



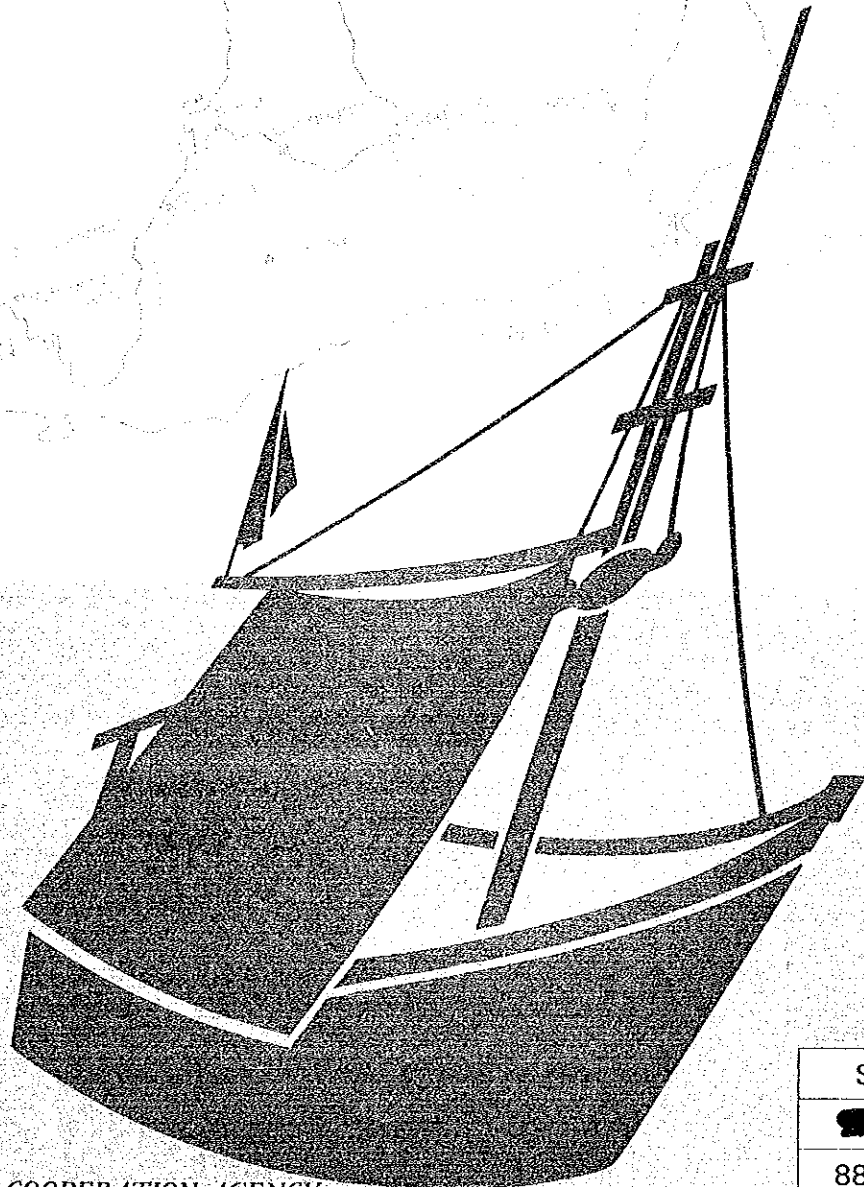
THE STUDY ON THE REGIONAL DEVELOPMENT PROJECT IN THE WESTERN PART OF JAVA




VOLUME ③

MASTER PLAN (ANNEX I)

FEBRUARY 1988



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THE STUDY ON THE REGIONAL DEVELOPMENT PROJECT IN THE WESTERN PART OF JAVA

VOLUME ③

MASTER PLAN (ANNEX I)

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ABBREVIATIONS

National and International Organizations

ADB	: Asian Development Bank
APBD	: Anggaran Pendapatan & Belanja Daerah (Provincial & Regency Budget)
APBN	: Anggaran Pendapatan & Belanja Negara (National Budget)
ASEAN	: Association of South-East Asian Nations
ASEANTA	: ASEAN Travel Agencies Association
ASITA (APPI)	: Association of the Indonesian Tour and Travel Agencies (Asosiasi Perusahaan Perjalanan Indonesia)
BAPARDA	: Badan Pengembangan Pariwisata Daerah (Provincial Tourism Development Board)
BAPPARNAS	: Badan Pengembangan Pariwisata Nasional (National Tourism Development Board)
BAPPEDA	: Badan Perencanaan Pembangunan Daerah (Regional Development Planning Agency)
BAPPENAS	: Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
BPAM	: Badan Pengelola Air Minum (Water Supply Authority)
BPS	: Biro Pusat Statistik (Central Bureau of Statistics Office)
BTDC	: Bali Tourism Development Corporation
BUMN	: Badan Usaha Milik Negara (State Owned Enterprises)
DANA INPRES	: Special Budget
DEPARNAS	: Dewan Kepariwisata Nasional (National Tourism Council)
DEPDAGRI	: Departemen Dalam Negeri (Department of Home Affairs)
DEPDIKBUD (DEC)	: Departemen Pendidikan dan Kebudayaan (Department of Education and Culture)

DEPERIN : Departemen Perindustrian
(Department of Industry)

DEPHUB : Departemen Perhubungan
(Department of Communications)

DEPPARPOSTEL : Departemen Pariwisata, Pos dan
Telekomunikasi
(Department of Tourism, Post and
Telecommunication)

DEP.P.U. : Departemen Pekerjaan Umum
(Department of Public Works)

DEPTAN : Departemen Pertanian
(Department of Agriculture)

DIPARDA Tk. I : Dinas Pariwisata Daerah Tingkat I
(Provincial Tourist Service)

DIPARDA Tk. II : Dinas Pariwisata Daerah Tingkat II
(Kabupaten Tourist Service)

DIT. BINA MARGA : Directorate General of Road Construction

DIT. CIPTA KARYA : Directorate General of Human Settlement

DITJEN. HUB. DAR. : Direktorat Jenderal Perhubungan Darat
(Directorate General of Land Transport
and Inland Waterways)

DITJEN. HUB. DARA. : Direktorat Jenderal Perhubungan Udara
(Directorate General of Air Transport)

DITJEN. HUB. LA. : Direktorat Jenderal Perhubungan Laut
(Directorate General of Sea Transport)

DITJEN. PAR.
(DGT) : Direktorat Jenderal Pariwisata
(Directorate General of Tourism)

DIT. PHPA.
(DGF) : Direktorat Jendral Perlindungan Hutan dan
Pelestarian Alam
(Directorate General of Forest Protection
and Nature Conservation)

DPU (P or K) : Dinas Pekerjaan Umum (Propinsi-Kabupaten/
Kotamadya)
(Provincial or Local Public Works
Services)

IBRD : International Bank for Reconstruction and
Development

IDA : International Development Association

IHRA (PHRI) : Indonesian Hotel and Restaurant Association (Perhimpunan Hotel dan Restoran Indonesia)

INPRES : Instruksi Presiden (Presidential Decree)

ITB : Institut Teknologi Bandung (Bandung Institute of Technology)

JICA : Japan International Cooperation Agency

JNTO : Japan National Tourist Organization

KANDEP : Kantor Departemen (District Office of the Department)

KANWIL : Kantor Wilayah (Regional Office)

KLH : Kependudukan dan Lingkungan Hidup (Population and Environment)

MOT : Ministry of Transport (Japan)

NATOUR : National and Tourism Corporation

PATA : Pacific Asia Travel Association

PDAM : Perusahaan Daerah Air Minum (Local Water Supply Company)

PERUMTEL : Perusahaan Umum Telekomunikasi (Public Company of Telecommunication)

PHPA : Perlindungan Hutan dan Pelestarian Alam (Forest Protection and Nature Conservation Office)

PJKA : Perusahaan Jawatan Kreta Api (National Railway Company)

PLN : Perusahaan Listrik Negara (Public Corporation of Electricity)

PT. HII : Hotel Indonesia International (International Hotel Corporation)

PT. JASA MARGA : Indonesian Highway Corporation

Local Terms

Bukit	: Hill
Bupati	: Head of Kabupaten (Regency)
Danau	: Lake
Desa/Kampung	: Village
DKI Jakarta	: Daerah Khusus Ibukota Jakarta Raya (Special District Capital Greater Jakarta)
Gunung (G.)	: Mountain
IKK	: Ibu Kota Kecamatan (Sub-District Town)
Kabupaten (Kab.)	: Regency
Kecamatan (Kec.)	: Sub-District
Kelurahan	: Village
Kotamadya (Kodya)	: Municipality
KUD	: Koperasi Unit Desa (Village Unit Cooperative)
Lama	: Old
Palawija	: Upland crops
Pantai	: Beach
PELITA	: Pembangunan Lima Tahun (Five Year Development)
PT	: Perusahaan Terbatas (Private Limited Company)
Pulau (P.)	: Island
REPELITA	: Rencana Pembangunan Lima Tahun (Five Year Development Plan)
Sungai	: River
Tanjung (Tg.)	: Cape
Wilayah	: Region

UNITS OF MEASUREMENT

Length

mm = millimeter
cm = centimeter
m = meter
km = kilometer

Area

cm² = square centimeter
m² = square meter (or sq.m)
ha = hectare
km² = square kilometer

Volume

cm³ = cubic centimeter
lit = litre
m³ = cubic meter

Weight

mg = milligram
g = gram
kg = kilogram
ton = metric ton

Electrical Measures

V = Volt
kV = Kilovolt
A = Ampere
kW = Kilowatt
MW = Megawatt

Other Measures

% = percent
PS = horsepower
° = degree
' = minute
" = second
°C = degree centigrade
10³ = thousand
10⁶ (mil.) = million
10⁹ = billion (milliard)
ppm = parts per million
pH = scale for acidity

Derived Measures

m³/s = cubic meter per second
kWh = kilowatt hour
MWh = Megawatt hour
kWh/y = kilowatt hour per year
kVA = kilovolt ampere

Time

sec(s) = second
min = minute
h = hour
d = day
y = year

Money

Rp. = Rupiah
US\$ = US dollar
¥ = Japanese Yen

ANNEX I (A)

SOCIO-ECONOMY

ANNEX I (A)
SOCIO-ECONOMY

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CHAPTER 1 GENERAL ECONOMIC BACKGROUND

1.1 National Background

Indonesia is an archipelago of 13,667 islands stretching along the equator for about 5,000 km from Northwest Sumatra to Irian Jaya on its southeastern border. Its total land area is 1.9 million km², but its total surface area including the seas within its boundaries is over 4.8 million km². Of the numerous islands, Java is the fifth largest and comprises the nation capital DKI Jakarta, DI Yogyakarta, the relevant West Java and other two provinces. The land area of Java is about 132,000 km² or 6.9% of the national total of 1,919,000 km².

As of 1985, total population of Indonesia was estimated at around 163 million. The annual growth rate of the population was about 2.3% from 1971 through 1980. It is projected however that the annual population growth rate will decline to 1.9% in 1995 - 2000. The population projection by the Central Bureau of Statistics (Biro Pusat Statistik: BPS) shows that the population of the country in the year 2000 would reach more than 222.75 million.

The distribution of the population and natural resources among islands is very uneven. The island of Java, covering only 7% of the total land area, sustains almost 61% of the total population. The population density in 1985 is estimated at 759 persons/km², as shown in Table I(A)-1. Except for major cities i.e. Jakarta, Bandung, Surabaya, etc., more than 80% of the population are in the rural areas. The rapid increase of the working population entering the labor market every year has led to a worsening of employment conditions and living environment. However, the average annual growth rate of the population in Java shows a gradual decrease tendency owing to transmigration programmes implemented by the Government and it accounted for 2.02%, while the average of Indonesia is 2.32% during the period from 1971 to 1980.

Table I(A)-1 POPULATION BY PROVINCE IN 1961, 1971, 1980 AND 1985

	Census /1					Projection /1 Average Annual Growth Rate (%)					Population Density/km2				
	1961	1971	1980	1985	1985	1961-71	1971-80	1980-85	1980-85	1961	1971	1980	1985		
Sumatra	15,743	20,809	28,014	32,921	32,921	2.86	3.32	-/2	33	44	59	70			
Ache	1,629	2,009	2,611	3,004	3,004	2.14	2.93	2.72	29	36	47	54			
North Sumatra	4,969	6,622	8,361	9,518	9,518	2.95	2.60	2.40	70	93	110	134			
West Sumatra	2,319	2,793	3,404	3,695	3,695	1.90	2.21	2.03	47	56	68	74			
Riau	1,235	1,642	2,169	2,534	2,534	2.92	3.11	2.90	13	17	23	27			
Jambi	744	1,006	1,446	1,741	1,741	3.09	4.07	3.82	17	22	32	39			
South Sumatra	2,774	3,441	4,630	5,453	5,453	2.20	3.32	3.11	27	23	45	53			
Bengkulu	406	519	768	943	943	2.51	4.39	4.95	19	24	36	45			
Lampung	1,667	2,777	4,625	6,033	6,033	5.29	5.77	5.47	50	83	139	181			
Java	63,061	76,086	91,270	100,279	100,279	1.91	2.02	-/2	476	576	690	759			
DKI Jakarta	2,973	4,579	6,503	7,890	7,890	4.46	3.93	3.77	5,039	7,761	11,023	13,373			
West Java	17,615	21,624	27,454	30,973	30,973	2.09	2.66	2.47	380	467	593	669			
Central Java	18,408	21,877	25,373	27,145	27,145	1.76	1.64	1.49	538	640	742	794			
DI Yogyakarta	2,242	2,489	2,751	2,990	2,990	1.07	1.10	0.96	707	785	868	943			
East Java	21,823	25,517	29,189	31,281	31,281	1.59	1.49	1.34	455	532	609	653			
Nusa Tenggara	5,558	6,619	8,487	9,411	9,411	1.78	2.01	-/2	63	75	96	106			
Bali	1,783	2,120	2,470	2,658	2,658	1.77	1.69	1.53	320	381	444	478			
West Nusa Tenggara	1,808	2,204	2,725	3,071	3,071	2.02	2.36	2.17	90	109	135	152			
East Nusa Tenggara	1,967	2,295	2,737	3,053	3,053	1.57	1.95	1.78	41	48	57	64			
East Timor	-	-	555	629	629	-	-	1.78	-	-	37	42			
Kalimantan	4,101	5,155	6,723	7,842	7,842	2.34	2.96	-/2	8	10	12	15			
West Kalimantan	1,581	2,020	2,486	2,837	2,837	2.51	2.31	2.13	11	14	17	19			
Central Kalimantan	496	702	954	1,149	1,149	3.56	3.43	3.22	3	5	6	8			
South Kalimantan	1,473	1,699	2,065	2,306	2,306	1.45	2.16	6.48	39	45	55	61			
East Kalimantan	551	734	1,218	1,550	1,550	2.94	5.73	5.45	3	4	6	8			
Sulawesi	7,080	8,528	10,408	11,688	11,688	1.90	2.22	-/2	38	45	55	62			
North Sulawesi	1,310	1,719	2,115	2,394	2,394	2.78	2.31	2.14	69	90	111	126			
Central Sulawesi	693	914	1,289	1,551	1,551	2.83	3.86	2.29	10	13	18	22			
South Sulawesi	4,517	5,161	6,062	6,651	6,651	1.40	1.74	1.58	62	71	83	91			
Southeast Sulawesi	560	714	942	1,092	1,092	2.49	3.09	2.90	20	26	34	39			
Maluku & Irian Jaya	1,548	2,013	2,585	3,014	3,014	2.69	2.79	-/2	3	4	5	6			
Maluku	790	1,090	1,411	1,646	1,646	3.31	2.88	2.67	11	15	19	22			
Irian Jaya	758	923	1,174	1,368	1,368	2.01	2.67	2.47	2	2	3	3			
Total (or Average)	97,091	119,210	147,487	165,155	165,155	2.10	2.32	2.21	51	62	77	86			

Remarks: /1 x 1,000
/2 Official figures are not available.

Source: BPS.

According to the documents of BPS, the population aged 10 and over was 110.4 million in 1982. Among them, the economically active accounts for 59.6 million corresponding to 54.0% of the population aged 10 and over.

Indonesia is basically an agricultural country but it is being gradually industrialized. The employed population of 31.6 million, 54.7% of the total, are still working in the agricultural sector that comprises agriculture, forestry, livestock and fishery. The Gross Domestic Product (GDP) share of the agricultural sector to the whole industry has decreased from 31.7% in 1975 to 24.9% in 1984. On the other hand, it is observed that shares of manufacturing, transportation & communication, and service sectors are gradually increasing, as shown in Table I(A)-2.

Such a change in the industrial structure is reflected on the issue of regional and urban development. Urbanization in Indonesia is taking place at quick pace. Between 1971 and 1980, the rural urban migration accounted for slightly more than half of the 9.6 million increase in the Indonesia's urban population. During the same period, the urban population increased by 4.0% per annum compared with 2.6% during the period of 1961 - 1971.

At this pace, Indonesia's urban population will be more than double from its 1980 level of 33 million to 72 million by 2000. One of the most important features of Indonesia's development lays in rural-urban differences among regions. Due to the population pressure, 4.3 million Indonesians or 16% of the natural increase in the population resettled permanently in provinces outside those of their birth between 1971 and 1980. Approximately 1.7 million people (or about 40%) moved from Java to other islands in the same period. Of these, 1 million were resettled through the official transmigration programmes.

Table I (A)-2 GROSS DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN AT CURRENT MARKET PRICES, 1971 - 84

Unit: Rp. billion

	1971	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984/1
Agriculture	1,646	4,003	4,812	5,906	6,706	8,996	11,290	13,643	15,668	17,696	21,424
Farm Food Crops	961	2,554	3,044	3,660	3,992	4,892	6,357	8,102	9,961	11,057	13,665
Farm Nonfood Crops	196	358	481	762	802	1,201	1,304	1,327	1,227	2,060	2,516
Estate Crops	107	184	213	326	404	590	693	904	1,026	611	768
Livestock Products	124	303	346	305	462	690	991	1,258	1,418	1,754	2,108
Forestry	142	413	513	525	653	1,048	1,142	1,140	983	994	954
Fishery	116	191	215	328	393	575	803	912	1,053	1,220	1,413
Mining & Quarrying	294	2,485	2,930	3,600	4,358	6,980	11,673	12,971	11,708	13,968	15,218
Manufacturing	307	1,124	1,453	1,817	2,420	3,311	5,288	5,822	7,681	8,211	10,318
Electricity, Gas & Water	18	70	98	106	118	149	225	288	380	524	700
Construction	128	590	813	1,023	1,242	1,790	2,524	3,118	3,507	4,597	4,883
Trade	592	2,104	2,552	2,959	3,450	4,775	6,391	7,966	8,865	12,009	13,372
Transport & Communication	162	521	663	843	1,032	1,422	1,965	2,352	2,795	3,978	5,003
Banking & Finance	45	151	207	236	396	655	752	1,404	1,604	2,039	3,068
Ownership of Dwelling	85	258	319	542	671	914	1,200	1,439	1,703	1,912	2,211
Public Administration	214	864	1,074	1,394	1,685	2,200	3,142	3,905	4,429	5,712	6,311
Other Services	181	473	546	607	668	833	996	1,119	1,293	3,001	3,408
Gross Domestic Product	3,672	12,643	15,467	19,033	22,746	32,025	45,446	54,027	59,633	73,647	85,916

Remark: /1 Preliminary

Source: BPS.

Owing to the remarkable achievements of Repelita I, II and III, the proportion of the population living in poverty declined from 57% to 40% between 1970 and 1980. The reduction in poverty was conspicuous in the outer islands, where poverty incidence was reduced from 43% to 28%. Nevertheless, there still exists outstanding theme to redistribute incomes and alleviate regional socio-economic disparities.

The economy of Indonesia performed well during the decade to 1981, as shown below:

GDP Growth Rate of Indonesia
(% per annum, at constant prices)

1971-1979 Average	1980	1981	1982	1983	1984	1985
7.9	9.9	7.9	2.2	4.2	5.8	-

Source: BPS.

GDP expanded at an average annual rate of 8.1% in this sustained growth period. But, the overall economic growth slowed down since 1982, mainly due to the deterioration in the terms of trade owing to the economic recession all over the world.

In 1982, the GDP growth at constant prices recorded the lowest growth rate of 2.2% over the past 15 years. Real exports declined by 11.3% due to the weakening in demand for major primary exports, such as petroleum and its related products, timber, rubber, coffee, tin ore, etc. On the supply side, the impetus for growth from the agriculture sector weakened in 1982 due to a severe drought.

The worsening of the economy was also reflected in the balance of payment of Indonesia, as shown in Table I(A)-3. Indonesia GDP per capita is estimated as US\$566 in 1984.

Table I (A)-3 BALANCE OF PAYMENTS, 1978/79 - 86/87

Unit: US\$ million

	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86 /1	1986/87 /2
Exports (FOB)	11,353	18,511	22,885	22,994	18,672	19,816	19,901	19,221	18,943
Oil & LNG	7,374	12,340	17,298	18,824	14,744	14,449	13,994	13,115	12,545
Other	3,979	6,171	5,587	4,170	3,928	5,367	5,907	6,106	6,398
Imports (FOB)	-8,443	-10,722	-15,887	-19,969	-20,625	-16,304	-14,427	-13,573	-13,040
Oil & LNG	-1,661	-2,672	-4,050	-5,408	-4,801	-3,489	-2,797	-2,865	-2,865
Other	-6,782	-8,050	-11,837	-14,561	-15,824	-12,815	-11,630	-10,708	-10,175
Service	-4,070	-5,591	-4,867	-5,815	-5,086	-7,663	-7,442	-7,940	-7,738
Oil & LNG	-1,653	-2,693	-2,647	-3,655	-2,777	-3,589	-3,381	-3,970	-3,869
Other	-2,417	-2,898	-2,220	-2,160	-2,309	-4,074	-4,061	-3,970	-3,869
Current Account	-1,155	2,198	2,131	-2,790	-7,039	-4,151	-1,968	-2,104	-2,214
SDRS	64	65	62	-	-	-	-	-	-
Official Capital	2,101	2,690	2,684	3,521	5,011	5,793	3,519	3,658	3,840
Program Aid	94	239	118	50	21	84	52	70	71
Project Aid	2,007	2,451	2,566	3,471	4,990	5,709	3,467	3,588	3,769
Debt Repayments	-632	-692	-615	-809	-926	-1,010	-1,292	-1,342	-1,777
Other	392	-1,315	-361	1,140	1,795	1,191	499	599	203
Balance	770	2,946	3,901	1,062	-1,159	1,823	758	811	52
Errors & Omissions	-62	-1,256	-1,165	-2,050	-2,121	247	-91	-750	-
Monetary Movements	-708	-1,690	-2,736	988	3,280	-2,070	-667	-61	-

Remarks: /1 Estimate
/2 Projection

Source: Department of Finance

In Indonesia, the fourth Five Year Development Plan (Repelita IV, 1984-85 - 1988/89) is now under execution. The Repelita IV is based on the following directives:

- 1) To raise the standards of living, intellectual abilities and general welfare of the people and lay strong foundations for subsequent stages of the nation's development.
- 2) To establish the foundation which will serve as an effective basis for future sustained development, and to create an environment that provides every incentive and opportunity for all concerned to participate and perform, fully and harmoniously, in the national development effort;
- 3) To continue to give priority to economic development with emphasis on agricultural self-sufficiency in food, and on industries, at the same time to give more attention to social development and the development of other non-economic fields;
- 4) To continue to be based on the "Trilogi Pembangunan" or the Development Trilogy, namely equity, a sufficiently high rate of economic growth, and a sound and dynamic national stability.

The indications are that the strategy under Repelita IV remains fundamentally unchanged from the one under Repelita III (1979/80 - 1983/84) of placing greater emphasis on equitable development. While the priority of Repelita IV is still on economic development, greater emphasis is given to human resource development comprising education, health, manpower, clean-water supply, nutrition, housing and human settlement, as represented in the sectorial percentage breakdown of the development budget.

In Repelita IV, the average growth rate is expected to be approximately 5% per annum, comprising 3% in agriculture, 2.4% in mining, 9.5% in manufacturing, 5% in construction 5.2% in transportation and communication and 5% in other sectors.

The total government development budget for the entire Repelita IV period amounts to Rp. 78,609.5 billion, while that of the first year of 1984/85 is Rp. 10,459.3 billion and the second year of 1985/86 is Rp. 12,849.0 billion.

The allocations are based on the national priority stated in the Guidelines of State Policy with emphasis on equity, health, education and social overhead capital.

The transmigration programme is implemented in line with the national policy to alleviate regional social disparities. In Repelita IV, the Government attaches high priority to an increase in the rate of transmigration and aims to resettle 750,000 families of about 3.6 million people from Java to the islands of Sumatra, Kalimantan, etc.

1.2 Regional Socio-Economy

The West Java Province covers an area of 46,300 km², occupying 35% of the total area of Java Island.

Based on the 1980 census and population projection, the population of the West Java Province in 1985 is estimated at around 31.0 million, corresponding to 31% of the total population of Java Island and its population density is about 699 persons/km². The population growth rate was 2.36% per annum during the period of 1961 - 1980 [see Table I(A)-4].

The population aged 10 and over in the Province was 20.4 million and the economically active was 10.4 million in 1982, corresponding to 51.3% of the population aged 10 and over.

Table I (A)-4 POPULATION OF WEST JAVA PROVINCE BY KABUPATEN/KOTAMADYA IN 1961, 1971, 1980 AND 1984

Kabupaten/ Kotamadya	Census				Growth Rate (%)			Density/km ²
	1961	1971	1980	1984/1	1961-71	1971-80	1981-84/2	1984
Kab. Pandeglang	440,213	572,628	694,759	719,115	2.69	2.15	0.88	275.40
Kab. Lebac	427,802	546,364	682,868	714,095	2.50	2.48	1.18	228.88
Kab. Bogor	1,314,156	1,667,687	2,493,843	2,627,476	2.44	4.52	1.37	782.47
Kab. Sukabumi	964,595	1,210,678	1,517,631	1,558,499	2.32	2.51	0.83	396.32
Kab. Cianjur	899,503	1,125,647	1,387,578	1,389,592	2.29	2.33	0.11	401.52
Kab. Bandung	1,596,409	1,985,410	2,669,200	2,737,598	2.23	3.31	1.04	900.20
Kab. Garut	924,543	1,200,554	1,483,035	1,520,460	2.67	2.35	0.45	489.53
Kab. Tasikmalaya	1,017,676	1,313,406	1,593,189	1,587,606	2.61	2.15	-0.09	579.38
Kab. Ciamis	1,014,626	1,225,689	1,367,578	1,357,347	1.93	1.21	-0.15	538.51
Kab. Kuningan	527,001	658,593	786,414	834,316	2.28	1.97	1.31	746.93
Kab. Cirebon	904,114	1,041,988	1,331,690	1,391,999	1.44	2.73	1.20	1,429.16
Kab. Majalengka	645,297	749,096	897,722	930,605	1.52	2.01	0.87	769.73
Kab. Sumedang	527,439	637,918	723,627	746,576	1.94	1.40	0.65	525.08
Kab. Indramayu	862,248	985,462	1,237,450	1,265,172	1.36	2.53	0.57	658.74
Kab. Subang	-	898,448	1,065,251	1,074,936	-	1.89	0.13	576.68
Kab. Purwakarta	1,086,422	371,658	457,973	467,686	-10.27	2.32	0.71	563.48
Kab. Karawang	833,740	1,004,296	1,236,604	1,299,669	1.90	2.31	1.30	823.38
Kab. Bekasi	692,817	830,921	1,143,463	1,238,942	1.85	3.57	1.91	964.74
Kab. Tangerang	850,390	1,066,695	1,529,024	1,628,308	2.32	4.04	2.25	1,559.68
Kab. Serang	720,169	859,367	1,109,186	1,156,577	1.80	2.65	1.09	616.51
Kod. Bogor	154,092	195,873	246,969	245,910	2.45	2.60	0.54	10,809.23
Kod. Sukabumi	80,438	96,242	109,898	107,135	1.83	1.48	0.32	8,817.70
Kod. Bandung	972,566	1,200,380	1,461,407	1,415,603	2.15	2.20	1.50	17,480.90
Kod. Cirebon	158,299	178,529	223,504	212,216	1.22	2.51	1.21	5,680.30
Total (or Average)	17,614,555	21,623,529	27,449,863	28,227,438	(2.09)	(2.66)	(0.93)	(653.76)

Remarks: /1 Resident registration.

/2 Based on resident registration.

Source: Kantor Statistik Propinsi Jawa Barat.

The percentage of the employed population in the Province was 95.6% of the total economically active in 1982 and the percentage of persons employed in the agricultural sector was 5.7%, followed by 9.5% for trade, 12.3% for public service, 11.4% for manufacturing and 5.2% for construction. The percentage of persons employed in the agricultural sector decreased from 48.2% in 1980 to 45.7% in 1982. A gradual decrease in the share of the agricultural sector seems to be the recent trend in Indonesia. Based on the Agricultural Census 1983, the number of farm households in the Province was 3.5 million, accounting for 54.6% of the total number of households.

The Gross Regional Domestic Product of West Java Province increased from Rp. 1,720.79 billion in 1975 to Rp. 9,185.89 billion in 1983 at current prices [see Table I(A)-5]. Table I(A)-6 shows the average real growth rate of 8.1% per annum. GRDP in the West Java Province accounts for 12.5% of Indonesia's GDP in 1983. Assuming that GDP per capita index of the whole country is 100, that of the Province quotes 66.9 in 1983. This indicates that the West Java Province ranks in the middle of development among the 27 provinces of the country.

Table I(A)-5 GROSS REGIONAL DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN IN WEST JAVA PROVINCE AT CURRENT PRICES, 1975 - 83

Unit: Rp. million

	1975	1976	1977	1978	1979	1980	1981	1982/1	1983/2
Agriculture	597,186.16	589,462.73	742,977.50	947,774.38	1,198,673.54	1,480,804.52	1,855,015.23	1,924,807.05	2,225,278.79
Farm Food Crops	444,716.35	520,417.61	537,061.25	676,203.25	895,022.58	1,125,515.48	1,395,251.88	1,427,507.03	1,667,046.99
Farm Nonfood Crops	36,817.30	39,480.49	56,964.85	76,433.16	74,228.09	101,255.91	107,814.91	122,124.15	117,666.05
Estate Crops	21,091.26	22,374.93	21,012.74	32,216.74	39,903.82	42,380.72	51,767.90	60,975.13	89,345.89
Livestock Products	60,865.11	68,231.16	82,510.55	115,876.21	125,274.27	131,547.19	193,359.49	206,240.07	230,840.14
Forestry	1,564.23	2,250.96	1,259.06	1,734.86	1,624.57	2,890.21	2,821.60	3,293.80	3,722.96
Fishery	32,131.91	36,707.58	39,169.05	45,312.16	62,620.21	77,215.01	103,999.45	104,666.87	116,656.76
Mining & Quarrying	182,911.45	266,998.53	282,210.98	311,473.63	475,862.39	992,181.38	1,038,796.30	1,137,419.16	1,411,093.37
Mining	179,417.93	262,065.23	275,460.25	301,939.61	463,558.73	977,107.87	1,020,942.87	1,114,593.45	1,382,904.50
Quarrying	3,493.52	4,933.30	6,750.73	9,534.02	12,303.66	15,073.51	17,853.43	22,825.71	28,188.87
Manufacturing	138,562.22	180,367.01	220,457.90	311,130.04	427,622.46	545,866.18	682,046.94	722,426.47	806,749.38
Large & Medium Industry	110,648.77	145,748.86	178,698.99	262,315.91	360,630.31	460,921.37	563,064.70	599,521.05	641,434.41
Small Scale Industry	27,913.45	34,618.15	41,758.91	48,814.13	66,992.15	84,944.81	98,982.24	122,905.42	165,314.97
Electricity, Gas & Water	8,689.09	14,340.24	19,760.24	23,838.47	27,913.21	33,938.76	42,560.43	59,297.12	92,667.28
Electricity	6,149.96	11,463.42	16,616.43	20,226.74	24,635.85	29,390.62	37,474.65	53,208.17	84,666.58
Gas	1,183.68	1,285.47	1,354.88	1,604.48	1,069.61	1,260.95	1,235.39	1,619.04	2,689.99
Water Supply	1,355.45	1,611.35	1,788.93	2,007.25	2,207.75	3,287.19	3,850.39	4,469.91	5,310.71
Construction	56,719.21	78,821.93	104,441.14	130,198.02	199,306.08	337,477.68	478,934.65	637,832.82	737,559.36
Trade	396,748.72	490,309.12	548,309.12	713,080.43	923,594.31	1,231,441.90	1,481,369.55	1,615,969.71	1,873,478.72
Wholesale & Retail	325,995.20	399,388.27	434,622.37	579,821.17	749,537.10	997,744.10	1,171,361.08	1,265,493.02	1,473,950.81
Hotels	1,403.29	1,596.71	1,851.57	2,011.56	2,446.04	2,457.75	3,201.05	4,089.54	6,436.01
Restaurant	69,350.23	89,344.76	111,835.18	131,247.70	171,611.17	231,240.05	306,807.42	346,387.15	393,091.90
Transport & Communication	73,409.85	84,561.51	108,010.77	119,182.10	172,049.63	223,564.20	277,432.81	380,414.38	494,491.87
Road Transport	57,457.31	66,609.79	83,814.91	98,052.70	135,746.83	175,010.49	221,547.37	310,629.81	409,196.36
Railways	2,493.74	3,024.39	4,452.79	5,877.67	8,710.51	11,189.99	11,677.20	13,892.03	14,766.93
Water Transport	2,782.22	2,960.65	4,007.40	1,559.09	5,183.18	8,720.80	11,014.64	11,838.41	13,376.79
Air Transport	92.21	182.33	346.73	863.60	1,349.42	1,088.88	1,178.09	1,118.51	1,635.18
Communication	3,351.31	4,345.48	4,607.53	5,854.74	10,115.38	13,421.60	15,146.14	18,809.10	23,897.90
Related Services	7,233.06	7,438.87	10,781.41	6,974.30	10,944.31	14,132.44	16,869.37	24,126.52	31,618.71
Banking & Finance	11,339.13	19,804.82	22,302.75	26,921.24	34,853.27	49,369.65	65,907.73	88,169.16	112,502.74
Ownership of Dwelling	66,228.08	77,016.64	85,835.11	88,091.17	101,175.97	121,929.43	145,102.01	173,246.81	216,018.48
Public Administration	103,334.50	126,210.11	167,354.20	201,158.03	275,142.82	424,525.23	627,793.75	701,543.96	830,156.40
Other Services	85,658.20	99,216.29	110,815.93	121,244.28	167,418.54	210,457.09	263,546.24	316,630.37	385,896.05
Gross Domestic Product	1,720,786.61	2,127,109.55	2,412,475.64	2,994,091.79	4,003,612.22	5,651,556.02	6,938,505.64	7,757,757.01	9,185,892.44

Remarks: /1 Revised

/2 Preliminary

Source: Produk Domestik Regional Bruto Propinsi Jawa Barat 1973 - 1979.

Produk Domestik Regional Bruto menurut Wilayah Pembangunan Propinsi Dt. I. Jawa Barat 1979 - 1983.

Table I(A)- 6 ANNUAL GROWTH RATE OF GRDP BY INDUSTRIAL ORIGIN
IN WEST JAVA PROVINCE AT CONSTANT PRICES, 1975 - 83

Unit: %

	1975	1976	1977	1978	1979	1980	1981	1982/1	1983/2
Agriculture	1.74	1.45	-3.24	17.28	2.44	10.42	9.91	-0.05	0.93
Farm Food Crops	-3.07	4.38	-6.28	19.45	1.43	10.98	8.90	0.72	1.09
Farm Nonfood Crops	12.69	-13.54	26.06	7.93	-5.84	31.41	0.85	-16.15	-15.06
Estate Crops	17.39	-7.25	7.65	9.69	7.25	1.01	3.18	8.87	11.33
Livestock Products	32.75	-3.41	6.58	12.66	-6.22	-8.43	31.10	-2.61	1.01
Forestry	15.49	14.28	-43.69	32.61	12.57	11.03	9.46	-13.02	-0.84
Fishery	5.88	-7.58	-11.27	12.17	48.87	17.88	9.12	6.62	6.32
Mining & Quarrying	9.59	42.16	-0.14	-7.80	-8.82	14.93	-4.67	5.21	1.02
Mining	9.55	42.41	-0.47	-8.50	-8.98	15.99	-4.84	4.96	0.62
Quarrying	11.65	29.55	18.45	25.35	-3.12	3.27	1.99	14.28	12.74
Manufacturing	9.98	15.40	12.80	31.92	2.20	5.53	16.99	4.79	4.19
Large & Medium Industry	10.67	17.05	13.80	37.20	1.05	4.98	18.34	4.29	4.19
Small Scale Industry	7.35	8.84	8.54	8.34	8.72	8.38	10.12	7.50	19.50
Electricity, Gas & Water	4.17	6.19	13.80	14.46	11.69	16.24	21.40	10.56	27.04
Electricity	7.12	8.60	17.84	16.61	19.95	19.12	26.14	10.38	28.58
Gas	-7.59	-4.86	-1.57	16.66	-41.21	0.25	-12.17	14.47	34.33
Water Supply	2.73	4.86	7.00	1.70	6.86	4.41	0.18	10.78	9.46
Construction	31.21	33.97	25.48	14.67	16.84	39.31	38.72	21.87	7.99
Trade	5.22	8.47	7.82	11.81	9.86	9.52	4.76	2.00	5.16
Wholesale & Retail	4.24	8.15	7.33	12.20	9.81	8.74	2.24	1.74	5.89
Hotels	3.49	1.26	6.61	7.02	7.19	-2.49	2.32	11.59	18.98
Restaurant	10.13	10.13	10.13	10.13	10.13	13.30	15.83	2.87	2.17
Transport & Communication	7.20	5.24	21.16	5.72	14.48	11.59	12.85	12.54	11.51
Road Transport	15.76	5.91	19.35	11.63	9.52	11.31	12.73	12.52	13.80
Railways	-16.42	10.80	39.65	25.88	49.57	8.31	2.68	1.75	19.84
Water Transport	-34.57	-2.78	28.39	-62.90	162.94	23.17	66.31	-6.38	1.34
Air Transport	501.11	80.64	80.38	137.52	23.73	-36.28	3.44	-11.73	25.74
Communication	8.76	18.46	0.57	21.18	19.63	26.50	18.54	22.65	-0.64
Related Services	-15.04	-6.04	37.47	-33.89	15.90	8.61	1.31	25.37	26.07
Banking & Finance	-7.38	52.88	1.18	14.69	7.74	19.27	17.63	14.70	12.37
Ownership of Dwelling	1.24	3.49	2.47	1.11	1.27	2.48	6.68	4.28	4.13
Public Administration	44.28	7.14	18.99	13.95	3.17	8.74	28.18	17.49	11.82
Other Services	1.72	5.82	5.94	4.34	9.33	8.41	9.05	8.30	6.24
GRDP (Average: 1974-1983)	6.85	10.75	5.22	11.98	4.57	11.39	11.38	5.98	5.02

(8.1)

Remarks: /1 Revised

/2 Preliminary

Source: Produk Domestik Regional Bruto Propinsi Jawa Barat 1973 - 1979.

Produk Domestik Regional Bruto menurut Wilayah Pembangunan Propinsi

DI. I. Jawa Barat 1979 - 1983.

The share GRDP by sector (at current prices) in 1983 was 24.22% for agriculture, 20.4% for trade, 15.37% for mining and quarrying, 8.78% for manufacturing industries, 8.03% for construction, 5.38% for transportation and communication and 17.82% for others. The share of the agricultural sector declined by 10.48% during the period from 1975 to 1983 as shown in Table I(A)-7.

The per capita income of the Province in 1983 was Rp. 311,732.28 at current prices and Rp. 110,808.52 at the 1975 constant prices. The average growth rate of the per capita income was 5.5% per annum during the period from 1973 to 1983. This growth rate is higher than 4.2% for the whole of Indonesia.

Table I(A)-7 DISTRIBUTION OF GRDP BY INDUSTRIAL ORIGIN
IN WEST JAVA PROVINCE AT CURRENT PRICES, 1975 - 83

Unit: %

	1975	1976	1977	1978	1979	1980	1981	1982 /1	1983 /2
Agriculture	34.70	32.41	30.80	31.65	29.94	26.80	26.74	24.79	24.22
Farm Food Crops	25.84	24.47	22.26	22.58	22.36	19.92	20.11	18.40	18.15
Farm Nonfood Crops	2.14	1.86	2.36	2.55	1.85	1.79	1.55	1.57	1.28
Estate Crops	1.23	1.05	1.08	1.08	1.00	0.75	0.75	0.79	0.97
Livestock Products	3.54	3.21	3.42	3.87	3.13	2.33	2.79	2.66	2.51
Forestry	0.09	0.11	0.05	0.06	0.04	0.05	0.04	0.04	0.04
Fishery	1.87	1.73	1.62	1.51	1.56	1.37	1.50	1.35	1.27
Mining & Quarrying	10.63	12.55	11.70	10.40	11.89	17.56	14.97	14.66	15.37
Mining	10.43	12.32	11.42	10.08	11.58	17.29	14.71	14.37	15.06
Quarrying	0.20	0.23	0.28	0.32	0.31	0.27	0.26	0.29	0.31
Manufacturing	8.05	8.48	9.14	10.39	10.68	9.66	9.54	9.32	8.78
Large & Medium Industry	6.43	6.85	7.41	8.76	9.10	8.16	8.11	7.73	6.98
Small Scale Industry	1.62	1.63	1.73	1.63	1.67	1.50	1.43	1.59	1.80
Electricity, Gas & Water	0.50	0.67	0.82	0.80	0.69	0.60	0.61	0.77	1.01
Electricity	0.36	0.54	0.69	0.68	0.62	0.52	0.54	0.69	0.92
Gas	0.07	0.06	0.06	0.05	0.03	0.02	0.02	0.02	0.03
Water Supply	0.08	0.08	0.07	0.07	0.05	0.06	0.05	0.06	0.06
Construction	3.30	3.71	4.33	4.35	4.98	5.97	6.90	8.22	8.03
Trade	23.06	23.05	22.73	23.82	23.07	21.79	21.35	20.84	20.40
Wholesale & Retail	18.94	18.78	18.02	19.37	18.72	17.65	16.88	16.32	16.05
Hotels	0.08	0.08	0.08	0.07	0.06	0.04	0.05	0.05	0.07
Restaurant	4.03	4.20	4.64	4.38	4.29	4.09	4.42	4.47	4.28
Transport & Communication	4.27	3.98	4.48	3.98	4.30	3.96	4.00	4.89	5.38
Road Transport	3.34	3.13	3.47	3.27	3.39	3.10	3.19	4.00	4.45
Railways	0.14	0.14	0.18	0.20	0.22	0.20	0.17	0.18	0.16
Water Transport	0.16	0.14	0.17	0.20	0.13	0.15	0.16	0.15	0.15
Air Transport	0.01	0.01	0.01	0.03	0.03	0.02	0.02	0.01	0.02
Communication	0.19	0.20	0.19	0.20	0.25	0.24	0.22	0.24	0.26
Related Services	0.42	0.35	0.45	0.23	0.27	0.25	0.24	0.31	0.34
Banking & Finance	0.66	0.93	0.92	0.90	0.87	0.87	0.95	1.14	1.22
Ownership of Dwelling	3.85	3.62	3.56	2.94	2.53	2.16	2.09	2.23	2.35
Public Administration	6.01	5.93	6.94	6.72	6.87	7.51	9.05	9.04	9.04
Other Services	4.97	4.67	4.58	4.05	4.18	3.12	3.80	4.10	4.20
GRDP (Average: 1974-1983)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Remarks: /1 Revised
/2 Preliminary

Source: Produk Domestik Regional Bruto Propinsi Jawa Barat 1973 - 1979.
Produk Domestik Regional Bruto menurut Wilayah Pembangunan Propinsi
DI. I. Jawa Barat 1979 - 1983.

1.3 History of Banten Area

Banten is the name given to the western part of West Java, covering four (4) Kabupatens: Serang, Pandeglang, Lebak and Tangerang.

Colored by the historical vicissitude, Banten area represents a certain diversity in terms of socio-culture, economic structure and so on. This diversity poses considerable challenges for the Government. In this context, it is becoming important to explore the old to be able to understand the new, i.e. the trends in conjunction with macro socio-economic development. Historical background of Banten area and its culture and socio-economic can be sketched as outlined hereunder, based on the "Indonesia West Java Travel Guide", Directorate General of Tourism, 1981.

Before the arrival of the first Dutch vessels at the Banten coast, the Banten area had been visited by many nationalities. It had carried trade with Annamese, Arabs, Chinese, Indians, Malaysians and Portuguese as well. The diversification of culture with which it came into contact had left their imprints in the Banten area in the form of Chinese and Sanskrit stone inscriptions dating from the 5th Century, in Islamic mosques and Chinese temples, in endless intrigues and wars to secure the lucrative spice trade, particularly pepper. The country became known as Spice Islands of the East.

Because of foreign influence derived from its historical past, the Banten area presents a challenge to development due to the diversity in its social, cultural and economic structures. Islamization of Java started in the 16th Century when the Islamic Kingdom of Demak was founded. They drove away the Hindu rulers and annexed the entire north of Java including Banten.

Banten developed into an important entrepôt and played an important role during the years of trade development. The old

Banten or Banten Lama replaced Banten Girang to become the center of governments during the 16th - 18th centuries. Commerce prospered and the agrarian economy switched to overseas trade mainly dealing on exports of pepper to China, other Asian countries and Europe.

The kingdom witnessed an era of prosperity and its market places hummed with activities. With the control of the pepper trade, Banten rose to prominence and its influence was widespread.

Like the Portuguese in the early 1500s, Dutch merchants were interested in direct trade with the Indies to monopolize the pepper trade. Starting in 1556, Dutch vessels landed at Banten. This first attempt from the Dutch ended in failure. In early 1600, Dutch traders banded together to establish the United Dutch East Indies Company. Its purpose was to secure and monopolize the spice commodities. To this end, the Company sent armed vessels to fight and dislodge the foreign posts held by the Portuguese and other nationalities along the Java coast. The Dutch Company embarked upon a series of military campaigns to secure strongholds in Java. In 1800, the Netherlands Government took over the control of the United Dutch East Indies Company and practically started the colonization of the country. During this period, the British held Java for a short period (1811 - 1815) after a successful invasion led by Thomas Stanford Raffles.

Before Banten was annexed by the Dutch, Banten had become a strong and prosperous region possessing the biggest harbour in Java. By the time when Dutch colonized the Banten region, there were chronic conflicts among the ruling sultans that led to anarchism and disunity. The Dutch annexed the Sultanate of Banten in 1808. However, the population resented the domination of the Dutch administration and there were many rebellions, the most famous one being the peasant's revolt of Banten in July 1888. Although most of the uprisings were crushed by the Dutch, their defeat did not break the spirit of

the population to get rid of the colonialists from the Banten region. The history of Banten was imprinted in its resistance against the colonial regime.

The Banten region is mainly inhabited by Sundanese who have their own language and distinctive identity. They used to live most in upland areas. The Javanese live in the plain and they involved themselves in agriculture and commerce. There is an ethnic minority group, the Badui people, who dwells in remote highlands in the southern part of the West Java.

CHAPTER 2 PRESENT CONDITIONS OF THE STUDY REGION

2.1 Natural Conditions

2.1.1 Location

The study region is located in the extreme western part of the West Java (Two Kabupatens: Serang and Pandeglang) including Krakatau islands in Kab. Lampung Selatan, and is defined or bordered by the Java Sea in the north, the Sunda Straits in the west, the Indian Ocean in the south and by the boundaries of two Kabupatens: Tanggeran and Lebak. However, the study region will be expanded in certain specific aspects of the study to a northern part of Kab. Lampung Selatan.

2.1.2 Land

The topography is rather complicated. It is flat in the northeast corner, but hilly to mountainous in the rest of the study region. The highest peak is the Gunung Karang, El. 1,778 m followed by the Gunung Pulosari, El. 1,346 m and the Gunung Asenpan, El. 1,174 m. There are two independent mountains with the same name of Gunung Gede, one with its peak at El. 744 m and the other El. 595 m. The latter lies in the peninsula in the north of the study region and the several relatively low mountains ranging from Els. 200 to 600 m (G. Honje: 623 m) are found in the southwestern part of the study region. Between the Gunung Karang and the higher Gunung Gede, there lies a swamp of Rawa Danau formed on Caldera, whereas in the eastern part of Ujung Kulon and Panaitan Island, swamp areas are also found. The Krakatau Islands are composed of four main islands which are Pulau Rakata, Pulau Sertung, Pulau Rakata-Kecil and Pulau Anak Krakatau. They present steep cliffs facing the sea.

The geology of the study region consists of tuffaceous sedimentary rocks and volcanic rocks such as andesites and

basalts which are intruded and/or erupted in the age of Tertiary to Quaternary. Most of the soils in the study region are formed of materials directly derived from volcanic and sedimentary rocks except in bayside tidal marshes, alluvial plains and river terraces. Along the shore, tidal marshes range from 0.7 to 1.5 km wide and are effected regularly by the ebb and flow of the tides.

Most of the vegetations in the northern part of the study region are effected by man's activities, while in the southwestern part of the region, it still remains a primary forest, which comes into the category of tropical rainforest.

In the study region, there are natural reserve areas such as Ujung Kulon (51,000 ha), Rawa Danau, Pulau Dua, Tukung Gede, etc. Located on the southwestern tip of West Java, Ujung Kulon National Park (51,000 ha) covers the Ujung Kulon Peninsula and islands of Panaitan and Peucang. The dense forest provides a natural habitat for many species of wildlife such as the one-horned Javan rhinoceros (only 50 heads), wild oxen, deers, wild boars, panthers, crocodiles, snakes and birds.

Most of the rivers in the study region are categorized into two: the ones that drain generally from south to north into the Java Sea, and the other draining from east to west into the Sunda Strait except for the Cibaliung flowing into the Indian Ocean. In the northern part of the region, many belong to the former category, and notable ones are, from the east in order, the Cidurian, Ciujung and Cibanten rivers. Notable rivers in the latter category are, from the north in order, the Kali Anyerm Cidanau, Citajur, Cibungur, Ciliman and Ciseukeut (originating in the swamp of Rawa Danau).

Bank erosion is observed in many rivers and estuaries facing the sea are effected by drift sand. Flood occurs in the west monsoon period in general and causes huge damage to the local production.

As to the other water resources other than rivers, there are many springs on the foot slope of G. Karang. The depth to water table in the region varies from less than one to about 12 m below the ground surface.

2.1.3 Climate

The climate in the study region is generally characterized as a tropical monsoon climate. As the topography is complicated, the local climatic patterns vary accordingly. The west monsoon dominates the area with abundant rainfall from December through March, and the east monsoon appears with less rainfall from June through September. April to May and October to November belong to the transitional periods.

The precipitation in the study area is rich with the areal average of about 2,500 mm per annum. The annual rainfall varies according to the location and the topography, ranging from about 1,500 mm in the northern coastal plain to about 5,000 mm in the southern mountainous region. The monthly mean air temperature varies little throughout the year ranging between 26°C and 27°C. The relative humidity is generally high ranging from 80% to 85% almost throughout the year.

The average wind velocity at Serang ranges between 3.8 and 4.7 knots or 2.0 m/sec. and 2.4 m/sec. The monthly mean of sunshine duration at Serang ranges between five and six hours in the dry season, whereas it is three and four hours daily in the wet season.

2.1.4 Generations of Krakatau islands

Indonesia ranks first as a nation of volcanoes, with at least 132 active in the past 10,000 years.

Krakatau group, one of the most active volcanoes repeatedly has arisen from the sea and explosively collapsed, only to be borne again. It lies in the collision zone of two tectonic

plates on the great firing line where the Indian Ocean's crust drives beneath Asia, feeding a chain of burning mountains that sweeps nearly 3,200 km.

The Krakatau Islands was little known before 1883 but for a few fishermen and adventurers. The island is formed by an active volcano with its peak at Alt. 820 m. It had laid dormant for two hundred years, the previous activities were recorded in 1681, when it erupted again in the summer of 1883.

The day was 20 May 1883. The sound of the eruption was heard from places 200 km away. Steam and ashes rose to a great height. This was just a beginning as the volcano continued its eruption activities for about three months. As a result of the explosion of the volcano, a tsunami occurred when the red hot lava came into contact with the sea. The time was 10 o'clock in the morning of 27 August 1883. The sound was heard as far as Australia some 3,500 km away. The ashes and steam formed a huge colonnade which rose over 80 km high. The sun was hidden within a radius of 30 km. The tsunami which waves reached a height of 30 m struck both Java and Sumatra coasts. The lost of lives among the riparian people was estimated at about 36,000. The particles carried by the winds formed a thick suspended layer which stayed in the atmosphere for about one year.

As a result of the destruction of the volcano, Krakatau caved in on its own base and sank into the sea bottom formed by a submarine caldera with a width of 6.5 km and at a depth of 225 m below the sea level.

In 1927, Krakatau erupted again and an island arose from the undersea caldera. It was named Anak Krakatau (son of Krakatau). Another eruption occurred in 1952 that pushed Anak Krakatau above. After that it rose to a height of 150 m and continued rising. The last recorded eruption happened in 1981.

Presently, the group of Krakatau Islands consists of four islands. They are the Rakata, Sertung, Rakata Kecil and Anak Krakatau islands. The three peripheral islands of the Krakatau group are thought to be the remnants of the previously existing single andesite volcano some 1,980 m high named ancient Krakatau. There exist records of seven eruptions of Krakatau between the 9th and 16th Centuries.

From 1980, the activities of Krakatau volcanoes are permanently observed at Pasauran station (located at about 20 km on the north from Labuan) of the Directorate General of Mining and Mineral Resources, Department of Mining and Energy and its records are regularly sent to the Bandung headquarters for their analyses.

According to the interview survey with observers at Pasauran station, the activities of volcanoes are normal for the time being and significant earthquakes do not happen in last decades on the coastal zone.

2.2 Socio-Economic Settings

2.2.1 Administration

The study region for this socio-economic study is defined as a jurisdiction of whole two Kabupatens (Kab.) of Serang and Pandeglang, together with the Krakatau islands which belong to Kab.Lampung Selatan [see Fig. I(A)-1].

The study region covers a land area of 4,520 km², comprising 1,876 km² for Serang, 2,609 km² for Pandeglang and 35 km² for the Krakatau Islands. The study region is nearly 10% of the gross area of the West Java Province.

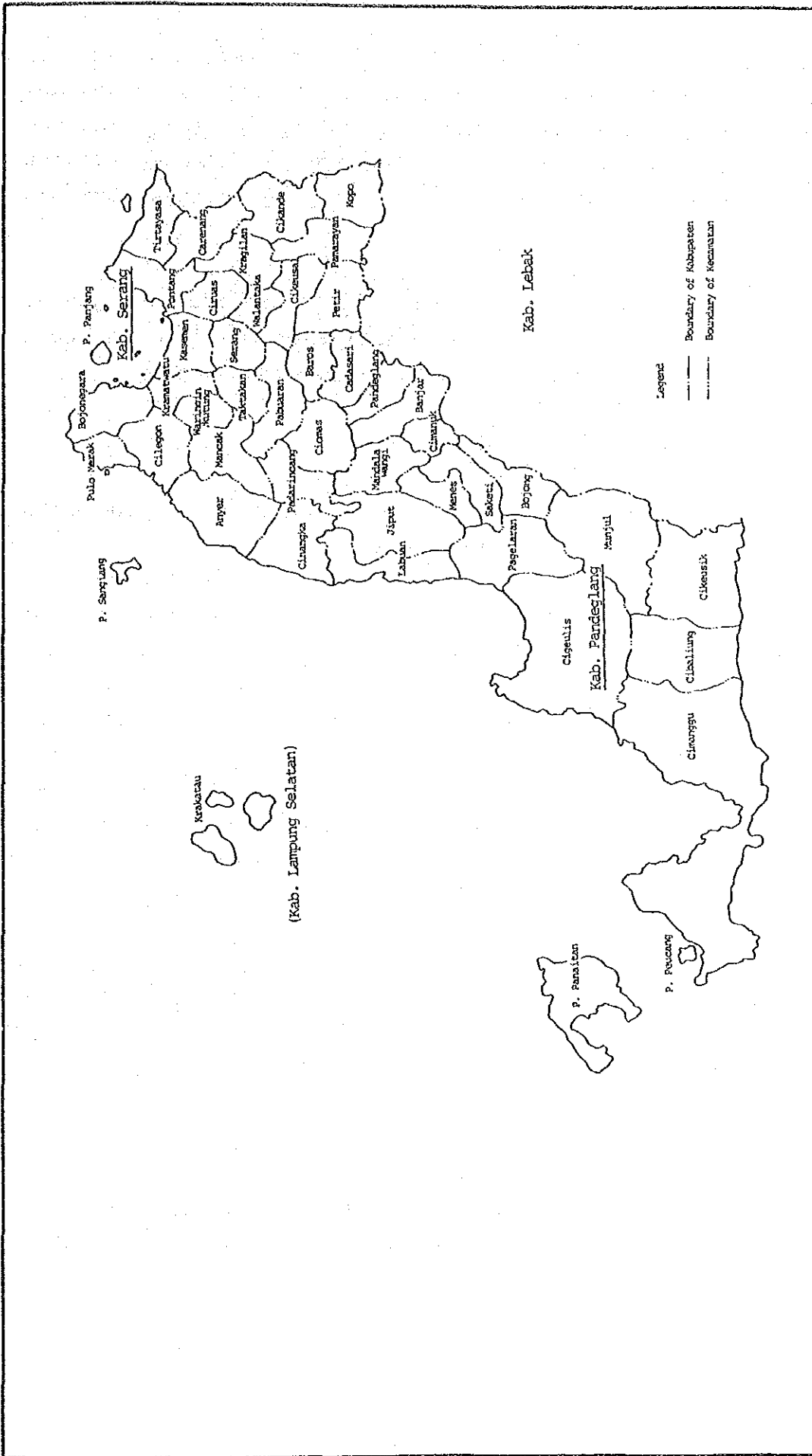


Fig. I (A)-1
 ADMINISTRATIVE DIVISION OF THE
 STUDY REGION

DEPARTMENT OF TOURISM, POST AND TELECOMMUNICATION
 DIRECTORATE GENERAL OF TOURISM
 JAPAN INTERNATIONAL COOPERATION AGENCY
 THE STUDY ON THE REGIONAL DEVELOPMENT PROJECT
 IN THE WESTERN PART OF JAVA



The administrative district of the study region covers 42 Kecamatan and 746 Desas/Kelurahans, including 26 Kecamatan and 412 Desas/Kelurahans in Kab. Serang and 16 Kecamatan and 334 Desas/Kelurahans in Kab. Pandeglang. Krakatau Islands belong to Kecamatan Kalianda of Kab. Lampung Selatan, Lampung Province in Sumatra Island.

The capital towns of each Kabupaten are Serang and Pandeglang. Besides, the Krakatau Islands are administrated from the town of Kecamatan (IKK) Kalianda in Kab. Lampung Selatan.

2.2.2 Population and transmigration

Population Censuses in Indonesia were carried out in the years 1961, 1971 and 1980 after independence.

In 1984, the study region supported a population of some 1,857,692 consisting of 1,156,577 in Kab. Serang and 719,115 in Kab. Pandeglang. The Krakatau Islands are uninhabited. The population in the study region is about 6.6% of the total Province. The average population per household in the region is estimated at 4.81 in 1980. This size is slightly higher than those of Java Island (4.65) and the West Java Province (4.5), but a little lower than that of national average (4.87), as shown in Table I(A)-8.

The population in the study region is unevenly distributed due to its topography and it is dense in the northern and eastern parts and scarce in the southern and western areas. The distribution of the population in the study region is as follows.

- 1) The majority of the population is concentrated in municipalities along the national, provincial and local roads from Serang to Merak through Cilegon and from Serang to Pandeglang;

Table I(A)-8 POPULATION IN INDONESIA, JAVA, DKI JAKARTA, WEST JAVA AND STUDY REGION, 1961, 1971, 1980 AND 1981-84

	Area (km)	Population Census				Resident Registration				Household (1980)	
		1961	1971	1980	1981	1982	1983	1984	Number	Size /4	
		(1) Indonesia	1,919,443	119,208,229	147,490,298	150,934,000/2	154,470,000/2	158,083,000/2	161,580,000/2	30,263,000/3	4.87
(2) Java	132,187	76,086,327	91,269,528	93,107,000/2	94,981,000/2	96,893,000/2	98,712,000/2	19,622,000/3	4.65		
(3) DKI Jakarta	590	4,576,009	6,503,227	6,555,954/2	6,715,273/2	7,250,100/2	7,500,100/2	1,164,000/3	5.59		
(4) West Java	46,300	17,614,555	21,623,529	27,449,840	27,452,724	27,698,012	28,227,438	6,100,713	4.50		
(5) Study Region /1	4,512	1,160,382	1,432,095	1,803,945	1,831,228	1,857,651	1,875,692	375,139	4.81		
Serang	1,876	720,169	859,467	1,109,186	1,126,594	1,140,538	1,156,577	231,022	4.80		
Pandeglang	2,636	440,213	572,628	694,759	700,394	717,113	719,115	144,117	4.82		
(5) / (1) x 100	0.24	1.20	1.22	1.21	1.19	1.18	1.16	1.24	99		
(5) / (2) x 100	3.41	1.84	1.98	1.95	1.93	1.92	1.90	1.91	103		
(5) / (3) x 100	764.75	39.92	27.74	27.76	27.27	25.62	25.01	32.23	86		
(5) / (4) x 100	9.75	6.62	6.57	6.63	6.61	6.65	6.64	6.15	107		

Remarks: /1 Excluding the Krakatau Islands.
 /2 Projected figures based on the Population Census 1980.
 /3 Round figures
 /4 Average Household Size

Sources: BPS;
 Kantor Statistik Propinsi D.K.I. Jakarta;
 Kantor Statistik Propinsi Jawa Barat.

- 2) Agglomerated populations are found in the towns located in the coastal areas (Banten, Labuan, Carita, Anyer, etc.) equipped with some harbor or tourism facilities;
- 3) In the southern and western parts as well as outskirts of Rawa Danau on the caldera of the study region covered with mountains, forests and swamps, the number of inhabitants is very few.

The population density in the study region was about 416 persons/km² in 1984. This figure is lower than those in the Province (610) and the whole of Java Island (747).

The population density in Kab. Serang in 1984 was 617 persons/km² and that in Kab. Pandeglang 273 persons/km, as shown in Table I(A)-9. Figures in this table indicate an accelerated urbanization in the study region, especially around five cities: Serang, Pandeglang, Banten, Merak Cilegon.

Table I(A)-9 also shows the population distribution ratio between urban and rural areas. The population in the urban area was 10.4% in the whole study region in 1980. These percentages are fairly lower than the national average of 22.4%. In the West Java Province, this figure is about 21.0%.

The average growth rate based on the resident registration in the study region was 1.01% per annum during the period from 1981 to 1984, implying an outflow of the population to outside. This percentage is fairly small compared with 4.59% of DKI Jakarta, 1.9% of Java and 2.30% of the country.

Table I(A)-10 shows the population by age and sex groups in the study region, West Java Province and Indonesia. In the study region, the population under 15 years of age accounts for 45.0% of the total, i.e. the average age is low compared with those of West Java Province (42.2%) and Indonesia (40.8%).

Table I(A)-9 POPULATION GROWTH RATE, DENSITY IN INDONESIA, JAVA, DKI JAKARTA, WEST JAVA AND STUDY REGION, 1961, 1971 AND 1980-84

	Growth Rate (%)			Population Density							Urban Population (1980)	
	1961-71	1971-80	1981-84	1961	1971	1980	1981	1982	1983	1984	Number	Ratio (%) / 3
	(1) Indonesia	2.10	2.32	2.30 / 1	50	62	77	79	80	82	84	32,845,769
(2) Java	1.19	2.02	1.97 / 1	476	576	690	704	719	733	747	NA	NA
(3) DKI Jakarta	4.46	3.93	4.59 / 1	5,039	7,761	11,023	11,111	11,382	12,288	12,712	6,503,227	100.0
(4) West Java	2.09	2.66	0.93 / 2	380	467	593	593	598	603	610	5,770,868	21.0
(5) Study Region	2.13	2.60	1.01 / 2	257	317	400	403	406	412	416	187,245	10.4
Serang	1.80	2.65	1.09 / 2	384	458	591	597	601	608	617	139,984	12.6
Pandeglang	2.69	2.15	0.88 / 2	167	217	264	265	267	272	273	47,261	6.8
(5) / (1) x 100	101	112	44	514	511	519	510	508	502	495	0.57	46.4
(5) / (2) x 100	179	129	51	54	55	58	57	56	56	56	-	-
(5) / (3) x 100	48	66	22	5	4	4	4	4	3	3	2.88	10.4
(5) / (4) x 100	102	98	109	68	68	67	68	68	68	68	3.24	49.5

Remarks: /1 Based on the projection figures.

/2 Based on the regident registrations.

/3 Distribution ratio of the urban population to the total population.

Sources: BPS.;

Kantor Statistik Propinsi D.K.I. Jakarta;

Kantor Statistik Propinsi Jawa Barat.

Table I(A)-10 POPULATION DISTRIBUTION BY AGE AND SEX IN 1980

	Male		Female		Total	
	Number	%	Number	%	Number	%
(1) Indonesia						
0 - 4	10,555,575	14.4	10,163,963	13.7	20,719,538	14.1
5 - 9	10,817,738	14.8	10,410,441	14.0	21,228,179	14.4
10 - 14	9,403,612	12.8	8,765,011	11.8	18,168,623	12.3
15 - 24	13,433,455	18.3	15,027,980	20.3	28,461,435	19.3
25 - 49	20,973,173	28.6	21,408,258	28.9	42,381,431	28.8
50 & Over	8,051,397	11.0	8,321,220	11.2	16,372,617	11.1
Total	73,234,950	100.0	74,096,873	100.0	147,331,823	100.0
(2) DKI Jakarta						
0 - 4	470,741	14.3	447,471	14.0	918,212	14.2
5 - 9	414,886	12.6	403,317	12.6	818,203	12.6
10 - 14	365,561	11.1	372,949	11.7	738,510	11.4
15 - 24	752,039	22.9	847,911	26.5	1,599,950	24.7
25 - 49	1,027,566	31.3	906,853	28.3	1,934,419	29.8
50 & Over	250,807	7.6	220,553	6.9	471,360	7.3
Total	3,281,600	100.0	3,199,054	100.0	6,480,654	100.0
(3) West Java Province						
0 - 4	2,081,578	15.2	2,021,354	14.7	4,102,932	14.9
5 - 9	2,099,242	15.4	2,029,619	14.7	4,128,861	15.0
10 - 14	1,741,377	12.7	1,602,200	11.6	3,343,577	12.2
15 - 24	2,317,126	17.0	2,738,921	19.9	5,056,047	18.4
25 - 49	3,951,788	28.9	3,973,987	28.8	7,925,775	28.9
50 & Over	1,473,458	10.8	1,419,190	10.3	2,892,648	10.5
Total	13,664,569	100.0	13,785,271	100.0	27,449,840	100.0
(4) Study Region						
0 - 4	150,918	16.7	145,555	16.2	296,473	16.4
5 - 9	148,356	16.4	142,482	15.8	290,838	16.1
10 - 14	119,880	13.3	103,740	11.5	223,620	12.4
15 - 24	142,802	15.8	168,957	18.8	311,759	17.3
25 - 49	253,860	28.1	261,118	29.0	514,978	28.6
50 & Over	86,137	9.6	79,140	8.8	165,277	9.2
Total	901,953	100.0	900,992	100.0	1,802,945	100.0

Sources: BPS.;

Kantor Statistik Provinsi DKI Jakarta;

Kantor Statistik Provinsi Jawa Barat.

After independence, the transmigration program was carried out by the Government under the responsibility of Department of Manpower, Transmigration and Cooperation. Since the reorganization in April 1983, the Department of Transmigration undertakes this program.

The objectives of transmigration programs are the followings:

- 1) enhancing level of living,
- 2) regional development,
- 3) balanced population distribution,
- 4) development equity,
- 5) utilization of natural resources and human resources,
- 6) national unity, and
- 7) strengthening of security and defense.

Java Island is the biggest producer of migrants. But it differs province by province as shown in Table I(A)-11. Among five provinces, the net annual migration in two provinces: Central Java and East Java indicate minuses, i.e. -0.7% to the total population for the former and -0.26% for the latter, respectively. This means that in those provinces, there were more flowing-out people than those of flowing in. In case of West Java, the net migration indicates 0.03%. This might be due to the remarkable expansion of the urban population in the northern part of the region, even though rural areas of the province are producing many migrants to the neighbouring provinces and outer islands.

Number of households settled in outer islands from West Java Province amounted to 29,528 in 1984/85, corresponding to 85,343 transmigrants. Their destination provinces in the same period are Sumatra (55.9%), Kalimantan (36.8%), Sulawesi (4.7%) and others (2.6%), as shown in Table I(A)-12.

Table I(A)-11 ESTIMATES OF NET MIGRATION
AND NATURAL INCREASE, 1971-1980

Unit: % per Annum

Province/Island	Growth Rate	Net Migration	Natural Increase
Java	2.04	-0.14	2.18
D.K.I Jakarta	3.93	1.15	2.78
*West Java	2.66	0.03	2.63
Central Java	1.64	-0.57	2.21
D.I Yogyakarta	1.10	0.15	0.95
East Java	1.49	-0.26	1.75
Sumatra	3.34	0.76	2.58
Kalimantan	2.99	0.61	2.38
Sulawesi	2.20	0.11	2.09
Eastern Islands	2.05	0.09	1.99
Indonesia Total	2.33	0.00	2.33

Sources: Indonesia Policies and Prospects for Economic Growth and Transformation, Document of World Bank, April 26, 1984.

Table I (A)-12 TRANSMIGRATION FROM STUDY REGION AND WEST JAVA PROVINCE BY SETTLED PROVINCE, 1984/85

Original Kabutaten and Region	General Transmigration										Spontaneous Transmigration			Total		
	Settled Province					Other Provinces					Sub-total	No. of families	No. of transmigrants (%)	No. of families	No. of transmigrants (%)	No. of transmigrants (%)
	Sumatra	Kalimantan	No. of transmigrants (%)	No. of families	No. of transmigrants (%)	Other Provinces	No. of families	No. of transmigrants (%)	No. of transmigrants (%)	No. of families						
Serang	116	511 (90.9)	12	51 (9.1)	-	-	128	562 (100.0)	1,293	3,492	1,421	4,054				
Pandeglang	140	605 (65.9)	70	313 (34.1)	-	-	210	918 (100.0)	526	1,349	736	2,267				
Study Region	256	1,116 (75.4)	82	364 (24.6)	-	-	338	1,480 (100.0)	1,819	4,841	2,157	6,321				
West Java Province Total	3,668	15,615 (55.9)	2,404	10,302 (36.9)	528	2,039 (7.3)	6,600	27,956 (100.0)	22,928	57,387	29,528	85,343				

Sources: Jawa Barat Dalam Angka 1984; Biro Pusat Statistik.

Numbers of settled households and transmigrants from the study region were 2,157 and 6,321 in 1984/85. Transmigrants of the region are all settled in two provinces: Sumatra (75.4%) and Kalimantan (24.6%). Most of transmigrants entered into Aceh (41.9%), south Sumatra (18.2%) and Kalimantan Barat (17.7%). Based on the data and information obtained from transmigration offices in Serang and Pandeglang, transmigration mass-producing areas in the study region are Kec. Padarincang, Cinangka, Mancak and Pabuaran (adjacent areas to Rawa Danau) in Kab. Serang and central Kecamatans of Kab. Pandeglang including Pagelaran, Saketi, Cigeulis (Panimbang), Munjul (Angsana) and Jiput.

In these reas, arable lands are strictly limited because of the existence of natural reserve areas and national and private plantations. As the situation now stands, the transmigration from these areas has to be intensified in proportion to population growth, if the Government will not change the present land use policy and agro- and aqua-industries which absorb much the labour force will not be actively introduced there [see Table I(A)-13].

2.2.3 GRDP and regional income

The figures GRDP (Gross Regional Domestic Product) and regional income of the study region are not available. Therefore, Table I(A)-14 shows the GRDP of Banten Region, consisting of Kab. Serang, Kab. Pandeglang and Kab. Lebak, in comparison with GRDP of West Java Province and DKI Jakarta and GDP of Indonesia.

GRDP of Banten Region amounted to Rp. 781 billion in 1983 at current prices. The GRDP average growth rates of Banten Region at constant 1975 prices was 8.7% per annum during the period from 1978 to 1983. This figure is higher than 7.8% of West Java Province and 6.1% of Indonesia, but lower than 11.3% of DKI Jakarta.

Table I (A)-13 GENERAL TRANSMIGRATION FROM THE STUDY REGION, 1972/73-1985/86

Kabupaten/Year	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86
Serang														
- Number of families settled	-	-	-	-	-	-	-	50	107	186	286	193	128	1,275
- Number of transmigrants	-	-	-	-	-	-	-	258	452	764	1,338	828	562	5,261
Pandeglang														
- Number of families settled	82	120	212	37	32	21	68	45	421	555	627	238	210	1,266
- Number of transmigrants	374	535	939	170	156	104	297	204	1,761	2,453	2,769	1,032	918	5,132
Study Region ¹														
- Number of families settled	82	120	212	37	32	21	68	95	528	741	913	431	1,033	1,926
- Number of transmigrants	375	535	939	170	156	104	297	462	2,213	3,217	4,107	1,860	4,500	8,550

Remark: ¹From 1972/73, transmigration in the study region had been promoted by the transmigration office at Pandeglang.

Source: Data from Kab. Serang and Pandeglang Transmigration Offices.

Table I (A)-14 GDP OF INDONESIA AND GRDP OF DKI JAKARTA, WEST JAVA AND BANTEN REGION AT CURRENT PRICES, 1975 - 83

Unit: Rp. million

	1975	1976	1977	1978	1979	1980	1981	1982	1983
(1) Indonesia /1	12,643,000	15,467,000	19,033,000	22,746,000	32,025,000	45,446,000	54,027,000	59,633,000	73,698,000
(2) D.K.I Jakarta	1,036,914	1,390,288	1,703,348	1,984,398	2,884,610	3,988,071	5,190,211	5,920,673	7,192,670
(3) West Java	1,720,787	2,127,110	2,412,476	2,994,092	4,003,612	5,651,547	6,938,506	7,757,757	9,185,893
(4) Banten	114,294	142,294	159,353	195,237	251,272	318,809	432,360	502,677	781,334 *
(5) Study Region	NA	NA	NA	NA	NA	NA	NA	NA	NA
(4) / (1) x 100	0.90	0.92	0.84	0.86	0.78	0.70	0.80	0.84	1.00 *
(4) / (2) x 100	11.02	10.23	9.36	9.84	8.71	7.99	8.33	8.49	10.86 *
(4) / (3) x 100	6.64	6.69	6.61	6.52	6.28	5.64	6.23	6.48	8.50 *

Remark: /1 Round figures

Sources: Statistik Indonesia 1985;

Pendapatan Regional Propinsi Di Indonesia 1975 - 1982;

Pendapatan Regional DKI Jakarta 1980 - 83;

Produk Domestik Regional Bruto menurut Wilayah Pembangunan Propinsi Dt. I. Jawa Barat 1979 - 1983.

* Updated figures

Table I(A)-15 indicates the share of GRDP by industrial origin for Banten Region. In Banten Region, the share of agricultural sector shows a decreasing tendency from 57.7% in 1973 to 31.9% in 1983. This rate is much higher than 24.2% of West Java and 24.0% of the country. Such decreasing tendency of the GRDP share in agricultural sector in Banten Region implies the reducing labor force in this sector and the rural-urban migration.

The per capita income, which means GRDP per capita here, for Banten Region and Kab. Pandeglang was respectively Rp. 225,691 and Rp. 181,552 in 1983 at current prices [see Table I(A)-16]. These amounts are smaller than Rp. 311,932 of provincial level and Rp. 466,198 of national level, and remarkably small compared with Rp. 1,008,902 of DKI Jakarta.

The average annual growth rates of the per capita income at current prices were 20.7% for Banten Region and 12.4% for Pandeglang during the period from 1978 to 1983. The rate of Banten Region, or 20.7%, is relatively high compared to 23.6% of the whole country, 21.9% of the West Java Province and 25% of DKI Jakarta. In view of these rates, 12.4% of Kab. Pandeglang is still far behind the national and regional levels.

Such a high growth of income in the Banten Region seems to be mainly owing to the boosting effects of industrialization in the northwestern part of the study region.

Table I(A)-15 DISTRIBUTION OF GDP AND GRDP BY INDUSTRIAL ORIGIN IN INDONESIA, DKI JAKARTA, WEST JAVA AND BANTEN REGION AT CURRENT PRICES, 1973, 1978 AND 1983

Unit: %

	Indonesia		DKI Jakarta		West Java		Banten			
	1973	1978	1973	1978	1973	1978	1973	1978		
Agriculture	40.1	29.5	24.0	1.7	41.2	31.7	24.2	57.8	46.0	31.9
Mining & Quarrying	12.3	19.2	19.0	-	3.6	10.4	15.4	0.4	0.6	1.0
Manufacturing	9.6	10.6	11.1	18.6	10.2	10.4	8.8	1.8	2.5	8.8
Electricity, Gas & Water	0.4	0.5	0.7	2.4	0.5	0.8	1.0	0.2	0.2	0.2
Construction	3.9	5.5	6.2	3.8	3.2	4.4	8.0	2.2	8.5	16.1
Trade	16.6	15.2	16.3	48.0	25.1	23.8	20.4	25.4	21.9	18.1
Transport & Communication	3.8	4.5	5.4	7.2	3.6	4.0	5.4	2.4	4.4	5.4
Banking & Finance	1.2	1.7	2.8	8.2	0.7	0.9	1.2	0.3	0.5	0.7
Ownership of Dwelling	2.1	2.9	2.7	3.0	3.2	2.9	2.4	2.3	2.8	2.2
Public Administration	6.0	7.4	7.8	7.3	3.6	6.7	9.0	3.4	8.9	11.8
Other Services	4.0	3.0	4.0	3.3	5.1	4.0	4.2	3.8	3.7	3.8
GDP/GRDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Statistik Indonesia 1985;

Pendapatan Regional Propinsi Di Indonesia 1975 - 82;

Pendapatan Regional Propinsi DKI Jakarta 1969 - 74, 1973 - 78, 1980 - 83;

Produk Domestik Regional Bruto Propinsi Jawa Barat 1973 - 1979;

Produk Domestik Regional Bruto menurut Wilayah Pembangunan Propinsi DT. I. Jawa Barat 1979 - 1983.

Table I (A)-16 GDP PER CAPITA OF INDONESIA AND GRDP PER CAPITA OF DKI JAKARTA,
WEST JAVA AND BANTEN REGION AT CURRENT PRICES, 1973 - 83

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
(1) Indonesia	54,031	83,673	96,483	115,275	138,536	161,692	222,330	308,129	357,951	380,049	466,198
(2) DKI Jakarta	111,772	179,880	195,892	250,380	293,004	330,529	462,307	624,747	780,366	858,106	1,008,902
(3) West Java	44,833	59,751	71,308	86,137	95,295	115,932	150,299	207,724	248,342	270,379	311,732
(4) Banten	42,060	44,666	54,303	66,723	73,025	88,074	103,970	129,288	170,973	193,835	225,691
(5) Study Region	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Serang	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pandeglang	NA	NA	NA	NA	NA	101,095	107,070	139,611	142,637	160,922	181,552
(4) / (1) x 100	77.8	53.4	56.3	57.9	52.7	54.5	46.8	42.0	47.8	51.0	48.4
(4) / (2) x 100	37.6	24.8	27.7	26.6	24.9	26.6	22.5	20.7	21.9	22.6	22.4
(4) / (3) x 100	93.8	74.8	76.2	77.5	76.6	76.0	69.2	62.2	68.8	71.7	72.4

Unit: Rp.

Sources: Statistik Indonesia 1985;

Pendapatan Regional Propinsi Di Indonesia 1975 - 1982;

Pendapatan Regional DKI Jakarta 1980 - 83;

Produk Domestik Regional Bruto menurut Wilayah Pembangunan Propinsi DT. I. Jawa Barat 1979 - 1983;

Penjelasan bupati Kepala Daerah Tingkat II Pandeglang Mengenai Penyelenggaraan Pemerintahan Dan Pembangunan Di Kabupaten Dati II Pandeglang Sampai Tahun III Pelita IV.

2.2.4 Land use and land tenure system

1) Land use

Based on the land use map prepared by BAPPEDA TK. I, Jawa Barat in 1982 and the latest statistics available in the Kabupaten Offices of Serang and Pandeglang, areal distribution of land use patterns by Kecamatan within the study region was examined.

Out of the study region of 4,520 km², a total of 2,477.4 km² (54.8%) is used for agricultural purpose at present, which comprises 673.4 km² (14.9%) for irrigated paddy fields, 426.6 km² (9.4%) for rainfed paddy fields, 1,236.3 km² (27.4%) for upland and mixed crop fields, 141.1 km² (3.1%) for plantation, as shown in the Table I(A)-17.

In Table I(A)-17, a distinct difference in land use can be observed between two Kabupatens Serang and Pandeglang of the Study region. Reflecting the uneven population distribution and socio-economic activities of the region, the share of lands for agricultural and residence and construction uses in Kab. Serang accounts for about 70% of the total area, whereas more than 40% of lands in Kab. Pandeglang are covered with forest, plantation and grass land.

The features of the land use of the region are shown in Fig. I(A)-2.

The northern parts of the region along the coast are mostly covered with swamps and used for fish pond (hatchery) and others. The dense forest and the bushes forest areas are located in the mountainous areas and the western parts of the region.









Table I(A)-17 LAND USE OF THE STUDY REGION

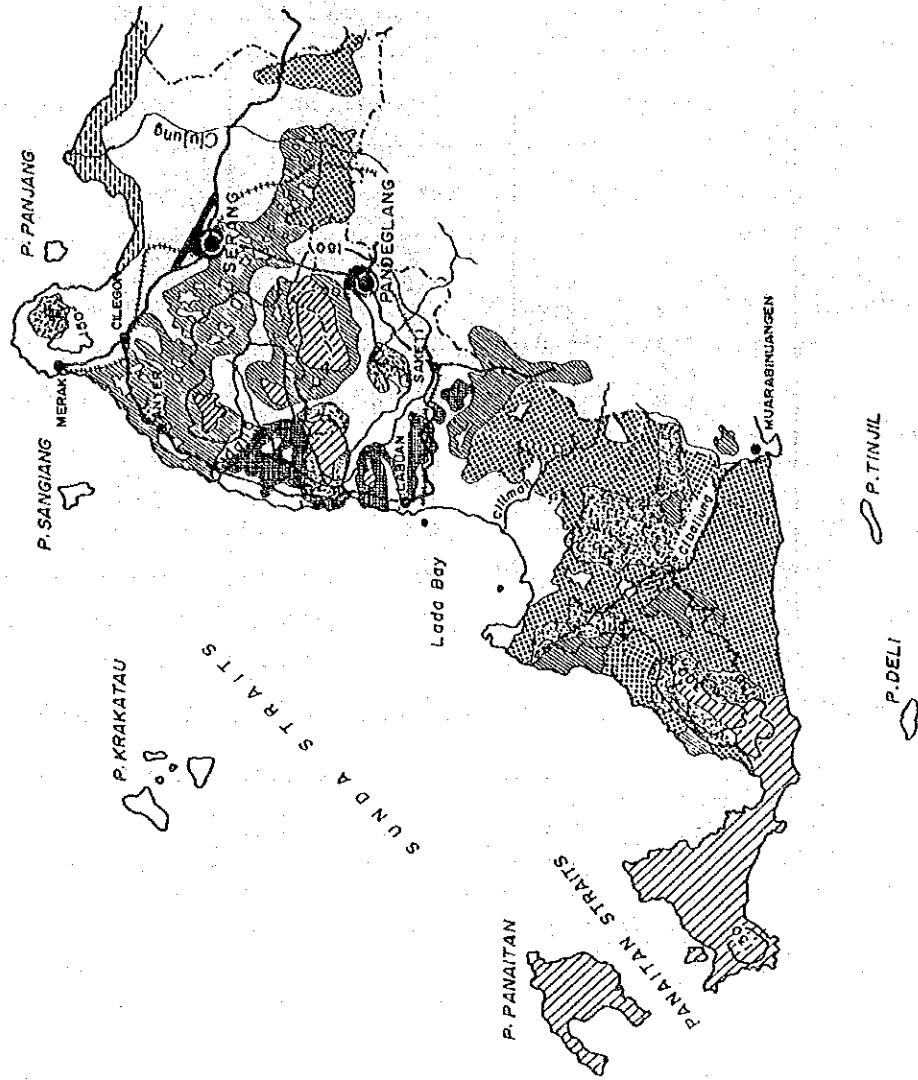
Land Use	Serang		Pandeglang		Study Region	
	km2	(%)	km2	(%)	km2	(%)
- Irrigated paddy field	381.2	(20.3)	292.2	(11.2)	673.4	(14.9)
- Rain-fed paddy field	240.3	(12.8)	186.3	(7.1)	426.6	(9.4)
- Arable land	675.4	(36.0)	560.9	(21.5)	1,236.3	(27.4)
- Plantation	8.0	(0.4)	133.1	(5.1)	141.1	(3.1)
- Residence and construction area	246.5	(13.1)	109.3	(4.2)	355.8	(7.9)
- Grass land	9.6	(0.5)	113.2	(4.3)	122.8	(2.7)
- Forests	83.1	(4.4)	845.3	(32.4)	928.4	(20.5)
- others	231.9	(12.4)	368.7	(14.1)	635.6 /1	(14.1)
Total	1,876.0	(100.0)	2,609.0	(100.0)	4,520.0	(100.0)

Remark: /1 Krakatau Islands (35 km²) are included in "Others".

Sources: Kabupaten Daerah Tingkat II Serang dalam Tiga Pelita, Pemerintah Kab. Daerah Tingkat II Serang, 1985; Penjelasan Bupati Kepala Daerah Tingkat II Pandeglang, Mengenai Penyelenggaraan Pemerintah dan Pembangunan di Kab. Dati II sampai Tahun III Pelita IV, Pemerintah Kab. Daerah Tingkat II Pandeglang, 1986.

Legend :

-  Dense forest
-  Bush forest
-  Mixed plantation
-  Rice field
-  Swamp, fish pond, etc.
-  Dry field
-  Residence area
-  Plantation



Source : BAPPEDA Tk. I, Jawa Barat, 1982

Scale : 1 / 1,000,000



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DIRECTORATE GENERAL OF TOURISM

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Fig. I(A)-2

PRESENT LAND USE OF THE STUDY
REGION

The northern and central plain areas of the region are used for the rice fields, and scattered rice field areas are seen in the mixed plantation area in the northern parts of the region. Other lands used for the mixed plantation are located in the central and southern parts of the region.

The lands in the central west parts of the region are used for plantation. Unirrigated fields are located in the hilly areas of the southern parts and the northern parts of the region.

2) Land tenure system

Concerning the land ownership, the Agrarian Law is presently enforced. Besides the Agrarian Law, the Adat Law is prevailing as long as not contradicting with the Agrarian Law.

The Agrarian Law has been enforced since 1960, replacing the Adat Law. Therefore, some of the land, mostly land for husbandry and fishery use managed by villagers, are still under the Adat Law.

Under the Adat Law the regulations concerning the land vary for each tribe according to their "adat" (traditional custom). The Agrarian Law was enforced to have uniformity on the regulations concerning the land ownership and the right of utilization of the land throughout the country.

Under the Agrarian Law, the categories of the right concerning the land ownership and the right of utilization of the land are as follows:

(1) the right of ownership "Hak Milik"

(2) the right of exploitation "Hak Guna-Usaha"

- (3) the right of building "Hak Guna-Bangunan"
- (4) the right of use "Hak Pakai"
- (5) the right of lease "Hak Sewa"
- (6) the right of opening-up land "Hak Membuka Tanah"
- (7) the right of collecting forest "Hak Memungut-Hasil-Hutan" product
- (8) the right to manage land "Hak Pengelolaan"

The land title (8) is basically owned by the public sector, such as the government, public enterprises, local governments, etc.

The duration of the right and remarks of each categories are as follows:

Category	Duration of the right & remarks
1) the right of ownership (Hak Milik)	The strongest land right, duration unlimited, transferable, heritable, limited to only Indonesian citizens.
2) the right of exploitation (Hak guna-Usaha)	Duration 30 - 35 years, applicable to agriculture, husbandry and fishery, 20 years of extension can be obtained if the original use of the land is well maintained and managed, transferable, mortgaged limited to Indonesian citizens.
3) the right of building (Hak Guna-Bangunan)	Duration 20 years, can be transferred and mortgaged for loan, limited to Indonesian citizens.
4) the right of use (Hak Pakai)	Duration 10 years, applicable to building, husbandry and fishery, applicable to Indonesian and foreign citizens.
5) the right of lease (Hak Sewa)	Duration is decided by negotiation, applicable to Indonesian and foreign citizens.
6) the right of opening-up land (Hak Membuka Tanah)	Duration 2 - 3 years, applicable to Indonesian citizens and national enterprises.
7) the right of collecting forest product (Hak Memungut-Hasil-Hutan)	Limited to Indonesian citizens.
8) the right to manage land (Hak Pengelolan)	Applicable to the government bodies of transmigration, transportation, local government, etc.

The land entitled "the right of use" can be lifted, if the original usage of the land is well maintained and managed, to the land entitled "the right of building" of "the right of ownership"; so as the land titled "the right of building" to the land titled "the right of ownership".

Under the Agrarian Law, the rights of usage of water and space are also dealt as follows:

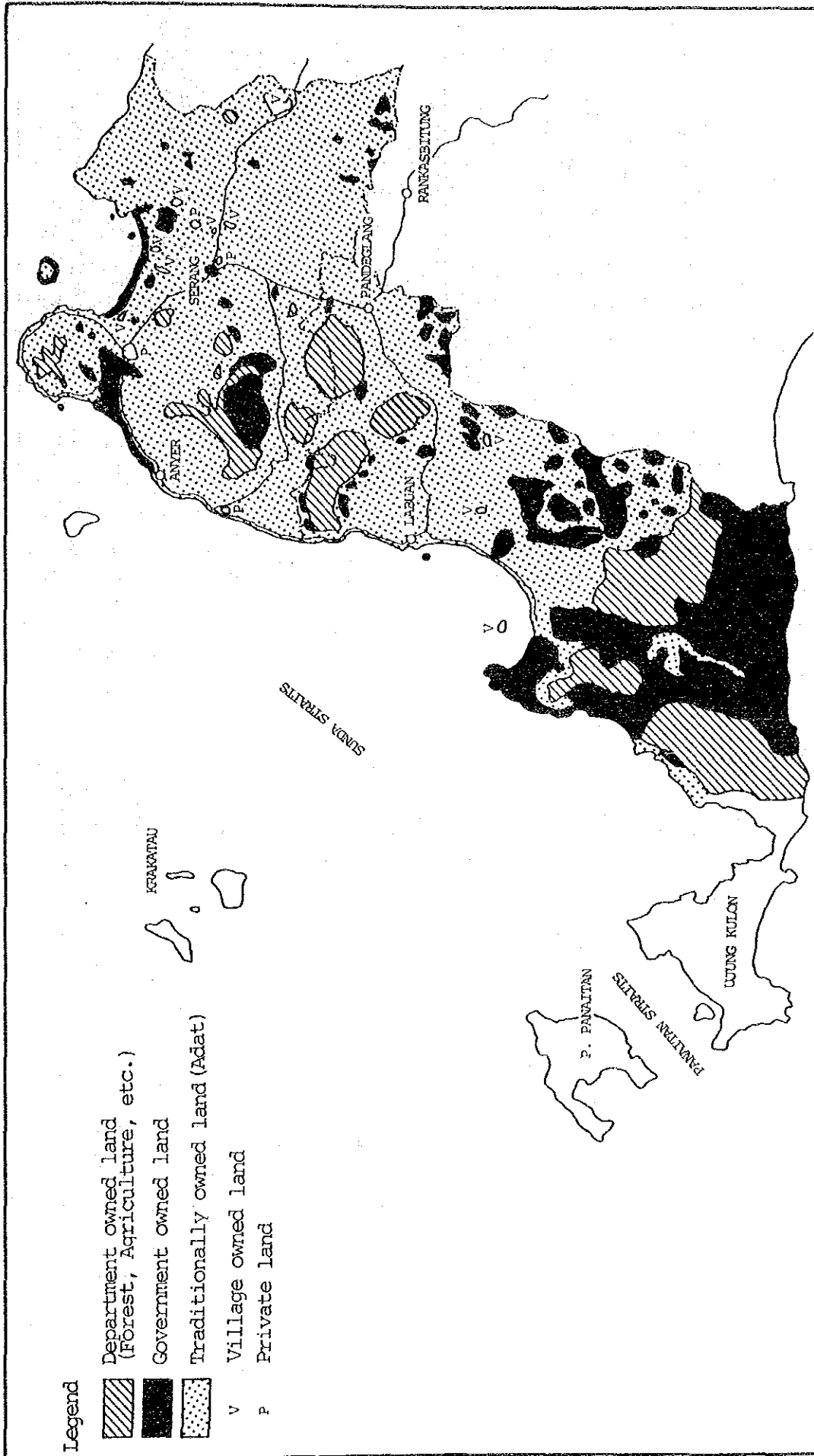
- (1) the right of water use,
- (2) the right of catching fish, and
- (3) the right of spatial use.

"Hak Milik Adat" (the right of traditional ownership) is under the Adat Law. In the study region, especially in the northern part of the region, there exist considerable areas classified as "Tanah Milik Adat" (traditionally owned land).






In case of "Tanah Milik Adat", if the owner is an individual and the ownership is approved by the Agrarian office, the title of land can be transferred to "Tanah Hak Milik". If the ownership belongs to a collective, it is necessary to get agreement from each member of the group when the status of the land is to be changed. However, if the government wants to use the land for the public use, the land will be automatically exploited by the government with proper compensation to the owners.

Usually, a time-consuming process is required to deal with "Tanah Milik Adat"; it is necessary to identify the ownership of the land and to pay appropriate compensation.

The general features of the land tenure in the study region is shown in Fig. I(A)-3 and the flow chart for the land acquisition procedure is shown in Fig. I(A)-4.



Legend

-  Department owned land (Forest, Agriculture, etc.)
-  Government owned land
-  Traditionally owned land (Adat)
-  Village owned land
-  Private land

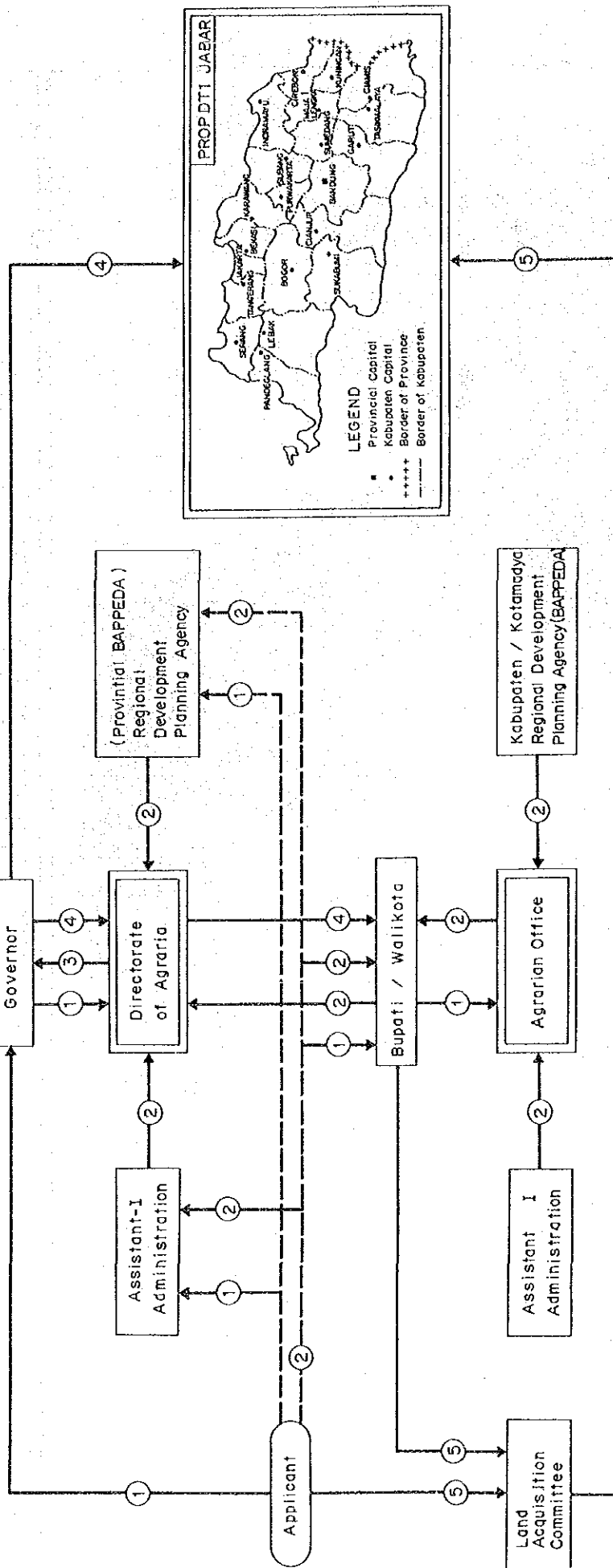
Sources: PETA STATUS TANAH, 1 : 25,000
 Sub Directorate TATA GUNA TANAH:
 Directorate AGRARIA PROPINSI JAWA
 BARAT, Sep. 1977



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Fig. I (A)-3
 PRESENT LAND TENURE

Decision of West Java Province Governor
 No. 593/82/SK.450 - Pem - Um/83



- ① → Application
- ② → Process & recommendation from :
- 1. Directorate of Agraria (Land Use)
 - 2. Regional Development Agency Planning (Provincial BAPPEDA)
 - 3. Assistant I Administration
 - 4. Bupati / Walikota
- For consideration in coordination meeting in Provincial level
- ☐ Coordination Meeting Forum
- ③ → Application to be signed by :
- 1. Head of Dir. of Agraria
 - 2. Head of BAPPEDA
 - 3. Assistant I
- ④ → Issue of Location Permission by Governor
- ⑤ → Based on the Location Permission, Bupati will proceed to the land acquisition after consulting the land acquisition

Fig. I (A)-4 PROCEDURE FOR LAND ACQUISITION

2.2.5 Public and commercial facilities

Cooperatives are the main vehicle of the development of economic activities and the promotion of the people's welfare. There are three types of cooperatives in the study region: KUD (village unit cooperatives), embryonic (non-KUD) cooperatives and the functional cooperatives. In Kab. Serang, the cooperatives, especially KUDs play an important role compared with those in Kab. Pandeglang. The average number of members per KUD in Kab. Serang was 7,423 in 1984, while that in Kab. Pandeglang was only 304 in 1983. Most of cooperatives are located in the Kecamatans with administrative centers; Kec. Serang and Pandeglang. As for the functional cooperatives in the study region, those of small industries are reported in Table I(A)-18. Although some cooperatives in the study region play little role in economic activities, the development of cooperatives are expected for the stable management and marketing, or leveling up of technology and productivity.

As for financial institutions, in addition to cooperatives, banks and insurance companies have their branches or local offices in urban areas such as Serang, Pandeglang, Cilegon and Merak. It is possible to exchange foreign currencies for the local one at official rates. At some hotels in the study region, it is also possible to exchange foreign currencies, but the exchange rates are not always consistent because of communication difficulties.

Some gasoline stations are located along the main roads of Serang-Cilegon-Merak and Serang-Pandeglang-Labuan. In the southern part of the study region, gasoline is sold in bottles at grocery shops.

Table I(A)-18 COOPERATIVES OF SMALL INDUSTRIES
IN THE STUDY REGION

Commodity	Location/Kecamatan (No. of Units/Households: HH)
Kabupaten Serang	
1. Tile	Kragilan (43)/Cilegon (39)
2. Brick	Kragilan (18)/Cikeusal (24)
3. Embroidery	Ciruas (26)
4. Bamboo Handicraft	Ciruas (20)/Kopo (44)
5. Emping Melinjo	Cilegon (704)
6. Palm-Sugar	Anyer (37)/Baros (104)
7. Agricultural Tools	Petir (22)
8. Traditional Agricultural Tools	Baros (20)/Pulomerak (16)
9. Bag	Cikande (15)
Kabupaten Pandeglang	
1. Emping	Jiput (4,080)/Labuan (1,775)/ Pagelaran (1,650)/Menes (430)
2. Salty Fish	Panimbang (20)
3. Palm-Sugar	Cigeulis (25)
4. Tile & Brick	Cigeulis (25)
5. Blacksmith	Cadasari (20)
6. Screwpine Handicraft	Banjar (250 HH)
7. Bamboo Handicraft	Pandeglang (300 HH)
8. Embroidery	Banjar (24 HH)

Source: Cabang Dinas Perindustrian Kabupaten DT II Serang & Pandeglang.

2.2.6 Socio-cultural conditions

1) General features

Indonesia is a country of tremendous diversity in terms of culture and this has an important effect upon the socio-economic structure.

In parallel with the national language of "Indonesia", three (3) main dialects are still spoken in Java, together with many sub-dialects.

Five religions are legally recognized in Indonesia, namely Islam, Christian Protestant, Christian Catholic, Hindu, and Buddhist. The religion of West Java Province is predominantly Islam, as well as that of the whole Indonesia.

The percentage of population by religion of West Java Province (in 1984) was the following: 1) Islam (98.06%), 2) Protestant (0.8%), 3) Catholic (0.44%), 4) Buddhist (0.48%), 5) Hindu (0.06%) and 6) Others (0.16%), as shown in Table I(A)-19. Figures in this table (more than 99% of Moslem) in two kabupatens concerned indicate that the study region is one of the most influenced areas by Islam in Indonesia.

Most families in the region are still keeping the traditional social customs (adat). As for the traditional mutual aid "Gotong Royong" practiced in Indonesia, it is limited in the study region to the construction and repair of the local public structure such as roads, bridges, mosque, etc. and this valuable system seems not yet fully exploited for the rural development.

Table I (A) -19 POPULATION BY RELIGION IN THE STUDY REGION, WEST JAVA AND INDONESIA

Study Region	Islam (%)	Catholic (%)	Protestant (%)	Hindu (%)	Buddha (%)	Others (%)	Total (%)
- Kab. Serang	1,153,102 (98.84)	8,187 (0.70)	2,805 (0.24)	-	-	2,500 ¹ / ₁ (0.21)	1,166,594 (100.00)
- Kab. Pandeglang	698,784 (93.04)	15,021 (2.00)	30,018 (4.00)	128 (0.02)	-	7,082 ² / ₂ (0.94)	751,033 (100.00)
West Java	27,278,621 (98.06)	221,402 (0.80)	122,722 (0.44)	15,722 (0.06)	134,601 (0.48)	45,236 (0.16)	27,818,304 (100.00)
Indonesia	(87.10)	(3.00)	(5.80)	(2.00)	(0.90)	(1.20)	(100.00)

Remarks: Years of data in each region are as follows:

Study region in 1985, West Java 1984 and Indonesia in 1980.

¹/Hindu, Buddha included in Others.

²/Buddha included in Others.

Sources: Jawa Barat Dalam Angka, 1984;

Statistical Year Book of Indonesia, 1985;

Data from Religion Office in Kab. Serang and

Statistical Office in Kab. Pandeglang.

In the area located at about 64 km on the south-east of Rangkasbitung (outside study region), there exist a land for Badui people who are still keeping their way of life by origin and to not accept any changes or renovation from outsiders. Derived from the Pajajaran-the Hindu Kingdom in the area of Bogor today, Badui people settled there after Islam infiltrated into their kingdom.

2) Education

In the West Java Province, as well as in the whole of Indonesia, the percentage of population 10 years old and over not attending school continues to decline. Accordingly, the illiteracy rate of the population aged 10 years and over has decreased from 35.16% in 1971 to 8% in 1980. The rate of decrease for rural areas (from 38.08% to 28.54%) is higher than that of the urban areas (15.44% to 12.14%) in the same period, as shown in Table I(A)-20.

Table I(A)-20 PERCENTAGE OF ILLITERATE POPULATION AGED 10 YEARS AND OVER IN INDONESIA AND WEST JAVA PROVINCE

Region	Urban		Rural		Total	
	1971	1980	1971	1980	1971	1980
Indonesia	21.67	14.47	43.03	33.15	39.07	28.84
West Java	15.44	12.14	38.08	28.54	35.16	24.98

Sources: Welfare indicators, 1983;
Population of West Java, Results of the 1980;
Population census, Central Bureau of Statistics;
Population of West Java 1971.

The enrollment ratio of the primary school in the Province has increased from 55.63% in 1971 to 82.40% in 1980. Table I(A)-21 shows the number of elementary school children (7 - 12 years old) and illiteracy in the study region, West Java Province and Indonesia. The rate of children currently in elementary school in the region was 81.47% in 1980. This percentage is below than that of West Java Province (83.5%).

The illiterate ratio of the population (10 years old) in the study region accounted for 26.22% in 1980, while that of West Java Province was 24.98%. It is noticed that the illiterate ratio is small in the urban area, as shown in percentage of Serang (8.18%) and Pandeglang (5.49%).

It may suggest that the low education level in the rural area is basically due to the family economic condition which generally obliges them to the least expenses for education and medical cares.

3) Sanitation and health

Table I(A)-22 shows the number of major health facilities and the rates of population to their number in Kabupatens concerned and West Java Province. The number of public (state and private) and give birth hospitals in West Java Province is 104 with the bed capacity of 10,301 in 1984.

In the study region, there exist 5 public and give birth hospitals. The total number of beds of those hospitals amount to 339, corresponding to 5,533 persons for one bed. From this table, it can be said that the number of health facilities and doctors are short in both Kabupatens Serang and Pandeglang and uneven distribution of basic public services favors urban dwellers.

Table I (A)-21 NUMBER OF ELEMENTARY SCHOOL CHILDREN AND ILLITERATE POPULATION
IN THE STUDY REGION, WEST JAVA AND INDONESIA

Study Region	Population 7-12 years (%)						Illiterate Population	
	Total	Currently in school	No longer in school	Never attended school	10 years old	%		
- Kab. Pandeglang	148,860 (100.00)	117,666 (79.04)	9,345 (6.28)	21,849 (14.68)	105,124	22.89		
- Kab. Serang	206,089 (100.00)	171,529 (83.23)	10,385 (5.04)	24,175 (11.73)	209,623	28.29		
West Java	4,811,272 (100.00)	3,996,313 (83.06)	257,248 (5.35)	557,711 (11.59)	4,774,318	24.98		
Indonesia	24,291,587 (100.00)	20,293,565 (83.54)	(16.5)		30,054,182	28.80		

Sources: Statistik Jawa Barat Tahun, 1980;
Population of Jawa Barat, 1980;
Welfare Indicators, 1985.

Table I (A) - 22 NUMBER OF MAJOR HEALTH FACILITIES AND THEIR ACCOMODATING RATIOS IN THE STUDY REGION, WEST JAVA AND INDONESIA

Area	Population	Public and give birth hospitals	Bed capacity of hospitals	Public health centre & mothers & childclinics	Stage doctor (general physician)	Nurse	Midwife
Study Region							
- Kab. Pandeglang	719,115	1 (719,115)	76 (9,462)	67 (10,733)	27 (26,634)	101 (7,120)	24 (29,963)
- Kab. Serang	1,156,577	4 (289,144)	263 (4,398)	101 (11,451)	44 (26,286)	270 (4,284)	52 (22,242)
West Java	28,227,438	104 (271,418)	10,301 (2,740)	1,916 (14,732)	529 (53,360)	-	1,097 (25,731)
Indonesia	160,966,732	1,273 (216,447)	104,628 (1,538)	21,468 (7,498)	17,647 (9,121)	44,651 (3,605)	-

Remarks: - Data not available.

Figures in parentheses indicate the accomodating ratios by population.

Sources: Jawa Barat Dalam Angka, 1984;
Welfare Indicators, 1985;

Data from health office in Kab. Serang and pandeglang.

The morbidity rate in West Java Province was 5.7% and this figure was more than 4.08% of Java Island and 4.1% of national level. Regarding the infant mortality, the situation is actually much better than that of the preceding decade. Infant mortality rate per 1,000 persons in West Java Province decreased from 158.90 in 1971 to 130.4 in 1980. This figure in 1980 is also higher than the average of Jakarta (80.85) and whole Indonesia (108).

2.3 Production Sectors

2.3.1 Agriculture

In the study region, 262,219 households or 68.1% of the total households were engaged in the agricultural sector in 1983, which occupied 33.6% of GRDP of the three Kabupatens of Serang, Pandeglang and Lebak in Banten Region in 1984. The agricultural sector, especially the production of food crops, is the mainstay of the study region. Agriculture includes food crops, plantation crops, vegetable and fruits in this study.

1) Food crop production in the study region

Food crops in the study region are paddy (on wet land and dry land), maize, cassava, sweet potatoes, groundnuts, soyabeans and so on. The harvested area, production and yield of the principal food crops in West Java Province and the study region are given in Table I(A)-23.

Table I(A)-23 HARVESTED AREA, PRODUCTION AND UNIT YIELD OF FOOD CROPS IN THE STUDY REGION AND WEST JAVA IN 1984

	Serang (A)	Pandeglang (B)	Study Area (C)	West Java (D)	(C) / (D) x 100
Harvested Area (ha)					
Paddy	83,441	69,153	152,594	2,012,602	7.59
Wet Land	77,159	56,202	133,361	1,850,178	7.21
Dry Land	6,282	12,951	19,233	162,424	11.84
Maize	2,291	4,070	6,361	124,002	5.13
Cassava	7,956	5,606	13,562	192,354	7.05
Sweet Potatoes	2,802	2,630	5,432	45,139	12.03
Groundnuts	16,773	1,596	18,369	82,709	22.21
Soyabeans	526	2,093	2,619	67,060	3.91
Greenpeas	2,744	749	3,493	23,415	14.92
Production (ton)					
Paddy	334,354	267,834	602,188	8,527,634	7.06
Wet Land	321,124	239,534	560,658	8,196,289	6.84
Dry Land	13,230	28,300	41,530	331,345	12.53
Maize	3,570	5,320	8,890	200,833	4.43
Cassava	90,035	71,295	161,330	2,082,390	7.75
Sweet Potatoes	24,465	24,457	48,922	396,381	12.34
Groundnuts	14,378	1,571	15,949	80,230	19.88
Soyabeans	374	1,809	2,183	52,373	4.17
Greenpeas	201	63	264	1,684	15.68
Unit Yield (kg/ha)					
Paddy	4,007	3,873	3,946	4,237	93.14
Wet Land	4,162	4,262	4,204	4,430	94.90
Dry Land	2,106	2,185	2,159	2,040	105.85
Maize	1,558	1,307	1,398	1,620	86.29
Cassava	11,317	12,718	11,896	10,826	109.88
Sweet Potatoes	8,731	9,299	9,006	8,781	102.56
Groundnuts	857	984	868	970	89.51
Soyabeans	711	864	834	781	106.73
Greenpeas	73	84	76	72	105.09

Source: Jawa Barat Dalam Angka 1984.

The principal food crops, their productions and production ratios in 1984 in the study region are as shown in the following table.

<u>Food crops</u>	<u>Production (tons)</u>	<u>Production ratios in West Java (%)</u>
- Paddy	602,188	7.06
- Maize	8,890	4.43
- Cassava	161,330	7.75
- Sweet potatoes	48,922	12.34
- Groundnuts	15,949	19.88
- Soyabeans	2,183	4.17
- Greenpeas	264	15.67

Considering the correlation between the population ratio (6 - 7%) of the study region in West Java and the production ratios of each crop in the above table, the study region is supported to be on the whole self-sufficient.

In 1985, the production of paddy (wet land) was 390,145 tons in Kab. Serang and 311,753 tons in Kab. Pandeglang, respectively. Table I(A)-24 shows the production of paddy by Kecamatan in the study region. The northeastern parts of Kab. Serang, such as Kec. Tirtayasa, Ciruas, Pontang, Kasemen, Cikande, Kragilan, etc. are the producing centers of paddy, while in Kab. Pandeglang, Kec. Cimanuk, Pagelaran, Cigeulis (especially in the flooded area), etc. are noted for the paddy producing areas. The production of paddy (dry land) was respectively 12,339 tons in Kab. Serang and 24,560 tons in Kab. Pandeglang. It is active in Kec. Ciomas of Kab. Serang and Kec. Cadasari, Cigeulis, Cibaliung, Cimanggu, etc. of Kab. Pandeglang.

Table I(A)-24 HARVESTED AREA, UNIT YIELD AND PRODUCTION OF PADDY
BY KECAMATAN IN THE STUDY REGION IN 1985

Kecamatan	Paddy (Wet)			Paddy (Dry)		
	(1)	(2)	(3)	(1)	(2)	(3)
Kabupaten Serang						
1. Serang	2,635	4,430	11,673	243	2,040	496
2. Kasemen	5,378	4,450	23,932	-	-	-
3. Taktakan	964	4,260	4,107	85	2,341	199
4. Waringinkurung	398	4,230	1,684	278	2,115	588
5. Kramatwatu	2,786	4,320	12,036	106	2,226	236
6. Cilegon	1,109	4,300	4,769	37	2,027	75
7. Bojonegara	1,856	4,320	8,018	144	2,167	312
8. Pulomerak	1,720	4,280	7,362	90	2,211	199
9. Anyer	1,989	4,330	8,612	370	2,093	774
10. Mancak	1,656	4,300	7,121	187	2,112	395
11. Cinangka	1,783	4,550	8,113	302	2,103	635
12. Padarincang	5,100	4,730	24,123	225	2,280	513
13. Ciomas	1,304	4,560	5,946	1,209	1,989	2,405
14. Pabuaran	1,522	4,440	6,758	675	2,083	1,406
15. Baros	2,389	4,400	10,512	50	2,540	127
16. Petir	5,414	4,390	23,767	205	2,188	449
17. Cikeusal	2,889	4,570	13,203	740	2,253	1,667
18. Pamarayan	4,879	4,540	22,151	141	2,404	339
19. Kopo	2,725	4,600	12,535	154	2,008	309
20. Walantaka	3,469	4,680	16,235	358	2,360	845
21. Ciruas	6,805	4,490	30,554	-	-	-
22. Kragilan	5,302	4,470	23,700	95	2,124	202
23. Cikande	5,323	4,570	24,326	25	2,220	56
24. Pontang	5,755	4,480	25,782	-	-	-
25. Tirtayasa	7,225	4,470	32,296	-	-	-
26. Carengan	4,783	4,360	20,854	-	-	-
Total (or Average)	87,158	4,443	387,250	5,719	2,185	12,496
Kabupaten Pandeglang						
1. Pandeglang	2,216	4,808	10,655	315	1,511	476
2. Cadasari	2,326	4,818	11,207	1,914	1,684	3,223
3. Banjar	2,723	4,815	13,111	85	1,847	157
4. Cimanuk	6,980	4,901	34,209	-	-	-
5. Mandalawangi	2,228	4,816	10,730	49	1,832	90
6. Menes	2,862	4,872	13,944	23	1,915	44
7. Saketi	3,887	4,815	18,716	95	1,827	174
8. Bojong	3,567	4,802	17,129	110	1,715	189
9. Munjul	4,133	4,735	19,570	734	1,803	1,323
10. Labuan	2,013	4,827	9,717	713	1,779	1,268
11. Jiput	4,263	4,809	20,501	57	1,905	109
12. Pagelaran	8,695	4,730	41,127	300	1,691	507
13. Cigeulis	10,611	4,847	51,432	3,145	1,872	5,887
14. Cibaliung	454	4,702	2,135	3,076	1,575	4,845
15. Cimanggu	3,763	4,818	18,130	2,626	1,897	4,982
16. Cikeusik	4,088	4,739	19,373	749	1,718	1,287
Total (or Average)	64,809	4,803	311,684	13,991	1,771	24,784

Remarks: (1) Harvested Area = ha
(2) Unit Yield = kg/ha
(3) Production = ton

Source: Dinas Pertanian Tanaman Pangan Serang, Laporan Tahun 1985.
Dinas Pertanian Tanaman Pangan Pandeglang, Laporan Tahun 1985.

The production of maize was respectively 2,858 tons in Kab. Serang and 7,451 tons in Kab. Pandeglang in 1985. Kec. Cibaliung was the most productive sub-district, where a third of maize was produced as shown in Table I(A)-25. As for the production of cassava, it was respectively 96,152 tons in Kab. Serang and 63,253 tons in Kab. Pandeglang in 1985. The producing centers of cassava are Kec. Cikeusal, Pamarayan, Padarincang, Petir, etc. of Kab. Serang and Kec. Cigeulis, Cibaliung, Pagelaran, etc. of Kab. Pandeglang.

The production of sweet potatoes was respectively 37,159 tons in Kab. Serang and 28,323 tons in Kab. Pandeglang in 1985. They are active in Kec. Cikeusal, Baros, Pamarayan, etc. of Kab. Serang and Kec. Pandeglang, Labuan, etc. of Kab. Pandeglang. The production of groundnuts was respectively 17,850 tons in Kab. Serang and 2,482 tons in Kab. Pandeglang. The study region, especially Kab. Serang is one of the famous groundnuts producing centers in West Java Province. They are active in the northwestern Kec. of Bonjonegara, Cilegon and Pulomerak as shown in Table I(A)-26. The production of groundnuts in the three Kecamatan occupied 46.9% of the whole production in Kab. Serang. Such high productivity seems to be due to the well-drained sandy soils in the area. This promising crop is a multi-purpose product, which can be used as food, oil and feed.

Table I(A)-25 HARVESTED AREA, UNIT YIELD AND PRODUCTION OF MAIZE
AND CASSAVA BY KECAMATAN IN THE STUDY REGION IN 1985

Kecamatan	Maize			Cassava		
	(1)	(2)	(3)	(1)	(2)	(3)
Kabupaten Serang						
1. Serang	80	1,173	94	229	14,288	3,272
2. Kasemen	6	1,180	7	9	1,423	13
3. Taktakan	75	1,156	87	271	14,118	3,826
4. Waringinkurung	57	1,188	68	227	14,242	3,233
5. Kramatwatu	3	1,256	4	5	15,016	75
6. Cilegon	-	-	-	30	14,340	430
7. Bojonegara	172	1,133	195	212	14,055	2,980
8. Pulomerak	136	1,124	153	461	14,251	6,570
9. Anyer	335	1,112	373	488	14,220	6,939
10. Mancak	19	1,123	21	342	14,104	4,824
11. Cinangka	394	1,183	466	361	14,072	5,080
12. Padarincang	203	1,176	239	612	14,066	8,608
13. Ciomas	38	1,146	44	100	14,200	1,420
14. Pabuaran	20	1,165	23	272	14,118	3,840
15. Baros	-	-	-	124	14,450	1,792
16. Petir	378	1,124	425	522	14,096	7,358
17. Cikeusal	-	-	-	1,088	14,193	15,442
18. Pamarayan	18	1,220	22	924	14,030	12,964
19. Kopo	25	1,233	31	230	14,200	3,266
20. Walantaka	-	-	-	50	14,400	720
21. Ciruas	27	1,225	33	-	-	-
22. Kragilan	90	1,200	108	127	13,978	1,775
23. Cikande	-	-	-	82	14,000	1,148
24. Pontang	17	1,167	20	10	14,500	145
25. Tirtayasa	27	1,221	33	20	15,000	300
26. Carenang	27	1,221	33	2	14,500	29
Total (or Average)	2,147	1,177	2,528	6,798	13,754	93,502
Kabupaten Pandeglang						
1. Pandeglang	340	1,243	423	445	11,393	5,070
2. Cadasari	710	1,183	840	176	11,403	2,007
3. Banjar	75	1,184	89	374	11,382	4,257
4. Cimanuk	90	1,301	117	120	11,297	1,356
5. Mandalawangi	127	1,254	159	249	11,481	2,859
6. Menes	109	1,343	146	220	11,284	2,482
7. Saketi	173	1,245	215	262	11,280	2,955
8. Bojong	61	1,200	73	132	11,387	1,503
9. Munjul	264	1,343	355	404	11,293	4,562
10. Labuan	29	1,245	36	257	11,208	2,880
11. Jiput	17	1,243	21	122	11,497	1,403
12. Pagelaran	116	1,301	151	580	11,298	6,553
13. Cigeulis	886	1,239	1,098	1,063	11,404	12,122
14. Cibaliung	2,688	1,243	3,341	690	11,379	7,852
15. Cimanggu	207	1,243	257	309	11,380	3,516
16. Cikeusik	50	1,240	62	163	11,397	1,858
Total (or Average)	5,942	1,253	7,384	5,566	11,360	63,231

Remarks: (1) Harvested Area = ha
(2) Unit Yield = kg/ha
(3) Production = ton

Source: Dinas Pertanian Tanaman Pangan Serang, Laporan Tahun 1985.
Dinas Pertanian Tanaman Pangan Pandeglang, Laporan Tahun 1985.

Table I(A)-26 HARVESTED AREA, UNIT YIELD AND PRODUCTION OF SWEET POTATOES AND GROUNDNUTS BY KECAMATAN IN THE STUDY REGION IN 1985

Kecamatan	Sweet Potatoes			Groundnuts		
	(1)	(2)	(3)	(1)	(2)	(3)
Kabupaten Serang						
1. Serang	101	12,920	1,305	106	1,085	115
2. Kasemen	7	130	1	23	1,136	26
3. Taktakan	-	-	-	1,525	1,097	1,673
4. Waringinkurung	144	12,825	1,847	1,076	1,149	1,236
5. Kramatwatu	7	132	1	375	1,165	437
6. Cilegon	19	12,875	245	2,462	1,135	2,794
7. Bojonegara	98	12,855	1,260	4,185	1,086	4,545
8. Pulomerak	103	12,682	1,306	994	1,045	1,039
9. Anyer	141	12,652	1,784	548	1,133	621
10. Mancak	41	13,914	570	560	1,105	619
11. Cinangka	110	12,720	1,399	157	1,140	179
12. Padarincang	241	12,718	3,065	21	1,210	25
13. Ciomas	66	130	9	1	1,225	1
14. Pabuaran	235	13,065	3,070	249	1,165	290
15. Baros	345	13,130	4,530	9	1,210	11
16. Petir	69	12,925	892	573	1,107	634
17. Cikeusal	450	12,638	5,687	1,021	1,132	1,156
18. Pamarayan	258	12,821	3,308	325	1,160	377
19. Kopo	96	13,120	1,260	187	1,124	210
20. Walantaka	50	134	7	1,149	1,125	1,293
21. Ciruas	-	-	-	2	12	0
22. Kragilan	118	12,610	1,488	172	1,108	191
23. Cikande	130	12,854	1,671	145	1,150	167
24. Pontang	3	13,520	41	23	1,205	28
25. Tirtayasa	18	13,245	238	21	1,220	26
26. Carengan	43	13,120	564	123	1,170	144
Total (or Average)	2,893	10,822	31,309	16,032	1,100	17,635
Kabupaten Pandeglang						
1. Pandeglang	319	11,909	3,799	139	1,012	141
2. Cadasari	238	11,860	2,823	10	1,103	11
3. Banjar	89	11,887	1,058	57	1,080	62
4. Cimanuk	175	11,907	2,084	60	1,097	66
5. Mandalawangi	156	11,870	1,852	39	1,035	40
6. Menes	232	11,960	2,775	92	1,140	105
7. Saketi	231	11,860	2,740	163	1,112	181
8. Bojong	47	11,779	554	62	1,098	68
9. Munjul	161	11,767	1,894	238	1,094	260
10. Labuan	259	11,908	3,084	43	1,113	48
11. Jiput	131	11,868	1,555	36	1,142	41
12. Pagelaran	74	11,808	874	55	1,087	60
13. Cigeulis	142	11,908	1,691	435	1,032	449
14. Cibaliung	33	11,767	388	258	1,092	282
15. Cimanggu	46	11,867	546	134	1,112	149
16. Cikeusik	51	11,907	607	86	1,143	98
Total (or Average)	2,384	11,865	28,323	1,907	1,093	2,085

Remarks: (1) Harvested Area = ha
(2) Unit Yield = kg/ha
(3) Production = ton

Source: Dinas Pertanian Tanaman Pangan Serang, Laporan Tahun 1985.
Dinas Pertanian Tanaman Pangan Pandeglang, Laporan Tahun 1985.

The production of soyabeans was respectively 235 tons in Kab. Serang and 3,048 tons in Kab. Pandeglang in 1985. Kec. Cigeulis in Kab. Pandeglang is the biggest soyabean producing area, where 57.9% of the total soyabeans in the study region were produced as shown in Table I(A)-27. The production of greenpeas was respectively 2,042 tons in Kab. Serang and 616 tons in Kab. Pandeglang. The main producers are Kec. Anyer, Waringinkurung, Cikeusal, Cilegon, Bonjonegara, etc. Greenpeas as well as groundnuts are cash crops, therefore they are produced mainly along the Jakarta-Merak main road. As for the distribution of food crop production, see Fig. I(A)-5.

2) Vegetable production in the study region

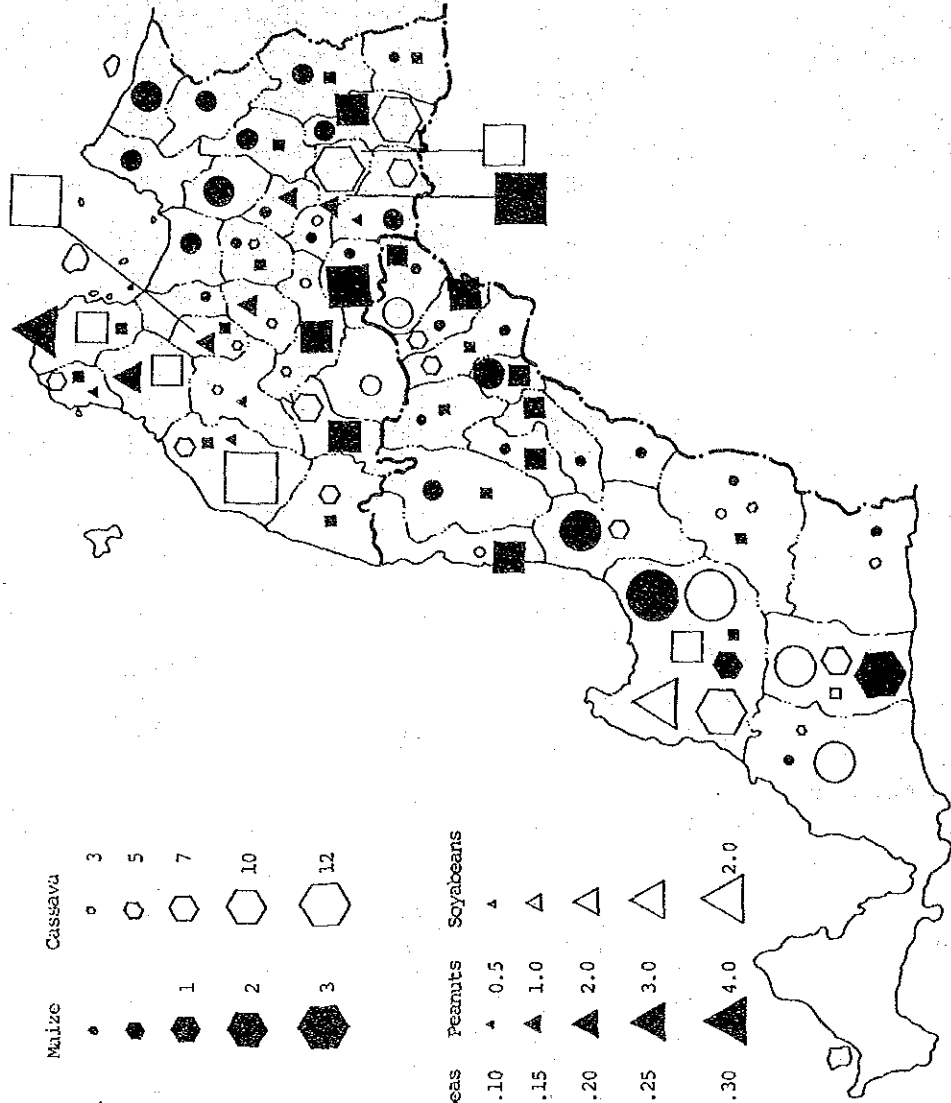
The harvested area, production and yield of vegetables in West Java Province and the study region are given in Table I(A)-28. The main vegetables in the study region are beans, cucumber, chili, eggplant, kangkung, etc., and the production of cucumber in the study region accounted for 25.4% of that in West Java Province. Fig. I(A)-6 shows the distribution of vegetable production. Most of vegetables are produced along the main roads in the study region.

Table I(A)-27 HARVESTED AREA, UNIT YIELD AND PRODUCTION OF SOYABEANS AND GREENPEAS BY KECAMATAN IN THE STUDY REGION IN 1985

Kecamatan	Soyabeans			Greenpeas		
	(1)	(2)	(3)	(1)	(2)	(3)
Kabupaten Serang						
1. Serang	26	925	24	29	825	24
2. Kasemen	5	1,103	6	10	815	8
3. Taktakan	-	-	-	60	720	43
4. Waringinkurung	-	-	-	412	728	300
5. Kramatwatu	-	-	-	145	736	107
6. Cilegon	13	1,120	15	331	724	240
7. Bojonegara	4	1,035	4	301	747	225
8. Pulomerak	50	958	48	102	725	74
9. Anyer	4	920	4	410	737	302
10. Mancak	5	965	5	118	735	87
11. Cinangka	22	925	20	7	778	5
12. Padarincang	1	1,022	1	15	820	12
13. Ciomas	-	-	-	-	-	-
14. Pabuaran	2	973	2	16	750	12
15. Baros	5	1,022	5	19	770	15
16. Petir	-	-	-	92	733	67
17. Cikeusal	20	945	19	364	761	277
18. Pamarayan	1	1,020	1	61	756	46
19. Kopo	24	1,021	25	22	792	17
20. Walantaka	22	1,172	26	85	825	70
21. Ciruas	12	1,200	14	-	-	-
22. Kragilan	-	-	-	-	-	-
23. Cikande	21	970	20	78	765	60
24. Pontang	-	-	-	5	826	4
25. Tirtayasa	-	-	-	33	788	26
26. Carenang	-	-	-	26	728	19
Total (or Average)	237	1,017	241	2,741	765	2,096
Kabupaten Pandeglang						
1. Pandeglang	14	1,103	15	-	-	-
2. Cadasari	26	1,128	29	-	-	-
3. Banjar	26	1,142	30	9	915	8
4. Cimanuk	65	1,137	74	8	845	7
5. Mandalawangi	22	1,093	24	-	-	-
6. Menes	62	1,132	70	-	-	-
7. Saketi	83	1,112	92	16	830	13
8. Bojong	26	1,103	29	31	801	25
9. Munjul	72	1,098	79	89	830	74
10. Labuan	11	1,097	12	6	785	5
11. Jiput	16	1,142	18	15	815	12
12. Pagelaran	33	1,103	36	1	773	1
13. Cigeulis	1,606	1,183	1,900	288	859	247
14. Cibaliung	233	1,067	249	112	912	102
15. Cimanggu	45	1,112	50	44	907	40
16. Cikeusik	270	1,191	322	58	883	51
Total (or Average)	2,610	1,121	3,029	677	846	573

Remarks: (1) Harvested Area = ha
(2) Unit Yield = kg/ha
(3) Production = ton

Source: Dinas Pertanian Tanaman Pangan Serang, Laporan Tahun 1985.
Dinas Pertanian Tanaman Pangan Pandeglang, Laporan Tahun 1985.



Paddy (Wet)	Paddy (Dry)	Maize	Cassava
● 10	○ 0	● 1	○ 3
● 20	○ 2	● 2	○ 5
● 30	○ 3	● 3	○ 7
● 40	○ 4	● 4	○ 10
● 50	○ 5	● 5	○ 12

Sweet Potatoes	Greenpeas	Peanuts	Soybeans
■ 1	□ 0.10	▲ 0.5	▲ 4
■ 2	□ 0.15	▲ 1.0	▲ 1.0
■ 3	□ 0.20	▲ 2.0	▲ 2.0
■ 4	□ 0.25	▲ 3.0	▲ 3.0
■ 5	□ 0.30	▲ 4.0	▲ 2.0

Unit: ton

Sources: Dinas Pertanian Tanaman Pangan
Serang, Laporan Tahun 1985;
Dinas Pertanian Tanaman Pangan
Pandegrag, Laporan Tahun 1985.

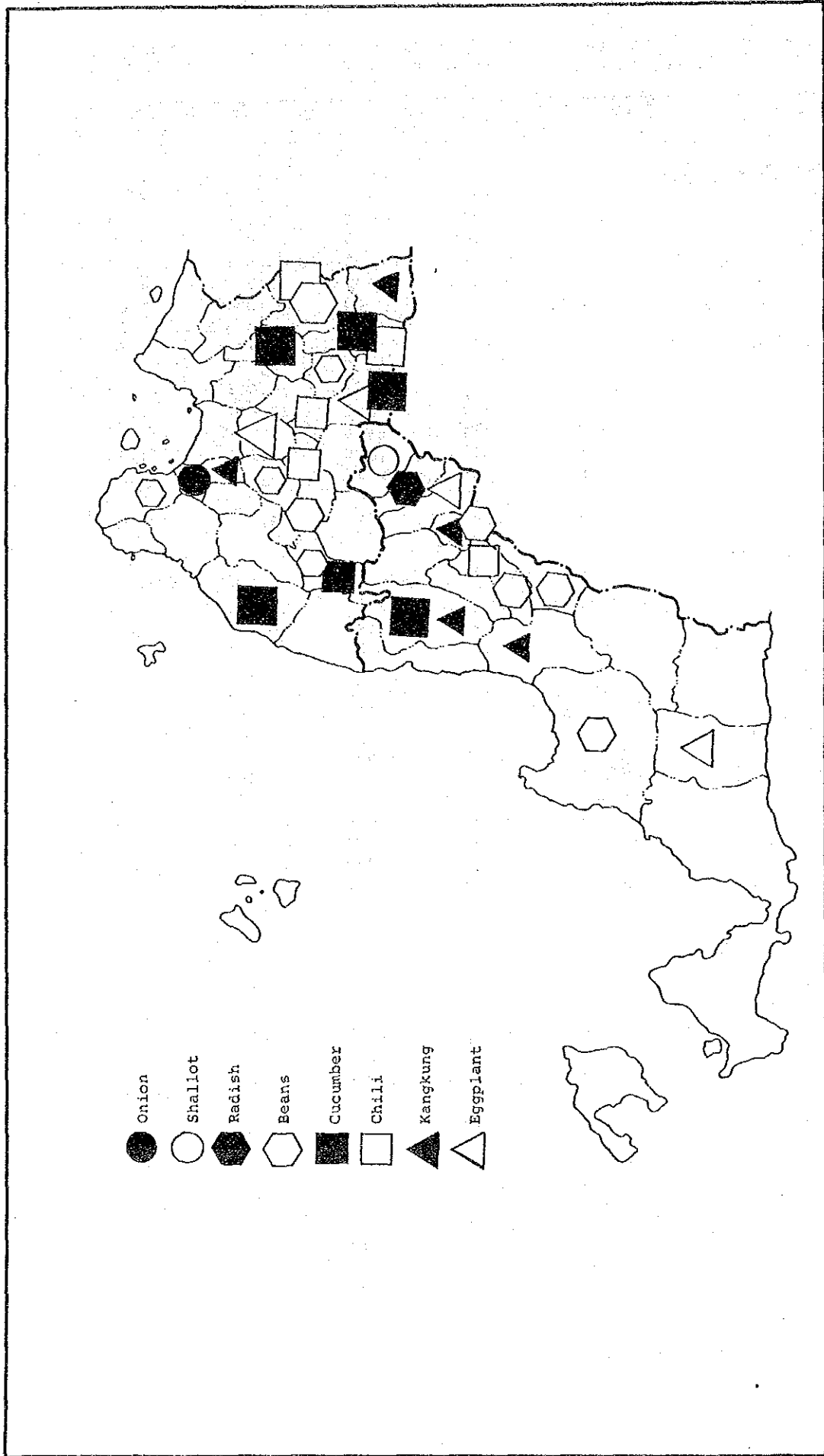
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Fig. I (A)-5
FOOD CROP PRODUCTION IN THE STUDY
REGION, 1985

Table I(A)-28 HARVESTED AREA, PRODUCTION AND UNIT YIELD OF VEGETABLES
IN THE STUDY REGION AND WEST JAVA IN 1984

	Serang (A)	Pandeglang (B)	Study Area (C)	West Java (D)	(C)/(D) x 100
Harvested Area (ha)					
Challot	-	193	193	7,042	2.74
Onion	189	34	223	8,926	2.50
Cabbage	-	15	15	11,883	0.13
Radish	15	86	101	1,916	5.27
Mustard Green	-	33	33	5,759	0.57
Beans	4,780	1,020	5,800	56,239	10.31
Carrot	-	3	3	2,669	0.11
Beans (Buncis)	-	81	81	4,942	1.64
Spinach	182	125	307	4,317	7.11
Cucumber	2,070	1,193	3,263	16,735	19.50
Chili	2,913	439	3,352	18,752	17.88
Tomato	232	134	366	7,120	5.14
Eggplant	983	396	1,379	9,002	15.32
Pumpkin	35	9	44	1,302	3.38
Kangkung	154	89	243	2,478	9.81
Others	373	22	395	4,168	9.48
Production (100 kg)					
Challot	-	11,828	11,828	360,700	3.28
Onion	8,504	1,778	9,832	387,948	2.53
Cabbage	-	945	945	1,994,787	0.05
Radish	408	2,643	3,051	143,574	2.13
Mustard Green	-	1,450	1,450	521,577	0.28
Beans	79,036	17,135	96,171	1,047,617	9.18
Carrot	-	396	396	245,463	0.16
Beans (Buncis)	-	2,958	2,958	223,474	1.32
Spinach	2,618	2,018	4,636	113,092	4.10
Cucumber	42,524	149,814	192,338	756,490	25.43
Chili	35,504	9,148	44,652	406,228	10.99
Tomato	7,832	5,030	12,862	358,966	3.58
Eggplant	37,110	7,547	44,657	334,248	13.36
Pumpkin	2,410	620	3,030	155,708	1.95
Kangkung	3,623	2,072	5,695	68,363	8.33
Others	6,292	103	6,395	107,788	5.93
Unit Yield (kg/ha)					
Challot	-	6,128	6,128	5,122	119.65
Onion	4,499	5,229	4,409	4,346	101.44
Cabbage	-	6,300	6,300	16,787	37.53
Radish	2,720	3,073	3,021	7,493	40.31
Mustard Green	-	4,394	4,394	9,057	48.52
Beans	1,653	1,680	1,658	1,863	89.01
Carrot	-	13,200	13,200	9,197	143.53
Beans (Buncis)	-	3,652	3,652	4,522	80.76
Spinach	1,438	1,614	1,510	2,620	57.64
Cucumber	2,054	12,558	5,895	4,520	130.40
Chili	1,219	2,084	1,332	2,166	61.49
Tomato	3,376	3,754	3,514	5,042	69.70
Eggplant	3,775	1,906	3,238	3,713	87.22
Pumpkin	6,886	6,889	6,886	11,959	57.58
Kangkung	2,353	2,328	2,344	2,759	84.95
Others	1,687	468	1,619	2,586	62.60

Source: Jawa Barat Dalam Angka 1984.



Sources: Dinas Pertanian Tanaman Pangan
 Serang, Laporan Tahun 1985;
 Dinas Pertanian Tanaman Pangan
 Pandeglang, Laporan Tahun 1985.



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Fig. I (A)-6
 VEGETABLE PRODUCTION IN THE STUDY
 REGION, 1985

The production of beans was respectively 11,231 tons in Kab. Serang and 10,845 tons in Kab. Pandeglang in 1985. The most productive area is Kec. Cikande, where a third of the total production in Kab. Serang was made in 1985, while Kec. Cimanuk, Saketi, Bojong, Cigeulis, etc. are the producing centers in Kab. Pandeglang. The production of cucumber was respectively 12,220 tons in Kab. Serang and 7,178 tons in Kab. Pandeglang. It is actively carried out in Kec. Anyer, Padarincang, Petir, Pamarayan, Kragilan, etc. in Kab. Serang and Kec. Jiput in Kab. Pandeglang. The study region is known as one of the chili producing areas in West Java Province. The production of chili was respectively 12,369 tons in Kab. Serang and 7,264 tons in Kab. Pandeglang in 1985. The main producers are Kec. Pamarayan, Cikande, Cikeusal, Pabuaran, etc. in Kab. Serang. Chili is one of promising products as well as clove, pepper and vanilla, because the prices of spices are relatively stable in the world market.

3) Fruits production in the study region

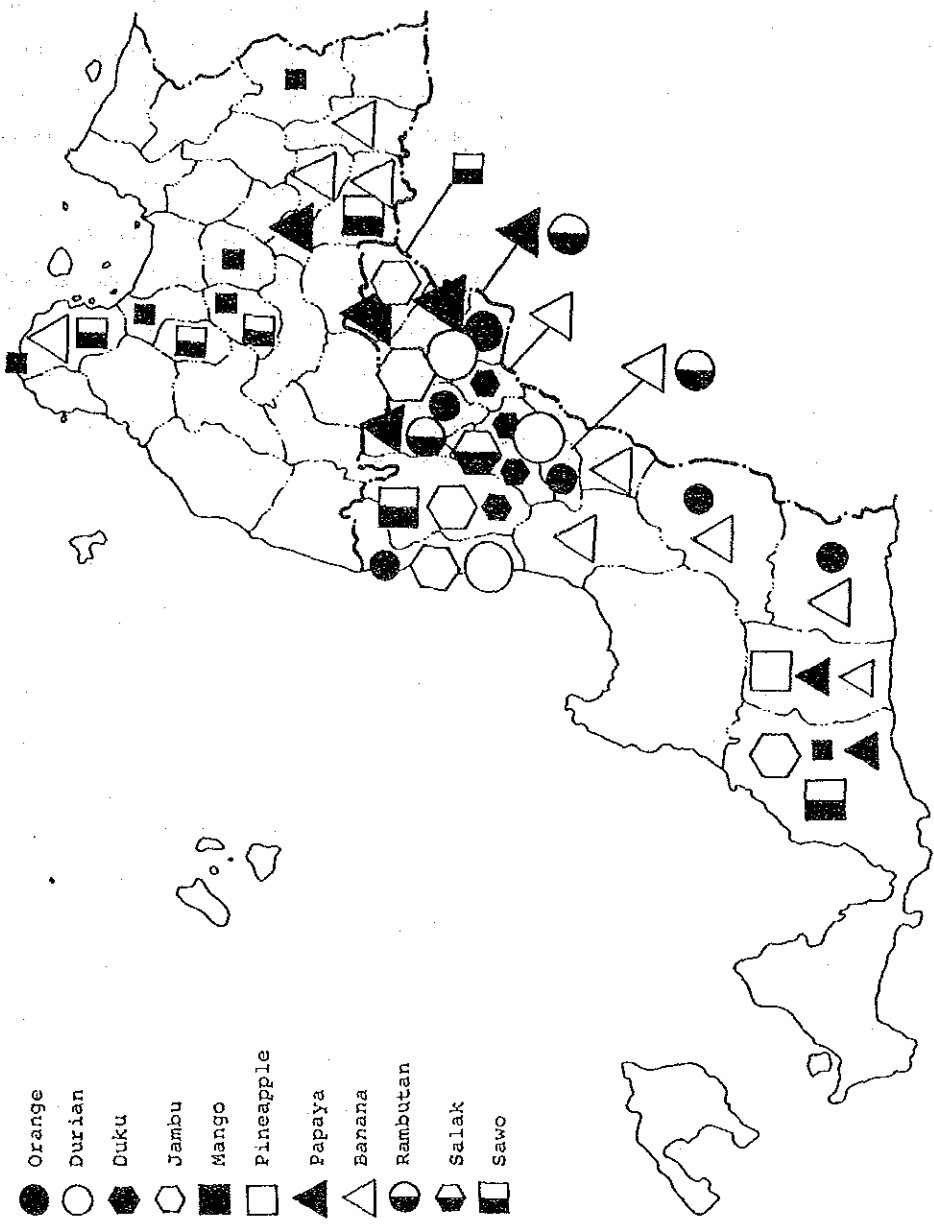
The production of fruits in the study region and West Java Province is given in Table I(A)-29. The main fruits in the study region are durian, duku, jambu, salak, sawo, etc., and in 1984 the production of jambu and salak in the study region respectively corresponded to 38.4% and 42.9% of those in West Java Province. As shown in Fig. I(A)-7, most of fruits are produced in Kab. Pandeglang.

Table I(A)-29 FRUITS PRODUCTION IN THE STUDY
REGION AND WEST JAVA IN 1980

(Unit: 100 kg)

	Serang (A)	Pandeglang (B)	Study Area (C)	West Java (D)	(C)/(D) x 100
Avocado	145	1,478	1,623	501,482	0.32
Orange	2,060	12,311	14,371	745,662	1.93
Durian	2,203	33,038	35,241	245,522	14.35
Duku	3,143	5,860	9,003	95,676	9.41
Jambu	516,920	24,516	541,436	1,411,696	38.35
Mango	5,193	6,186	11,379	996,311	1.14
Pineapple	590	17,460	18,050	683,225	2.64
Papaya	4,726	5,502	10,228	403,261	2.54
Banana	96,366	63,804	160,170	5,043,408	3.18
Rambutan	10,999	10,654	21,653	1,018,654	2.13
Salak	806	65,745	66,551	155,244	42.87
Sawo	8,335	3,208	11,543	119,152	9.69

Source: Jawa Barat Dalam Angka 1984.



- Orange
- Durian
- ◆ Duku
- ◇ Jambu
- Mango
- Pineapple
- ▲ Papaya
- △ Banana
- ◐ Rambutan
- ◑ Salak
- ▣ Sawo

Sources: Dinas Pertanian Tanaman Pangan Serang, Laporan Tahun 1985;
 Dinas Pertanian Tanaman Pangan Pandeglang, Laporan Tahun 1985.



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Fig. I (A)-7
 FRUITS PRODUCTION IN THE STUDY
 REGION, 1985

The production of durian was respectively 80 tons in Kab. Serang and 1,776 tons in Kab. Pandeglang in 1985. It is produced in Kec. Cadasari, Pandeglang, Jiput, Cimanggu, Labuan, etc. There exist many kinds of jambu such as jambu biji, jambu air, jambu bol, etc. The most popular jambu in the study region are jambu biji and jambu air. The production of the former was respectively 434 tons in Kab. Serang and 7,917 tons in Kab. Pandeglang, while the production of the latter was respectively 116 tons in Kab. Serang and 3,915 tons in Kab. Pandeglang in 1985. Its main producing areas are Kec. Cadasari, Banjar, Labuan, Cimanggu, etc. in Kab. Pandeglang. Mango, papaya, banana, etc. are the common fruits in the study region as well as in West Java Province. However, as the production statistics of duke, salak, sawo, etc. indicate, fruits production in the study region varies largely with the weather conditions that reflected their prices in the market.

4) Agricultural problems in the study region

Arable lands in the study region are mostly cultivated for paddy and perennial crops. Therefore, the land area per household is considerably limited and its size is very small in the study region as well as other areas in Java island. According to the agricultural census in 1983, the land size per household was 0.59 ha in Kab. Serang and 0.76 ha in Kab. Pandeglang. Although these figures are larger than 0.48 ha of West Java Province, the relatively small land size constitutes one of the problems in the study region. Further, there is a tradition to equally divide the land left by parents among their children, which makes the size of land per household smaller. Such situation induces more migrants to move to urban areas to get another source of income.

The marketing of agricultural products is another problem in the study region. Table I(A)-30 indicates the relatively high rates of self-consumption of food crops, especially in Kab. Pandeglang. This problem is mainly due to the poor transportation infrastructures, and the poor storage facilities.

2.3.2 Plantation and estates

The plantations in the study region are classified into three categories; smallholder, large private and state owned plantations. The plantation crops in the study region include coffee, rubber, coconut, clove, melinjo, kapok, pepper, screw-pine, vanilla, sugarpalm, etc., but the production of tea is very small. In 1984, the productions of coffee, rubber, coconut and clove in the study region were respectively 42.3%, 8.7%, 21.4% and 13.3% of those in West Java Province as shown in Table I(A)-31. Most of the production are carried out by smallholders except for rubber. The plantation production is one of the mainstays in the study region. Fig. I(A)-8 shows the distribution of plantation crop productions.

The production of coffee was 1,993 tons, or 1,304 tons in Kab. Serang and 689 tons in Kab. Pandeglang in 1984. The main production centers were Kecamatan Ciomas, Pabuaran and Baros in Kab. Serang, where about 70% of coffee in Kab. Serang was produced as shown in Table I(A)-32. In Kab. Pandeglang, Kec. Cadasari, Mandalawangi, etc. are main producers. Coffee of Indonesia is getting popular in the world market. Coffee in the study region will be a promising product if proper marketing routes are developed.

Table I(A)-30 MARKETING OF PRINCIPAL FOOD CROPS IN THE STUDY
REGION AND WEST JAVA IN 1983

	(Unit: %)						
	Market	Collector	Cooperative	Others	Self-	Not-	Total
	(KUD)				Consumption	Reported	
Paddy (Wet)							
Serang	2.39	18.11	1.53	1.90	73.57	2.50	100.0
Pandeglang	4.47	12.59	3.41	1.83	74.68	3.02	100.0
West Java	1.73	33.91	1.82	1.89	58.48	2.16	100.0
Paddy (Dry)							
Serang	11.49	12.36	0.17	0.93	73.59	1.45	100.0
Pandeglang	10.23	7.44	0.54	3.04	76.23	2.52	100.0
West Java	5.25	18.73	0.29	2.50	71.64	1.60	100.0
Maize							
Serang	36.79	29.44	0.00	4.83	28.94	0.00	100.0
Pandeglang	31.31	16.91	0.00	9.17	40.64	1.98	100.0
West Java	13.69	31.93	0.12	6.55	47.08	0.64	100.0
Cassava							
Serang	31.08	31.11	0.06	8.00	29.36	0.40	100.0
Pandeglang	13.55	16.49	0.06	12.38	56.21	1.31	100.0
West Java	10.00	43.28	0.18	6.57	39.36	0.61	100.0
Sweet Potatoes							
Serang	32.45	34.02	0.00	14.61	18.72	0.20	100.0
Pandeglang	29.04	19.29	0.26	9.29	38.29	3.83	100.0
West Java	13.24	30.37	0.11	6.53	49.02	0.73	100.0
Groundnuts							
Serang	37.48	45.57	0.09	3.04	13.28	0.54	100.0
Pandeglang	38.67	28.41	0.42	9.60	20.34	2.56	100.0
West Java	17.94	50.41	0.11	5.86	25.12	0.56	100.0
Soyabeans							
Serang	32.28	61.85	0.00	0.00	2.93	2.93	100.0
Pandeglang	64.19	11.74	0.72	9.63	10.59	3.13	100.0
West Java	23.98	50.15	0.16	4.79	19.82	1.10	100.0

Source: Agricultural Census 1983.

Table I(A)-31 PLANTED AREA AND PRODUCTION OF PLANTATION CROPS
IN THE STUDY REGION AND WEST JAVA IN 1985

	Serang (A)	Pandeglang (B)	Study Area (C)	West Java (D)	(C)/(D) x 100
Planted Area (ha)					
Coffee	4,101	2,601	6,702	21,064	31.82
Small Holders	4,101	2,601	6,702	20,948	31.99
Large Private	-	-	-	116	-
State-Owned	-	-	-	-	-
Rubber	298	6,394	6,692	109,174	6.13
Small Holders	83	1,794	1,877	26,083	7.20
Large Private	215	594	809	39,429	2.05
State-Owned	-	4,009	4,009	43,662	9.18
Coconut	31,818	34,740	66,558	273,892	24.30
Small Holders	31,817	34,558	66,375	262,692	25.27
Large Private	1	182	183	2,453	7.46
State-Owned	-	-	-	8,747	-
Tea	-	12	12	89,923	0.01
Small Holders	-	12	12	43,772	0.03
Large Private	-	-	-	17,662	-
State-Owned	-	-	-	28,489	-
Clove	2,317	3,744	6,061	70,439	8.60
Small Holders	2,316	3,744	6,060	61,954	9.78
Large Private	1	-	1	6,577	0.02
State-Owned	-	-	-	1,908	-
Production (ton)					
Coffee	1,304	689	1,993	4,710	42.31
Small Holders	1,304	689	1,993	4,707	42.34
Large Private	-	-	-	3	-
State-Owned	-	-	-	-	-
Rubber	69	3,943	4,012	46,302	8.66
Small Holders	30	150	180	6,639	2.71
Large Private	39	393	432	10,746	4.02
State-Owned	-	3,400	3,400	28,917	11.76
Coconut	10,766	13,054	23,820	111,495	21.36
Small Holders	10,766	12,987	23,753	110,984	21.40
Large Private	-	67	67	164	40.85
State-Owned	-	-	-	347	-
Tea	-	1	1	85,088	0.00
Small Holders	-	1	1	20,595	0.00
Large Private	-	-	-	14,728	-
State-Owned	-	-	-	49,765	-
Clove	314	575	889	6,681	13.31
Small Holders	314	575	889	6,250	14.22
Large Private	-	-	-	322	-
State-Owned	-	-	-	109	-

Source: Jawa Barat Dalam Angka 1984.

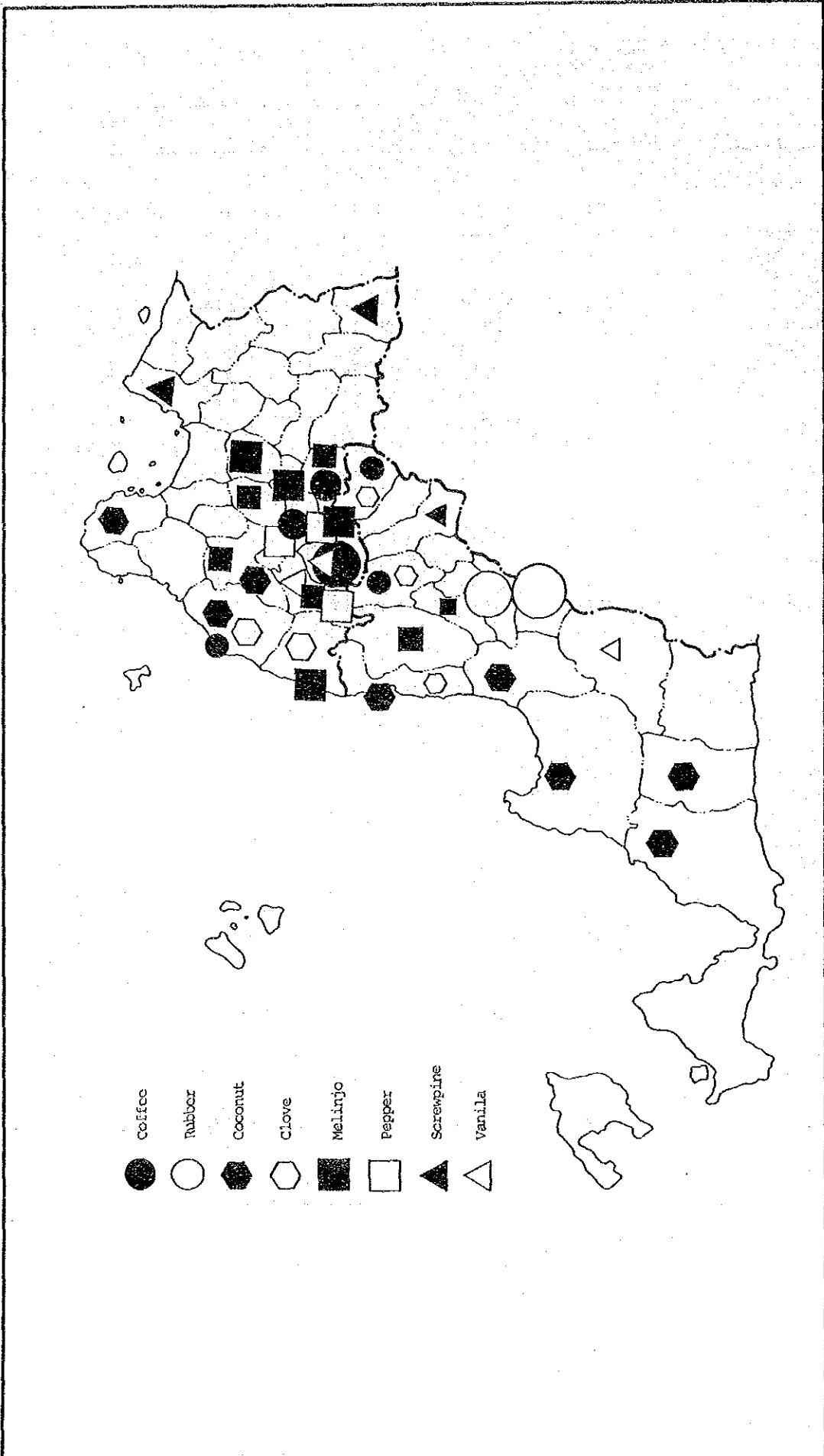


Fig. I (A)-8
 PLANTATION CROP PRODUCTION IN THE
 STUDY REGION, 1985

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Sources: Kabupaten Serang Dalam Angka, 1984;
 Statistik Kabupaten Pandeglang 1983-1984, Serang;
 Cabang Dinas Perkebunan Kabupaten Pandeglang
 Cabang Dinas Perkebunan Kabupaten Pandeglang.

Table I(A)-32 PLANTATION CROP PRODUCTION OF SMALLHOLDERS
BY KECAMATAN IN THE STUDY REGION IN 1984

(Unit: ton)

Kecamatan	Coffee	Rubber	/a Coconut	Clove	Melinjo	Kapok	Pepper	/a Srewpine/a	Vanila/a	Tea	Sugarpalm
Kabupaten Serang											
1. Serang	2	-	2	1	135	3	-	-	-	-	na
2. Taktakan	44	-	244	4	325	7	-	-	-	-	na
3. Kasemen	-	-	82	-	4	-	-	-	-	-	na
4. Kramatwatu	-	-	144	-	14	-	-	-	-	-	na
5. Waringinkurung	4	-	141	4	42	8	-	-	-	-	na
6. Ciruas	6	-	46	-	14	-	-	31.7	-	-	na
7. Walantaka	2	-	87	-	42	-	-	-	-	-	na
8. Kragilan	1	-	61	-	-	-	-	-	-	-	na
9. Cikande	1	-	48	-	-	9	-	-	-	-	na
10. Pontage	-	-	36	-	-	-	-	75.2	-	-	na
11. Tirtayasa	-	-	78	-	-	4	-	-	-	-	na
12. Carenang	-	-	33	-	-	3	-	-	-	-	na
13. Pamarayan	4	-	38	2	-	5	-	12.4	-	-	na
14. Kopo	8	-	419	4	-	5	-	73.7	-	-	na
15. Cikeusal	10	-	210	1	42	4	8.32	-	-	-	na
16. Petir	20	-	310	5	10	-	3.50	-	-	-	na
17. Cilegon	-	-	465	-	-	7	-	-	-	-	na
18. Bojonegara	-	-	1,361	-	-	3	-	-	-	-	na
19. Pulomerak	-	-	513	-	-	2	-	19.8	-	-	na
20. Anyer	94	-	1,183	80	24	-	-	-	-	-	na
21. Cinangka	68	5.4	942	100	500	4	5.70	-	-	-	na
22. Mancak	66	-	1,923	5	239	3	-	-	-	-	na
23. Ciomas	465	4.5	732	25	213	7	13.60	-	6.0	-	na
24. Baros	190	-	534	12	175	6	6.30	-	-	-	na
25. Pabuaran	254	2.8	523	13	279	10	12.75	-	0.9	-	na
26. Padarincang	26	10.4	572	43	147	4	18.30	-	8.0	-	na
Total	1,265	23.1	10,727	299	2,205	94	68.47	212.8	14.9	-	na
Kabupaten Pandeglang											
1. Pandeglang	40	-	185	32	34	2	0.30	-	0.7	-	-
2. Cadasari	98	6.2	560	67	39	1	0.28	-	-	-	4.40
3. Banjar	42	22.1	850	18	39	2	-	44.0	-	-	-
4. Cimanuk	23	4.2	154	18	11	3	-	5.6	-	-	-
5. Mandalawangi	99	22.8	95	61	59	7	0.67	-	0.3	0.9	-
6. Menes	58	19.5	213	28	86	1	0.90	-	-	-	-
7. Saketi	47	11.1	448	47	71	-	-	-	-	-	-
8. Bojong	43	16.9	428	44	47	-	-	-	0.4	-	-
9. Munjul	57	11.1	334	36	27	7	0.65	-	4.5	-	-
10. Labuan	54	3.2	1,979	63	52	4	1.25	-	-	-	14.75
11. Jiput	33	5.3	757	42	98	2	0.68	-	0.3	-	-
12. Pagelaran	33	-	1,619	21	40	6	1.40	-	-	-	11.05
13. Cibalong	14	4.9	1,630	27	9	8	-	-	-	-	1.80
14. Cimanggu	9	5.5	1,890	36	12	5	-	6.4	-	-	2.40
15. Ciggulis	21	14.7	1,498	26	15	6	1.00	-	-	-	16.90
16. Cikeusik	18	3.9	347	11	4	4	-	-	-	-	10.25
Total	689	151.4	12,987	577	643	58	7.13	56.0	6.2	0.9	61.55

Remarks: /a Kabupaten Serang = 1985.

Sources: Kabupaten Serang Dalam Angka 1984.

Statistik Kabupaten Pandeglang 1983-1984.

Cabang Dinas Perkebunan Kabupaten DT II Serang.

Cabang Dinas Perkebunan Kabupaten DT II Pandeglang.

The production of rubber was 4,012 tons, respectively 69 tons in Kab. Serang and 3,943 tons in Kab. Pandeglang in 1984. The largest producers are the state owned plantations in two Kec. of saketi and Bojong in Kab. Pandeglang. The second largest producer is Cibiuk Cibogo Plantation (PT. Cibiuk Cibogo) in Kab. Pandeglang. It is very difficult for smallholders to be engaged in rubber production.

The production of coconut was 23,820 tons, respectively 10,766 tons in Kab. Serang and 13,054 tons in Kab. Pandeglang in 1984. Coconut is produced chiefly along the coast line, Kec. Bojonegara, Anyer, Mancak, etc. in Kab. Serang and Kec. Labuan, Pagelaran, Cigeulis, Cimanggu, Cibaliung, etc. in Kab. Pandeglang.

Melinjo is an important material for the emping melinjo of food processing industries. Its production was 2,146 tons in Kab. Serang and 602 tons in Kab. Pandeglang in 1984. The main production centers are Kec. Taktakan, Cinangka, Mancak, Ciomas, Pabuaran, etc. in Kab. Serang. Screw-pine is used as an important material for handicraft. Its production was 213 tons in Kab. Serang and 56 tons in Kab. Pandeglang in 1984. Kec. Pontang and Kopo in Kab. Serang and Kec. Banjar in Kab. Pandeglang are the main producers in the study region. Clove, petter and vanilla are very promising products as mentioned in the part of chili. The main producers of these products are mainly in Kab. Serang, Kec. Anyer and Cinangka for clove, Kec. Ciomas, Pabuaran and Padarincang for pepper and Kec. Ciomas and Padarincang for vanilla.

The productions of plantation crops are carried out by smallholders in the study region. However, plantation crops are very vulnerable to the fluctuation of prices in the market. So it is quite difficult for smallholders to depend entirely on plantation crops. The introduction of a financial supporting system is necessary to help those smallholders. Most of plantation plants in the study region have aged over