	16469	18354	1.0
12	36330	Lime and Lime Products	8360	18320	7.4
13	33130	Rattan and Bamboo Webbing	2481	15227	17.9
14	31179	Manufacture of Bakery Products	7500	14376	6.1
15	32410	Footwear of Leather, it's Imitaiton	2666	12011	14.7
16	31279	Other Food	5194	11445	12.2
	31272	Manufacture of Cakes		6942	
17	31245	<i>Tahu</i> Manufacturing	6463	11075	8.7
	31243	<i>Tempe</i> Manufacturing		5084	
18	38111	Agricultural Hand Tools and Culery	5469	9433	5.1
19	32114	Weaving Mill, Except Gunny	22800	8562	-8.5
20	39090	Other Manuf. not elsewhere classified	3482	8098	8
23	32121	Made-up Textile Goods except Apparel	3640	6553	5.5
24	35609	Plastic Prods. not elsewhere classified	2910	6090	6.9
25	33112	Wooden Building Materials	1577	5924	12.8
26	38131	Non-Aluminium Kitchen Ware	1984	5891	10.4
27	31171	Macaroni, Noodle, and the like	4929	5710	1.3
28	32330	Products of Leather exp. Footwear	712	5538	20.5
29	31142	Fish Salting/Drying	3409	5379	4.2
31	31167	Copra	3367	4913	3.5
32	33140	Wood Carving	783	4649	17.6
33	31211	Tapioca	5961	4210	-3.1
34	31340	Soft Drink	2692	4006	3.7
35	39050	Manufacturing of Stationary	100	3987	39.8
36	32130	Knitting Mill	1076	3857	12.3
37	31182	Other Sugar Product Manufacturing	6383	3552	-5.1
38	32290	Other Textile and Leather Apparel	831	3451	13.8
39	31153	Cooking Coconuts Oil	3781	3418	-0.9
40	31232	Other Ice (Ice-Lollipop, Ice-Mambo, etc.)	2240	3374	3.8
	31123	Ice Cream Manufacturing	6778	513	-20.9
	31162	Other Cereal Mill Products	3713	607	-15.2

Sources: 1975; *Industri Kecil di Indonesia, Jilid I, Sensus Industri 1974/1975*, Biro Pusat Statistik, 1978. 1986; *Statistik Industri Kecil 1986, Sensus Ekonomi 1986*, Bino Pusat Statistik, 1989

- Notes: 1. in 1975, *Kerupuk* Manufacturing, and Other Chip Manufacturing were not divided.
 2. in 1975, Other Food, and Manufacture of Cakes were not divided.
 3. in 1975, *Tahu* Manufacturing, and *Tempe* Manufacturing were not divided.
 4. Small scale industry; establishment with 5-19 employed persons.

sectors in rural Java, mentioned above. Point of discussion lies upon how these already deployed rural industries can be sustained, and developed for the future. This rural based and small-scale character of the manufacturing sector is gradually fading. In 1970–75, about four fifth or more of manufacturing sector labour was employed by small scale industry, and also by rural industry. The increase of employed persons since 1975 mostly occurred in the medium and large scale sectors. Geographically, the increase of employed persons in rural area occurred, but the absolute increase in numbers is the almost same between rural area and urban areas. Since 1987 with deregulation policy, direct investment in JABOTA-BEK (Jakarta and 3 neighboring regencies), Surabaya, Bandung, and Semarang regions has increased rapidly, so that this trend is increasingly clear (no data available for employment according to region and scale of industry after 1986).

Comparison for 5 digit divided sub-sector employment between 2 industrial census (1974/75 and 1986) could explain partly how employment in small scale industry changed. The results of the 1986 census have been published in part, so data for small scale industry of definition BPS are available, but data for household industry of definition BPS are not yet available. In this paper, I present only the changes of small scale industry of BPS definition (Table 6).

Table 6 shows that in some divisions of manufacturing the number of employed persons increased rapidly in these ten years, like processing of cigarette leaves, garment, wooden furniture, red brick making, roof tile making. These divisions of manufacturing recorded a high rate of growth, while some other divisions of manufacturing recorded rather moderate rates of growth, like timber processing and batik.

A study of the roof tile making industry shows the growth of once small firms through the size structure. While price structure, local consumption and the heavy character of the product protect the industry, some local progressive entrepreneurs acquire higher technology so that local industry can provide the national markets with variations of products [Mizuno, 1990]. Among these divisions of industries, some divisions have advantages of location because of the transportation difficulties caused by the nature of the bulky, heavy, easily rotting and consumed locally. These small scale industries can sustain their advantages quite a long time in the face of large scale industry domination [Anderson, 1982].

On the other hand, some divisions of manufacturing recorded a faster rate of decline, for example the weaving industry. Small and household industry of weaving industry in 1974/75 employed 137 thousand people, and this number consisted of 23 thousand persons employed by small scale industry, employing 5–19 persons, and 113 thousand persons employed by household industry employing 1–4 persons. Many studies have reported the decline of the hand-loom weaving industry since the middle of the 1960s, which once flourished in Bandung and Pekalongan regencies, and that production was distributed to national markets (not only locally consumed) [Hill, 1980]. In 1985, the number employed in the small scale industry amounted to only 9 thousand people. The number of people employed

in today's household weaving industry is not available now, but is estimated to be far less than the 113 thousand recorded in 1974/75.

The weaving industry itself in Indonesia has developed over the years, so that the number employed by medium/large weaving industry is 156 thousand persons in 1985, while this number was 100 thousand in 1974/75. These trends are reflected by the orientation of the development of weaving industry in Indonesia, that large scale factories are flourishing, and small scale ones are declining, or are designated by the Government to spend their lives as a souvenir/high-valued crafts producing industry, with rather small numbers. The development of large scale and modern technology-using weaving industry (full-automatic, or shuttle-less weaving) has displaced a number of small scale and traditional industries (handloom weaving), and modern but out-dated technology-using industries (for example not-full automatic weaving loom, not shuttle-less weaving loom). Some attempts by the Government to foster the sub-contracting system with government owned companies failed to change this trend.

This case is an example for those small industries which are declining along with the development of large industry. Superiority of large industry to small industry, and eventual predominance of large farms along with advancement of industrialization stages can be seen as a rule. Maybe this is due to economies of scale with respect to plant, economies of scale with respect to management and marketing, possibly superior technical and management efficiency, preferential access to supporting infrastructure services and external finance, and concessionaires finance along with investment incentives and tariff structures that in theory are neutral between large and small scale, but in practice favour large scale [Anderson, 1982].

However, each country has its way of industrialization, also of transformation of small scale industry in advancing stages of industrialization. For example, there is the Japanese case of small weaving farms which dominate the industry by developing well-organized sub-contracting systems between urban based larger spinning farms with local-rural small weaving industry firms, intermediated by local based medium scale weaving farms or local based merchants [Kaneko, 1982, and many other studies].

In Indonesia, development of large scale (some time quite big) factories in the light manufacturing industries, which in other countries are often dominated by small and medium scale industries, for example in Japan, like plywood, chemicals shoe-making, tableware ceramic, and so on, is common and a typical feature in today's manufacturing industries.

Here I describe and analyze the rural weaving industry's case, and try to examine question of linkage between off-farm sector and on-farm sector, rural differentiation, and the dynamism of rural industry, especially for enhancement of incomes for landless and near landless households.

III. The Case Study, Rural Weaving Industry in West Java

(1) Short history of weaving industry and its products in the research site

The research site is situated at Cikancung sub-district (*Kecamatan*) Bandung District (*Kabupaten*), about 8 km from town of Majalaya sub-district where there are 240 power loom establishments in 1988 and which functions as a local center of textile industry [Hardjono, 1989].

In the 1920s, a newly-designed hand loom (called ATBM) by the Textile Inrichting Bandung (Bandung Textile Institute) was introduced to Majalaya, and the hand-loom industry began to develop there, and this was followed by the development of the powered loom-using weaving industry, in the 1930s [Matsuo, 1970].

In the research hamlet also, the hand-loom industry began to develop in 1932. The father of today's head of farmers' group (*Kelompok Tani*) bought 4 ATBM by selling 100 *tumbak* (1 *tumbak* = 16 m²) paddy field at that time. At first, sarong was produced in this hamlet.

In 1950s, the hand-loom industry dispersed over the whole Priangan area. At that time, particularly after 1958, hand-loom industry developed at Majalaya area, including neighboring sub-district, like Cikancung, with the protection of the Government, aiming at boosting of indigenous entrepreneurs through its control over yarn, which for the most part of national consumption was imported. Each ATBM enterprise which gets a licence from the Government could get yarn with low prices channelled by Government sponsored cooperative. Three cooperatives had branches in the research village at that time, one branch was headed by the then head of the village, another branch's treasures was today's head of the farmers' group who then had a 50 hand-loom factory. The hand-loom industry bloomed at this village with production of factory system where a factory managed by an upper-class villager furnished with 20 – 100 hand-loom, employed many villagers both from within village and from outside. This continued until 1964 when Government-sponsored cooperative ceased to function, because of many problems at national level (scarcity of foreign currency) as well as at village level (misuse of allocated yarn) [Palmer and Castles, 1965].

The beginning of a new economic policy under the New Order Government after 1967 changed the Indonesian weaving industry dramatically. Under the Foreign Investment Law (1967) and National Investment Law (1968), foreign capital that had been restricted and controlled until then (particularly Japanese) and Chinese-Indonesian capital began to invest in a large scale in the textile industry, including weaving industry. Since then, thousands of hand-loom firms sprawled around Majalaya area began to decline drastically, because commodity produced till then by small-scale firms began to be produced by power-loom firms (commodities produced till then by small scale power-loom firms were produced by large scale private firms). Many hand-loom firms as well as out-of-date power-loom small scale firms, managed by indigenous entrepreneurs, went bankrupt.

Under the severe competition with power-loom firms, entrepreneurs in the research village endeavored to survive, by the following measures; (i) looking for commodity which was not dominated by modern firms, (ii) developing sub-contracting system within the village (called *makloon*, or *hirkup* within the village), (iii) reducing costs by various ways, (iv) village merchants made efforts to exploit new markets vigorously.

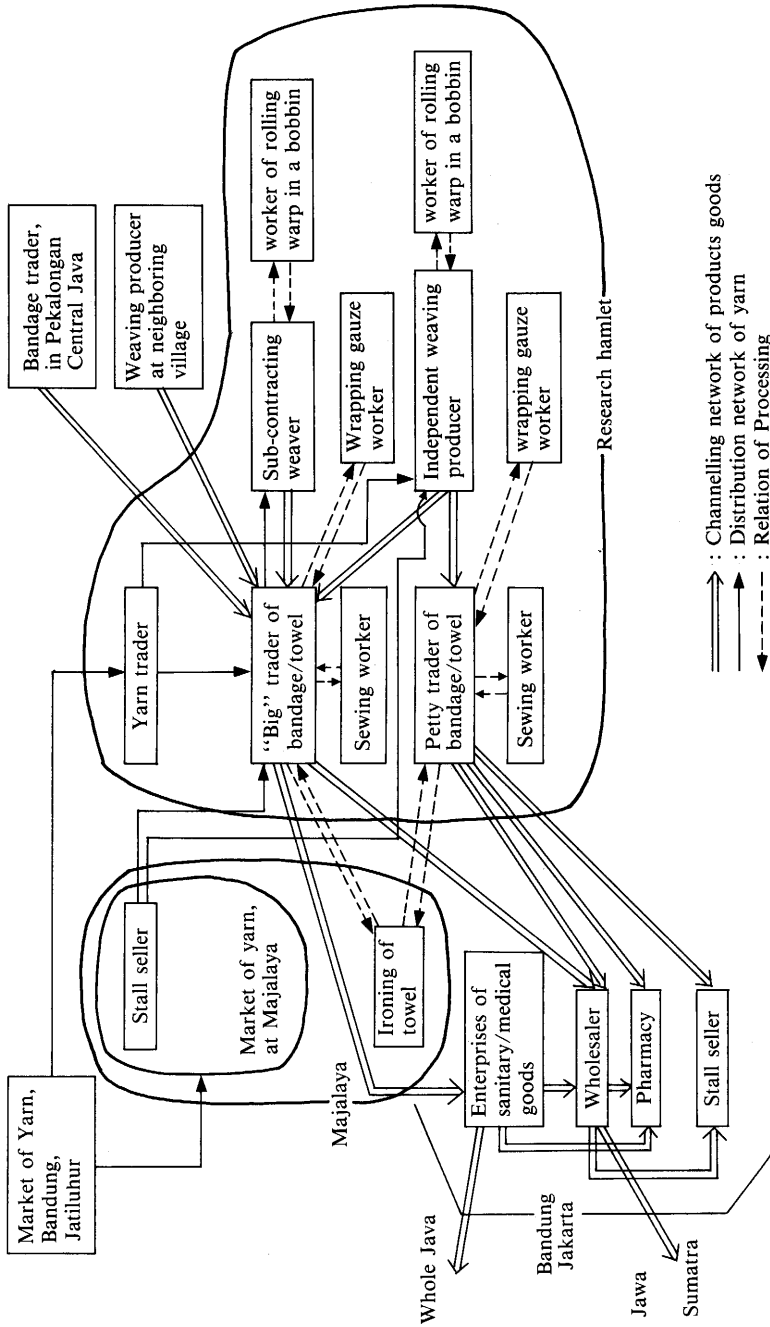
Commodity produced there changed from sarong to *belacu* (gray shirting) in the 1950s, and *piké* (piquet cloth) began to be produced in 1960s, but in 1973 piquet cloth suddenly ceased to be sold because modern factory produced better and cheaper substitution goods. After that unemployed piquet cloth weaving labourers had to wander around distant areas as agricultural labourers from early morning, because paddy fields surrounding the research village are relatively limited. However, in 1975 – 76 *lap piring* (dish towel) and *perban* (bandage) began to be produced, and the weaving industry revived again in the hamlet.

In this process of change, another system of production was started, that is the “*hirkup*” system in which within-village merchants provided small producers with raw materials and a small amount of working capital, and the small producers supplied their products to the merchants. With this system, small producers with only one or two hand-loom could operate with minimum initial capital, so that the number of the small producers increased, and former factory production system dissolved. At that time hand-loom became cheaper because bankrupted factories sold many hand-looms. Former factory workers became small producers, and former entrepreneurs with 20 – 120 hand-looms partly became organizing merchants of this sub-contracting-system (*hirkup*), and partly became farmers again, like today’s head of farmers’ group (with 2.4 ha operated land).

The success of some merchants encouraged other villagers to become merchants, but in this case merchants couldn’t afford to provide raw materials and working capital, but only bought producers’ output, and made efforts to sell it in Jakarta, Bandung and so on. These small scale merchants go around many cities with minimal transportation and lodging costs. Producers who sell their products to these small scale merchants are not organized by the sub-contracting-system organizing merchants. These producers can be called independent producers, but they have only one or two hand-looms.

Today’s products of the village are of low quality, and cheap prices. Most materials for these products are low quality yarn called *BS* (yarn to be disposed by the spinning company, but distributed at local markets with cheaper price than standard products). For dish towel, polyester or polyester and cotton mixed yarn are used, because this yarn is cheaper than cotton yarn. Polyester yarn is not fit for dish towel because polyester yarn does not absorb water. The history of product change was a history of changing products to cheaper, lower value-added products. Commodities produced by the sub-contracting-system organization are a little better quality, and a bit better prices. Commodities produced by the independent producers and sold by small scale merchants are the lowest quality, and cheapest.

Figure 1. Network of Materials Distribution and Channeling of Product Goods



Source: result of fieldwork

Table 7. Initial Capital Needed for Various Occupations in Research Hamlet

Rp.	initial capital ("modal")
0	Waged weaver Wrapper of gauze Yarn for bandage sterilizing worker
3000	Worker of rolling warp in an bobbin
10,000	Sub-contracting weaver
25,000	Worker of sewing edge of dish towel
40,000	Independent weaving producer (minimal capital)
50,000	Bandage/dish towel petty trader
90,000	Independent weaving producer (normal operation, 1 hand-loom)
1,250,000	Small peasant (0.1 ha paddy field)
4,000,000	Bandage/dish towel "big" trader
12,500,000	Large peasant (1.0 ha paddy field)

Source: Field study by author in 1986, at Bandung District.

(2) Organization of production and employed villagers in rural economies

Figure 1 shows the production organizations mentioned above. Sub-contracting-system organizing merchants are shown as "big" merchants, because their economic scale is far bigger than the small scale merchants, who are shown here as "petty" trader.

Producers sometimes give the job of rolling warp in a bobbin to a neighbour, usually worked by female labour (old women, or unmarried young women). Merchants of dish towels give the job of sewing the dish-towel's edging (done by married women as well as unmarried women, and sometimes adult men), and merchants of bandages give the job of wrapping gauze with sterilized paper (done by unmarried young women). Dyeing and starching are done by producers themselves, and sterilizing of yarn for bandage is done by merchants with some waged workers (usually done by unmarried young men). Weaving producers are usually a couple, husband and wife, and sometimes employ weavers when they have enough working capital and not-operated hand-loom (waged weavers are unmarried young men).

Table 7 shows initial capital which is needed by these merchants/producer/workers. This table shows initial capital for farmers who intend to buy paddy fields. This table says that rather less capital is needed by small producers and petty traders, compared with other sectors like agriculture, and those small producers and petty traders can preserve their independence more than as sharecropper.

Table 8. Correlation between Weaving Related Household Heads' Occupation and Agricultural Land Ownership

Land Ownership Class	Manager of Garment Factory	"Big" Trader of Cloth	"Medium" Trader of Cloth	"Small" Trader of Cloth	Sub-Contracting Weaver	Independent Weaver	Worker of Sewing	Worker of Rolling Warp	Worker of Weaving	Worker of Sterilizing	Yarn Trader
0			1	4	1	14	2	2		1	1
0.0-0.1			1								
0.1-0.2			1	1		3		1			
0.2-0.3						1			1		
0.3-0.4		1									
0.4-0.5			1								
0.5-0.6											
0.6-0.7						1					
0.7-0.8											
0.8-0.9											
0.9-1.0											
1.0-	1										

Source: Field work in Bandung District, in 1986.

Table 8 shows the correlation between ownership-land class and household-heads weaving-industry-related occupations. Households interviewed intensively were 71, and Table 2 shows their occupations including secondary and third ones. Table 8 shows that most households joining weaving industry do not have agricultural land, or have a small plot. Some exceptions are one sub-contracting-system organizing merchant, some "medium" merchants who once organized sub-contracting system but were hampered in trade business, and one entrepreneur of garment industry. (The factory is located at Krawang district, he is son of the head of the above-mentioned farmers' group, and has the largest agricultural land including paddy field, and fish pond/dry land totaling 6 ha). One independent weaving producer who has 0.52 ha agricultural land does this job as secondary occupation but with 2 hand-looms (his son operates 1 hand-loom), while his first occupation is farmer (his daughters work as sewing domestic workers with owned sewing machine).

The father in law of this sub-contracting-system organizing merchant is the largest bandage merchant of sub-contracting-system organizing in village, and has 1 ha more land. He is the brother of the above-mentioned head of the farmers' group. Among medium and big class merchants, two groups are found, one is those who previously had their own agricultural land (inherited land, for example), with not-tiny scale, the other is a group of people who got land thanks to trade business profits. Some people have strong interest in increasing their land, and other people have no strong interest in land, although the latter also buy some land (partly because they need land as mortgage to get credits from the bank). The above-mentioned sub-contracting system organizing merchant established a hand-loom factory with 15 hand-looms within the village in 1988, and the largest dish towel merchant in village established a hand-loom factory with 47 hand-loom in 1986. These two traders, have no strong inclination to land, so their owned lands are less than 0.5 ha.

The most important factor for rural differentiation here is the off-farm sector, and its surplus is sometimes used for purchasing land, sometimes used for investment in weaving industry, but these two ways can support each other. Most paddy production in this village is consumed by themselves, while up-land farming in mountain area, cloves and tea bring much profit, but this farming can hardly be accessed by research village's people because of distance and too large initial capital needed. Production increase of paddy brought by HVY variety did not have much effect on village economy, because before HVY variety introduction, paddy production per harvest is already rather high, and lack of technical irrigation did not change production pattern so much. The small size of the paddy field (in village) 125 ha found is also a factor explaining this situation. The decline of the weaving industry in this village has diminished this dynamic power, but with many efforts described above, this industry has survived and transformed the society, although individually there are many cases of bankruptcies, change of business, and migration from the village.

Table 9. Wage Rate, Wage a Day, and Returns of Various Occupations Engaged by Respondent in Research Hamlet

Jobs	Wage/Returns a Day (Rp.)	Work Hour a Day (hours)	Wage/Returns a Hour (Rp.)
Agricultural related work			
hoeing (adult male)	1,000	5	200
transplanting (married woman)	750	4	188
weeding (married woman)	750	4.5	167
harvesting (mainly women)	1,200 – 1,500	2.5 – 3.5	400 – 500
transportation of unhulled paddy (male)	1,350	3	450
Weaving related work in the research hamlet			
weaving producer (husb.-wife)	500 – 780	10	25 – 50
waged weaver in vil. (male)	650	7	92
sewing (adult)	1,300 – 1,700	10 – 13	130
sewing (unmarried young woman)	800	10	80
rolling warp in a bobbin (unmarried woman, aged woman)	150 – 390	6 – 10	25 – 39
waged worker of sterilizing (unmarried young male)	1,500	12 (6pm – 7am)	125
wrapping gauze (unmarried woman, aged woman)	50 – 700	9	61
small scale trader of cloth	2,400	10	240
medium scale trader of cloth	8,000	8	1,000
Weaving related work outside the hamlet			
worker of weaving factory at Majalaya (finishing worker) (married male)	2,250	13	173
worker of foreign spinning factory at Banjaran (5 year duration of work, married male)	2,805	8	350
worker of garment factory at Bandung (unmarried woman)	1,500	13	115
Other occupations outside the hamlet			
pedicab driver at Bandung (male)	2,000 – 5,000	16	125 – 312
construction worker (male)	1,900	8	238
employee of gas station at Majalaya (married male)	1,250	9	138

Source: Result of field study, 1986

Note: All figures here are preliminary data.

1 US dollar = Rp 1,000

To understand the position of weaving industry and off-farm sector in comparison with agriculture in the village economy, Table 9 posed the wage rates and wage per day of various jobs available for villagers. This table shows that jobs relating to the weaving industry in the hamlet provide villagers generally with a lower wage rate than waged agricultural labour, for example, wage rate for waged weaver (unmarried young male) in hamlet is Rp. 92 per hour and sterilizing bandage yarn (unmarried young male) is Rp. 125, while the wage rate for hoeing (male) is Rp. 200 per hour. Paddy transplanting (female) is Rp. 188, and wrapping gauze (unmarried female homemaker) is Rp. 61. But the difference in wages per day is smaller than the difference between wage rates per hour. Self-employed workers and household women workers tend to work longer hours. On the other hand, customarily waged agricultural labour hours are from 7–12 in the afternoon, and can be shortened as long as the scheduled tasks are finished, but never is there overtime. Notable wage rate is for independent weaving producers, that is only Rp. 25–50 per hour. These producers complain of low prices of their products compared with the prices of materials, which always increase. A producer who works as an independent weaving producer can only get income equivalent to 220 kg hulled rice a year per household member, which means their incomes are lower than poor threshold (*garis kemiskinan*) of Sajogyo's concept [Sajogyo, 1977]. This rate explains why many independent weaving producers have to work as pedicab drivers in Bandung as second job (Table 2). Earnings from being a pedicab driver are much higher than from available jobs in the village, and are used for working capital of weaving production. These producers go to Bandung city on Saturday afternoon, and work there until Wednesday morning (they work night until morning).

A sub-contracted producer (married male) can get Rp. 126 per hour, and Rp. 1400 a day. Here is higher value-added of products of sub-contracting system than products from the relationship between independent producer and small scale merchant. The working hours for weaving production-related jobs in the village are usually long, to offset the low wage rate. Weaving industry related jobs which can provide villagers with rather good return are as merchants. A medium scale gauze trader can earn Rp. 8000 per day, while a small trader of dish towels can get Rp. 240 per hour.

Wage rates of informants' occupations outside the hamlet are rather higher than weaving industry related jobs' wage rates in hamlet, but not always higher than agricultural labour's wage rates. For example an unmarried woman working at a garment factory in Bandung city gets Rp. 1100 a day (with 2 meals) for 13 hours work, so the wage rate is calculated at Rp. 115 per hour. This is a little more than wrapping gauze, or sewing dish towel's edging, but less than paddy transplanting. In this village, transplanting and weeding waged jobs are usually done by married/divorced women, so for unmarried women, this wage rate can be thought of a little higher than wage rates available for them, but this job has the characteristic of long hours' factory work (different from long hours' household work),

and returning home at night which is sometimes dangerous for them (because of this a informant recently quit their job, and return to village). Male occupations which may bring more return than waged agricultural labour are pedicab driver (Rp. 125 – 312), construction worker (Rp. 238), foreign capital spinning factory worker with 5 years experience there (Rp. 350). Power-loom weaving factory worker (finishing process) at Majalaya town (Rp. 173) is lower than that of agricultural worker.

These data show that most occupations in the weaving industry in the village give villagers low level returns, except for related merchants, especially medium and big scale merchants. Although most weaving related occupations cannot bring more returns than paddy production, the workers cannot return to agriculture. A steady relationship between farmer and client workers (sometimes near hamlet villager) has been established, so the harvest is also done by these steady relating workers. The young generation of villagers now prefers to work in the off-farm sector, while many other weaving related workers are not able to work in the on-farm sector, as was proven by their experience in 1973 – 74.

Chronic decline of this village's industry makes returns for entrepreneur and workers even less. One of the results is a decrease of weaving producers' numbers, and increase in out-village migration. Among 71 respondent households heads' of nuclear families, 41 persons have already migrated out of the village (not including migration to neighboring hamlets/villages), among whom 19 persons had worked as weaving industry related workers in the hamlet before they migrated.

These data show a pessimistic picture of this rural industry, but this industry's history in the hamlet suggests many positive contributions to rural economies. A production relationship which fits the hamlet's social economic structure has been developed, so that every stratum of the hamlet can work or do their business in this industry, both as trader (with much initial capital, or without much initial capital) (Table 7) and as worker (according to their attributes). Division of labour creates much of the work in this village, almost the whole process of production can be done within this village (Figure 1), at low cost. Historical experience of this hamlet's industry developed this relationship, and its products are sold nationwide. Because traders come from this hamlet itself, most profits still circulate in this village, which are invested in land, or in industry. This makes dynamism of social change of village, and also transforms society.

The problem of these relationships is of low returns for participants. One merit of this system is to produce low price products, with low cost. This merit leads to too low returns for producers/workers. Those who cannot bear too low returns eventually have to leave this industry.

IV. Conclusion

One common type of small scale industry in Indonesia is industry which is being displaced by large and modern firms. Small-scale weaving industry in Indonesia

is an example case. Except for souvenir/handicraft industry with a relatively small number of establishments in outer Java, small scale weaving is in a difficult situation. The inclination of textile enterprises/groups of enterprises in Indonesia to have more levels of production with vertical orientation leaves little possibility of integral sub-contracting system development in weaving industry. Small scale industry always has to run away to products not-yet dominated by large/modern companies, and their products become lower quality and cheaper. Today's deregulation policy which enables foreign/domestic large firms to invest in almost every industry/division of industry can have negative effects on small industry in this context.

The process of development in the research village shows villagers have made an integration network and division of labour in the village. This integration and division of labour forms community-based industry with nationwide markets. This integration and division of labour fits with the social-economic village structure, especially agrarian structure. This integration and division of labour in the village strengthens the transformation/differentiation of the community. In many villages, the off-farm sector becomes a major source of differentiation. Here there is a possibility that this integration and division of labour is an organization that may take advantage of cheap labour existing in the rural area. The differentiation process can make cheap labour cheaper. Urban initiative integration can reach to the village, and take advantage of cheap labour with a putting-out system/sub-contracting system.

However the failure of small scale industry development may force villagers to leave the village. Segmentation of labour markets within the village will be connected with urban labour markets, for example unmarried women homeworkers in village wrapping gauze will become unmarried women workers in a garment factories, independent weaving producer become pedicab drivers in Bandung, and so on. Garment factory/shoe making factory is also organization of cheap labour, so migration means that the problem of landless and near-landless people in the village is transferred to the city.

Integration and division of labour within the village can lead to the development of community based industry. The existence of 6000 *sentra industri* (small scale firms in a cluster of the same kind of industry) in Java show the possibility of this development. Urban initiative integration can make use of this within village integration and division of labour. Still the problem of cheap labour remains, which in effect is the problem of the landless and nearlandless labourers.

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