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Cottage Industry in the Indonesian Provinces
Analysis of Census Statistics 1986 - 87

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COTTAGE INDUSTRY IN THE INDONESIAN PROVINCES

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COTTAGE INDUSTRY IN THE INDONESIAN PROVINCES

Analysis of Census Statistics 1986-87

Hermine Weijland

1. Cottage Industry in Decline?

The 1980s has been a trying period for the industrial sector in Indonesia. Low world prices for export commodities caused foreign exchange shortages and budget deficits, and led to cuts in imports and government expenditures, which severely hampered implementation and completion of industrial plans. It is therefore surprising that industrial growth in Indonesia has not been stemmed altogether. Admittedly, the growth rate of Manufacturing product fell with some 4 percent, but the high rate of 12 percent in the period 1965-80 could not have been sustained anyway. So the annual average of 7 to 8 percent in the eighties should be considered a genuine achievement, and this the more so since manufacturing industry in Indonesia has attained a level that corresponds with that in other Asian countries with similar resources and income levels.

As can be seen in Table 1 (Appendix), fast growth in the previous decade has made Indonesian Manufacturing equal in output performance to the manufacturing sectors in other large industrializing economies such as Pakistan and India. The earlier reported backwardness has vanished, and only the low share of machinery and equipment in manufacturing betrays a lingering weakness in the metal sector.

Some economists have shown concern about the fact that fast growth of manufacturing output has not led to a corresponding growth of manufacturing employment [*Kuyvenhoven and Poot 1989*]. As shown in Table 2, the successive industrial censuses yielded estimates of only 0.5 percent annual growth of total manufacturing employment over the period 1974-86, and a popular belief would have it that such sluggish growth could be due only to the capital intensive nature of modern industrialization.

However, contrary to conventional thought, the low growth rate of the industrial work force was not due to low labour absorption capacity in large and medium industry, for large modern enterprises have shown continual growth in employment at annual rates around 9 percent, and small industry has been growing likewise. Only the very small household and cottage enterprises showed diminishing employment, and this was the only reason for low overall growth of employment, for cottage industry traditionally provided the bulk of total manufacturing employment. With an initial share of some 80 percent, its overall decline almost offset all employment growth in the larger enterprise categories.

It has been argued elsewhere [Weijland 1989], that the consequent transformation of the employment structure in manufacturing need not have been a social problem, as the larger part of the Cottage Industry labour force was traditionally employed in badly paying micro enterprises with involution characteristics. It was demonstrated with the help of, among others, productivity statistics such as presented in Table 3, that sluggish employment in manufacturing obviously was caused mainly by a shift of female labour away from marginal small industries towards tertiary activities, and that such an exodus had resulted in substantially higher average productivity in the cottage industry sector.

This argumentation ran contrary to the explanation offered by Kuyvenhoven and Poot (1989:10), who stated that household and cottage industry increasingly became a refuge for the unemployed, and that labour productivity in this category of manufacturing therefore tends to decline.

The following sections give further evidence about employment in Cottage Industry (CI), showing how it differs across provinces, and what determined its apparent decline. It is also shown that this enterprise category still has growth potentiality. The paper uses processed provincial data of the CI establishment census and survey as statistical evidence, and relates these data with provincial economic indicators in order to gain insight in the structural correspondence between cottage industry and its wider economic environment. For the sake of clarity, the presented data have been limited to a selection of 14 provinces, which together stand for 90 percent of all CI establishments in Indonesia.

2. Cottage Industry Establishments: Urban and Rural

Cottage Industry is statistically defined as establishments with less than 5 workers. According to the Economic Census of 1986, Indonesia counted 1.422.593 CI establishments, of which the larger part (69.6 percent) were located in Java. Only 12 percent were urban [BPS 1989A:30]. As shown in Table 4, the share of urban establishments appears to increase almost proportionately with urbanization. In East Nusa Tenggara, with a very low income level and 7.5 percent urbanization of population, CI urbanization is about the same percentage (7.7 percent), while in much richer East Kalimantan, with a population urbanization degree of 40 percent, CI urbanization is 30.5 percent. This progression shows that CI not be associated with rural tradition and poverty only; it can survive and grow in dynamic and wealthy urban environments.

As CI in Indonesia is also frequently called 'home' or 'household' industry', it would be interesting to know whether it answers this name and is really conducted at home. According to the Industrial Census this is hardly correct, for 46 percent of the urban establishments have a special place within the home yard, and 12 percent even without. For rural CI these figures are only slightly lower: 36 and 10 percent respectively. Differences over the provinces point at increasing specialization with rising regional incomes; in provinces with higher levels of provincial income, CI is more removed from household and home yard [BPS 1989A:45,processed].

3. Cottage Industry Work Force

In 1986, the average size of CIEs was less than 2 workers: rural establishments had 1.88, and urban establishments 2.19 workers [BPS 1989A:30,47-48]. So, as regards their work force, urban CIEs are on average somewhat larger than rural CIEs, which can be explained by their easier access to larger markets.

The CI work force consisted mostly of unpaid workers (83.9 percent), of which almost half (40.6 percent) were women; see Table 5. Of the 16.1 percent paid workers, only 2.6 percent were women. Comparing provinces, the share of paid workers rises with provincial income levels and urbanization.

The work force structure varies significantly by province, both in urban and rural areas. This can be demonstrated most clearly with the rural CI statistics, which are presented for selected provinces in Tables 6 and 7. They show that with rising regional income, paid rural labour rises perceptibly, but that female participation declines. This is due mainly to falling rural poverty incidence. Table 7 shows that, at least at lower levels of development, a one percent decrease in poverty incidence leads to an almost equal fall in female CI participation. As could be expected, rural poverty incidence is closely related to agricultural productivity. So it can be inferred that agricultural development and a consequent fall in poverty incidence leads to a certain extent to decreasing participation of women in CI. A similar tendency has been observed by the author at a micro level, and it was discussed in an earlier paper [Weijland 1989]. There it was argued that the fall in female CI participation has been caused by at least two factors: income and specialization effects. Rising incomes reduced the necessity for women to earn additional incomes in marginal activities, and it led to male specialization of heavy CI jobs such as carrying raw materials and finished products.

Nevertheless, the data presented for the selected provinces show that female participation tends to rise again at higher levels of development, as is the case in Bali, Aceh, South Sulawesi and South Kalimantan. It is plausible that the female entrants in these provinces increasingly belong to other workers' categories and higher social classes, and are more guided by market incentives than by survival motives.

4. Employment in Cottage Industry

Declining female participation must have been the main cause of the observed overall fall in CI employment. In case the withdrawing women were badly remunerated, they were not replaced by men, and even when their jobs were worth continuing, numerous part-time working women could have been replaced by smaller numbers of full-time working men. So with rising incomes CI employment would tend to fall relative to other activities. This hypothesis was tested for rural CI employment [Weijland 1990]. The shares of CI workers in rural active population of 25 Indonesian provinces were related to several indicators of provincial income and rural productivity. At first sight it seemed that rural CI employment did not correlate negatively with regional income or agricultural productivity, but it did correlate positively with the incidence of

smallholdership and rural poverty. The statistics of these two factors were not correlated, which pointed at mutual independence: smallholdership in Indonesia does not necessarily lead to high poverty incidence. However, it is plausible that the two phenomena together encourage CI, not only because almost landless farm households need supplementary incomes, but also because CI products are in relatively high demand in areas with many smallholders. In multiple regression analysis, poverty incidence turned out to be a stable and significant explanatory factor, but smallholdership did not. If poverty was substituted by its main explanatory variable, agricultural productivity, multiple regression also indicated that agricultural productivity indeed does have a significant negative effect on CI employment.

Another matter for investigation was the question whether improving communication would lead to a rise or fall in CI employment. According to conventional thought, rural industry, and particularly its traditional micro category, would not be able to compete with urban enterprise. However, own field observation had convinced the author that CI has sufficient potentiality to survive if located in densely populated areas with good transport networks that open wider markets. Multiple regression analysis corroborated this impression. Rural population density or road density and the vicinity of large urban centres proved stable and significant explanatory variables for CI employment.

With varying factors such as agricultural systems, poverty incidence and rural markets, rural CI employment varies accordingly. Table 8 gives CI employment and income distribution in 15 selected provinces, and suggests a relationship between low agricultural productivity and high CI employment rates with low CI incomes. With increasing agricultural productivity, the share of CI workers with higher CI incomes increases, and their share in total active population is rather stable, which indicates that there is room for better remunerated CI in the wealthier provinces. It is also shown that the more densely populated or more urbanized provinces tend to have more CI workers of both categories. However, a more complete analysis of CI employment requires deeper economic and historical analysis. It would seem that regions with ancient feudal or mercantile empires have traditionally more CI establishments than the resource-rich new settlements [Weijland 1990].

5. Seasonality and Agrarian Base

One of the surprising results of the CI survey of 1986 is that, in general, rural CI does not seem to differ much from urban CI. The conventional picture of rural CI in Indonesia is one of a seasonal and part-time activity which supplements agrarian income, as has been customary in all Asian monsoon regions [Oshima 1983]. The majority of workers would combine industry with farming and/or other economic activities, and few would draw their primary incomes from manufacturing. With the development of agriculture, rural workers would specialize in farming

and seasonality would decline; only part of the rural labour force would have to stick to their seasonal work pattern.

The survey results now show that this process of specialization is well on its way in Indonesia. Only 15 percent of all rural CI workers stated in 1986 that they worked seasonally. The corresponding figure for their urban counterparts was 8.6 percent. So seasonality in rural CI is low and probably decreasing. This general tendency, however, does not necessarily hold everywhere and for all industries. Seasonality can remain quite high in CI branches that depend on seasonal availability of raw materials or seasonally varying hours of sunshine per day.

Within the permanent CI category, working patterns differ less over provinces. A rather stable share of 70 per cent of both urban and rural CI workers are more than 21 days per month employed in their industries, and have average work days of 7 hours [*BPS 1989A, Tables 5A1-2*]. Daily wages and earnings increase with working hours. Part time workers earn some 700 Rp per day less than do full time workers, but seasonal work is slightly better paid than permanent work, especially in urban areas [*Ibid., Tables 5B1-2*].

The above suggests that urban and rural CI tend to become more alike. This however does not apply for the income structure of the engaged households. Urban CI households are much more dependent on their industrial incomes than their rural CI counterparts. Urban CI provides, on average, 83 percent of household income, whereas rural CI provides only 60 percent. This difference is entirely due to additional agricultural incomes for the rural CI households [*Ibid., Tables 15A.2*]. But as Table 9 shows, these agricultural supplements vary widely in rural areas, and are obviously related to seasonality of CI industry: the more seasonal CI, the lower its contribution to household income. According to Table 9, seasonality is not related to the agricultural or overall level of development.

6. Cottage Industry Size and Productivity

As was stated before, the average urban CI establishment is somewhat larger than its rural counterpart. This impression of urban-rural size difference is supported by much larger differences in output per establishment. Urban enterprises have average annual outputs of Rp 4,944,000, whereas rural ones score only Rp 1,977,000 [*BPS 1989A:146-49*]. So urban CI workers produce Rp 2,257,500 per person, and rural CI workers only Rp 1,051,600. Value added per urban worker has been computed to amount to Rp 751,000, and per rural worker to Rp 377,700 per year.

In Table 10, with groups of provinces listed according to per capita provincial income, it is shown that the values of intermediate and primary inputs increase consistently with income. It is obvious, however, that certain provinces do not show the expected CI progress: West Nusa Tenggara and rural Central Java show particularly sluggish results. On the other hand, urban South Sulawesi offers a striking example of relatively high values.

Comparison of intermediate inputs with value added tells that the former tend to increase faster than the latter. According to the census statistics, almost 90 percent of the intermediate cost are made up of raw materials, which indicates that, in order to attain higher productivity, disproportionately more such materials are required and better access to these to be ensured. Obviously, the CI entrepreneurs in the poorest provinces suffer most from lack of finance, and consequently can afford only few and cheap materials.

7. Earnings

The figures of monthly value added per worker given in Table 10 are often dismally low and barely sufficient for the workers' own subsistence, leaving hardly anything for child or parent care. It has to be kept in mind, however, that relatively few CI workers are head of households. Many are homebound and earn their 'independence' by CI work, or take up some seasonal or part-time CI job because of an incidental need for cash money. A better insight in the incidental nature of CI work can be obtained by comparing the monthly productivities with average daily wages paid for permanent CI workers in the various provinces. This is done in Table 11 for rural CI. Column 3 gives the number of days per month that value added per worker could be disbursed as wages. It appears that CI in rural North Sulawesi and East Java performs relatively well, having the capacity to pay more than 30 days' wages a month. These good scores, however, have been attained mainly because of the below average provincial CI wage levels, whereas Aceh and Kalimantan score low because of high wage levels. A really bad figure is obtained for Central Java, where CI employment is very high, and earnings obviously very much below the provincial wage standard. This finding is the more alarming as it has been found that more than half (55.3 percent) of rural CI workers in Central Java derived their primary income from their industry, and as much as 88 percent were permanently engaged in CI (see Table 9).

The figure for all Indonesia being 22.9 shows that, on average, CI has reached the point where the work force might be paid its subsistence. In the provinces where productivity has risen over the wage standard, employment will tend to rise, and where productivity cannot meet the local wage standard, employment in CI will continue to fall.

8. Sources of Capital

In the poorer provinces, CI entrepreneurs have virtually no access to formal or informal credit. Table 12 gives the share of working capital borrowed from banks or co-operatives, or from middlemen and other informal sources. Differences in access to finance are as notable between town and country side as between provinces. Taking the provincial averages, rural CIs are in all provinces worse off than their urban counterparts, and the poorer provinces have weaker financial systems than the richer ones. The outstanding performance of urban CI in South Sulawesi, to which attention was drawn before in Table 10, can be related to the high financial activity of middlemen and other informal lenders in that province. Another notable fact is that

these informal channels score higher than do formal banks and co-ops in all but one urban and rural region, which is an important given for policy makers in this field.

9. Marketing System

It has been generally observed that CI sells mainly to local consumers [*Hagglade et al. 1989*]. Thus far, however, little has been published about marketing options for CI entrepreneurs. Through own field observation, the author has been convinced that traditional CI entrepreneurs often prefer to sell directly to local consumers. In most cases this brings the highest profits. But often the local market is not sufficiently large for continuous production, which means that further development of CI requires connection with distant markets. The stronger producers then first try to find regular outlets in neighbouring towns and villages, and start carrying their products over longer distances to shops and markets, or arrange others to do so. The poorer and less knowledgeable producers, however, often prefer to employ middlemen for this purpose. These may be professional traders or larger producers who have better market information and are willing to offer advance payments [*Knorringa and Weijland 1989*].

Table 13 shows how urban and rural CI entrepreneurs in Indonesia market their products. Direct selling is an important way of marketing for CI, but not predominant. It dominates only in poor East Nusa Tenggara and in Lampung, and it is the single most important system in many urban areas, but in rural areas it is less important than middlemen and other channels. Taking local direct selling and retailing together, it appears that urban CI is more directed towards local customers, whereas rural CI is more dependent on middlemen, who take care of wider distribution. Their function is noticeable in South Kalimantan, Java, Bali and West Sumatra, with traditionally well developed trading networks. This fact draws once more attention to the crucial role of middlemen in CI, who are acting as distributors and financiers. Retailers usually do not offer credit to CI workers but rather tend to postpone payment until the products have been sold, which means that they make the CI workers pay for retailing stocks.

10. Age of Establishments, Main Problems

Urban CIEs are, on average, younger than rural CIEs, but the differences are not pronounced: 72 percent of urban CIEs are older than three years, while the corresponding figure for rural CIEs is 78 percent. On the other hand, dynamism differs substantially among provinces: the provinces with the largest share of newcomers are concentrated in the Southern part of Sumatra and the Western part of Java [*BPS 1989A:124*]. An inflow of newcomers does not necessarily mean that CI business is going well, for disproportionately many entrepreneurs of the older establishments in the above mentioned provinces have stated that the condition of their undertakings deteriorated during the past three years [*BPS 1989A:130*].

According to the survey results given in Table 14, the single most important problem for CI is lack of capital, both in urban and rural areas [*BPS 1989:116-17*]. Marketing comes second, but it

is judged more important in urban as compared to rural areas. Again, differences among provinces are large, but no strong trend can be found, although it might seem that lack of capital is more important in the poorer provinces. Note that the percentages do not add up to 100. The remaining part of CI entrepreneurs stated that they had no difficulties. This occurred most frequently in Java, which may reveal more about the attitude of the entrepreneurs than the real state of their businesses.

11. Policies for Cottage Industry

In order to attain higher levels of productivity, CI production needs better materials and designs, more capital and more skills. Unfortunately, isolation and small scale hinders innovation, for the diseconomies of distance and indivisibility are prohibitive. Therefore better organization of establishments is a precondition for survival. The principle of concentration is traditionally adhered to in many rural regions in Indonesia. Establishments tend to operate in clusters at accessible locations, so that they can be reached easily by large contractors or middlemen, who depend on large numbers of cheap producers to supply their regional markets. The clustered workers may use each others' labour and equipment, subcontract work, and sell each others' products. Together they form an almost untractable, densely structured organization with frequent contacts and tight social control. By means of this organization many diseconomies of small scale can be overcome. So the more CI concentrates the higher its 'collective efficiency' and the higher its survival potential [*Piore and Sabel 1984; Schmitz 1989*]. Clustering occurs not only within branches, it can extend to all kinds of complementary activities. Craft clustering may lead to specialization of entire villages. Often such clusters give villages distinct socio-economic characteristics [*Smyth 1990*].

Clustering is of particular importance for rural CI establishments. Through co-operative organization, (in)formally organized cluster members may obtain capital, raw materials and services that otherwise would remain inaccessible. Therefore the government of Indonesia has made various attempts to establish co-operatives for clusters, and its CI services remained often accessible for co-operatives only. However, up to 1986 little was achieved in this field, which is shown in Tables 15A and B, presenting co-operative membership and services in the selected provinces in rural and urban areas.

Of all urban establishments only 6.1 percent were members of co-operatives, and it appears that membership is very unequally distributed over the provinces. Proximity to Jakarta turns out to be decisive for establishment of co-operatives, and with growing distance from the government centre, services are concentrating on finance, until they are lacking altogether. A more or less balanced package of co-operative services is offered only in West Java, Central Java, Lampung and Bali, and delivered to some 10 percent of urban CI establishments within these provinces. In 4 out of the 13 selected provinces urban co-operative services were virtually lacking and non-cooperative services more numerous than the co-operative ones.

Like co-operative support, non-cooperative services were distributed near the government centre, except for some traditionally attractive places such as West Sumatra. The rendered services to the non-coop establishments were more of an advisory nature.

Compared to urban areas, rural co-operative organization is even less developed: less than 3 percent is organised as co-operatives. Rural co-ops, however, are spread more evenly over the country than are the urban ones. Table 15B shows that about half of the co-op members have received capital finance, and less than a quarter received advisory services. Raw materials were supplied least frequently and only in a limited area. The non-cooperative services were fewer in number but better distributed over the country. They were limited more to capital and advisory services.

As for the effect of the services, direct field observation has led to some skepticism about the adequacy of the rendered services and the possibility to reach the proper target groups. This raises some questions on the nature and implementation of CI policies. As has been argued elsewhere, world wide evaluations have indicated that because of the scattered CI location, more general demand supporting policies should have priority over direct projects, but if the latter are to be continued, decentralised formulation and implementation might be more effective, for each cluster has distinct potentialities and constraints which need to be attended [Weijland 1989; UNDP 1988].

However, the results shown in previous sections suggest that yet another option might be chosen. It was found that thriving CI is often associated with well functioning local trade systems, so it would seem that a broader policy that includes intermediary subcontracting, trading and banking systems for CIs could be more effective than a narrow target group approach.

APPENDIX

Table 1. Manufacturing Product, Selected Asian Countries

	Manufact. Product. Per Cap.	Average annual growth rate of Manufacturing		Mach. & Equipm. share in Manuf. Production
		1965-80 (%)	1980-87 (%)	
	US\$ 1987			1986 (%)
Bangladesh	11	6.8	2.4	6
Pakistan	60	5.7	8.9	8
India	60	4.3	8.3	26
Indonesia	63	12.0	7.8	10
China	99	9.5	12.6	26
Philippines	148	7.5	- 1.1	7
Thailand	204	11.2	6.0	14
Korea	807	18.7	10.6	24

Source: derived from World Bank 1989, Tables 1, 3 and 6

Table 2. Employment in Manufacturing in Indonesia, 1974/75 - 1986

	(1)		(2)		annual growth 1974-86
	1974/75		1986		
All Sizes	4.904.800	100.0%	5.286.536	100.0%	0.50%
Large and Medium	661.704	13.5	1.684.035	31.9	8.86
Small	343.240	7.0	750.311	14.2	8.13
Home Industry	3.899.856	79.5	2.852.190	54.0	-2.10

(1) Sensus Industri, BPS 1974-75

(2) Sensus Ekonomi, BPS 1986

Source: BPS 1987, Analisa Perbandingan Industri Besar/Sedang, Kecil dan Rumah tangga, Tables 4.2, p.52, and 5.3, p.98
BPS 1987, Analisa Pendahuluan Hasil Sensus Ekonomi 1986, Table 9, p.44

Table 3. Growth of Yearly Productivity in Manufacturing (thousands of rupiah, current market prices)

	(1)	(2)	(3)	(4)
	1974/75	1979	1986	(3)/(1)
Large and Medium	721	1908	5530	7.7
Small	154	226	1010	6.6
Home Industry	21	104	830	39.5
All Sizes	125	476	2200	17.6

Source: Statistik Indonesia 1988, BPS, pp 308-11

Table 4. Urbanization of Cottage Industry in Selected Provinces

Province	Income per cap. excl.oil (1000 Rp)	Urbanization of population %	Cottage Industry Establishments	
			urban %	rural %
East Nusa Tenggara	240	7.5	7.7	92.3
West Nusa Tenggara	257	14.1	8.2	91.8
Bali	639	14.7	7.4	92.6
North Sulawesi	378	16.8	9.8	91.2
South Sulawesi	390	18.1	7.9	92.3
Central Java	392	18.8	9.4	90.6
East Java	508	19.6	10.8	89.2
West Java	464	34.9*	17.4*	82.6
Lampung	276	12.5	9.0	91.0
West Sumatra	495	12.7	9.0	91.0
North Sumatra	514	25.5	23.2	76.8
Aceh	630	8.9	4.7	95.3
South Kalimantan	528	21.4	9.2	90.8
East Kalimantan	835	40.0	30.5	69.5

*) including Jakarta

Sources: Derived from:

BPS 1989: Provincial Income in Indonesia

BPS 1989: Home Industry Statistics, Table 1, p.30

Rietveld 1988, Table 1: p.80

Table 5. Structure of Work Force: Gender and Status (percentages)

	Paid Workers			Unpaid Workers			Total
	Male	Female	Total	Male	Female	Total	
	All Indonesia	13.5	2.6	16.1	43.2	40.6	
Urban	22.6	5.9	28.5	41.1	30.3	71.5	100
Rural	11.7	2.1	13.8	43.7	42.5	86.2	100

Source: Computed from BPS 1989A:110-12

**Table 6. Structure of Rural Work Force: Gender and Status (percentages)
Selected Provinces**

	Paid Workers			Unpaid Workers			Total
	Male	Female	Total	Male	Female	Total	
East Nusa Tenggara	5.0	0.6	5.6	35.4	59.0	94.4	100
West Nusa Tenggara	11.2	1.6	12.8	38.2	49.0	87.3	100
Bali	9.8	4.4	14.2	40.0	45.8	85.8	100
Central Java	8.3	1.6	9.9	43.7	46.4	90.1	100
East Java	11.5	2.1	13.6	42.5	43.9	86.4	100
West Java	16.8	3.1	19.9	46.9	33.2	80.1	100
North Sulawesi	15.8	4.6	20.4	46.7	32.9	79.6	100
South Sulawesi	11.3	2.4	13.7	41.7	44.6	86.3	100
Lampung	14.1	2.0	16.1	53.2	30.9	83.9	100
West Sumatra	19.2	4.7	23.9	41.8	34.3	76.1	100
North Sumatra	16.7	3.8	20.5	42.7	36.8	79.5	100
Aceh	12.8	1.7	14.5	32.0	53.5	85.5	100
South Kalimantan	7.6	1.7	9.3	39.0	55.7	94.7	100
East Kalimantan	14.0	2.3	16.4	55.5	28.1	83.6	100
All Indonesia	13.5	2.6	16.1	43.2	40.6	83.9	100

Source: calculated from BPS 1989A:111

Table 7. Rural Poverty Incidence and Female Participation in Cottage Industry, Selected Provinces

Province	Agricultural Productivity 1986 Rp 000	Rural Poverty Incidence 1980 %	Female Part. in CI work 1986 %
East Nusa Tenggara	288	54.1	59.6
West Nusa Tenggara	468	38.5	50.6
Bali	1065	24.2	50.2
Central Java	580	39.0	48.0
East Java	587	42.9	46.0
West Java	666	26.3	36.3
Lampung	422	40.1	32.9
North Sumatra	647	23.6	40.6
West Sumatra	718	10.4	39.0
Aceh	983	1.8	46.5
North Sulawesi	495	19.7	37.5
South Sulawesi	807	17.4	47.0
South Kalimantan	678	2.7	57.4
East Kalimantan	1241	1.8	30.4
All Indonesia	805	-	46.6

Sources: Hall Hill (ed) 1989, p.43; BPS 1989: Provincial Income in Indonesia; Table 6:Column 2 plus 5

Table 8. Employment in Rural Cottage Industry and Cottage Industry Household Incomes (000 Rp)

Province	Agricultural Productivity 1986 Rp 000	Road Density m per km ²	CI Employment 1986 share in Rur.act.pop.		
			total	below Rp 300	above Rp 300
East Nusa Tenggara	284	133	3.2	2.1	1.1
West Nusa Tenggara	468	141	8.0	3.8	4.2
Bali	1065	660	5.3	2.0	3.2
Yogyakarta	457	684	9.7	6.0	3.7
Central Java	580	376	8.3	4.6	3.7
East Java	578	354	4.1	1.8	2.3
West Java	666	243*)	5.0	2.0	3.0
Lampung	422	136	3.1	1.1	2.0
North Sumatra	647	144	1.5	0.5	1.0
West Sumatra	717	124	4.6	1.2	3.4
Aceh	983	96	3.4	1.0	2.4
North Sulawesi	497	191	4.5	2.0	2.5
South Sulawesi	807	136	6.4	2.9	3.5
South Kalimantan	678	87	6.0	2.2	3.8
East Kalimantan	1241	7	2.0	0.9	1.1
All Indonesia		--	4.1	1.9	2.2

*) Jakarta excluded

Source: Calculated from BPS Statistical Yearbook of Indonesia;
Supas 1985:333-35; BPS 1989A:48,156

Table 9. Primary Income Source and Seasonality in Rural Cottage Industry in Selected Provinces

Province	Primary Income from CI %	Seasonal Workers %
East Nusa Tenggara	30.7	49.1
West Nusa Tenggara	64.8	14.9
Bali	63.7	11.5
Central Java	55.3	12.1
West Java	70.1	14.0
East Java	63.9	13.1
Lampung	56.5	14.5
West Sumatra	63.6	24.4
North Sumatra	55.5	9.5
Aceh	52.0	23.9
North Sulawesi	56.1	16.1
South Sulawesi	54.7	15.2
South Kalimantan	66.4	13.3
East Kalimantan	43.4	40.7
All Rural Indonesia	59.8	15.3

Source: derived from BPS 1989A, p.135 and p.48

Table 10. Average Monthly Value of Intermediary Costs and Primary Inputs, including Profits, per Worker in Cottage Industry (000 Rp)

Province	Urban Cost Structure		Rural Cost Structure	
	Intermed.	Primary	Intermed.	Primary
East Nusa Tenggara	59.6	51.7	15.6	24.3
West Nusa Tenggara	121.8	35.5	29.6	23.8
Bali	150.3	91.6	65.2	40.9
Central Java	132.3	45.1	57.0	26.9
East Java	103.8	56.5	63.4	45.5
West Java	147.6	73.6	89.3	40.8
Lampung	103.6	52.8	65.8	40.5
West Sumatra	170.4	86.7	80.2	49.5
North Sumatra	147.5	93.2	141.1	53.7
Aceh	139.5	106.0	114.0	59.8
North Sulawesi	77.5	51.4	47.1	54.9
South Sulawesi	232.4	135.1	68.6	48.5
South Kalimantan	134.1	77.8	65.5	36.2
East Kalimantan	242.1	105.0	99.4	42.5
All Indonesia	145.2	74.0	69.1	38.3

Source: computed from BPS 1989A, Tables 1 and 3; and 16:140-43

Table 11. Productivity and Earnings in Rural Cottage Industry

Province	(1)	(2)	(3)
	Monthly Primary Cost per Worker Rp 000	Daily Wage for CI Labour Rp 000	(1)/(2)
East Nusa Tenggara	24.3	1.07	22.7
West Nusa Tenggara	23.8	1.15	20.7
Bali	40.9	2.19	18.7
Central Java	26.9	1.64	16.4
East Java	45.5	1.28	35.5
West Java	40.8	1.75	23.3
Lampung	40.5	1.37	29.6
West Sumatra	49.5	2.31	21.4
North Sumatra	53.7	1.60	33.6
Aceh	59.8	3.14	19.0
North Sulawesi	54.9	1.53	35.9
South Sulawesi	48.5	1.71	28.4
South Kalimantan	36.2	1.66	21.8
East Kalimantan	42.5	2.34	18.2
All Indonesia	38.3	1.67	22.9

Source: Table 10:column 4, and BPS 1989A:63

Table 12. Frequency of Sources of Working Capital in Urban and Rural Cottage Industry*

Provinces	Urban			Rural		
	Owmed	Bank/ Co-op	Middle- men/oth.	Owmed	Bank/ Co-op	Middle- men/oth.
	%	%	%	%	%	%
East Nusa Tenggara	98.6	2.9	0.0	97.9	0.6	3.9
West Nusa Tenggara	92.6	2.4	10.0	94.7	1.0	7.4
Bali	85.1	10.6	15.7	86.8	7.9	13.7
Central Java	83.3	8.2	19.0	87.5	5.2	15.9
East Java	81.4	5.7	19.2	91.5	4.7	11.1
West Java	85.1	7.5	16.7	82.7	3.3	19.2
Lampung	87.7	4.2	20.4	89.3	2.0	11.7
West Sumatra	95.3	6.1	1.4	91.7	4.8	9.4
North Sumatra	83.7	2.6	19.5	94.4	3.8	5.3
Aceh	97.4	3.0	9.6	94.0	1.5	9.1
North Sulawesi	95.0	8.1	19.5	97.1	1.3	4.2
South Sulawesi	74.0	6.4	27.2	91.4	3.6	11.1
South Kalimantan	85.9	1.0	12.8	91.8	1.0	14.7
East Kalimantan	93.9	1.0	12.7	95.8	1.2	9.3
All Indonesia	84.8	6.0	17.0	89.0	4.2	13.6

* Sources of working capital do not add up to 100 percent.

Source: BPS 1989A:83-84

Table 13. Marketing Systems of Cottage Industry

Province	Urban			Rural		
	Direct Local	Retail Shop	Middle- men/oth.	Direct Local	Retail Shop	Middle- men/oth.
	%	%	%	%	%	%
East Nusa Tenggara	56.9	17.7	25.4	58.6	16.3	25.1
West Nusa Tenggara	35.8	42.0	22.2	32.6	39.3	28.1
Bali	39.2	36.5	24.3	24.8	24.1	51.1
Central Java	27.6	37.1	35.3	28.3	21.2	50.5
East Java	36.3	34.9	28.8	34.7	29.1	36.2
West Java	33.0	38.7	28.3	27.6	17.0	55.4
Lampung	41.5	31.9	26.6	48.3	16.4	35.3
West Sumatra	34.8	39.9	25.3	21.9	25.4	52.7
North Sumatra	24.6	50.2	25.2	33.3	32.6	34.1
Aceh	56.0	34.7	9.3	21.5	33.7	44.8
North Sulawesi	63.5	21.8	14.7	38.4	22.2	39.4
South Sulawesi	44.5	29.2	26.3	25.5	33.4	41.1
South Kalimantan	33.4	40.2	26.4	12.6	24.8	62.6
East Kalimantan	48.7	27.6	23.7	40.9	10.7	48.7
All Indonesia	34.5	36.7	28.8	31.2	23.3	45.5

Source: BPS 1989A:101-102

Table 14. Difficulties perceived by CI Entrepreneurs

Province	Urban		Rural	
	Capital %	Marketing %	Capital %	Marketing %
East Nusa Tenggara	65.8	20.3	67.9	11.3
West Nusa Tenggara	61.7	11.3	80.1	3.9
Bali	47.0	22.6	50.6	13.7
Central Java	34.0	28.6	33.3	16.0
East Java	40.9	30.7	38.2	17.8
West Java	42.1	29.4	43.2	15.0
Lampung	58.0	16.3	48.0	12.1
West Sumatra	29.3	47.2	46.4	27.9
North Sumatra	45.6	30.9	44.3	23.8
Aceh	54.2	24.2	54.7	15.4
North Sulawesi	70.1	16.9	47.5	33.4
South Sulawesi	49.5	20.7	56.9	9.9
South Kalimantan	58.5	8.2	44.3	17.7
East Kalimantan	48.3	22.9	70.4	4.6
All Indonesia	41.7	25.8	42.7	15.5

Source: BPS 1989A: 116-7

Table 15A. Urban Enterprises having received Services through Co-operative Membership or other Channels (percentages)

Province	Co-op Members				Non-Members			
	% Membership	Services			Served	Services		
		Cap. %	Mat. %	Oth. %		Cap. %	Mat. %	Oth. %
East Nusa Tenggara	1.45	100	0	0	0	0	0	0
West Nusa Tenggara	2.60	59	0	0	1.09	0	0	100
Bali	3.14	25	25	25	0	0	0	0
Central Java	7.34	40	46	28	2.39	52	18	36
East Java	2.82	25	9	9	1.39	16	0	85
West Java	11.42	36	60	26	2.56	0	0	43
Lampung	14.80	29	46	4	2.45	50	0	50
West Sumatra	5.41	74	0	0	5.33	36	30	30
North Sumatra	3.40	23	0	56	0	0	0	0
Aceh	0	0	0	0	0	0	0	0
North Sulawesi	2.53	55	0	0	0.88	0	0	100
South Sulawesi	0.48	0	0	0	2.05	25	0	75
South Kalimantan	0.67	0	0	100	2.08	64	0	36
East Kalimantan	3.63	87	0	0	0.79	0	0	100
All Indonesia	6.10	40	46	21	2.18	34	12	58

Source: BPS 1989A:74-75

Table 15B. Rural Enterprises having received Services through Co-operative Membership or other Channels (percentages)

Province	Co-op Members				Non-Members			
	%	Services			%	Services		
		Member-ship	Cap. %	Mat. %		Oth. %	Served	Cap. %
East Nusa Tenggara	0.56	23	0	36	0.60	22	17	78
West Nusa Tenggara	0.86	22	0	0	0.60	10	0	83
Bali	6.39	55	26	20	1.80	46	0	25
Central Java	2.63	52	23	24	1.16	62	12	45
East Java	3.07	73	7	15	1.22	66	0	33
West Java	2.59	54	20	19	1.73	25	5	80
Lampung	2.37	25	17	17	1.13	50	12	38
West Sumatra	2.56	67	3	28	1.32	48	0	9
North Sumatra	1.59	14	0	33	2.86	17	0	95
Aceh	1.17	50	0	17	0.57	35	0	76
North Sulawesi	2.50	56	0	22	0.98	9	0	65
South Sulawesi	1.24	26	0	47	1.09	19	8	75
South Kalimantan	1.60	43	0	0	2.02	6	25	94
East Kalimantan	4.10	12	0	70	0.98	31	0	68
All Indonesia	2.69	53	16	22	1.51	48	5	55

Source: BPS 1989A:74-75

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