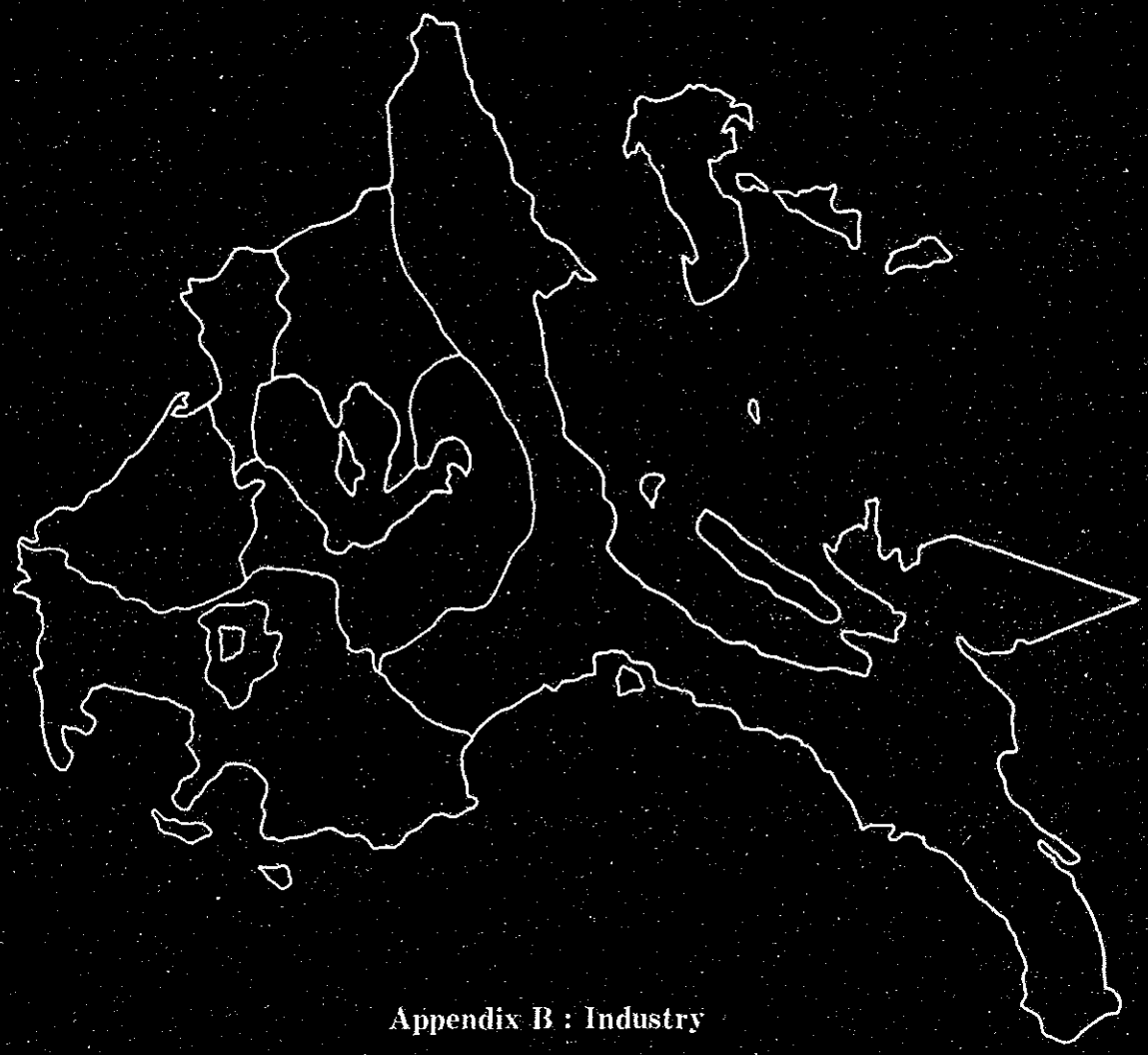
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF TRADE AND INDUSTRY

THE MASTER PLAN STUDY ON THE PROJECT CALABARZON

FINAL REPORT



Appendix B : Industry

October, 1991

JAPAN INTERNATIONAL COOPERATION AGENCY

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF TRADE AND INDUSTRY

THE MASTER PLAN STUDY ON THE PROJECT CALABARZON

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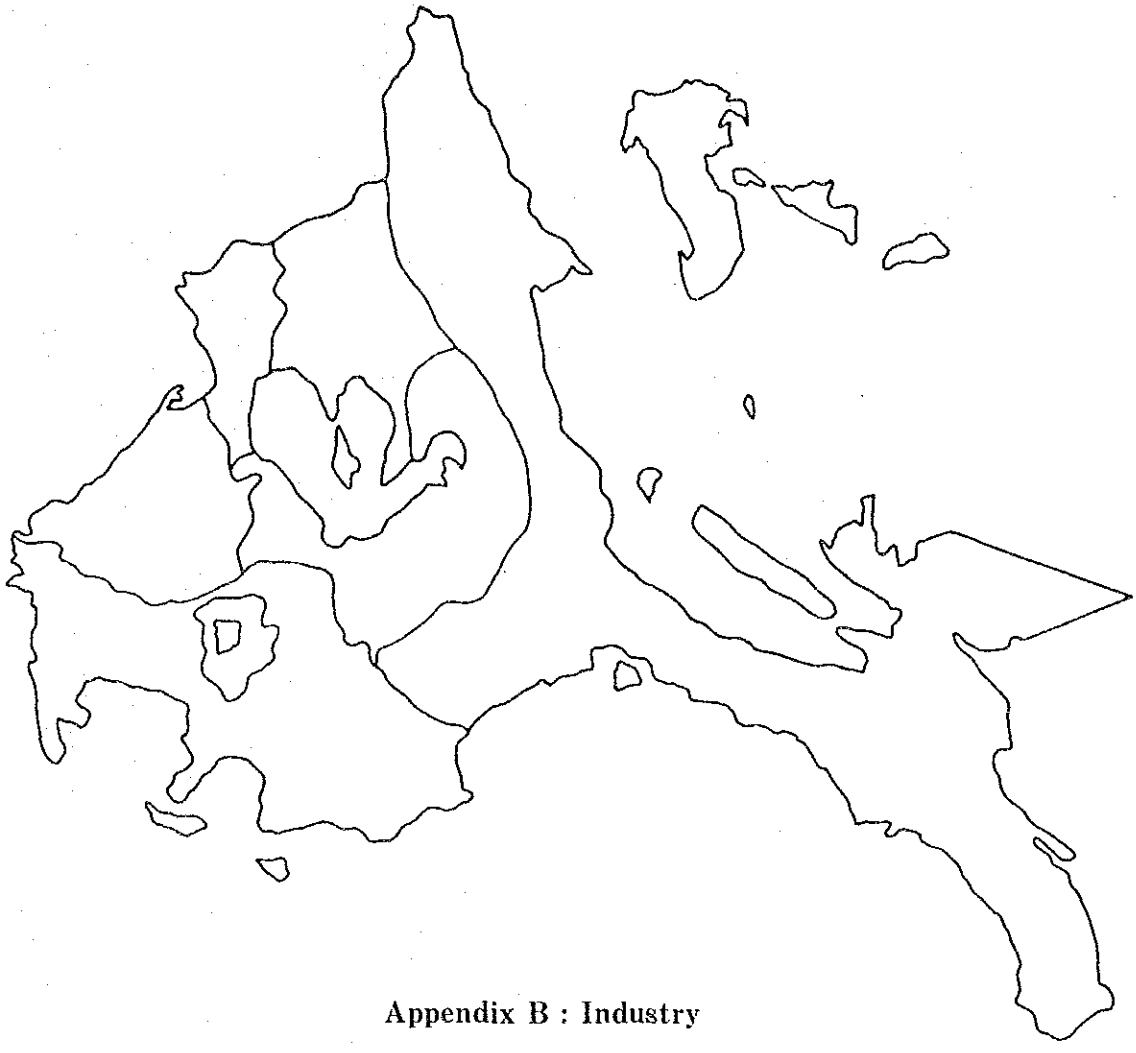

Appendix B : Industry

October, 1991

JAPAN INTERNATIONAL COOPERATION AGENCY

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Appendix B: INDUSTRY

B.1 Present Conditions of Manufacturing Sector in CALABARZON

B.1.1 Industrial structure

An overview is given first of the manufacturing sector in the Philippines. The manufacturing sector, as shown below, constituted 24.5% of GDP in 1987.

Sectoral % shares of GDP in selected countries and region

	Philippines (1987)	Indonesia (1986)	Thailand (1986)	Malaysia (1984)	Taiwan (1987)	Korea (1987)
Agri., Fishery, Forestry	24.1	25.8	16.7	20.1	5.3	11.4
Mining and Quarrying	1.9	11.1	2.2	10.5	0.5	1.2
Manufacturing	24.5	14.4	20.6	20.3	43.5	30.3
Other Industries	49.5	48.7	60.5	49.1	50.7	57.1

Source: OECF HANDBOOK

The Country's share of 24.5% was larger than 20.6% in Thailand and 20.3% in Malaysia, and smaller than 43.5 % in Taiwan and 30.3% in Korea. The Indonesia's manufacturing's share was relatively small (14.4%), compared to the mining sector's performance which includes production of crude petroleum oil. The mining sector in the Philippines comprising such mineral resources as copper, gold, lime stone and marble had relatively small contribution to GDP whereas it was large in Indonesia and Malaysia.

The mining sector's contribution to GRDP in Region IV, where CALABARZON is a major component, was also smaller being less than 1%. On the other hand, the manufacturing sector constituted 30.9% of GRDP in 1989, exceeding by 5.9 percentage points the share of 25.0% in the Philippines.

The manufacturing sector in the Philippines had decreased the production since 1984 and in 1988 recovered the production level of 1983, with the gross value added of approximately 25 billion pesos at constant 1972 price. The sector's performance was fairly high in recent years but the increase rate of Region IV ('89/'87) was "moderate", lower than that of the Philippines. This seems to reflect moderate growth of petroleum refineries which generate much of value added in the CALABARZON's manufacturing sector as seen in the next subsection.

GRDP in million pesos and % shares in the Philippines and Region IV

(Year)	(1987)		(1989)		('89/'87:%)	
Current Price	PHP	Region IV	PHP	Region IV	PHP	Region IV
Agri., Fishery, Forestry	170,770 (24.1)	25,252 (24.9)	225,872 (23.5)	33,736 (25.9)	32.3	33.6
Mining and Quarrying	13,600 (1.9)	834 (0.8)	16,462 (1.7)	1,204 (0.9)	21.0	44.3
Manufacturing	173,539 (24.5)	31,819 (31.4)	240,377 (25.0)	42,069 (30.9)	38.5	26.6
Other Industries	350,459 (49.5)	43,329 (42.8)	480,460 (49.9)	54,975 (42.2)	37.1	26.9
Total	708,369	101,235	963,171	130,183		

Source: Economic and Social Statistics Office, National Statistical Coordination Board

B.1.2 Composition of value added and employment by manufacturing subsector

The Census of Establishment is the only source for the sectoral analysis but does not represent all the production activities by the manufacturing sector, as it does not cover small establishments with less than 10 workers or less than one million pesos in annual sales in barangays and unregistered establishments throughout the Country. Value added in the Census, for example, accounts for more or less 60% of the actual value added estimated by the National Statistical Coordination Board.

According to the 1983 Census of Establishment, the CALABARZON's manufacturing sector marked 10.6 billion pesos of value added (not GRDP) through 112,020 persons of employment and their shares to the Philippines were 20.8% and 12.6%, respectively.

Composition of value added and employment by subsector is shown in Tables B.1 and Table B.2. The main industries in CALABARZON were as follows.

Main industries in value added and employment in CALABARZON as of 1983

Based on % shares to the all industries

Value Added	Employment
1) Petroleum refineries (57.1)	1) Food manufacturing (21.7)
2) Textiles (8.6)	2) Wearing apparel (18.4)
3) Food manufacturing (8.0)	3) Textiles (17.1)
4) Beverage manufacturing (3.2)	4) Beverage manufacturing (4.6)
5) Electrical machinery & equipment (2.9)	5) Wood Products (3.8)

Petroleum refineries are the so called "capital-intensive industry". Its value added is large while the value added ratio (value added/gross output) is low in general. These refineries concentrate in CALABARZON, namely in Batangas. On the other hand, textiles such as knitting mills and wearing apparel are categorized into "labor-intensive industry" which generates a large part of the value added from manpower.

Aside from these industries, food manufacturing industries constitute the top shares both in value added and in employment in the Philippines. They can be divided into two categories in terms of locational tendency, namely "Resource-based or Agro-based industry" and "Market-oriented industry" like beverages.

Many industries concentrated in Metro Manila, constituting 46.9% of value added and 47.7% of employment in the Philippines in 1983.

A summarized conclusion in this subsection is that Metro Manila and its hinterland of CALABARZON are constituting "Industrial Core" with 67.7% of value added and 60.3% of employment in the Philippines in 1983, together with some parts of Region III.

B.1.3 Regional distribution of manufacturing subsector

The main manufacturing industries in CALABARZON comprise petroleum refineries on value added base and on employment base food manufacturing, wearing apparel and textiles as already seen.

Table B.3 shows employment size of industries which operated in the provinces of CALABARZON in 1988. These data provided by NSO as the provisional outputs from the 1988 Census of Establishment, are more up-to-date than those in 1983 and useful for the analysis while being only limited to employment.

There was a change in composition of the main industries between 1983 and 1988. Leather footwear became one of the top 5 industries instead of beverages as shown on the next page.

Table B.4 shows detailed information on changes in employment by region and by subsector between 1983 and 1988. CALABARZON's 19% increment ratio in total was smaller than those of 22% in both the Country and Metro Manila, due mainly to the decrease in employment size of beverages, rubber products and cement. However,

the increment ratio in CALABARZON was large in such industries as food manufacturing (41%), wearing apparel (36%) and electrical machinery & equipment (72%).

Main industries based on employment in CALABARZON as of 1988 and 1983

in 1988	in 1983
CALABARZON Total 133,836 persons	CALABARZON Total 112,020 persons
1) Food manufacturing (33,051, 24.7%)	1) Food manufacturing (24,346, 21.7%)
2) Wearing apparel (27,951, 20.9%)	2) Wearing apparel (20,575, 18.4%)
3) Textiles (19,933, 14.9%)	3) Textiles (19,194, 17.1%)
4) Leather footwear (7,080, 5.3%)	4) Beverage manufacturing (5,197, 4.6%)
5) Wood products (6,802, 5.1%)	5) Wood Products (4,288, 3.8%)

As for employment size by province, Laguna was the largest with 51,616 followed by Rizal with 33,701, Batangas with 18,106, Quezon with 15,966 and Cavite with 14,447.

Laguna's main industries were food manufacturing, textiles and leather footwear having shares to the total employment of 23.5%, 21.0% and 10.8%, respectively. There are large factories of desiccated coconut, soft drinks, sugar milling, livestock products and textile spinning. Leather footwear concentrated specifically in Laguna and constituted 79% (5,578/7,080) of its total employment in CALABARZON as shown in Table B.5. Industry of electric wiring and devices could also be one of the main industries because of its employment of 2,278 persons as shown in Table B.6

Rizal's main industries were wearing apparel and textiles like those in CALABARZON, constituting respectively 26.7% and 22.4% of the total employment. In addition to these, industry of radio, TV and communication equipment was also one of the main industries having employment of 1,290 persons. Cement industry, in spite of the relatively small employment (791 persons), should be regarded as one of the resource-based industries in CALABARZON.

Aside from the other four provinces of CALABARZON, it is remarkable that food manufacturing constituted 66.2% (10,566 persons) of Quezon's total employment (15,966 persons) followed by wood products with 13.3%. This means "mono-cultural" structure of Quezon's manufacturing sector. Among food manufacturing industries, desiccated coconut was the largest with 6,682 workers, accounting for 41.9% of the total employment. Most of other main industries were likewise resource-based industries

including wood container and other "coco-related industries" and the so called "Local /Rural demand-based industries" such as bakery products.

Batangas has a different feature compared to the rest of provinces in CALABARZON since it has port areas, although the subsector's employment concentrated into wearing apparel (35.3%) and food manufacturing (30.0%). Along the Batangas Bay private companies have their own port facilities such as seaberth or pier and respectively operate plants of petroleum refineries, basic industrial chemicals and ship building and repairing as well as flour milling. These industries are the so called "port-oriented industry" and form an industrial zone along the coastal side in the municipalities of Bauan and San Pascual and in Batangas City.

Batangas has also a vast harvest area of sugarcane like Laguna and there locate large plants of sugar milling and refining in the municipalities of Balayan and Nasugbu. Relating to livestock and poultry industry, animal feeds industries with a large scale capacity locate in Lipa City.

Cavite's main industries were wearing apparel and food manufacturing having shares to the total employment of 47.3% and 14.7 %, respectively. Development of Cavite Export Processing Zone (CEPZ) is ongoing but the actual effects of the development had not been fully realized up to 1988 as Cavite's employment size in the 1988 Census of Establishment was the smallest in CALABARZON.

Figure B.1 illustrates CALABARZON's cities and municipalities where manufacturing employment was more than 1,000 workers in 1988 and regional distribution of the main industries. Industries concentrated in those cities and municipalities which are located in the neighboring area of Metro Manila, namely San Pedro, Biñan, Cabuyao and Calamba in Laguna, Carmona and Dasmarinas in Cavite and Angono, Antipolo, Cainta and Taytay in Rizal. Bauan in Batangas is also one of the industrial centers with an intensive location of port-oriented industries as described previously. Quezon's industrial centers are Lucena City and its neighboring municipalities. Tables B.7 through Table B.10 show the detail data of employment and main industries by city and by municipality.

B.1.4 Recent trends of investment and land development

Capital investments in the Philippines have been active in recent years. The BOI approved investments of new and expansion projects increased rapidly as shown in Figure B.2.

CALABARZON is one of the major investment areas as well as Metro Manila and some parts of Region III. It constituted 34.0 % of the project cost (69,886 million pesos) and 19.3% of the employment generation (101,643 persons) in the Philippines in the period 1985-1990; as for manufacturing sector, 34.9 % of the project cost (42,029 million pesos) and 22.0% of the employment generation (95,004).

Tables B.11 and Table B.12 show the composition of the BOI approved investments by industry and by CALABARZON's province. The results of manufacturing sector by province are summarized and illustrated as shown in Figure B.3. As for project cost, Rizal posted in the first position for 14,032 million pesos, accounting for 10.9% of the nation total followed by Laguna and Cavite. In employment generation, Laguna was the first with 32,790 persons (7.6%) followed by Rizal and Cavite.

As for project cost by industry, textiles marked the largest amount of 20,537 million pesos followed by chemical products and electrical machinery and equipment. Of the total project cost for textile, 27.0% and 19.6% were invested in Laguna and in Cavite, respectively. In employment generation, textiles also posted in the first position for 23,206 persons. Other main industries were wearing apparel, other manufacturing and electrical machinery and equipment as shown below.

BOI Approved Investments ('85~'90) in CALABARZON: Main Industries & Location

	Main Industries		Main Location
Project Cost (in million pesos)	1) Textiles	20,537	•Laguna, Cavite
	2) Chemical Products	4,727	•Batangas
	3) Electrical Machinery, Equip.	3,756	•Laguna, Cavite
	4) Construction/Housing Components	2,743	•Rizal
	5) Plastic Products	2,011	•Batangas, Laguna
Employment Generation (in persons)	1) Textiles	23,206	•Laguna, Cavite
	2) Wearing Apparel	16,433	•Rizal, Laguna
	3) Other Manufacturing	14,820	•Rizal, Cavite
	4) Electrical Machinery, Equip.	10,876	•Laguna
	5) Transportation Equip.	7,851	•Cavite, Laguna

The above trends in manufacturing investments seem to reflect the existing industrial agglomeration in each province to some extent, but investments into Cavite were relatively active compared to those indicated by the 1988 Census of Establishment.

Manufacturing investments into CALABARZON showed lower labor preparation rate (LPR=employment / project cost of million pesos) than that in the Philippines. CALABARZON's average LPR in the period 1985-1990 was 2.26, equal to 63% level of the Country's rate (3.57) as shown in Figure B.4 and Table B.13. The lower LPR of CALABARZON may be due mainly to:

1) Large investments/location of capital-intensive industries such as textile spinning and plastic products as shown in Figure B.3,
2) Relatively small shares of labor-intensive industries,
3) Relatively more capital-intensiveness of CALABARZON's electrical machinery and equipment, and
4) Relatively large shares of new investments against expansion.

Meanwhile, labor preparation rate (LPR) implies the degree of labor- or capital-intensiveness of industry. Industries with a high LPR are labor-intensive and those with a low LPR are capital-intensive.

The above manufacturing investment trends, as described previously, reflect such locational conditions of CALABARZON as the proximity and transport conditions to the largest domestic market of Metro Manila, the labor supply conditions, the existing industrial agglomeration, the situation of development of industrial estates (IE's) and others

Table B.14 and Figure B.5 show IE's existing and planned in CALABARZON. These IE's have been mostly developed by the private sector except for Buliham NHA IE and the Export Processing Zone (EPZ) by the EPZA (Export Processing Zone Authority).

There exist fourteen IE's including Cavite Export Processing Zone (CEPZ), which have provided an aggregated 514 ha of factory sites up to May 1990 as shown in Table B.14.

Eleven out of these fourteen IE's concentrate in Cavite with 228 ha of area provided (already sold or leased) and 413 ha of available area. Main industries including factories under implementation located in selected IE's are as follows:

Cavite EPZ	Garments, Toys, Telephone and communication equipment, Wiring, Rare metal, Electronic parts, Exhaust Pipes and muffler, Car stereo, Marine propellers, Screws, etc.
Cavite-Carmona	Garments, Leather garment, Toys, Bone china, Ceramics, Automotive fuel and brake tube, etc.
Dasmarinas B.B.	Ski gloves, Garment, etc.

On the other hand, three IEs in Laguna have provided (already sold or leased) an aggregated 286 ha of factory sites and have 700 ha of available area. In CALABARZON, the Canlubang Industrial Park is the largest estate with 708 ha of developed area, of which 176 ha is already sold/leased. Main industries including factories under implementation located in Canlubang IP are as follows:

Canlubang IP	Garment, Beverages, Textile spinning, Pulp and paper, Drugs and medicines, Electronics, Transmission, etc.

In addition, another seven IE's are planned, reflecting prospective industrial development in CALABARZON. However as seen in Table B.5, Quezon has no existing and planned IE although development of three IE's is proposed, in candidate sites of Tiaong, Atimonan and Gumaca. This fact may reflect Quezon's locational conditions and suggests a different way of its future industrial development from the rest of the CALABARZON's provinces.

B.2 Existing Constraints and Policy Responses

The manufacturing sector is expected to lead the economic growth in CALABARZON as well as in the Philippines. There are, however, crucial constraints to expanding the production. This section will clarify them from macroeconomic and regional aspects while referring to the policy responses after the overview.

B.2.1 Overview

The National Industrial Estate Program (NIEP) conducted a nationwide industrial survey in the period December 1984-March 1985. According to the survey, constraints faced by the manufacturing firms in Region IV including CALABARZON were as follows:

Crucial problems faced by manufacturing firms in Region IV as of 1985

Factor	% of Firms' Ratings
Δ Lack or high cost of capital	51.9
Δ Limited market demand	37.1
Δ Lack or high cost of local inputs	36.1
• Transportation	28.6
• Unreliable utilities	24.8
• Poor telecommunication	22.6
• Access to equipment and parts	21.1
Δ Lack or high cost of imported parts	18.8
Δ Labor problems or inadequate labor supply	18.0
• Availability or high cost of industrial land	16.5
-- Technical problems or equipment failure	12.8

Legend: Δ Macroeconomic constraints •Regional constraints
Source: Industrial Survey by National Industrial Estate Program (NIEP) NEDA

Some constraints listed above, have been eased in the past six years, but they may largely reflect existing situations. They could be categorized into two groups. One is the macroeconomic constraint and the other is the regional one. As shown above, the crucial problems are boiled down to the three factors that belong to the macroeconomic area.

B.2.2 Macroeconomic constraints and policy response

(1) Lack or high cost of capital

This constraint is the most crucial according to the survey cited above. The lack of capital is in general attributed to a bad performance of factory operation or low profits/low capital income caused partly by lower productivity. The high cost of capital means high lending

interest rates due basically to the small funds available in the Country. Actual interest rates were 22% to 29% on prime base and over 30% on non-prime base in September 1990.

As a result, several situations could be derived from these constrains to the manufacturing sector and are summarized below.

Situations derived from the constraint of "Lack or high cost of capital"

Lack of capital	1) Limited investments
	2) Large dependence on foreign investments
	3) Self efforts for acquisition of foreign exchange by imports dependent manufacturers
High interest rates	1) Cost up of products/low profits
	2) More money for the capital establishment mainly by foreign investors
	3) Bottleneck for industrialization itself

Supplementally, selected data on investments showed that foreign money has constituted more or less 40% to 50% of the total equity investments. (Table B.15)

The lack of capital has in general a special meaning for the manufacturers whose products largely depend on imported materials/parts. They have to pay their imports by foreign exchange controlled under the quota system. Unless the allotment is sufficient, they are obliged to prepare foreign exchange by themselves through exporting everything including non-manufactured goods such as agro-products.

Meanwhile, high interest rates may result in a cost increase of products or low profits, and drive foreign investors to prepare more money for the capital establishment in the Philippines than in case of their home countries, since interest rates on working capital are high and loan use from foreign market is difficult.

In addition, high interest rates may be a bottleneck for the industrialization, since many investors tend to invest in other areas than the manufacturing sector, when the production profits are smaller than those born from financial/commercial investments.

Policy-response to "lack of capital"

In order to cope with such situations and problems, the Government is strengthening the investment incentives and financial assistance. Inducement of foreign capital into the manufacturing sector has been promoted in line with export promotion and renovation of industrial structure of the Country. In order to assist manufacturing cost reduction or profits reserve making, BOI provides the deduction of labor-expenses and the exemption of tax/import duties as shown below. Access to foreign exchange, on the other hand, has not been well improved because of the country's deficit in balance of payments.

Policy response to the constraint of "Lack of capital"

1) Inducement of foreign capital

- Enterprises eligible for 100% foreign ownership: Enterprises approved as pioneer, EPZ and over 70% export enterprises
- Enterprises eligible for the maximum of 40% foreign ownership: Enterprises approved as non-pioneer and 50% to 70% export enterprises

  [These are Incentives granted by BOI to the projects that the Investment Priorities Plan (IPP) prescribes.]

  (The above regulations for foreign ownership will be replaced by newly enacted "Foreign Investments Act of 1991" after the Act comes into effect. The Act prescribes that as a general rule, there are no restrictions of foreign ownership of export enterprises. "Export Enterprise" means an enterprise wherein a manufacturer and a processor of service (including tourism) enterprises export 60% or more of its outputs, or wherein a trader purchases products domestically and exports 60% or more of such purchases. In domestic market enterprises, foreigners can invest as much as 100% equity except in areas included in the negative list. "Domestic market enterprise" is defined an enterprise which produces goods for sale, or renders services to the domestic market entirely or if exporting a portion of its output fails to consistently export at least 60% thereof.)

This new Act is epoch-making, opens wide the door for foreigners and will solve the constraint of "Lack of capital" to a large extent. The Act , on the other hand, prescribes investment areas reserved to Philippine nationals or "Foreign Investments Negative List " which has three component lists; A, B and C. During the initial transitional period of thirty-six months after issuance of the Rules and Regulations to implement the Act, the Transitory Foreign Investments Negative List consists of the following:

Contents of the Transitory Foreign Investments Negative List

List A:

1. All areas of investment in which foreign ownership is limited by mandate of the Constitution and specific laws.

List B:

1. Manufacture, repair, storage and/or distribution of firearms and the like required by law to be licensed by and under the continuing regulation of the Department of National Defense;

2. A variety of activities regulated by law because of risks they may pose to the public health and morals;

3. Small and medium-sized domestic market enterprises with paid-in equity capital of less than the equivalent of US$500,000, unless they involve advanced technology as determined by the Department of Science and Technology; and

4. Export enterprises which utilize raw materials from depleting natural resources, and with paid-in equity capital of less than the equivalent of US$500,0000.

List C:

1. Import and wholesale activities not integrated with production or manufacture of goods;

2. Services requiring a licence or specific authorization, and subject to continuing regulation by national government agencies other than BOI and SEC (Securities and Exchange Commission);

3. Enterprises owned in the majority by a foreign licensor and/or its affiliates for the assembly, processing or manufacture of goods for the domestic market which are being produced by a Philippine national as of date of effectivity of the Act under a technology, know-how and/or brand name license from such licensor during the term of license agreement.

In addition, the Act prescribes "Strategic Industries" which are strategic to the development of the economy but needed to be treated deliberately for coordination between Philippine nationals and foreigners. For this, NEDA, as a matter of policy and not as a legal requirement, shall formulate and publish a list of strategic industries specifying the desired equity participation by the Government and/or private Filipino investors in each strategic industry. The term "Strategic Industries" shall imply the industries that are characterized by all of the following.

Characteristics of "Strategic Industries" defined by the Foreign Investments Act of 1991

a) crucial to the accelerated industrialization of the country;

b) require massive capital investments to achieve economies of scale for efficient operations;
c) require highly specialized or advanced technology which necessitates technology transfer and proven production techniques in operation;
d) characterized by strong backward and forward linkages with most industries existing in the country; and
e) generate substantial foreign exchange earnings through export of part of the output that will result with the establishment, expansion or development of the industry.

2) Cost reduction or profits reserve making

- Income tax exemption (3 to 7 years from commercial reserve making operation)
- Additional deduction for labor expenses from taxable income (50% to 100% for the first 5 years)
- Tax and duty exemption on imported capital equipment, etc.

On the other hand, "Lack of capital" seems to be a more crucial problem for the small and medium scale enterprises (SME's). Consequently, the following incentives are provided specifically for SME's.

Incentives for SMEs:Countryside and Barangay Business Enterprises (CBBE) by "Kalakalan 20"

1) CBBE

- less than 20 employees during the registration, less than 500,000 pesos total assets at the time of registration and located in eligible CBBE areas, etc.

2) Incentives

- Exemption from all taxes except:real property, capital gains, duties on imports, value added taxes and taxes on income not arising from CBBE productive activity
- Exemption of CBBE derived income from computation of owner/member individual income taxes
- Exemption from any government rules and regulations in respect of assets, income and activity directly connected with the business of the CBBE

These incentives summarized above could not resolve directly the constraint of "Lack of capital" but are effective for a good accounting management of the enterprises.

Policy-response to "high interest rates"

This constraint has been deep-rooted in the Country's small funds for lending as well as in its institutional system. Total resources of the financial system aggregated 873 billion pesos at the end of 1988, of which 50.3% (439.5 billion pesos) was capitalized by the governmental institutions as shown below.

Composition of financial resources by institution at the end of 1988

Total (in billion pesos)	873.1	(100.0%)
Governmental	439.5	(50.3%)
Central Bank	349.9	(40.1%)
Specialized government banks(DBP, LBP and PAB)	13.8	(1.6%)
Government nonbank financial intermediaries	75.8	(8.7%)
Private & Commercial	433.6	(49.7%)

These financial circumstances stem partly from the fact that commercial banks have concentrated traditionally their lending not to SME's but to large enterprises assuming a higher credit risk to SME's. Thus, an important role of the governmental banks and institutions is to provide the loans with low interest rates and long repayment terms to SME's.

Table B.16 shows the results of the major financing program by the Government. Total financing amount was 3,306 million pesos, of which 43.4% and 37.5% were provided from the Development Bank for the Philippines (DBP) and Industrial Guarantee and Loan Fund (IGLF) by the Central Bank of the Philippines (CBP), respectively in 1989. The interest rates and repayment terms are shown on the next page.

Among government assisted programs, the Small Enterprise Loan Fund (SELF) of the Philippines National Bank (PNB) provides loans with the lower interest rates by provision for 2% interest reduction. This SELF was established by setting aside for each year an amount equal to 1% of the Bank's annual lending to SME's located outside Metro Manila to help generate employment and business opportunities through the use of indigenous inputs.

Another assistance is now under consideration, namely "Magna Carta for Small Enterprises (SE's)". This proposed bill has such policy-framework and incentives as shown on the next page.

Interest rates and repayment terms of the major financial programs

	Interest Rates	Repayment terms
IGLF	Fixed at market rate at the time IGLF credited is released to the date of full liquidation	• 7 years inclusive of 2 year grace period
DBP	Term loan: Floating	• 5 years
	Credit line: Floating	• 1 year, renewable
	One-shot: Floating	• Depending on project cycle
	Back-to shot: 4% over deposit rate	• 1 year for saving; tie-up of maturity placement
PMB	Regular rate but with a provision for a 2 % interest rate reduction	• with 5 years

Incentives for SEs by "Magna Carta for Small Enterprises"

1) SE's: less than 5,000,000 pesos total assets

2) Policy framework:

a) 10% mandatory allocation for credit to SEs (at least, effective for 3 years) in all lending institutions as defined under the Central Bank rules

b) Guarantee protection to lending institutions participating in the government's comprehensive credit system for SEs

c) Guarantee the loans obtained by qualified SEs

3) Incentives

- Easier and less burdensome access to credit facilities
- Collateral free loans
- Preferential interest rates on loans
- Preference in the procurement of raw materials supply
- Tax credit equivalent to 125% of taxes and duties to be paid on the imported machinery, equipment and parts when purchased from a domestic manufacturer
- Tax and duty free importation of capital equipment and accompanying parts

This "Magna Carta" is an epoch making policy for SE's as it will expand financial resources for SE's, ensuring their easy access to credit facilities in line with preferential interest rates.

Another efforts have been made to improve SME's access to credit facilities. The Development Bank of Philippines (DBP) obtained a loan of US$100 million for financing SME's from the Asian Development Bank (ADB) in 1991. This loan is the funds for the DBP's third relending program to SME's and will be onlend at market rates through the participating financial institutions. To qualify for this sub-loan, an enterprise should have a long-term debt/equity ratio not exceeding 2:1 and a minimum debt service coverage ratio of 1:5. In addition, the investment project to be financed should have economic and financial rates of return of at least 15% and should contribute to exports or import substitution, employment generation or rural development.

The Bankers' Association of the Philippines (BAP) established the Bankers' Association of the Philippines-Credit Guaranty Corporation (BCGC) in 1991 which will operate as BAP's lending arm to SME's. The BCGC is expected to provide a broad range of loan packages to SME's who do not qualify for such assistance under regular banking standards and will focus its assistance on direct and indirect exporters in the manufacturing sector aiming to strengthen the foreign exchange income generating mechanism of these SME's in a bid to boost their financial capabilities. The BCGC is to be extend short-term working capital loan initially and then will accommodate fixed asset loans in due time.

Meanwhile, foreign investors face the problem of "more money for the capital establishment" due to high interest rates on working capital loan. This aforementioned problem could be resolved partly through joint investments with local capital or utilization of specified project loans with low interest rates.

Foreign investors and foreign affiliate enterprises with less than 60% of Filipino participation are not admitted to possess the land itself. Consequently, they have to endure high interest rates on loans due to the lack of collateral land. This situation may, however, be directed to improvement since the Government is now under examination of free land possession by "foreigners", provided that they invest in such specified areas as industrial estate and less developed area.

(2) Limited market demand

The second constraint faced by the firms in Region IV including CALABARZON is "Limited market demand", which could be divided into several factors as follows:

Factors comprising the constraint of "Limited market demand"

1) Domestic market

—General ---------- •Small size of market
—Consumer goods---------- •Small purchasing power
—Capital goods & Intermediate goods------- •Imports pressure
-------- •Lack of internal linkage
—Restriction of domestic sales to "Export enterprises"

2) Export market

—Limited exporting goods
—Lack of international competitiveness
—Import regulations of foreign countries

3) Common factor-------- •Lack of access to market

Increase in purchasing power among the populace will expand the domestic market especially for durable consumer goods such as VTR, electric refrigerator/washer, microwave oven and telephone equipment as well as the demand for processed food, clothing and shelter. Philippines' GNP per capita in 1988 was US$630, less than US$1,000 of Thailand and US$1,870 of Malaysia.

Supply of intermediate goods depends largely on imports due to the absence of adequate domestic suppliers. Taking export-oriented manufacturing for example, intermediate imports for export are more or less 30% of the value of exports in total during the 1980's. Table B.17 shows in the column of "Imports by End Use" that semi-processed raw materials, i.e. intermediate goods constituted 61% of the total imports in 1988. This means the lack of internal linkage or inter-industry linkage in the Philippines. (The item of "No.93-Special transaction not classified" in Table B.17 covers the so called "Processing Trade" that imported raw materials or parts are exported after processing. Imports/exports relating to apparel and electronics are informed to be classified mostly into this item.)

Restriction of domestic sales to "Export enterprises" is a compensation of incentive granted by BOI. If not restricted, a kind of unfairness is brought about between export enterprises and domestic market enterprises.

As for export market, one of the most serious problems in the Philippines is the lack of international competitiveness. This is due partly to an overvalued exchange rate and a high cost of local inputs. There are a few prospective manufactures for export such as garments and electronics parts based on the low labor cost that is a major competitive power of the Country. Garments, however, face import regulations by the USA, the biggest market of wearing apparel.

Policy-response to "Limited domestic market"

There are no quick cures for this constraint. Small purchasing power for consumer goods is basically a matter of concern in this Country's macroeconomic management. As for industrial goods, capital and intermediate goods industries do not grow as expected as the policy had focused on import substitution of consumer goods.

However, the Government are making efforts to improve this situation. Promotion of inter-industry linkage is conducted through such measures as investment incentives for concerned areas prescribed in the Investment Priorities Plan (IPP), coordination of subcontracting, implementation of the Sectoral Development Program and the like. In addition, restriction of domestic sales to "Export enterprises" is mitigated possibly within 40% of their production.

Lack of access to market is addressed through enforcement of product standards, market development with commodity facilitation projects/activities such as the establishment of bulk-buying center and product promotion such as trade fairs/exhibits. For example, "BARAKALAN", regional trade fair of Southern Tagalog was held in September 1990 at Metro Manila.

Policy-response to "limited export market"

Expanding export is one of the major thrust for sustainable growth of the Country. The Government targeted exports of US$15 billion in 1992, over two times the results of US$7.07 billion in 1988. In order to realize this target, the Government is making efforts as follows.

Policy-response to "limited export market"

1) Limited exporting goods

- Promotion of export-oriented manufacturing through granting incentives, establishing specified credit facilities and preparing EPZ's
- International economic cooperation such as the ASEAN relation

2) Lack of international competitiveness

- Inducement of foreign capital and technology
- Promotion of labor-intensive industries
- Science and technology development

3) Import regulations of foreign countries

- Promotion of reciprocal trade through the country's trade liberalization

4) Lack of access to market

- Export promotion activities such as trade fairs/exhibits, provision of trade information, consultation and manpower training

Export incentives comprise exemption from ownership requirements (the status of a Philippine national within 30 years), tax credit and access to Bonded Manufacturing /Trading Warehouse System (BM/TWS).

The ASEAN remains the cornerstone of the Country's policy on international economic cooperation. The Memorandum of Understanding on the Brand-to-Brand Complementation in the Automotive Industry (MOU) paves the way for an indigenous ASEAN car industry. The MOU ensures a kind of the "Open market" that regionally reciprocal distribution of ASEAN made automotive component/parts is possible without tariff. In line with the MOU, Philippines' revitalized Car Development Program (CDP) aims to develop not only the car manufacturing/assembling industry but also the parts industry and to enable them to penetrate the export market. One of the Japanese automotive assemble makers decided to locate large scale transmission factory in Laguna in 1990, targeting exports to the ASEAN countries.

Inducement of foreign capital is directly effective for attaining international competitiveness, since foreign companies have in general already established channels to

foreign market (of course, including that of its home country) and competitive/advanced technology.

Science and technology (S &T) development is also effective. There are seven research and development institutes, six service institutes and two collegial and scientific bodies in the Philippines. They provide various services concerned as shown in Table B.18 and the Industrial Technology Development Institute (ITDI) has relatively comprehensive functions. These institutes and DOST have such linkage with the private sector that a total of 26 research contracts between them were undertaken by the DOST in 1987. Several projects in these joint researches are as follows:

Selected joint research projects undertaken by the DOST in 1987

- Production of porcelain chemical crucibles from local materials
- Production of coco juice beverage packed in stand up pouch
- Pilot production of ceramic bodies, beneficiated clays and processed nonplastic materials
- Mass production of bleaching clay from local bentonite
- Development of abaca fibers for textiles
- Fabrication of cashew nut cracking machine
- Microelectronics design and application

Meanwhile, Philippines' expenditure for S & T development is small in both the public sector and the private sector, estimated at more or less 0.2% of GNP. Both the level of S & T development and its application at the enterprise level is reported to need strong upgrading.

When the so called "Industrial globalization/Borderless economy" proceeds worldwide and open market policy becomes inevitable, S & T development efforts will be more important not only for export-oriented but also for domestic market-oriented industries in the Philippines. This is because international competitiveness is also indispensable for the domestic market-oriented industries. To meet such needs, DOST has established its provincial offices for the extension service.

Policy-response of trade liberalization may be likewise important on the context mentioned above and will be described in the next subsection because of the close relation with the constraint of "Lack or high cost of local inputs".

(3) Lack or high cost of local inputs

This third constraint can be divided into the following factors:

Factors comprising the constraint of "Lack or high cost of local inputs

1) Lack of local inputs

- Lack of adequate suppliers for intermediate goods
- Unstable supply of inputs

2) High cost of local inputs

- High utilities cost
- High cost of domestic manufactures

Among these factors, "Lack of adequate suppliers for intermediate goods" has already been discussed. "Unstable supply of inputs" is critical especially for the CALABARZON main industries of sugar milling, coconut oil, desiccated coconut and other agro-based industries, partly because their inputs are not the outputs by industrial production. On the other hand, the unavailability of transport infrastructure, which is the forth constraint in the NIEP survey, is also related with unstable supply of inputs for industries in general.

Utilities cost is a substantial component of the production cost of energy/water-intensive industries such as food manufacturing, textile spinning, pulp and paper, industrial chemicals and basic metal industries while their actual consumptions depend on production process adopted individually. Power tariff is especially higher for industry in the Philippines as shown on the next page. Besides, there are not a few factories who have their own self generators. Water supply depends largely on groundwater and the tapped water charge is more or less six pesos/cubic meter. This charge is almost the same both for domestic use and industrial use.

High cost of domestic manufactures is closely related to trade policy of the Country. Table B.19 shows "Average Effective Tariff Protection" by sector which implies the degree of contribution of import tariff in value added generation. It should be noted first that the wide disparity exists in actual protection between agriculture and manufacturing. The second is that the protective degree for intermediate goods is higher and subsequently their local market price is also higher than the world price.

Power tariff in selected countries in FY1987

	Average		% of Tariff for Each Consumer (100% for Residential Consumer)	
	Tariff/kWh (US cents)	Index	Industry	Commerce
Philippines (MERALCO)	8.49	100.0	184.2	179.9
Indonesia (PLN)	5.63	66.3	112.5	112.5
Thailand (MEA)	7.60	89.5	92.4	117.6
Malaysia (MEB)	7.54	88.8	79.4	109.6
Taiwan (Taipower)	5.85	68.9	82.8	199.6
Korea (KEPCO)	7.53	88.7	-	-

Source: Electric Utilities Data Book (ADB)

Policy response to "lack or high cost of local inputs"

The BOI sets the condition for granting incentives to manufacturers/processors of fruits and other agro-based non-traditional products for export (at least 50% of registered capacity) that they are encouraged to integrate with supplier of raw materials to ensure steady and continuous supply. Integration may be in the form of wholly owned plantation or a cooperative venture with groups of growers, or in the form of Nucleus Estate Scheme /contractual agreement with growers to supply raw materials.

On the other hand, high power tariff seems to be improved through the efforts decreasing power distribution losses and increasing the shares of coal fired and geothermal power generation.

High cost of domestic manufactures is partly addressed by granting tax credit to exporters. The Omnibus Investments Code of 1987 prescribes that the tax credit certificate shall be used to pay taxes, duties, charges and fees due to the National Government. As such tax credit has only a limited use and may not contribute so much to cost reduction of domestic manufactures. Utilizing EPZ/Bonded Warehouses system makes it possible that enterprises purchase raw materials at world price through import, but it has no direct relation to low cost of domestic manufactures. Thus, fundamental policy response is called upon "Trade liberalization" now on going.

Trade liberalization

Trade liberalization comprises mainly import liberalization and tariff reform, and its objectives can be summarized below from the Medium-Term Development Plan (1987-1992).

Objectives of trade liberalization

- To accelerate industrialization through eliminating excessive protection to some industries that only create grave inefficiencies at the expense of other industries and the Filipino consumers
- To enhance the development of world competitive and efficient industries through eliminating the quantitative restrictions and licence requirement on imports, improving the access of the downstream industries to essential raw material imports and providing consumers with good quality products at reasonable prices

The Import Liberalization Program (ILP) was resumed in May 1985 after many complications and the results are as follows:

Status of Import Liberalization up to the end of June 1990

Phase I: April 1986-April 1988

- 2,222 items liberalized (namely including the products of paper; glass; iron and steel; synthetic resins; garment; fabrics and textiles; fresh fruits and nuts; fish and fish preparation; tires; liquid caustic soda, etc.)

Phase II: December 1988-December 1992

- 234 items liberalized out of the 559 items scheduled to be liberalized as of June 1990 (namely including the products of cement; automotive spare parts; spare parts/ machinery and equipment for iron and steel, cement, textiles and coconut industries; radiating emitting apparatus and related devices; spare parts for cars, trucks utility vehicles, motorcycles and engines; brand new truck and engines and special purpose vehicles)

The ILP's final target is to be set at the end of 1994 when the remaining 323 items will be liberalized and replaced by tariffs.

Meanwhile, proceeding of the ILP brings about the increase in imports of liberalized items as shown on the next page. Raw materials have led this increase with US$1,808 million of liberalized imports, share of which was 33.6% of total imports in 1989. In contrast, the share of consumer goods decreased from 42.5% in 1985 to 14.5% in 1989. This suggests that liberalization of consumer goods did not progress so much.

The Tariff Reform Program (TRP) started in 1981 when the overall tariff rate range was 0-100%. The range is now 10-50%: around 40% for consumer goods, around 30% for intermediate goods and around 20% for capital goods. It is reported that this structural reform reduced the wide disparity in the protection among various industries.

Trends of % shares of liberalized items to total imports

	1985			1989		
	I:Total imports	II:Libe-realized	II/I (%)	I:Total imports	II: Libe-realized	II/I (%)
Total	5,111	837	16.4	10,419	2,383	22.9
Capital goods	769	139	18.1	2,424	445	18.4
Raw materials	2,338	562	24.0	5,388	1,808	33.6
Mineral fuels	1,452	0	-	1,397	0	-
Consumer goods	320	136	42.5	898	130	14.5
Special transaction	232	0	-	312	0	-

Source:Central Bank, Unit: FOB value in US$ million

However, not nominal tariff rate/protection but the effective tariff protection cited previously has remained stronger in manufacturing than in agriculture. The constraint of "High cost of domestic manufactures" seems not to be improved to a large extent. More reduction of tariff rate and structural simplification, which will set the overall tariff rate in the range of 10-30%, was proposed by the Government in 1990. However, it is informed that the implementation is now suspended due to protests from the Country's businessmen.

The Government has undertaken other trade policy reforms, which comprise the removal of export taxes on traditional exports (except on logs), the dismantling of the agricultural trading monopolies affecting sugar, coconut, wheat and wheat flour, feed grains and fertilizer, and the lifting of price controls on prime commodities such as rice, corn, pork, poultry and eggs.

These measures have been taken to remove policy-induced biases against agriculture in order to promote rural development and thereby to expand the domestic market for locally produced industrial goods.

The Government has been making active efforts to address crucial constraints to the manufacturing sector's growth as mentioned so far. Nevertheless, there are some severe comments that the attainments are relatively far from initially targeted objectives and new distortion is reproduced. For example, the Government began to impose 9% import levy in addition to tariff for decreasing the fiscal deficit in 1990. This levy was controversial and reduced from 9% to 4% in August 1991. Furthermore, the exemption of capital equipment importation from the levy pressed by DTI is now under discussion. Meanwhile, the more substantial efforts are expected to be made by the Government in cooperation with the private sector.

B.2.3 Regional constraints and policy response

These constrains are related to the service level of regional infrastructure. CALABARZON is in a better position with relatively well improved infrastructure than the rest of the Country. The NIEP survey cited previously showed that more than 70 % of the responded firms did not regard the region's infrastructure as constraints.

However, the above evaluation does not always mean "no problem" in the region's infrastructure. The following analysis will focus on the constrains pointed out by the NIEP survey, namely; transportation, unreliable utilities and poor telecommunication. Their improvements have a strategical importance for the future industrial development and growth in CALABARZON.

(1) Transportation

Figure B.6 illustrates principal transport (road) network in the CALABARZON region where there are four major transport corridors, one main and two branch lines of railways, and one major public port and thirteen private ports along the Batangas Bay coastal line. In addition, CALABARZON is a service area of the Ports of Manila and Ninoy Aquino International Airport (Metro Manila).

Components of principal transport network concerned to CALABARZON

Roads,etc.	1)	Metro Manila-Calamba-San Pablo City-Lucena City (served by South Super Highway and national road, PNR Main Line South and Lucena port)
(4 corridors)	2)	Metro Manila -Calamba -Lipa City-Batangas City-Calapan (served by South Super Highway and national road, Batangas and Bauan ports)
	3)	Metro Manila-Cavite City (served by national road)
	4)	Metro Manila-Antipolo (served by national road)
Railways		• Main Line South: San Pedro-San Pabro
		• Branch Line from San Pedro to Carmona
		• Branch Line from Calamba to Batangas (not operational)
Seaports		• Batangas Port (cargo throughput in 1989:801 thousand metric tons)
(public)		• Ports of Manila (ditto:19,529 thousand metric tons)
Airport		• Ninoy Aquino International Airport (NAIA)
		--passenger traffic in 1988: 3.95 million
		--cargo throughput in 1988: 176,751 tons

Among the transport means, railways have in general become insignificant for transport of industrial goods due to the progress of motorization. This situation is also the same in the Philippines ,and railways freight transported was only 57,020 tons in 1988; by commodity, 16,439 tons (28.8%) of manufactured products such as beer, salt, gasoline, flour/starch, fertilizer, cement, etc. and 29,580 tons (51.9%) of agricultural and forest products such as copra, corn, rice/palay, lumber and firewood.

Batangas Bay ports could be functionally categorized into passenger, commercial and industrial ports. The so called Batangas Port is a public port functioning as passenger port and domestic commercial port especially for interisland shipping, while a small amount of foreign cargos has been handled Almost all of thirteen private ports are industrial ports handling specialized cargos where multiple functions of cargos' storage, distribution and processing/manufacturing are locationally intensive. "Port-oriented industries" such as petroleum refineries, basic industrial chemicals, steel fabrication, flour milling and ship building and repairing are located as shown in Figure B.7.

Along the long coastal line of Quezon, there are 27 existing ports, of which the base port is Siasin. There are also "coco-related ports" and port for flour milling.

The ports of Manila are the largest ports complex in the Philippines composed of South Harbor, North Harbor and the Manila International Container Terminal (MICT). Manila Ports are not industrial ports while there are port-oriented industries along the river connecting with them. Industries located in CALABARZON using water transport for exports and imports are mostly the users of Manila Ports.

Ninoy Aquino International Airport (NAIA) is the major air gateway to foreign countries. Air transport constituted 24% (around US$3 billion) of total foreign trade in 1987. This share is almost the same as in Japan, which is also an island country. CALABARZON's proximity to NAIA is an attractive factor for export-oriented industries with a high value added per weight such as electronics and precision instruments.

Constraints and policy-response

Manufacturing factory's concerns in transportation are in general the smoothness of physical distribution and commuting of employment. Land transport related to factory operation in CALABARZON is largely depended on geepney and truck from the viewpoints of saving time/cost, assuring just in time delivery and keeping stable operation.

Road

Road network in CALABARZON is well developed and network deficiency is minimal as far as main and secondary roads are concerned. Transport capacity, however, is already inadequate in such sections/roads as sections going into and out of Metro Manila, Las Pinas-Dasmarinas and Las Pinas-Rosario. Another problem is poor surface condition of roads. The Factory Interview Survey conducted by the Study Team (FIS/ST) revealed such responses as "constant heavy traffic, rough and narrow road, plenty of potholes during rainy season".

In order to cope with such situations, the Government is implementing many road improvement/rehabilitation projects concerned to CALABARZON including Rosario-Laoag-Allapacan section and Sto. Tomas-Batangas South Super Highway extension.

Railway

The Philippines National Railways (PNR) system suffers from a number of problems. They are both technical and management problems interacting with one another. They are summarized below from the Sector Report (Appendix E : Transportation).

Operational constraints of the PNR system

a) Weak track facilities such as damaged rail, etc.
b) Inefficient communication system
c) Obsolete signaling system
d Inadequate level crossing system
e) Poor passenger facilities at and for the stations
f) Squatters residing in and along the PNR right of way

Railway transport is reviewed from the viewpoint of promoting mass transit for passengers/commuters rather than for cargos. The Light Rail Transit (LRT) system in Metro Manila started operation in 1984, transported over 10 million passengers in 1987 and has significantly contributed to the improvement of the traffic problem in Metro Manila.

The success of the LRT encouraged the Government to improve railway system. Revitalization of the Main Line South is under implementation for upgrading of the track to be able to effectively handle high speeds of up to 100 km/hour and increased tonnage in the Main line, Manila to Legaspi, and the San Pedro (Laguna) to Carmona Commuter Line.

Port (Seaport)

Ports of Manila are managed by the Philippine Ports Authority (PPA) ,and the cargo handling operation is privatized. South Harbor has two kilometers of shoreline, a 600 ha of anchorage with 27 berths and a depth of meters. North Harbor exclusively used for interisland shipping has seven finger piers and one semifinger pier. Manila International Container Terminal has a 21.6 ha of container yard and the maximum water depth is 10.7 meters.

Port congestion at Manila Ports is also critical problem to the users, aggravating with road congestion as well. It is pointed out by the Factory Interview Survey conducted by the Study Team that demurrage and delay of cargo clearance including procedural delay/red tape are not rare.

The following are operational constraints of Manila Ports and Batangas Port summarized from the Sector Report.

Operational constraints of Manila Ports and Batangas Port

South Harbor of Manila	1)	Insufficient open storage area
	2)	Narrow apron and superannuated sheds and warehouse
	3)	Deteriorated berthing facilities
	4)	Traffic congestion in the port zone and its vicinity
North Harbor of Manila	1)	Acute open storage area for general cargo and stacking area for containers
	2)	Extensive deterioration of existing facilities
	3)	Limitation of dredging depths along the berthing space of the piers and slips which prevents the shipping lines from introducing larger vessels
Batangas Port	1)	Squatter households in the port zone obstacle to the efficient operation
	2)	Congestion of pier area
	3)	Lack of appropriate backup area
	4)	Poorly maintained and narrow access road to Port

In order to cope with such situations, the following projects have been scheduled in addition to custom clearance rationalization/simplification.

Port rehabilitation and development projects

Ports of Manila (PPA's Second Manila Port Project)

- Rehabilitation of antiquated berthing and storage facilities

- Dredging of entrance channels (11.58 meters of South, 7.5 meters of North)

Batangas Port (Master Plan including the Short-Term Development Plan)

- Construction of foreign cargo berths with the water depth of 10.0 to 12.0 meters
- Construction of domestic cargo berths withe the water depth of 4.5 to 7.5 meters
- Construction of berths for Ro-Ro/ferry service

Meanwhile, it has been discussed how to resolve congestion of Manila Ports which shall not meet the future increase in cargo because of limited physical conditions. The Government promotes for the development of Batangas Port as an alternative port of Manila ,and Cavite provincial government also initiates conversion of Sangley Point into an international container terminal.

(2) Unreliable utilities

This is concerned to supply situation of water and electricity. Water supply for manufacturing industries located in CALABARZON is mostly dependent on groundwater and many factories have their own wells; otherwise tap water is supplied by the various agencies including the Export Processing Zone Authority (EPZA).

Electric power supply is shared by the following organizations; the state-owned National Power Corporation (NPC), the privately-owned Manila Electric Company (MERALCO), electric cooperatives created by the National Electric Administration (NEA), private utilities and self-generating industries. NPC had 5,808MW or 84.6% of the Country's generating capacity installed in 1988 followed by self-generating industries with 6.9%, private utilities with 4.5% and MERALCO with 2.3%.

NPC, aside from generating and supplying power to distribution lines, has serviced some industrial users including the Cavite EPZ directly. MERALCO is responsible for the operation and maintenance of distribution lines and transformers as well as the related switchgears in Metro Manila, most of CALABARZON and other areas.

Constraints and policy-response

According to the Factory Interview Survey conducted by the Study Team, there were few factories complaining about water supply condition. This seems to suggest some cost benefits from the self-installed groundwater utilities. The Government, however, promotes several water impounding reservoir projects such as the Wawa dam project and direct use of Laguna Lake's water, considering conservation of groundwater resource.

It was already mentioned that a high power tariff was one of the constrains to the manufacturing industry in CALABARZON. Another problem may be unreliable power supply system. According to the Factory Interview Survey conducted by the Study Team and other information received from the users, complaints about electricity delivery area are as follows:

Constrains of power supply system

a) Voltage drop exceeding 10% of the specified value
b) System frequency fluctuation
c) Interruption of power supply and brownouts

Many factories, because of the above problems, have to equip their own voltage regulators or stand-by generators. For this, the following measures are implemented or planned, in addition to development/upgrading of distribution substations in CALABARZON.

Measures for stable electricity delivery

1) Distribution system (MERALCO)

- Sectionalizing of the existing long distance feeders aiming at (a) reduction of power interruptions, (b) shortening of restoration time of the fault lines, and (c) reduction of system losses and voltage regulation
- Other rehabilitation of circuit reclosers, line fuses, fault indicators, etc.
- Application of taller poles and insulated cables to avoid line fault due to trees touching

2) Transmission system (Third Power System Development Project)

- Improvement of protective relay systems at some important substations
- Development of communications system for protection systems and operation purposes
- Improvement of fault-monitoring capacity
- Upgrade and extension of load dispatching equipment at the Power Management Center
- Load flow studies

(3) Poor telecommunication

Telecommunication is one of the main arteries of information distribution and exchange. The so called "Information society" and "Globalization" of industrial activities have enhanced its importance, and International Direct Dialing (IDD) service becomes indispensable especially for multi-national enterprises.

Telecommunication service in CALABARZON is mostly supplied by the private-owned Philippine Long Distance Telephone Co. (PLDT) which occupies 95.4% of total capacity followed by Independent Telephone Company (ITC) with 2.3%, Western Batangas Telephone Company (WBT) with 2.2% and DOTC/Telecommunications Office (TELOF) with 0.6%. The order of the telephone density in terms of main lines per 100 persons is observed as 0.90 in Laguna, 0.80 in Cavite, 0.45 in Quezon, 0.38 in Rizal and 0.30 in Batangas, as compared with 5.73 in Metro Manila and 1.09 in the Philippines. A reason of the low density in Rizal is that some part of Rizal is within the service area of Metro Manila. Telephone service is available in 83 out of 142 cities and municipalities of CALABARZON in 1989.

Constraints and policy-response

According to the Factory Interview Survey conducted by the Study Team, eight out of the 38 responded factories have no telephone line. Factories with telephone complained mostly saying "often or always out of order, busy circuits, 10 to 30 minutes waiting period in long distance call" To the question if IDD service is needed, 30 factories answered "Yes or Yes, very much".

There are many on-going projects and programs to expand and improve the existing telecommunications service in CALABARZON. They are summarized from the Sector Report as below.

Main on-going projects/programs concerned to telecommunications

DOTC/TELOF
- Installation of 66 local exchanges with new automatic, fully digitalises, store programmed telephone switching system, etc
- Construction of gentex terminals
- Duplication of telephone services (The above projects are targeted up to 1992 and centered to Batangas.)
- Expansion, improvement and modernization of PLDT's network (X-5 Project for the 1989-1992 period followed by X-5C Project)
- Rural Telephone Service Plan aiming to provide basic telephone service to unserved municipalities

PLDT (excluding x-5 &x-5 Project)
- Provision of telephone service to the existing industrial estates and Cavite EPZ including IDD and National Direct Dialing service
- Philippine Global Communication Improvement Plan 1989- 1991 providing each industrial estates with various international services

B.3 Fundamental Directions of Manufacturing Sector Development in CALABARZON

It is very important for the success of the manufacturing sector development in CALABARZON not only to address the foregoing constraints more actively but also to direct it appropriately in the light of development policy and CALABARZON's potentials for development. Therefore, this chapter will clarify what role and objectives should be given to the manufacturing sector development in the CALABARZON region relating to these elements.

B.3.1 National and Region IV development policy

There are two comprehensive development plans concerned to CALABARZON. One is the Medium-Term Philippine Development Plan (MTPDP) covering the entire nation. The other is the Medium-Term Regional Development Plan of Region IV(Southern Tagalog) which is a regional breakdown of the MTPDP. Both plans have the six-year plan period from 1987 to 1992.

(1) Medium-Term Philippine Development Plan (MTPDP)

National development goals

The development efforts in 1987-1992 are to be principally directed toward such four (4) goals as (a) alleviation of poverty, (b) generation of more productive employment, (c) promotion of equity and social justice, and (d) the attainment of sustainable economic growth.

These goals of the Plan were set in the light of achievement of a better life of every Filipino. Goals of (a), (b) and (c) were the primary thrusts of the Plan while goal of (d) or sustainable economic growth was positioned as the prerequisite for the attainment of the primary thrusts.

Socioeconomic targets

During the Plan period, the real Gross National Product (GNP) is targeted to increase by 6.8% on the average based on the implementation of essential and consistent policy reforms and the continuation of a favorable world economic environment spurred mainly by the relative stability of oil prices and real interest rates, and moderate inflation. The real per capita GNP or income is likewise targeted to increase by 4.4% on the average. This increase in per capita income shall provide for the recovery of the income of the population which has been set back by ten years when the level in 1985 fell to its 1975 level. Table B.20 shows selected Plan targets.

Table B.21 shows the sectoral GDP targeted by the Plan. The manufacturing sector is expected to increase by 7.6% on the average, higher than both the growth rates of 6.9% for GDP total and 5.0% for agriculture, fishery and forestry. Actual performance of manufacturing recorded reasonable attainment against the Plan targets, especially for 1988-1989 as shown in Table B.22, whereas mining and quarrying and construction had not shown much increase.

The oil crisis caused by the Iraqi invasion to Kuwait and damages by a strong earthquake attacked Bagio City in July 1990 and by a large scale eruption of Mt. Pinatubo in June 1991 appear to throw the dark shade on the future growth of the Philippine economy. This is why the relative stability of oil prices and real interest rates was one of the preconditions for the targeted growth as seen previously, but actual oil price hike by around two times and interest rates also became over 30% on non-prime base after the incidents. Moderate inflation was also the precondition, but nowadays high inflation has prevailed throughout the Country.

Consequently, the growth of manufacturing sector might have slowed down in 1990 although investments for the BOI approved projects were active in recent years. It is expected in order to realize the Plan targets that the following strategy for the national development should be fully mobilized.

National development strategy

The Plan adopted an employment-oriented, rural-based strategy in the medium-term as illustrated in Figure B.8.

The Plan gave the highest priority to the development of agriculture consistent with the goals of increasing employment opportunities and incomes particularly in the rural sector, alleviating the poverty situation in the Country and improving the spatial distribution of growth.

Thus, the industrial/manufacturing sector has been positioned as playing a role complementing the growth of agricultural output while promoting small scale and labor-intensive enterprises especially in rural areas, instead of continuing with the past pattern of urban-oriented, capital-intensive and large scale industrialization.

The Plan, however, has recognized that the emphasis on the mobilization of the rural sector through the modernization of agriculture and the development of small and medium scale industries will not be a permanent one, limited in the medium-term. The

Plan stipulates that through demanded recovery stimulus, the correction of biases against agriculture and land use, the Country's unemployed and underemployed will increasingly be absorbed into productive employment. As surplus labor is mopped up, real wages will begin to rise in a sustained manner. The economy's potentials will then shift towards skill- and capital-intensive products. Industry will subsequently contribute progressively to larger shares in total employment and income with a more capitalizing pattern.

Industrial development strategy and policy framework

These strategy and policy frameworks were formulated basically in accordance with the national employment-oriented, rural-based development strategy by the Plan. Besides, the policy response to macrocconomic constraints was also taken into account from the viewpoints of industrial efficiency and a comparative advantage both in terms of natural resource endowments and abundant and highly skilled labor force in the Country. Policy efforts have been directed toward increasing the value added of these resources.

In addition, the vital role of the private sector in development has been recognized through pursuing deregulation and privatization. The private sector is expected to ultimately translate the Country's development policies and strategy into actual programs and projects. The Government, on the other hand, is to play the role merely serving as catalyst, providing policy guidelines, being vigilant against the dangers posed by hazardous wastes to public health and the environment, and keeping industrial peace and order.

Meanwhile, the Country's macroeconomic issue is basically to get itself out of the shrinking circulation of economy and to create the expanding one. Figure B.9 illustrates these two circulation's components and arranges the principal industrial policies.

Sectoral development programs aim at the development of key industry sectors in the medium-term concomitantly with trade liberalization and improved investment promotion measures/incentives. DTI has commissioned 55 development studies in order to help the key industries improve their productivity and increase their competitiveness, thereby enabling them to adjust to changes in the policy environment. These studies cover the following: 1) structure, 2) demand/supply situation, 3) investment opportunities, 4) export opportunities, 5) strength and weakness, 6) production/export targets up to the year of 2000 and 7) strategy, and programs of action. The results of some 30 of these studies are already available.

The Investment Priorities Plan (IPP) is an overall plan prepared annually by BOI. The IPP aims not only to develop and revitalize industry subsector but also to direct investments

especially toward selected rural areas through the grants of fiscal and other incentives. As such, the IPP is responsible both for investment promotion by subsector and industrial dispersal. The current IPP emphasizes world competitive export-oriented industries and favors agro-based industries which improve the linkages among industries, agriculture and natural resources.

Regional industrial dispersal program is to be ensured through a more coordinated regional development and planning, focusing on the transformation of selected areas into attractive and viable industrial locations/centers, namely "Regional Industrial Centers" (RIC's) that can counteract the absolute locational advantage of Metro Manila. The development of the RIC's are intended to provide the backbone/core for the integration of other areas into the mainstream of the Country's industrialization by intensively preparing infrastructure through the government support and the strengthened economic and institutional linkages. DTI has designated 16 Centers out of 13 Regions. In addition, special incentives are given to promote investments/locations in less developed areas as follows.

Outline of special incentives for less developed areas

(a) Pioneer incentives----An enterprise in a less developed area registered with BOI, whether proposed, or an expansion of an existing venture, shall be entitled to the incentives provided for a pioneer registered enterprise under its law of registration.

(b) Incentives for necessary and major infrastructure and public facilities----Registered enterprises establishing their production, processing or manufacturing plants in a specified area may deduct from taxable income an amount equivalent to 100% of necessary and major infrastructure works it may have undertaken with the prior approval of BOI, conditioned that the title to all such infrastructure works shall upon completion, be tranferred to the Philippine Government.

(c) Additional deduction for labor expenses----not normal 50% but special 100% for incremental labor wages for skilled and unskilled workers

The promotion of micro, cottage, small and medium enterprises (MCSME's) is the centerpiece for achieving greater employment and industry dispersal in the countryside. Government support programs are comprehensive and composed of the following: entrepreneurship development, science and technology development, financing and marketing and technical assistance including access to technology and market information. Livelihood and income-generating projects are promoted to provide opportunities for self-employment. Increasing MCSME access to financing is emphasized through the new establishment of measures called "Kalakalan 20" for the countryside and barangay business

enterprises and "Magna Carta for small enterprises" as previously seen in the subsection B.2.2.

Another policies, shown in Figure B.9, comprising trade liberalization, export and domestic trade promotion, investment promotion, etc.are not only measures for the implementation of the main poles of industrial development strategy and policy, but also components of policy framework for the realization of said "Expanding Circulation of Economy". Detail information relating to these measures is also provided in the subsection of B.2.2 and the Sector Report concerned.

Meanwhile, towards the end of promotion of MCSMEs and industrial dispersal, DTI strengthened its 13 regional offices and established 73 provincial offices nationwide in 1987. These offices have performed many head office functions, and frontline services such as investment promotion, business name registration, garments and coffee quota processing and allocation, product development and the like.

(2) Medium-Term Regional Development Plan of Region IV

This Plan is a regional breakdown for the Region IV-Southern Tagalog from the National Plan that brought together and integrated the socioeconomic and physical components of Region IV's development into a single plan document.

Socioeconomic targets

During the Plan period, the gross regional domestic product (GRDP) is projected to increase by 6.74% on the average, lower than 6.90% of the nation total as shown in Table B.23. Regional population and employment, on the other hand, is projected to increase by 2.64% and 6.32% on the average, higher than 2.32% and 4.53% of the nation total, respectively.

It seems to be a reflection of the national development strategy of rural-based/oriented development that Region IV's GRDP growth rate is projected to be lower than that of the nation. In other words, a high priority was given to the regionally balanced development throughout the Country. Higher growth rates of Region's population reflected the past trends, and greater growth of employment may be due partly to the population increase and decrease of unemployment.

Regional development strategy

The National Development Plan established the two-pronged basic strategy of agro-modernization and growth corridor development. This strategy is based primarily on the fact that the spatial differences in terms of physical/natural resource and state of development between the two subregions call for different sets of public intervention tailored to the needs and situations of the particular areas.

The Medium-Term Regional Development Plan of Region IV, succeeded basically the two-pronged strategy as well as the elements of employment-oriented, rural-based national development strategy. The Region IV Plan, however, gave more weight on the urban and industrial/manufacturing sector development than the National Plan did, since many cities and municipalities of the Region especially located in the provinces of Cavite, Laguna and Rizal were more urbanized and industrially developed than the rest of the Country.

Figure B.10 illustrates the outline of the Urban Growth Corridor Development Strategy in the Region IV Plan. This strategy has been designed primarily to take advantage of the Region's economic potentials, having regard for the need for natural resource conservation, especially the preservation of Laguna de Bay and for a good environment for living.

Key and support programs for manufacturing sector development

The Region IV Plan prepared the following key and support program thrusts for the manufacturing sector development:

(a) Industrial dispersal and promotion of utilization of existing and planned industrial sites

This program emphasizes the active promotion for providing a solution to causes of past failures to IE's/EPZ's and reviewing the existing government incentives. In line with this program, the Study on the Cavite Export Processing Zone (CEPZ) Development and Investment Promotion Program has been conducted by JICA in 1990. In addition, Cavite EPZ and Batangas City were designated as "Regional Industrial Centers" (RIC's) as a major component of industrial dispersal strategy. RIC of Batangas City, however, is not incorporated.

(b) Metro Manila industrial dispersal policy

This policy was positioned as a complement to the foregoing program and aimed to establish a joint arrangement for some industries and institutions in the overcrowded Metro

Manila to relocate in the Region. The principal measures comprised the following: improvement in the facilities and services within the existing IE's, completion of the already operated Cavite EPZ and varieties of local and national fiscal and monetary incentives.

(c) Promotion of manufacturing industries with better immediate prospects for expansion

Prospective industries listed up by the Plan were food, textiles, wood, furniture, chemicals and basic metals. The principal promotional measures comprised the following: improvement in manpower skills, development of market, removal of constraints on supply side and improvement in infrastructure support facilities (e.g. water supply and transport).

(d) Promotion of long term expansion of industries found to have a large labor output for effective utilization of local labor

Labor effective industries identified by the Plan were agro-based processing industries of vegetables and animal oils and fats, rice and corn, bakery products, coffee, cacao and sugar, and non agri-based ones of sawmills and planing mills, wood drying and preserving, basic industrial chemicals, tire and tube, plastic products, steel works and rolling mills, agricultural machinery and equipment, and metal and woodworking machinery. The principal promotional measures comprised the following: improved infrastructure and utilities, marketing assistance, technology and manpower development, and the like.

(e) Regionwide promotion and development of cottage, artisan and small industries

The Region IV Plan established this program not only to generate local employment and income but also to complement the thrusts on medium and large scale industrial development. The main thrust of the program is to promote local entrepreneurship through the transfer of appropriate small scale agro-processing technology to interested local investors and the communities.

Towards the end, comprehensive measures including finance by "Kalakalan 20" and "Magna Carta for small enterprises" have been mobilized. Table B.24 shows activities accomplished by DTI-Region IV in line with the Small and Medium Industry Technology Transfer Development Program (SMITPD) mainly oriented to promote the Comprehensive Agrarian Reform Program (CARP) and livelihood projects. As a result of this program, a total of 174 farmers were developed into entrepreneurs and 442 persons were employed in

different livelihood projects. Investment generated was 711,270 pesos. Sales proceeds as a result of market matches and subcontracting arrangement amounted 652,173 pesos when the initial transaction completed. Financed to common service facilities for ceramics and kiln dryer were 150,000 pesos and 1,867,655 pesos have been approved for 11 more facilities.

B.3.2 CALABARZON's potentials for manufacturing sector development

In setting directions of the manufacturing sector development in CLALABARZON, not only the national and Region IV's development plans but also the CALABARZON's potentials should be taken into account. CALABARZON's potentials could be divided into the following two dimensions: international comparative advantages of the Philippines and CALABARZON's proper potentials (Figure B.11).

(1) International comparative advantages

These are advantages relating to the locational conditions of the Philippines in globalization of industrial production by multinational companies. Inducement of foreign capital has a strategic importance for complementing "Lack of capital" and accelerating the Country's industrialization. Japan posted in the first position on the foreign equity investments approved by BOI in 1989 and in the first quarter of 1990 as shown below.

Top four countries/region on foreign equity investments:in US$ million

1988		1989		1st Qtr. 1990	
Total	447.1	Total	794.5	Total	369.3
U.S.A.	146.2	Japan	155.8	Japan	200.8
Taiwan	104.8	Taiwan	146.9	Canada	46.7
Japan	90.7	Hong-Kong	131.2	Hong-Kong	33.8
Hong-Kong	25.6	U.S.A.	129.6	Taiwan	26.7

Considering such circumstance of foreign investments, it may be significant to see Japanese companies' global investment activities as shown in Table B.25 and Table B.26.

Trends and objectives of industrial investments by Japanese companies (including joint venture: from the 1960s to 1989)

The number of foreign companies established by Japanese investors is 11,484 worldwide, including 4,299 companies in Asia, 37.4% of the total. There are 152 companies in the Philippines, less than those in selected Asian countries/regions such as Hong-Kong (751),

Taiwan (686), Singapore (658), Thailand (639), Malaysia(434), Korea(395), Indonesia (232) and China (228). There are only 83 manufacturing companies in the Philippines, also the least among selected countries/regions. They mainly comprise companies of chemicals (15), electrical machinery and equipment (14), food products (9), and textile and wearing apparel (8) (Table B.25).

Among the objectives of Japanese investments in the Philippines, the largest was to preserve and expand the local and third country's market (38.2% of the responded companies' rating). The preservation and expansion of local market has close relationship with the government policy of import substitution. Of the companies replied 65% said that the main destination of their products was local market in the Philippines while 15% for export to the third country. The second largest objective was to reduce cost by utilizing manpower (27.0%), and the third was to be given incentives (18.5%). Access to raw materials and resources was the fourth largest objective but the largest (11.8%) among selected countries/regions, partly reflecting the larger number of investments to agriculture, forestry and fishery, and food products in the Philippines (Table B.26).

A Questionnaire Survey on Investments in the Philippines conducted by the JICA Study Team in line with the Study on the Cavite EPZ Development and Promotion Program clarified what factors the responded Japanese companies had attached great importances.

Japanese companies' criteria for locating production sites in South East Asia

	Criteria/Factors for Location	No. of Companies (Rating)	
1)	Political stability	162	(75.3%)
2)	Manpower availability	94	(43.7%)
3)	Infrastructure	62	(28.8%)
4)	Government investment policy/incentives	56	(26.0%)
5)	Economic development/growth of the country	32	(14.9%)
6)	Stability of currency exchange	24	(11.2%)
7)	Raw material availability	23	(10.7%)
8)	Good industrial site	19	(8.8%)
9)	Export processing zone	8	(3.7%)
10)	Financial conditions	2	(0.9%)

The responded companies' rating concentrated to the factors conducive to "peaceful, reliable and steady" or "economically efficient" operation of factory. Aside from political stability that closely relates to the security of investments, manpower, infrastructure and incentives are the three most important factors.

Some comparative data among selected ASEAN countries

Attracting foreign investments is also very competitive between the South East Asian countries. The Philippines' strong rivals appear to be the same ASEAN members of Indonesia, Thailand and Malaysia.

According to the following data, the Philippines has comparative advantages over the rival countries in terms of engineer's wages and English speaking ability. Besides, the Philippines has advantages in many terms/factors against Indonesia.

Some comparative data among selected ASEAN countries

	Philippines	Indonesia	Thailand	Malaysia
1) Population (million in 1988)	58.7	175.0	54.5	16.9
2) G N P (US$ billion in 1988)	37.7	76.0	54.6	31.6
3) Per capita GNP (US$ & in 1988)	630	430	1,280	1,870
4) Wages of engineer (US$/year in 1989)	870	1,000	1,240	1,560
5) Minimum wages (US$/day in 1988)	4.1	0.91	3.1	2.4
6) Power tariff (US cents/kWh for industrial use in 1987)	15.6	6.3	7.0	6.0
7) Telephone density (receivers/100 persons)	1.5	0.4	1.7	5.0
8) Tax holiday (Maximum; years)	10	0	8	10
9) Foreign equity (including EPZ)	100%	80%	100%	100%
10) English speaking people	very popular	limited	limited	limited

Source: 1), 2) and 3)--The World Bank Atlas 1989 , 4) and 5)--DTI-BOI materials 6)--Electric Utilities Data Book (ADB), 7), 8) and 9)--each country's materials

International comparative advantages of the Philippines

In addition to the above advantages, the Philippines' geographical position situated close to the countries of potential investors such as Taiwan, Hong-Kong, Korea and Japan, and central location in South East Asia could be an important advantage in globalization of industrial production/investments.

Another factor should not be neglected. The General System of Preferences (GSP) privileges on import tariff, especially granted by USA, is also an important advantage in

attracting foreign investors whose home countries, such as Korea and Taiwan, have lost the privileges. It is said that the Philippines shall be one of the last countries granted GSP privileges by USA while it still has vast GSP opportunities in textiles, processed food, worked and unworked metals and the like. In other words, the Philippines has potentials as a center for the so called third-country or transit trade and processing in the Asian Pacific region.

(2) CALABARZON's regional potentials

CALABARZON has high potentials for the manufacturing development and the global industrial location as shown in Figure B.11.

"CALABARZON's potentials I" are specialized potentials due to the international comparative advantages of the Philippines. That is, CALABARZON is abundant in agro-resources such as coconut and sugarcane, which have developed coconut industries of milling and desiccated coconut in Laguna and Quezon, and sugar factories in Batangas. Lime stone is a main raw material for cement industry in Batangas and Rizal. Other potentials such as good access to international ports and airport (Manila Ports and Ninoy Aquino International Airport) and availability of skilled and high-educated labor are largely owing to CALABARZON's proximity to Metro Manila.

CALABARZON's proximity to Metro Manila is also a major component of "CALABARZON's potentials II". Metro Manila is the largest market in the Country and provides varieties of business, trade, financial, technical and governmental regulatory services. CALABARZON and Metro Manila constitute the main part of the "National Industrial Core Region" producing estimated 64% of the manufacturing Gross Value Added of the Country in 1988.

CALABARZON has deep natural harbors along the Batangas Bay and its vicinity where are located port-oriented industries such as petroleum refineries, ship building and repairing, steel fabrication, basic industrial chemicals, flour milling, and others. In addition, CALABARZON is in a better position with relatively well developed infrastructure including EPZ and industrial estates.

The following data provided by the manufacturing firms located in Region IV, aside from the factor of personal preference, appear to strongly support the abovementioned potentials of the CALABARZON region.

Factors influenced firms' decisions to locate in Region IV including CALABARZON

Factors	% of Firms' ratings
• Personal preference	58.6
• Access to market	56.4
• Access to materials	53.4
• Access to reliable utilities	51.9
• Labor supply	43.6
• Business services	43.6
• Equipment suppliers	37.6
• Government offices	36.1

Source: Industrial Survey by National Industrial Estate Program (NIEP) NEDA

B.3.3 Roles and objectives of CALABARZON manufacturing sector development

(1) Roles

The CALABARZON region is a major component of Region IV, accounting for 77% (6,349 thousand) of the total population in region IV in 1990. CALABARZON's estimated Gross Value Added (GVA) or GRDP of the manufacturing was around 43.1 billion pesos in 1988 , accounting for more or less 90% of Region IV and 21% of the Country. In addition to such important position in the Region IV's and national socioeconomy, CALABARZON has high potentials for the manufacturing development and the global industrial location as mentioned previously.

What roles the manufacturing sector development in CALABARZON should play is to be derived from the above position and potentials, and also could be oriented by the national and regional development policies.

First, the manufacturing sector is expected to play a leading sector for the CALABARZON's regional development conducive to the further growth of agriculture and service industry. This role is general and based on the interactions and linkages between industries.

Second, in line with the CALABARZON's position and potentials or as a main component of the "National Industrial Core Region", the manufacturing sector development should play a driving force of the further industrial development of Region IV and the Country.

Third, the development of manufacturing should be addressed to promoting industrial dispersal and directed to the formation of "Urban Growth Corridor" of Region IV in line with the implementation of the national and regional development policy.

(2) Objectives

The objectives of manufacturing sector development in CALABARZON have to embody not only the roles mentioned above but also the national and regional development goals/policies. These goals, however, are established from the viewpoint of medium-term, and then the objectives need to be set also taking into account the long-term perspectives. The objectives could be arranged as illustrated in Figure B.12.

Out of these five objectives, 1) generation of employment opportunities and 2) enhancement of income level embody the national and CALABARZON's development goals recently established by the National Economic and Development Agency (NEDA) Region IV. The objective (3) expansion of domestic and export market is set in line with the national industrial policy and strategy, emphasizing the expansion of export market and international competitiveness. CALABARZON has a better locational condition for export-oriented industries. The objective (4) the realization of a stronger industrial structure, is an objective derived from the subsector structure of manufacturing in both CALABARZON and the country, relatively lack of intermediate and capital goods. The objective (5) the realization of an industrial base in the Asian Pacific Region, is the long-term and ultimate objective ensuring the sustainable growth of the Country.

B.4 Strategy and Scenarios for Manufacturing Sector Development in CALABARZON

In order to realize effectively the objectives for the manufacturing sector development in CALABARZON, strategy from which a variety of development policies/efforts should be derived needs to be established. In addition, development alternatives will be examined as the precondition for development plan formulation.

B.4.1 Development strategy

There are two types of development strategy. One is the overall strategy, related to the CALABARZON region total. Another is the strategy by subregion.

(1) Overall strategy

This strategy is composed of three components; common, survival and growth, and regional integration as shown in Figure B.13.

Common strategy

Inducement of foreign capital has a strategic importance not only to mitigate the constraint of "Lack of capital" but also to increase export channel, source of new technology, and the like. As seen previously, foreign capital investments in the Philippines constituted more or less 40% to 50% of the total equity investments in recent years while Japan's BOI approved investments posted in the first position in 1989 to 1990 (at the first quarter). "Foreign Investments Act of 1991", described previously, is expected to attract foreign investments not only for export industry but also for domestic market industry.

Promotion of SME's is also important and has succeeded a strategy of the National and Region IV's Development Plan. SME's, constituting a large part of manufacturing establishment and employment in CALABARZON, are expected to generate local employment and income, and to complement the thrusts on medium and large scale enterprises development by producing agro-processing goods and parts/components for the assembly. At the same time, their growth and competitiveness will be supported to transform them into efficient production units.

Promotion of venture business is a strategy in the long-term. As industrialization in CALABARZON progresses, persons with strong entrepreneurship and technology seeds including spin off or retired persons from the large enterprises will increase. Such venture business is expected to play a role of driving force for the vitalization of production and R & D activities in CALABARZON as well as in USA, Japan and other advanced countries.

Locational strategy

This strategy serves planned industrial dispersal and development in CALABARZON. It is, therefore, very important to provide industrial estates (IE's) along the artery conducive to the formation of "Urban Growth Corridor". Present trends of development support this strategy, and CALABARZON has already 14 existing and seven planned IE's including Cavite EPZ, although some of them lack access to the artery.

The second element of this strategy, promotion of industrial spillover from Metro Manila stems from CALABARZON's regional character as the hinterland of Metro Manila/NCR (National Capital Region). The area within some 50 km radius of NCR could be regard as a coherent region where various activities are interrelated by way of the economy of NCR. Taking account of further suburbanization around NCR and expansion of its influence areas, the provinces of Cavite, Laguna and Rizal should be taken as a planning unit together with NCR. This unit may be called the "Greater Capital Region" where the

locational strategy of industry is to promote expansion/relocation of Manila-based industries such as large market-oriented (durable consumer goods and food processing), export-oriented (electronics, apparel, etc.), airport-oriented (electronics, precision instruments, etc.) and technology-intensive industries.

The position of Batangas is different from the above three provinces because it is relatively independent of direct influence of NCR. It has properly an attractive locational condition with deep natural harbors and strong links with Mindoro and other provinces of Region IV including Quezon. This may be called here the "Southern Tagalog Region" where Batangas is expected to be developed as a regional center. Locational strategy for Batangas is, therefore, to locate port-oriented, labor-intensive and agro/resource-based processing industries in the medium-term and to promote decentralization of Manila-based/related industries in the long-term leading to the formation of the regional industrial center.

Agro-based processing is a strategic industry not only for Batangas but also for rural areas in the Greater Capital Region, including the processing of regional agricultural output and processing of primary commodities from other regions. Meanwhile, detail examination for target industries will be done in the subsection B.4.2 (2).

Survival and growth strategy

Development of industrial ability/capability becomes to have a strategic importance in the progress of industrial globalization and trade liberalization in order to ensure international competitiveness. As the context, the following measures should be mobilized: manpower development, marketing, technology transfer/development and financial assistance.

Formation of industrial complex is a strategy for the attainment of built-in growth structure. Namely, creation of inter-industry linkages shall expand the market for industries concerned in line with the integration of SME's and large firms. Development of upstream industries should be promoted to mitigate the constraint of "Lack or high cost of local inputs".

Regional integration strategy

Major thrusts of the CALABARZON spatial development may also have different implications for the two regional systems. These are described in the Master Plan Report under the headings of 1) improvement of access to rural areas, 2) strengthening of artery network, and 3) establishment of clearer hierarchical structure of urban centers.

Industrial development should not be limited to the enlargement of industrial production. It should be integrated with urban development, namely formation of "City". Region IV's Development Plan, as mentioned previously, gave more weight on the urban and industrial /manufacturing sector development than the National Plan did. For this, industrial estates (IE's) are to be planned and developed as a core for formation of "City", and also it should be noticed for "City" or urban functions of service industries to support industrial operation /development.

Formation of industrial community especially in rural areas is also important. One possible intervention is to lead the industrial growth into major locations not adjacent to Metro Manila. These locations, in turn, will be converted into full urban communities by supporting the development of small industry district, housing, urban infrastructure, and services in health and education. Through this process, livelihood/self-employment manufacturing will grow up and become literally "Industry". At this stage, industrial community will have the real content as a rural industrial base where industrial production would be regionally divided/shared and integrated between many small enterprises.

(2) Subregional strategy

Industrial areas and centers

The two regional system of the Greater Capital Region and the Southern Tagalog Region could be divided into several subregion, each of which is a regional planing unit with the similar characteristics and potentials on industrial development/location and comprises several cities and municipalities. These subregions could be defined as shown in Figure B.14.

First, the Greater Capital Region contains three industrial areas of Rizal , Cavite-Laguna and Carmona-Trece-Martirez which are contiguous to Metro Manila. Second, the Southern Tagalog Region has one industrial center or the Greater Batangas industrial center. Third, upland industrial centers are urban centers outside the suburbanization area of Metro Manila and has an intermediate character because of its relatively independence from other subregion.

1) Rizal suburban industrial area

This area has been a main receiving area of the spill over industries from Metro Manila and its population growth rate has been very high. This area, however, relatively lack of land suitable for manufacturing/urban use and the further encroachment on limited lowland agriculture areas along the Laguna lakeshore should be prevented.

Thus, industrial development efforts in this area will appropriately focus on technology upgrading while more industrial location should be created in the upland area without causing further degradation of the Marikina catchment area.

Public interventions will be necessary to develop the inland areas not only for some industrial relocation from Metro Manila and its vicinity but also for encouraging agro-forestry, agro-processing, SME's activities including handicrafts and various services.

2) Cavite-Laguna suburban industrial area

This area comprises two subareas. The Laguna west industrial area from San Pedro to Calamba has been the main street of industrial location and thereby formed a matured industrial zone. The Rosario-Imus industrial area is , on the other hand, relatively a new zone where Cavite EPZ is developed.

Meanwhile, industrial location including spill over from Metro Manila will continue in these zones due primarily to agglomeration economies and access to large labor pool with requisite skills. This strong trend should be materialized without further degradation of the environment and generation of various problems.

Thus, industrial development/location should be selectively incorporated and regulated depending on the situations. First, strict land use control should be enforced based on land use plan to be prepared by municipalities especially in the Laguna west zone while urban redevelopment and existing factories' relocation could be intensively synchronized. Second, wastewater discharge and solid waste disposal regulation should be enforced by step; first for municipalities in the Laguna west zone and second for those along the Cavite coast. A moratorium on the conversion of prime agricultural land in these zones for industrial use is expected to be immediately established.

3) Carmona-Trece Martirez industrial area

This is an upland area where seven existing and one planned industrial estates are developed (Figure B.5). In terms of land capability, this area faces smaller conflict with agricultural than the industrial areas in lowlands. Water availability is a constraint.

Located in the mid to upstream of small rivers, "Nonwater-intensive industry" should be selectively introduced and developed in this area, considering critical influences to the downstream areas. Some agro-processing industries will locate/expand in this area, as the productivity of upland agriculture is enhanced. However, fruits and vegetable processing

should be located in lowland portions where water availability is higher and discharge of wastewater with high organic contents is more tolerable. Meanwhile, this area has many industrial estates and will be extended further inland up to Silang.

4) Upland industrial centers

These centers are Sto. Tomas/Tanauan, Canlubang, San Pablo and Lipa City, all located in the mid to upstreams of rivers. Canlubang is not a municipality/city but an area with the largest industrial estate named as "Canlubang Industrial Park" (developed within Canlubang Sugar Estate), which has around 700 ha of developed area and out of it 532 ha is available. In addition to this, two industrial estates are planned, one of which is already incorporated by a Filipino-Japanese joint venture.

These centers could be the most prospective areas for industrial development/location in CALABARZON based on recent trends of investments and future transport-express way network formation from Metro Manila to Batangas. Industries that locate in this area will have a good access to both Manila Ports and Batangas Port.

Industrialization should be synchronized with urban development programs in selected areas. This would include major housing programs, urban infrastructure and other urban amenities to build these communities into urban centers with full functions. A critical component of these programs would be provision for SME's that will rely on the relatively large companies as sub-contractors and parts/components suppliers. The Master Plan includes prototype integrated urban/industrial programs for these centers.

5) Greater Batangas industrial area

In the long run, Batangas could be an alternative to Metro Manila as the national industrial core because it has properly an attractive locational condition with deep natural harbors and strong links with Mindoro and other provinces of Region IV including Quezon, as mentioned previously. There is planned "Regional Industrial Center" (RIC) of Batangas with 750 ha of land area.

In the short- to medium-term, Batangas will receive almost all of port-oriented industries and will be built into a center for heavy industry. Batangas will become the supply base of raw materials and intermediate products for industries in Metro Manila and CALABARZON.

Based on the above agglomeration, Batangas should build a highly diversified manufacturing base in order to provide an alternative to Metro Manila. It is a strategic importance not only to enhance the downstream industries and SMEs but also to upgrade and develop technology. For this, a regional R & D institute should be established since Batangas is not so convenient in utilizing such institutes concentrated in Metro Manila.

In the medium- to long-term, Batangas will be inter-connected with the industrial area in Quezon centering around Lucena City. A development axis will be formed connecting Batangas/Bauan through San Juan to Lucena City, and may be further extended to the east to Atimonan and to the west to Balayan. For the establishment of this axis, the planned location of a petrochemical complex (but now suspended) may play an important role as well as the improvement of roads in the eastern part of Batangas.

Rural areas

The above mentioned industrial areas and centers are industrial and urban cores leading the growth of CALABARZON. Rural areas, on the other hand, are not urbanized, and their main industries are mostly agriculture, forestry and fishery.

Strategy for these areas, therefore, is to utilize/process local resources at maximum and to channel the product market. For this, technology transfer from the national R&D institutes and the improvement in access to the market have strategic importances.

Livelihood industrial development is effective on the context. Many governmental agencies have promoted it and the DOST has transferred some resource-processing technologies.

Based on the past performance, livelihood industrial development in rural areas should be more enhanced and integrated. First, entrepreneurship should be strengthened. Second, supporting measures should be effectively organized and integrated since the poor coordination among existing livelihood development projects/programs causes the imbalanced distribution and insufficient utilization of financial and supportive services through the duplication of projects/programs.

In the medium- to long-term, provision of industrial site for livelihood enterprises will have a strategic importance as they will grow up and expand the production. This site provision could be realized through organizing many livelihood enterprises and equipping convenient common facilities/utilities. This provision for SME's industrial estate will be a base for the formation of the so called industrial community which is one of the overall strategies in CALABARZON's manufacturing development as mentioned previously.

B.4.2 Development scenarios

This section contains "Overall scenarios", "Target industries" and "Development phasing". Overall scenarios will be cited from the Master Plan Study and examined mainly from the viewpoint of the manufacturing sector development in CALABARZON.

(1) Overall scenarios

The Master Plan Study Alternatives

The Master Plan Study has defined three alternatives to guide the formulation of a long-term development plan for the CALABARZON region as follows.

1) Alternative 1 : Agro-based development

This scenario emphasizes that more attention is directed towards the rural population, through concentrating development efforts to the enhancement of agriculture and agro-related industries including agro-processing. In addition to the above, various services will play important roles in employment generation and economic growth based on rural economy. Economic activities based on other indigenous resources will also be important.

2) Alternative 2 : High industrialization

High rates of increase in labor productivity/industrial production and large spill over from Metro Manila are assumed in this scenario. CALABARZON development under this scenario will be led by high industrialization particularly in the suburbanization areas near Metro Manila, and other areas will develop primarily by promoting linkage with Metro Manila and its vicinity.

3) Alternative 3 : Leap-frog development

This scenario represents an intermediate path between Alternative 1 and Alternative 2. Growth momentum centering on Metro Manila will be effectively utilized, but the development will be directed also to selected urban centers in the outer areas. Spill over from Metro Manila will be moderate, and thus accommodated in CALABARZON in a more orderly manner.

Alternative 3 is reasonable. Alternative 1 of agro-based development means a limited growth of CALABARZON and tends to neglect its potentials and roles for the development, especially the manufacturing development potentials, although this scenario

will not bring about critical problems on natural environment, and public investments for infrastructure will be small. This scenario is solely suitable for the rural areas in CALABARZON.

Alternative 2, high industrialization is targeted for accelerating industrial and urban development in CALABARZON. However, this involves a radical change in social structure/natural environment and needs a lot of public investments for attaining the target. This scenario might have reality only in the urban area that already has well developed urban infrastructure/functions and a "City" with over 100,000 population within it.

Consequently, Alternative 3 of leap-frog development, which is also an intermediate path between alternative 1 and Alternative 2, could be reasonable since CALABARZON is an mixed or complex region containing both of rural and urban areas.

(2) Target industries

Target manufacturing industries to be located and enhanced in CALABARZON could be derived from the concerned strategy as shown in Figure B.13 and the Region's potentials/locational conditions. In addition to these, there are many factors relating to industrial location such as recent trends of manufacturing investments, industrial globalization and the present stage of industrialization itself in the Philippines and CALABARZON.

Meanwhile, agro-processing and spill over from Metro Manila have strategic importances in the development in CALABARZON as seen in the above subsection of development scenarios. For this, it may be meaningful to see the processing rates of agricultural and fishing products as well as Manila-based industries.

Processing rates of agricultural and fishing products

Table B.27 shows these rates including rates for feed use. They were very high for palay, corn (shelled), wheat, cassava, sugarcane and coconut, namely 100% or near 100%. As for fruits and fishing products, they were ranging around 10% to 20% and 30% to 50% , respectively.

Grain milling such as rice milling is very popular rural-market-oriented industry in every area in CALABARZON as well as in the rest of the country. Bakery is also rural market-oriented. Flour milling and animal feed industry, if depending on imported raw materials, are port-oriented. Relatively large flour milling factories locate in Batangas and Quezon.

Coconut processing such as desiccated coconut is the major industry in Quezon and San Pablo City. Large sugar milling and refining factories locate in Nasubgu of Batangas. These industries are literally resource-based.

As seen above, the processing rates of agricultural and fishing products are relatively or very high. This may mean that development of agro-processing industries depends on the conditions of supply side rather than those of demand side. As such, stable supply of raw materials/agro-products should be ensured. For this, efficient linkage or integration between suppliers and processors are expected to be realized and the BOI prepares a proper incentive to promote such linkage as mentioned in subsection B.2.2 (3).

Metro Manila-based industries

Tables B.28 through Table B.30 present manufacturing industries concentrated in Metro Manila, according to the percent share of employment against the Philippines calculated from the 1988 Census of Establishment (provisional outputs). Figure B.15 illustrates some factors categorized for the following analysis.

Metro Manila constituted 47.8% of the country's manufacturing employment in 1988. Out of 135 types of industry on 4 digits base in the Census, 79 industry types' shares were over the average 47.8%.

Industries with over 80% of Manila's share to the country are mostly large/urban market-oriented (of course, domestic market) and industry-related. These market-oriented industries are also categorized into consumer/durable consumer goods, a main industry of which in Metro Manila is assembly of motor vehicle. Main industries among the industry-related are capital goods such as general machinery and intermediate goods. Among these Manila-based industries, miscellaneous plastic products had the largest employment (15,542 persons).

Industries with over 60% to 70% of Manila's share to the Country are also mostly large/urban market-oriented and industry-related. Among the former, industry of radio, TV, communication equipment categorized into durable consumer goods was large in employment (30,328 persons). Main industries of the latter were metal processing, components/parts such as metal containers, metal stamping/coating, motor vehicle parts and accessories, tires and inner tubes and primary cell/batteries. Meanwhile, it is outstanding that ready-made clothing and wearing apparel, which are export-oriented and labor-intensive, were large in employment (90,170 and 14,667 persons, respectively). Toys and dolls and rubber footwear are also export-oriented and labor-intensive.

Among industries with around 50% of Manila's share to the Country, textile spinning, finishing and other machinery and machine parts were large in employment (42,687 and 11,523 persons, respectively). In addition to these, there are many large/urban market-oriented industries centering on food manufacturing industries but their employment was not so large.

Target industries

Target industries are basically not industries that spontaneously locate but industries to be invited/developed. A variety of industries including the Manila-based shall locate in CALABARZON without special measures. Meanwhile, target industries are firstly export-oriented and labor-intensive industries to absorb employment and to improve international balance of payments and living conditions in the Philippines. Agro-/resource-based industries also should be targeted from the same viewpoints. These industries are expected to resolve the problems pointed out by the National and Region IV Medium-Term Development Plan to some extent .

Real industrialization in the Country, however, has to equip the so called "growth structure/base" within itself. Wearing apparel is one of the most employment absorbing/generating industries in the Philippines. More than several hundred thousands of sewing machines may be installed in the Philippines, but this fact does not mean real industrialization without making the machine by itself; hence the need for formation of inter-industry linkages. For this, Philippine export-oriented industries dependent on imported materials/parts do not have many chances/channels to contribute to earning foreign exchange.

Therefore, self-made or indigenous material and intermediate industries are to be targeted as well as machine parts/components. Recent trends in industrial investments presented by motor vehicle industries are prospective for the formation of above mentioned inter-industry linkages.

Industrialization is, in a sense, a process of social generalization and modernization. It should be noticed that effective realization of industrialization is to proceed through the process that the main substantial component/factor in industrial production transfers from technique to technology. Technique is of course important, but it is rare that technique creates a kind of systematic and standardized production organization, which is a firm base/core for real industrialization and social modernization. Consequently, more important question is how to develop and organize techniques abundant in the Philippines into technology than what target industries are.

(3) Development phasing

CALABARZON regional development has to be planned in phases, as the expansion of resource base and financial capacity and related industrial development will take place over time. The planning period is broadly divided into three phases: Phase 1 up to 1995, Phase 2 for 1996-2000, and Phase 3 for 2001-2010 as defined in the Master Plan Study Report. "Subregional strategies" are described by phase in the subsection B.3.3 (2), where the term is divided into three: the short-, medium- and long-term. These three terms coincide almost with above Phase 1, Phase 2 and Phase 3, respectively. Expected performance of the manufacturing sector in CALABARZON in each phase is described below for Alternative 3.

Overview (fundamental mechanism concerning regional and spatial structure)

"Development phasing" is in a sense to clarify the process of industrialization in CALABARZON with specifically established planning objectives and target/goals. This process will proceed through the fundamental mechanism concerning to regional and spatial structure in Metro Manila and CALABARZON. This mechanism comprises mainly such factors as "Sliding effect for industrial location by land price", "Functional sharing between Metro Manila and CALABARZON" and "Change in labor supply conditions".

Sliding effect for industrial location by land price is represented in the actual land use. Land prices form in general such strata that the highest is the land for commercial and business use, going down by step to the land for residence, physical distribution, factory, agriculture and forest. This situation stems from the land user's economic capability to absorb land cost. As for manufacturing, this capability is low especially in low productivity and land-intensive type industries. Therefore, more specialization and concentration of world commercial and business functions into Metro Manila will be conducive to increase in land price, and will accelerate manufacturing spillover from Metro Manila into CALABARZON, namely the Greater Capital Region provinces of Cavite, Laguna and Rizal. Meanwhile, the degree of land user's economic capability to absorb land cost is a useful tool for analysis on manufacturing location activities and could be indicated by value added per hectare of factory site (indicator for Land Cost Absorbing Capability-LCAC). The following LCAC data are collected and processed from the 1988 Census of Manufactures in Japan. Average LCAC for all establishments was 604 million yen/ha. Low LCAC group (up to around 400 million yen/ha) comprises such industries as petroleum refineries, cement and cement products, wood products, iron and steel industry, non-metallic mineral products, non-ferrous metal, textiles, and paper and paper products including pulp.

Manufacturing industries grouped by Land Cost Absorbing Capability (LCAC)

(value added in million yen/hectare of factory site)

Groups by LCAC	Manufacturing industries grouped
Low group----------	Petroleum refineries (173), Cement and cement products(209) Wood products (241), Iron and steel industry (286) Non-metallic mineral products (296), Non-ferrous metal (336) Textiles (343), Paper and paper products (420, Pulp: 172)
Medium group-------	Fabricated metal products (565), Furniture and fixtures (570) Plastic products (572), Chemical products (614, industrial chemicals: 449), General machinery (668), Food manufacturing (702), Beverages (704) Wearing apparel (746), Rubber products (746)
High group----------	Transportation equipment (819) (ship building and repairing: 188) Leather and leather products (877), Other manufacturing (888) Precision instruments and machinery (1,062) Electrical machinery and equipment (1,339)
Extremely high group	Publishing and printing (4,222, printing: 2,088)

Source: 1988 Census of Manufactures in Japan (over 30 workers establishments)
Remark: LCAC for all establishments was 604 million yen/ha on the average.

Functional sharing between Metro Manila and CALABARZON will be promoted by sophistication of Metro Manila's functions and progress of improvement in infrastructure in CALABARZON. More specialization and concentration of world commercial and business functions into Metro Manila will proceed according to economic growth, industrial globalization, informization (progress of information society)/softnomics, and innovation of industrial structure. Subsequently, Metro Manila's manufacturing will be mostly high tchnology-intensive and high value added capable to absorb high land cost and to utilize Metro Manila's proper locational conditions. CALABARZON will instead be the most important zone in industrial production in the Philippines.

Change in labor supply conditions will accelerate the above functional sharing between Metro Manila and CALABARZON as well as increase in land price. Lack of factory workers will occur according to such factors as economic growth, conversion of industrial structure centering upon service industries (commerce including wholesale, banking, information, business service, etc.) in Metro Manila accompanying raise in labor cost. Subsequently, industrial investments mainly by labor-intensive industries will be channeled to outside Metro Manila, namely to CALABARZON and other industry will mostly become "labor-oriented industry"

In addition to the above mentioned fundamental mechanism, development phase is decided by the progress of improvement in infrastructure and utilities. Based on these, an overview of development phase in CALABARZON manufacturing sector development is arranged on the next page.

Phase 1 (up to 1995): trend growth

This phase is characterized basically by continuation of on-going development efforts and investment trends. Economic growth and industrial globalization will stay moderate. Functional sharing between Metro Manila and CALABARZON will be spontaneously moderate and limited to the neighboring areas of Metro Manila. Integration of the Greater Capital Region will proceed with the extension/improvement of primary and secondary arteries. Suburbanization areas around Metro Manila will further expand, and the area in the immediate vicinity of Metro Manila will form a conurbation. Limited expansion of urban/industrial activities will take place in the Southern Tagalog Region along major arteries. Otherwise the substantial spatial development will be confined to Batangas City and Lucena City.

The emphasis in this phase for infrastructure should be on full utilization of existing infrastructure and utilities with proper maintenance and rehabilitation as well as better management. However, those projects already in the pipeline should be implemented during this phase, including the first stage development of Batangas Port, a few highway projects including South Expressway (Sto. Tomas-Lipa City) and the EPZ expansion including "Special EPZ (SEPZ). SEPZ is EPZ established within industrial estates developed not by EPZA but by the private sector. EPZA already granted SEPZ status to two private IE's (Science Park in Laguna and First Cavite in Cavite), and another two private IE's (Technopark in Laguna and Gateway in Cavite) expressed interest in SEPZ with the same incentives and privileges as EPZ. Limited infrastructure projects will also be newly initiated as indicated below.

In energy, urgent measures should be taken for power generation expansion as well as consolidation of existing generation, transmission and distribution systems. A rural energy program may be initiated, and applied research on new and renewable energy be systematically expanded. In telecommunication, an improved system may be installed along the prospective second north-south highway to serve planned industrial estates/areas in Cavite and also for rapidly growing urban centers. Basic telephone services will be expanded.

Overview of development phase in CALABARZON manufacturing sector development

	Phase 1 (up to 1995) Trend Growth	Phase 2 (1996-2000) Trend Acceleration, Renewed Growth	Phase 3 (2001-2010) Sustained Growth
Background			
•Economic growth	•Moderate	•Accelerated	•Sustained
•Industrial globalization	•Moderate	•Accelerated	•Borderless
•Informization/Softnomics	•Centering on Metro Manila/NCR	•Extending to rural urban areas	•Extending throughout the country
Regional reformation mechanism			
•Sliding effect for industrial location -- by land price	•Moderate	•Strong between regions	•Stronger between region & industries
•Functional sharing between Metro --- Manila/NCR and CALABARZON	•Spontaneous and limited	•Relatively planned and extensive	•More extensive orderly
•Change in labor supply conditions --- (Lack of labor)	•Moderate (No problem)	•Accelerated partly (Lack in skilled)	•Accelerated (Lack especially in NCR)
Infrastructure and utilities			
•Transportation	•Batangas Port (first stage) •South Expressway expansion, etc.	•Batangas Port (upgrading) •South Expressway completion, etc.	•New port development as an alternative of Manila Port •Formation of well-maintained artery & other utilities network
•Power supply	•Expansion and consolidation of existing facilities	•Continued	
•Telecommunication	•Served for planned industrial areas/IEs	•Continued and extensive	•Continued and more extensive
•Industrial land	•EPZ expansion including SEPZ	•Increase in demand	•Moderate increase in demand
Performance of manufacturing			
•Investments (Main activities)	•Moderate •Export processing-assembly type	•Accelerated •Active in industry-related industry,etc	•Sustained •Increase in R&D
•Location/relocation	•Moderate	•Accelerated	•Sustained
Spill over from Metro Manila (Remark: LCAC-Land Cost Absorbing Capability	•Centering on food processing and consumer durables	•Centering on industry with low/medium LCAC	•Extending to high LCAC industries
Others	•Consumer goods (resource-based) •Labor-intensive •Port-oriented	•Export- and airport-oriented •Labor-intensive •Port-oriented	•Many industries converted into labor -oriented
•Industrial structure	•Centering on consumer goods	•Diversified	•Complex centering on intermediate and investment/capital goods
Inter-industry linkage	•Partly, supported to develop sub-contracting	•Extensive import substitution /sub-contracting	•More extensive and complex
•Technology transfer/training and research & development (R&D) (New projects)	•Focusing on transfer and training •Manpower Training Center •DOST provincial offices •PBMTI-Southern Tagalog Research & Extension Center	•More extensive •Increase in joint venture, etc. for technology upgrading •PBMTI-Southern Tagalog Research &Extension Center (completion)	•Centering on R&D •Regional Testing and R&D Center including incubator

The trend growth of manufacturing sector in the Greater Capital Region will be led by expansion of Metro Manila-based industries such as large/urban market-oriented centering on food processing and consumer durables. Investments into export processing-assembly type industries, motor vehicle assembly and automotive parts/components will steadily increase in the existing expanded Cavite EPZ/newly established "Special EPZ's" and other industrial estates/areas. Some of the latter will start bringing in foreign supplies of parts and intermediates. At the same time, upstream local industries would be supported to develop sub-contracting and input delivery linkages with large enterprises.

In the Southern Tagalog Region, the trend growth of industry will be supported primarily by steady growth of local resource-based consumer goods industries including processed food and beverages. At the same time, labor-intensive industries such as wearing apparel, knitting mills, footwear and electronics parts will locate or expand their production. In addition, investments into port-oriented industries including basic chemicals, imported steel processing, etc. will steadily increase along the coastal side. A BOI approved project, petroleum refinery expansion from 72,000 barrels per day to 110,000 barrels per day (crude oil treatment capacity base) will be implemented.

New investment will be required for further expansion of industrial output as the excess production capacity appears to have been already largely utilized. The availability and cost of project financing will be an important factor of industrial expansion. Technology transfer/training and R & D activities will be supported by the Manpower Training Center, the newly established DOST provincial offices and PBMIT (Pablo Borbon Memorial Institute of Technology)-Southern Tagalog Research and Extension Center.

PBMIT is one of the state colleges in CALABARZON, located in Batangas and has contributed to training of factory workers in Batangas. A fundamental objective of the above Center is to promote functional research and extension services to meet the needs of the industrializing areas. First, the Center is designed to develop the research capabilities of PBMIT in the areas of production technology, environmental management and human resource development. Second, it is to conduct continuing research on manpower needs of industry, environmental studies, labor relation and production technology. Third, it is to develop the extension services of PBMIT in the areas of industrial skills upgrading and testing and certification. The Center project is scheduled to be implemented in the period 1992-2001.

Phase 2 (1996-2000): trend acceleration and renewed growth

This phase is for trend acceleration and renewed growth. Economic growth and industrial globalization will be accelerated. Functional sharing between Metro Manila and CALABARZON will be also accelerated by progress of more specialization and concentration of world commercial and business functions into Metro Manila accompanying increase in land price. This would proceed through a relatively planned manner by establishing new policy measure promoting spill over from Metro Manila. Subsequently, the change in functional sharing would be conducive to acceleration of manufacturing spill over from Metro Manila into CALABARZON, particularly the Greater Capital Region. Deficiencies in transportation network will be resolved in both the Greater Capital and the Southern Tagalog Regions, except in the Bondoc peninsula and mountainous areas of Quezon. Development axes will be gradually formed in the Southern Tagalog Region centering around Batangas City.

A few key infrastructure projects will be implemented in this phase which will alter the patterns of spatial development in CALABARZON. They may be related to upgrading port facilities, artery network, and major water resource development such as the Taal lake multi-purpose development and the Marikina watershed development and management. They will encourage the decentralization by exchanging the comparative position of the Southern Tagalog Region, or otherwise help to integrate part of the Region into the Greater Capital Region. The provision of infrastructure and utilities in selected second-tier towns will be strategically improved.

In energy, major power generation projects will be implemented within the Luzon grid, and a new and renewable energy project will be initiated Development of telecommunication system during this phase include its extension to serve major tourism sites as well as to all the intermediate size urban centers.

In industry, active investments by domestic firms will be made in the full range of existing industries as the domestic demand growth accelerates. Use of domestic input suppliers and subcontracted firms by export processing industries will become a common practice. Some of them will establish further linkages with upstream and downstream industries including SME's.

In addition to consumer goods industry, other industries will start to develop rapidly, such as fabricated/intermediate metal products, chemicals and other engineering industries including tool, dies and molds, and fixture as well as new agro-processing industries. The former will support automotive and consumer durable industries and also find opportunities

to supply parts and components to large multinational corporations in ASEAN. Processing plants for marine and aquaculture products will also be established. Many of them are SMEs transformed into efficient production units and serve as linkage industries.

Spill over from Metro Manila will become increasingly more the relocation of industries originally established in Metro Manila centering on such industries with low/medium "Land Cost Absorbing Capability (LCAC)" defined previously and heavily concentrated/located in Metro Manila (see Table B.28 through Table B.30) as: iron and steel industry (steel working furnace, foundries, and steel works and rolling mills); non-metallic mineral products (glass and glass products); textiles; fabricated metal products (wire, construction/housing components, metal stamping, etc.); plastic products; chemical products (soaps, detergents, paints, etc. and drugs/medicines); general machinery (industry machinery and parts); food processing(dairy products and confectionery); and wearing apparel.

Industry composition in Metro Manila and its vicinity should change in favour of those industries capitalizing on their locational advantages rather than just common labor availability. They include export-oriented industries such as electronics and wearing apparel, airport-oriented industries such as precision instruments as well as electronics, and some technology intensive-industries.

Port-oriented, labor-intensive and agro-/resource-based processing industries will further develop in the Batangas Bay area and inland areas. Some of the latter will utilize raw materials transported from resource island. A suspended petro-chemical complex in Batangas is expected to be incorporated during this phase.

This is a critical phase for technology upgrading This will be effected by increasing number of joint venture arrangements with foreign firms and multi-nationals linked with local research and training institutions including the PBMIT-Southern Tagalog Research and Extension Center initiated in Phase 1.

Phase 3 (2001-2010): sustained growth

Economic growth will sustain from Phase 2. Industrial globalization will be more accelerated and become borderless. Metro Manila will be a world center of commerce and business activities accompanying lack of labor for the manufacturing industry. Functional sharing between Metro Manila and CALABARZON will be more orderly, and sliding effect for industrial location will be stronger between industries in Metro Manila. Subsequently, spill over from Metro Manila will extend to high LCAC industries such as transportation

equipment and electrical machinery and equipment. This effect will also extend between the Greater Capital Region and the Southern Tagalog Region accompanying spill over/decentralization from metro Manila and the former into the latter. Many industries would be converted into "labor-oriented" and industrial location will be corresponding to regional distribution of manpower to some extent.

New port development would be initiated as an alternative of Manila Ports. Well-maintained artery and other utilities network will be formed throughout CALABARZON. Development axes in the Southern Tagalog Region will be well established. The main axes will be developed connecting Batangas City /Bauan with Lucena City ,which may be further extended to the east and to the west. Network deficiency will be completely resolved including those in the Bondoc peninsula and mountain areas of Quezon. Major urban centers will be equipped with some higher order service functions such as communication/conference, higher education/technology development, and administration. Accordingly, various amenity facilities will be provided for the major urban centers. Infrastructure and some of social services will be increasingly provided by the private sector with the public role confined to regulatory functions.

The composition of industry will be more diversified and complex, continuing to change from dominance by the consumer goods industries in favor of intermediate goods and investment/capital goods. This change will also be reflected in the export composition with the assembly type operations becoming less significant as a source of employment and exports. More people having strong entrepreneurship and technology seed will spin out of large enterprises or otherwise retire from them and enter into venture business. They will become a driving force for further industrialization in CALABARZON with upgraded production and R & D activities.

CALABARZON will become an industrial base with high technology integration in the Asian Pacific Region during this phase. Batangas could be an alternative to Metro Manila as the national industrial core as mentioned previously. It is a strategic importance not only to enhance the downstream industries and SME's but also to upgrade and develop technology. For this, a regional testing and R & D institute should be established since Batangas is not so convenient in utilizing such institutes concentrated in Metro Manila.