The Study on
Sabo and Flood Control for
Western River Basins of Mount Pinatubo
in
the Republic of the Philippines

Final Report

Volume III-1
Supporting Report

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Socio-economy

THE STUDY ON SABO AND FLOOD CONTROL
FOR WESTERN RIVER BASINS OF MOUNT PINATUBO
IN THE REPUBLIC OF THE PHILIPPINES

FINAL REPORT

SUPPORTING REPORT

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CHAPTER 1 ADMINISTRATION, POPULATION AND EMPLOYMENT

1.1 Introduction

In this part of the report, the main socio-economic conditions relevant to the study area (the three main river basins[1] of West Pinatubo) are examined, and any significant changes after the 1991 eruption noted. Also included is some discussion of the future socio-economic framework, and current national and provincial development plans.

Two points should be noted. First, there are regrettably some omissions from the data presented, either because it does not exist, or because it was not accessible despite the best efforts of the study team and DPWH. The second point concerns errors and omissions in published data sources. It is to be hoped that a continual process of data verification and amendment by sources will ultimately reduce the incidence of such errors.

1.2 Administration

The administrative structure of the Philippines comprises 16 Regions which are: National Capital Region (NCR), Cordillera Administrative Region (CAR), Autonomous Region in Muslim Mindanao (ARMM), and Regions 1 to 13. Regions are subdivided into provinces, provinces into cities and municipalities, and cities and municipalities into barangays. The barangay is the smallest administrative unit in the country.

About 95% of the study area is in Zambales Province in Region 3 (Central Luzon) and is located mostly in the 7 municipalities of Botolan, Cabangan, Castillejos, San Antonio, San Felipe, San Marcelino and San Narciso. About 33 km^2 of the study area is in the municipality of Iba. The eight municipalities concerned are listed (sourced from Table 1.2.1) in the table below, together with their official administrative areas and the estimated area of the study area in each:

Land Areas of Municipalities in the Study Area

Municipality	Land Area (km^2)	
	Administrative Area (as stated by Land Management Bureau)	Study Area (% Administrative Area)
Botolan	614	687 (<100%)
Cabangan	239	184 (100%)
Castillejos	87	95 (<100%)
Iba	153	33 (<100%)
San Antonio	205	86 (<100%)
San Felipe	104	125 (100%)
San Marcelino	441	317 (<100%)
San Narciso	72	78 (100%)
Total	1,914	1,604
Total for Zambales Province	3,611	1,628
Overall Total		1,711

Notes: 1. Due to rounding, totals may not equal the sum of component figures.
2. Land area of the study area was computed by the JICA study team and does not agree exactly with official figures.
3. (<100%) in column 3 indicates that the Study Area does not cover the entire area of the municipality.

[1] Bucao, Maloma and Sto.Tomas.

Figure 1.2.1 is a map of the study area illustrating the above table.

The Study Area is estimated by the JICA study team to be 1,711 km^2 in total, of which 1,628 km^2 is estimated to be in Zambales Province. This area amounts to 45% of the official land area of the province.

1.3 Population and Employment

1.3.1 Population

From the 2000 Census of Population & Households, the Philippines have a population of 76.5 million. Since the 1990 census the total population has increased from 60.7 million by 15.8 million or 26%, equivalent to an annual growth rate of 2.34%. This compares with the almost identical annual growth rate of 2.35% during the 1980s when the population increased from 48.0 million in 1980 to the 1990 census total.

In the eight municipalities[2] largely comprising the Study Area, the 2000 census population was estimated at 228,148 or only 0.3% of the national population. The average annual population growth rate in the 1990s (i.e. from the 1990 to the 2000 censuses, and mostly since the eruption) was 1.13%, and in the 1980s, 2.39%, a much higher rate, and higher also than the national average (2.34%) but lower than the average for Region 3 (2.62%). In the 1990s, the highest annual average growth rate was achieved by Botolan at 2.78%, while the lowest was –3.57% in San Marcelino.

Of the eight municipalities, Botolan is the largest in terms of land area (613.7 km^2) and population (46,602), while San Felipe is the smallest in population (17,702) and San Narciso in land area (71.6 km^2). Castillejos has the highest population density at 383 persons/km^2, compared with San Marcelino which has the lowest at 58 persons/km^2. The average for the whole basin is (according to the 2000 census) 119 persons/km^2.

More detail is available in Table 1.2.1 which also shows similar demographic statistics for nine municipalities in the East Pinatubo study area[3] in 1995 and 1990.

The distribution of urban/rural and male/female population in 1990 is shown in Table 1.2.2. The table gives figures for the nation, Region 3 and the three provinces related to the western river basins of Mount Pinatubo, Zambales, Pampanga and Tarlac. While the male/female split is broadly the same at 50/50 for each administrative level, urban/rural ratios vary greatly. Pampanga has 70% of its population classified as urban, Tarlac only 30%, and Zambales 65%. These urban figures are likely to have increased in the last 12 years.

1.3.2 Labor Force

In 2000, the population aged 15 years and over in Region 3 (national figures are given in brackets after each regional figure) was estimated at 4.965 million (48.076 million), amounting to 62% (62%) of the total population of 8.031 million (76.503 million) as shown in Table 1.2.3. Of this adult population, 61% (64%) participated in the labor force market as economically active, and of this labor force, 90% (90%) was employed, leaving 10% unemployed. Only 8% (20%) of the employed workforce were reported to be under-employed, surely an under-estimate.

[2] Botolan, Cabangan, Castillejos, Iba, San Antonio, San Felipe, San Marcelino and San Narciso

[3] Sourced from The Study of Flood and Mudflow Control for Sacobia-Bamban/Abacan River Draining from Mt. Pinatubo, May 1996, funded by JICA.

Table 1.2.3 shows that neither nationally nor in Region 3 are there significant trends in the above statistics up or down since 1990, except in the case of national employment, where the 2000 figure is 2% less at 89.9%.

In Region 3 in 2000, agriculture absorbed only 25% of the total employed labor force (see Table 1.2.3, while services (including trading and community, social and personal services) employed 52%, and industry 23%. National figures show a different employment pattern as follows: agriculture employed 37% of the total employed labor force, services employed 47%, and industry employed 16%.

Table 1.2.4 sets out the labor force nationally, in Region 3 and in Zambales Province for both males and females in the 2000 census year. Nationally and in Region 3, men and women have very similar levels of unemployment, about 10% of total labor force. However, in Zambales the position revealed, despite two errors in the 'Not in Labor Force' statistics, is very different. Here, the level of unemployment is nearly four times that in Region 3 and nationally at between 35% (female) and 40% (female).

On the other hand, women not in the labor force are fewer in Zambales (49%) than either Region 3 (57%) or the nation (52%), while Zambales men not in the labor force are more numerous (36%) than males in either Region 3 (20%) or the nation (20%).

CHAPTER 2 NATIONAL AND REGIONAL ECONOMY

2.1 National and Regional Accounts

The smallest administrative unit for which regional accounts are available is the region. For the study area this is Region 3. However, the study area as represented by the eight municipalities of Botolan, Cabangan, Castillejos, Iba, San Antonio, San Felipe, San Marcelino and San Narciso has a population of only 228,000 or 3% of the Region 3 population. Moreover, its estimated total land area of 1,710 km^2 is only 9% of that of Region 3. Despite this, the economic performance of Region 3 is outlined here as the best available indicator of study area economic performance.

Ranked by per capita gross regional domestic product (GRDP), Region 3 has been around the median of the provinces in the Philippines for many years. However, recently the region has been moving down the rankings: in 1995 Region 3 was ranked 8th and its per capita GRDP was 82% of the national average, while in 1990 it was ranked 7th and its per capita GRDP was 85% of the national average. In 2000 this indicator was ranked 9th and was estimated to be 30,800 pesos per capita or 73% of the national average. Details of GRDP for all provinces in these three years are shown in Table 2.1.1 and summarized in the table below.

Summarized Regional GRDPs for 2000

Region/area	GRDP IN 2000 (billion pesos)	Per Capita GRDP in 2000 ('000 pesos)	Ratio to National GDP per capita (Percentage)	Order of GRDP per Capita among 16 Regions
NCR	1,178	117.4	279	1
CAR	76	50.9	121	2
Region 3	245	30.8	73	9
Region 5	90	18.1	43	15
ARMM	32	13.8	33	16
Philippines	3,303	42.1	100	-

Gross domestic product (GDP) in the Philippines was 3,303 billion pesos in 2000. This is analyzed into gross value added (GVA) of the main economic sectors in Tables 2.1.2 and 2.1.3. These sectors can be summarized as follows: 526 billion pesos in the agricultural sector or 15.9% of GDP, 1,028 billion pesos in the industrial sector or 31.1% of GDP, and 1,748 billion pesos in the services sector or 52.9% of GDP. Similar national statistics for 1995 were: for agriculture, 412 billion pesos or 21.6% of GDP; for industry, 611 billion pesos or 32.1% of GDP; and for services, 883 billion pesos or 46.3% of GDP. As Table 2.1.4 shows, per capita GDP was, in 2000, 42,117 Pesos (27,124 Pesos in 1995), equivalent to about US$940 (US$1,050 in 1995). The fall in the US$ figure for GDP between 1995 and 2000 reflects the 42% decline in the exchange rate of the Pesos against the US$. During the five years from 1995 to 2000, a significant decline in the relative importance of agriculture can be seen, approximately matched by an increase in services' share of GDP.

Again from Tables 2.1.2 and 2.1.3, The GRDP of Region 3 in 2000 was 245 billion pesos representing 7.4% of GDP in the Philippines. Gross value added for the main economic sectors were: 18.8% for agriculture, 32.9% for industry and 48.3% for services. In 1995 the figures were: 160 billion for Region 3 GRDP representing 8.4% of GDP, and agricultural, industrial and services GVA components of Region 3 GRDP were 24.1%, 37.1% and 38.8% respectively. Between 1995 and 2000, as for national figures, there was a marked shift from agriculture to services accompanied by a relative fall in industrial output also.

Table 2.1.5 shows national GDP and GRDP in Region 3 at 1985 constant prices by economic sector for 1990, 1995 and 2000. From this table the real growth rates in GDP and Region 3 GRDP (see Table 2.1.6) were computed and real growth of per capita GDP and Region 3 GRDP were obtained (see Table 2.1.7). These tables show that GDP increased in real terms from 721 billion pesos in 1990 to 955 billion pesos in 2000, an average growth rate of 2.85% per annum. The five years from 1995 to 2000 showed the faster annual growth of 3.55% compared with only 2.17% for the five years up to 1995. All three of the main economic sectors performed better in the second half of the decade with services showing the fastest real growth of 4.38% per annum. Agriculture grew at the slowest rate in both 5-year periods, although growth remained positive throughout.

GRDP in Region 3 performed more erratically than national GDP and trends were different. For example,

- growth in the first five years of the decade (2.83%) was nearly double that from 1995 to 2000 (1.60%),
- agriculture grew at a faster rate than nationally in both periods (1.71% and 2.31%),
- industrial GVA grew rapidly in the first period (4.04%) and then declined in the second period (-0.45%), to give an overall real growth rate of only 1.77% per annum during the decade.

Only the services sector grew consistently and improved from the first period (2.09%) to the second (3.61%).

As was noted earlier, the net result was a reduction of Region 3's share of both GDP and per capita GDP during the 1990s.

2.2 Economic Growth and Investment

Gross regional domestic product (GRDP) of Region 3 is analyzed in the table below, and is compared with national GDP. The table also shows the gross regional domestic expenditure (GRDE). Details of GRDE/GDE at current prices are given in Tables 2.2.1 and 2.2.2.

GRDP in 2000 for the nation and Region 3

(Unit: Billion pesos at 2000 current prices)

Item	Region 3		Philippines		Share of Region 3 (%)
	Value	%	Value	%	
1. Agriculture	46.0	18.8	526.1	15.9	8.7
2. Industry	80.6	32.9	1,028.1	31.1	7.8
3. Services	118.4	48.3	1,748.3	52.9	6.8
4. Total (GRDP/GDP	245.1	100.0	3,302.6	100.0	7.4
5. Personal consumption	252.1	102.9	2,335.5	70.7	10.8
6. Government consumption	24.1	9.8	422.4	12.8	5.7
7. Capital formation	38.0	15.5	589.3	17.8	6.4
Gross fixed capital Formation	41.0	16.7	596.6	18.1	6.9
Changes in stock	(3.0)	-1.2	(7.3)	-0.2	41.1
8. Net export	(54.5)	-22.2	202.6	6.1	-26.9
9. Statistical discrepancy	(14.6)	-5.9	(247.3)	-7.5	5.9
10. Total (GRDE/GDE)	245.1	100.0	3,302.6	100.0	7.4

Note: Region 3 total GRDE (Row 10) has been made equal to total GRDP by introducing a statistical discrepancy in Row 9 of –14.6. The total GRDE as reported by the Economics Statistics Office, NSCB was 259.7.

As already mentioned, services including trading had the largest share (48.3%) among the major economic sectors and accounted for nearly 7% of national output in this sector. Industry was the second most important sector with 32.9% of GRDP and nearly 8% of national output. However, the region has an excess of imports over exports amounting to 55 billion pesos, or minus 22% of GRDP. This compares unfavorably with the national performance of a positive net export figure of 202 billion pesos or 6% of GDP.

2.2.1 Foreign Trade

The Philippines' external trade balance has moved from deficit to surplus over the 4-year period, as summarized in the table below from Tables 2.2.3 and 2.2.4. The improved performance has been due to a combination of increased non-traditional exports particularly manufactured goods, and a relatively small increase in imports.

Summary of Philippines' Foreign Trade (1997-2000)

(Unit: FOB value in US$ billion)

Item	1997	1998	1999	2000
Merchandise exports	25.23	29.50	35.04	38.08
Merchandise imports	36.36	29.52	30.74	31.39
Trade balance	-11.13	-0.02	4.30	6.69

As shown in Table 2.2.3, the top five exports in 2000 were: (1) electronic, electrical and telecommunications equipment and parts (US$22.2 billion), (2) machinery and transport equipment (US$5.9 billion), (3) Garments (US$2.6 billion), (4) miscellaneous manufactured articles (US$0.5 billion), (5) coconut oil (US$0.5 billion). These five items accounted for US$31.7 billion or 83.2% of the US$38.1 of total exports in 2000.

The country's top five imports in 2000 (see Table 2.2.4) were: (1) telecommunication and electrical machinery (US$7.0 billion), (2) materials/accessories for manufacture (US$4.2 billion), (3) manufactured goods (excluding consumer durables) (US$3.2 billion), (4) chemical products (US$2.6 billion), (5) power generating and specialized machines (US$2.5 billion). These five items accounted for US$19.5 billion or 62.1% of the total imports of US$31.4 billion in 2000.

The main trading partners for exports in 2000 were the USA (US$11.4 billion) and Japan (US$5.6 billion) which alone accounted for 44.6% of all exports. Following the USA and Japan were, in descending order of value, Singapore, Netherlands, Taiwan, Hong Kong, UK, Malaysia and Germany, Thailand and Korea. Exports to these additional nine countries amounted to US$17.5 billion or a further 45.9% of exports. For more detail see Table 2.2.5.

Trading partners for imports were mainly Japan (US$6.0 billion) and the USA (US$5.2 billion) followed by Korea, Singapore, Taiwan, Hong Kong, Saudi Arabia and Malaysia. These eight countries accounted for imports to the value of US$21.0 billion or 66.9% of the total.

The remarkable trade imbalance (+ US$6.2 billion) with the USA is worthy of mention and accounts for almost all the Philippines' external trade surplus in 2000.

2.2.2 Foreign Assistance

Gross receipts of official development assistance (ODA) from OECD, Arab countries and multilateral agencies aggregated to US$4.11 billion for the five years to 1998, and averaged US$0.82 billion per year during the period. Generally, receipts have reduced substantially as shown in Table 2.2.6 and summarized in the table below.

Foreign Development Assistance (1994 to 2000)

(Unit: US$ billion)

Item	1994	1995	1996	1997	1998	1999	2000
Receipt of ODA	1.06	0.88	0.88	0.68	0.61		
Expenditure of Central Government	12.43	15.21	15.24	15.91	12.79		
Share of ODA (%)	8.5	5.8	5.8	4.3	4.7		

The annual receipts of ODA ranged from a maximum of 8.5% of annual central government expenditure in 1994 to a minimum of 4.3% in 1997. Statistics for 1999 and 2000 are expected from NEDA.

2.2.3 External Debt

In 1998, total external debt was US$48 billion as shown in Table 2.2.7, accounting for 74% of GDP which was approximately equivalent to US$65 billion in 1998. In 1998, the outstanding long term debt was US$39 billion. The total debt service was US$5.2 billion comprising US$2.9 billion of principal repayment and US$2.3 billion of interest payment. The debt service ratio was 11.8 % in 1998 having decreased from 16.1% in 1995. 1999 and 2000 figures are expected from NEDA.

2.3 Sectoral Economic Profile

As proposed in the previous section, in terms of GRDP, Region 3 best represents the economic characteristics of the study area. Therefore the sectoral economic profiles of the three West Pinatubo river basins can be deduced from those of Region 3 in this section. Additional information is provided at province and Study Area level.

2.3.1 Agriculture

In Region 3, the agricultural sector output is slightly more important than in the nation overall but is declining as a proportion of total GRDP, as is agricultural GVA at national level. For example, Table 2.1.3 shows that agricultural GVA in Region 3 as a proportion of GRDP declined from 24.3% in 1990 to 18.8% in 2000 while nationally the equivalent figures are 21.9% and 15.9%. (Despite this fall in GRDP share, agricultural GVA in Region 3 still grew by 2% per annum in real terms during the decade. However, this growth rate is lower than the rate of population increase (2.62%) during the period in Region 3.) Considering the labor force, Table 1.2.2 in Chapter 1 shows that in 2000 about 25% of employed persons were in the agricultural sector, a higher proportion than the sector's share of GRDP.

Production of the major crops in the Philippines and the region is set out in Table 2.3.1. From this table the most important crops in the country in order of their value in 2000, are paddy (rice), corn, coconut, banana, sugar cane, mango, pineapple, cassava and tobacco. This order has not changed much since 1990, except that paddy has become relatively more important (its share of value rising from 18.5% to 36.2% of total value of agricultural production) while sugar cane has only increased marginally from 4.6% to 5.6%. Production of paddy, the staple crop, has increased from 9.3 million tons in 1990 to 12.4 million tons in 2000, equivalent to an average growth of about 2.9% per annum. Despite this increase, imports of rice have also risen, to a peak of 2.2 million tons in 1998 but have reduced since then to about 20% of this amount in 2000.

In Region 3, the major crops were, in order of production value[4] in 2000, paddy, mango, sugar cane, corn, banana, coconut and pineapple. Paddy had by far the largest share at 83% (producing 1.89 million tons) followed by mango (9% share) and sugar cane (5% share). The order has changed since 1990 when paddy was again the dominant crop at 83% (producing 1.91 million tons), but sugar cane ranked second (12% share) followed by mango with a 4% share. No doubt due to the Mount Pinatubo eruption, paddy production in 1995 fell slightly to 1.76 million tons although, curiously, the area of paddy cultivation reported by BAS[5] increased from 521,000 ha in 1990 to 548,000 ha in 1995.

The Mount Pinatubo effect is demonstrated more clearly in Table 2.3.2, which displays paddy production, harvested area and yield in Zambales Province in 1990, 1995 and 2000. Annual total production of paddy decreased from 75,200 tons to 56,500 tons in 1995 (a 25% fall) due to a 28% reduction in the area harvested. But by 2000, production had recovered to 78,000 tons, partly due to an increase in yield to 3.1 tons per hectare. Similar statistics for white and yellow corn are given for 1995 and 2000 in Table 2.3.3. 1990 figures were not available.

Production of mango, now the second most important crop in the region, increased rapidly during the 1990s from 44,000 tons (equivalent to a value of 420 million pesos) in 1990 to 88,000 tons (equivalent to a value of 1.66 billion pesos) in 2000. Sugar cane production, however, fell from 2.18 million tons in 1990 to 1.30 million tons (equivalent value 914 million pesos in 2000. It may be significant that the mango price per ton doubled over the decade while the sugar cane price only increased by 15%, in current terms.

Annual averages of current farm-gate prices of paddy and two types of corn in the region given in Table 2.3.4 show a virtually flat trend: between 1996 and 2000, annual growth in all cases averaged less than 1% per annum.

Table 2.3.5 shows that neither Zambales Province nor the study area have nationally significant areas of freshwater fishponds. The entire province has less than 100 hectares compared with 25,500 hectares in the region overall, of which 13,900 hectares or more than half are for commercial scale fishponds. In the province there are no commercial scale fishponds and only Castillejos municipality has more than 20 hectares of fishponds. Table 2.3.6 confirms this by showing that only tilapia production is measured in tons, the annual production ranging between 43 and 59 tons (in 2001).

The livestock and poultry industry is said to be more economically important than inland fishery in the region, but the Study Team were unable to obtain GVA statistics for the industry to confirm this. Table 2.3.7 shows an inventory of some items of livestock and poultry in Zambales Province from 1996 to 2000. In 2000 there were 32,300 head of cattle, 27,800 carabao, 107,000 swine, 43,300 goats, 829,400 ducks and chicken in the province. As noted elsewhere, agriculture is the least important of the three main economic sectors and is on a reducing trend. This demonstrated by comparing the above statistics for Zambales with a province where agriculture is the leading sector. In 1998, Isabela Province in Region 2 had an inventory of 75,200 head of cattle, 145,300 carabao, 191,800 swine, 23,800 goat, 570,200 duck and 5,120,200 chickens. Table 2.3.7 also gives farm-gate prices of some livestock and poultry where these are available. The indicate fairly low rates of price inflation between 1996 and 2000 of around 4.2% to 5.4%.

Agricultural land use before and after the 1991 eruption is of particular interest to the study team and Table 2.3.8 was designed to provide some pertinent information in 1990 and 2000. Unfortunately, 1990 data was not available to the study team. Meanwhile, the table provides comparative land use data by crop and municipality for 2000.

[4] Due to Region 3 price information not being available, national values computed from Table 2.3.1 have been used to generate approximate production values for Region 3 crops. It is expected that actual price information will be used for the Draft Final Report.

[5] Bureau of Agricultural Statistics in Manila

2.3.2 Industry

Within the industrial sector, manufacturing contributes by far the largest share to the national economy, accounting for 22.6% of GDP in 2000 from a total industry share of 31.1% (see Table 2.1.3). The manufacturing share is, however, trending gradually lower from nearly 25% in 1990, although growing in real terms by about 3% per annum over the five years to 2000.

In Region 3, the trend is similar (although at a higher level) and for the same reason – the rapid increase in the importance of services. Tables 2.1.2 and 2.1.3 show that manufacturing current price GVAs have increased from 24.4 billion pesos in 1990 to 65.3 billion pesos in 2000, while its share in the regional economy has reduced gradually from 26.6% to 24.2% over the same period. Tables 2.1.5 and 2.1.6 show that manufacturing GVA has grown in real terms (i.e. with inflation stripped out) from 1990 to 2000 by 2.45% per annum, the five years to 1995 showing the faster growth of 3.6% per annum.

Tables 2.3.9 and 2.3.10 enumerate, respectively, the industrial establishments registered to the DTI in Zambales and the study area from 1997 to 2002, and the assets of manufacturing industry in 1997 nationally and in Region 3. Region 3 had 1,400 manufacturing firms employing 10 or more and less than 10 people registered in 1997, about 10% of the national total at that time, responsible for 151.2 billion pesos of output and employing a total of 102,700 staff. It is likely that there are more that are unregistered.

According to Region 3 DTI, 507 new manufacturing firms were registered to DTI in Zambales Province since 1997, and 102 in the 8 municipalities of the study area. Iba and Botolan municipalities had 47 of the new firms.

The table below summarizes the main indices of registered industrial establishments in Region 3 and nationally for the year 1997, where the data are available. It is said by NSO that these statistics are now consolidated for all registered industrial establishments. However, it is difficult to believe that there are only 14,700 registered establishments in the entire country.

Selected Indices for Registered Industrial Establishments in the Nation and Region 3 in 1997

Item	Philippines	Region 3
Large & Medium Scale Manufacturing Establishments (10 or more employees)		
Number of establishments registered (1997)	14,734	1,413
Average annual output (million pesos)	1,353,842	151,225
Average value added (million pesos)	558,644	61,176
Value added (%)	41.2	40.5
Ratio of fixed assets to value added	0.75	0.66
Ratio of inventory to value added	0.49	0.49

Note: Fixed assets excludes the value of land except for small scale establishments

2.3.3 Services

Within the services sector which is showing faster real growth (4.7% per annum from 1995 to 2000) than industry or agriculture, the trading and various services sub-sectors appear to be the most popular industry in the national economy. From data in Table 2.1.3, trading accounted for 14.3% of GDP in 2000 within the services sector which itself had a 52.9% share of GDP.

In Region 3, services accounted for 48.3% of GRDP and trade, some smaller percentage which could not be determined for lack of data. According to Table 2.3.9, 4,300 wholesale and retail trading firms and 3,700 establishments providing other services[6] were registered to DTI for business licenses in Zambales Province between 1997 and 2002; the same statistics for the 8 municipalities within the Study Area are 856 trading firms and 466 services firms.

The table below sets out the main indices of registered trading and other services establishments in Region 3 and nationally for 1997 obtained from Tables 2.3.11 and 2.3.12. As for the industry sector in section 2.3.2 above, NSO states that data for small, medium and large scale trading and services enterprises has been consolidated in one category. Again, the small number of these establishments apparently registered in the Philippines and Region 3 should be seriously questioned.

Selected Indices for Registered Service Establishments in the Nation and Region 3 in 1997

Item	Philippines	Region 3
Trading Establishments (10 or more and less than 10 employees)		
Number of establishments registered	15,237	896
Annual sales (million pesos)	788,687	39,616
Value added (million pesos)	99,214	3,813
Value added (%)	12.6	9.6
Ratio of fixed assets to value added	14.2	11.0
Ratio of inventory to value added	1.6	1.6
Services Establishments (10 or more and less than 10 employees)		
Number of establishments registered	14,775	1,396
Annual sales (million pesos)	795,961	42,311
Value added (million pesos)	85,195	4,187
Value added (%)	10.7	9.9
Ratio of fixed assets to value added	22.2	20.9
Ratio of inventory to value added	13.7	7.5

2.3.4 Family Income and Expenditure

Living conditions may be deduced from family income and expenditure statistics. Concerning average family income, Table 2.3.13 shows that the national average of 144,000 Pesos at current prices in 2000 was below similar figures for Region 3 (151,400 Pesos) but higher than those for Zambales Province (123,700 Pesos). After deducting average annual family expenditure, average annual savings in Region 3 (31,400 Pesos) and, surprisingly, Zambales Province (28,600 Pesos) were well ahead of the national average of 26,000 Pesos. This is in marked contrast to the GDP per capita relationship where that of Region 3 is only 73% of the national figure (see section 2.1 above).

Examining the Engel coefficient (ratio of food expenditure to total income) in the above three cases gives some apparently conflicting conclusions. For example, the lower income families normally show the higher ratio; in fact the Engel coefficient is a recognized indicator of (relative) poverty. Here, both Region 3 and Zambales Province families save the most and Region 3 has the highest income, but also spend the most on food as a proportion of income: 37.2% and 39.0% respectively, compared with 35.7% for the nation. However, the differences are not large, and Zambales does have the lowest family income.

Similarly, differences in expenditure on housing are relatively small and tend to compensate for the differences in food expenditure. Thus Region 3 and Zambales families that spend more on food than the nation as a whole, spend less on housing items, and considerably less in the case of the family in Zambales Province.

[6] For example, transport, communications, storage, finance, private and government services.

2.3.5 Price Indices and Exchange Rate

Price indices are vital information for the adjustment of past benefits and costs. In the Philippines, indices of consumer prices (CPI) and wholesale prices are published monthly. Tables 2.3.14 and 2.3.15 show both indices from 1985 to mid-2001, together with the most recent figures available for 2002.

The table below summarizes both CPI (for nation and Region 3) and WPI (for Metro Manila: General Index and Construction Materials) for 1985, 1990, 1995, and particular months in 2000, 2001 and 2002.

Consumer and Wholesale Price Indices (1985 to 2002)

Year	CPI (1994=100)		WPI (1985=100) in Metro Manila	
	Philippines	Region 3	General Index	Construction Materials
1985	46.1	n.a.	100.0	n.a.
1990	67.1	67.8	141.8	157.5
1995	108..0	107.1	197.1	208.2
2000, December	157.8	157.4	265.5	238.0
2001, June	161.6	159.5	264.3	243.7
2002, January	165.0	161.5	266.7	243.2
2002, August	167.6	163.6	n.a.	n.a.
Ratio (2002/1990)	2.50	2.41	1.88	1.54
Average annual inflation rate (IR)	8.3%	8.0%	5.9%	4.0%

Note: Average annual inflation rate applies to the years 1990 to mid-2002.

The above table shows that average consumer price inflation from 1990 to mid-2002 for Region 3 (8.0%) was very similar to the national figure of 8.3%. But Table 2.3.14 indicates that CP inflation has decreased significantly from the 1980s and early 1990s to the rest of the 1990s and 2002: for the first six months of 2001, national rates were between 6.5% and 6.9% annually. The same trends can be observed for Region 3, but at a lower level: for the first six months of 2001, CP inflation was between 5.0 and 6.4. The CPI decreased further from mid-2001 to mid-2002 for both Region 3 (2.6%) and the nation (3.7%).

Wholesale price inflation in Metro Manila generally and for construction materials is lower than CP inflation, as the above table shows. Details are given in Table 2.3.15.

Table 2.3.16 gives the foreign exchange rate of Pesos per US$ from 1987 to 2001 at the end of each period and the annual average. During the 15-year period, the Pesos fell in value from 20.48 Pesos per US$ to 51.40 Pesos per US$, a decline of 60%. The rate of decline was highest between 1996 and 2001, but has stabilized since then, partly due to US dollar weakness.

2.4 Poverty Incidence

An explanation of the terms used in this section is as follows. First, “poverty incidence” is the number of poor families expressed as a percentage of the total number of families in the population, and will be termed “incidence of poor families”. Second, the “poor families” are those families who receive an annual per capita income below the annual per capita poverty threshold, and third, the “annual per capita poverty threshold” is the minimum annual per capita income needed to satisfy basic nutritional requirements and other basic needs. These definitions can also be expressed in population rather than family terms when poverty indicators are generally higher, as can be seen in the table below. Fourth, “subsistence incidence” means the proportion (percentage) of families (as shown in the table below) which fall below the annual per capita food threshold: this is the minimum annual per capita income needed to satisfy basic nutritional needs only.

In Region 3 the annual per capita poverty threshold was estimated at 14,653 Pesos in 2000; 281,707 families (equivalent to a population of 1,781,782) were included under this threshold[7]. The incidence of poor families was 18.6% in Region 3. The table below gives incidence of poor family ratios and supporting information nationally and for all the regions. The table shows, for example, that Region 3 has the second lowest incidence of poor families in the country.

Poverty and Subsistence Incidence in 2000

Area	Annual per capita poverty threshold (Pesos)	Magnitude of poor families	Incidence of poor families (%)	Order of incidence of poor families	Subsistence incidence of poor families (%)
Philippines	13,916	5,215,421	34.2 (40.0)	-	16.7 -
NCR	18,001	211,559	9.7 (12.7)	1	1.5 [1]
CAR	15,706	101,562	36.9 (48.9)	5	18.0 [6]
Region 1	14,800	300,258	37.2 (43.5)	6	15.9 [5]
Region 2	12,488	173,649	30.6 (36.3)	4	12.4 [4]
Region 3	14,653	281,707	18.6 (22.9)	2	4.6 [2]
Region 4	15,307	590,693	26.0 (31.7)	3	10.1 [3]
Region 5	13,010	617,267	56.3 (62.8)	14	34.0 [14]
Region 6	12,646	526,072	43.4 (51.2)	10	22.1 [8]
Region 7	11,089	429,928	38.9 (43.9)	7	22.5 [9]
Region 8	10,868	316,780	43.0 (50.5)	9	24.8 [10]
Region 9	11,046	280,823	46.5 (53.0)	12	26.7 [12]
Region 10	12,131	386,745	45.7 (52.2)	11	26.3 [11]
Region 11	12,546	465,128	41.2 (46.3)	8	20.0 [7]
Region 12	12,247	261,850	50.9 (57.9)	13	28.0 [13]
ARMM	14,017	271,399	68.8 (73.9)	15	35.5 [15]

Source: 2001 Philippine Statistical Yearbook, October 2001

Note: Figures in round brackets show poverty incidence by population. Figures in square brackets show order of subsistence incidence in poor families.

Subsistence incidence of poor families is shown in the last column of the above table. Again, Region 3 has the second lowest incidence at 4.6%[8], just above NCR at 1.5% and far below the national average of 16.7%. Since 1985, this ratio for Region 3 has been steadily improving from a high of 11.6% of families in that year. The highest subsistence incidence (35.5%) is to be found in ARMM Region, where more than one family in three cannot afford the basic food requirement.

Recent reliable poverty information could not be obtained for Zambales Province or the eight municipalities of the study area.

[7] According to the 2001 Philippine Statistical Yearbook.

[8] This means that 4.6% of all families in Region 3 cannot afford the food needed to maintain basic minimum health.

CHAPTER 3 INFRASTRUCTURE

3.1 Education

For the 2001-2002 school year, the following educational facilities were in use:

Educational Facilities (2001-2002 School Year)

Level	Philippines	Region 3	Zambales Province
Pre-school	11,643	1,573	87
Elementary	40,284	3,214	220
Secondary	7,509	688	41
Tertiary	1,603	153	7

Note: Both government and private facilities are included at each level

Table 3.1.1 shows the detailed distribution of these facilities. The proportion of government to private institutions varied greatly from level to level. For example, at pre-school and secondary levels, the proportions were similar with the government slightly ahead in most areas. At the elementary level, government schools were far more numerous, outnumbering private schools by a factor of between 5 and 8. At the tertiary level, the opposite is true; private institutions are some four times more numerous than government institutions.

Considering the ratio of elementary schools to population, nationally the figure is 5.27 schools per 10,000 population (40,284 schools per 76.5 million population) compared with ratios of 4.02 (3,214 schools per 8.0 million population) for Region 3 and 5.07 (220 schools per 433,500 population) for Zambales Province. So both regional and provincial ratios for elementary schools are below the national average, especially the regional ratio.

In the case of secondary schools, the national ratio is 0.98 (7,509 per 76.5 million population) compared with ratios of 0.86 (688 per 8.0 million population) for Region 3 and 0.95 (41 per 433,500 population) for Zambales Province. Here, differences are smaller but neither regional nor provincial ratios exceed the national ratio.

Finally, for tertiary education, the ratios are 0.21 nationally, 0.19 for Region 3, and 0.16 for Zambales Province; again both regional and provincial figures are significantly lower than the national ratio.

Table 3.1.1 also details the number of enrolled students and these can also be reviewed in terms of national, regional and provincial population.

For elementary schools, the ratios of enrolled students to 100 population at national, regional and provincial levels were 16.7, 16.5 and 16.2 respectively. For secondary schools, the three ratios were 7.0, 7.1 and 8.4 respectively. For tertiary education, the ratios were 2.7, 2.0 and 1.8 respectively. Thus in elementary and secondary education, Region 3 and Zambales Province perform marginally better compared to the nation, but in only one case, Zambales Province, is the ratio significantly better than the national average.

3.2 Medical

Table 3.2.1 shows the distribution of medical facilities such as hospitals, barangay health stations and rural health units, mainly in 2000, in the Philippines, Region 3 and Zambales Province. Facilities are summarized below.

Medical Facilities (2001)

Facility	Philippines		Region 3		Zambales Province	
Hospital	1,712	(81,016)	155	(5,464)	13	(549)
- Bed capacity per 10,000 population	10.6		7.0		12.6	
Barangay Health Station	14,416*		1,464*		80	
Rural Health Unit	2,405#		252#		35	

Notes: Number of beds appear in brackets. * 1999 data. # 1997 data.

Although hospitals are managed by both government and private bodies, other facilities such as barangay health stations and rural health units are under the general jurisdiction of LGUs.

In the region, there are 43 government hospitals and 112 private hospitals providing 7.0 beds per 10,000 persons. This figure is exceeded by both the nation and Zambales Province. Nationally, 623 government hospitals and 1,089 private hospitals provided 81,000 beds which amount to 10.6 beds per 10,000 population. Zambales Province has the best performance at 12.6 beds per 10,000 persons.

A comparison of numbers of barangay health stations per 10,000 population gives the ratios 1.9, 1.8 and 1.8 respectively. Again, the regional and provincial coverage is no better than average.

3.3 Roads and Bridges

In 2001, according to aggregated regional and district data dated December 2001, there were 201,765 kilometers of roads in all classes nationally, 14,530 kilometers in Region 3, and 4,480 kilometers in Zambales Province. Table 3.3.1 gives this summarized information in terms of road classes and surface type. The table also shows an analysis of these totals by class and surface type, nationally and for Region 3 and Zambales.

The national road density overall was 673 meters/km^2 including 99 and 407 meters/km^2 of national and barangay roads respectively. Road density in Region 3 was considerably higher at 835 meters/km^2 which included 95 and 740 meters/km^2 of national and local roads respectively. Finally, the road density in Zambales Province overall is 533 meters/km^2 including 51 meters/km^2 of national road and 482 meters/km2 of local roads.

Concrete roads are the most resistant to flood damage. In Region 3 the total length of this road surface was 3,908 km or a high 25.7% of the total length (the national ratio is only 14.9%). In Zambales, there was only 204 km of concrete road or 10.3% of total provincial road length. This low proportion suggests that roads in Zambales are more susceptible to flood damage than in the rest of Region 3.

Table 3.3.1 also shows the total length of permanent and temporary bridges in the Philippines (286.8 km), Region 3 (24.1 km) and Zambales Province (3.9 km).

3.4 Water Supply

Water supply systems are classified into three groups: Level 1, which indicates a service from a point sources such as wells, developed springs, rivers, ponds, undeveloped springs and rain collectors; Level 2, which describes a communal faucet system; and Level 3, a piped system connected to individual consumers.

According to Table 3.4.1, the proportion of households served by potable water systems in the Philippines (ranging from point sources and untreated water through to treated piped water to individual households) was 36% in 1990 (there appears to be no more up to date data), but only 5.6% were served by a piped system connected to individual houses. Unfortunately, Region 3 and Zambales information was incomplete even for 1990, but the study team were able to determine from the basic data that coverage by individual connections (Level III) was about 2.4% for Region 3 and 3.2% for Zambales Province, both lower figures than the national average.

Concerning the structure of these statistics, there should be a more transparent connection than there seems to be between items 1.a to 1.h and item 2 (the Level I, II and III totals), so that the derivation of the latter can be confirmed and understood.

3.5 Electrification

Electricity is supplied in two main groups: (a) generation and primary power transmission and (b) power distribution and connection to consumers. Services in (a) are provided by the National Power Corporation (NAPOCOR) and in (b) by the individual retailers. In Zambales Province the retailers are ZAMECO I and ZAMECO II which share electricity retailing between them in the province.

Table 3.5.1 shows the coverage, number and proportion of total population in December 2000 at three levels: municipality, barangay and individual connections. Every municipality in Region 3 and the country overall is supplied with electricity. However, at barangay level coverage was less than 100%, although in Region 3, 96% of barangays were covered, very much better than the national average of 77%. Individual connections showed the same trend: a high 96% of the Region 3 population were connected while only 68% of the national population were covered. Rural areas of the country tend to be connected after the urban because of the cost of serving a dispersed population and also the higher risk of flooding and similar problems.

3.6 Telecommunications

Telephone service penetration was much smaller than that of electricity as can be seen from Table 3.6.1. This table shows that in Region 3 there were only 2.8 subscribers and 6.4 lines per 100 persons, while nationally there were 4.0 subscribers and 9.1 lines per 100 persons. These figures, as expected, compare unfavorably with those of NCR where there were 14.5 subscribers per 100 persons.

Some of the lack of penetration is due to the success of the cellular phone companies. The table below gives the national position only in December 2000.

Cellular Phone Companies and Subscribers (December 2000)

Cellular Phone Company	Number of Subscribers		
	Philippines	Region 3	Zambales
Smart	2,858,479	This information was not disclosed to the Study Team on grounds of confidentiality.	This information was not disclosed to the Study Team on grounds of confidentiality.
Globe Telecom	2,563,000		
Piltel	656,814		
Extelcom	194,452		
Islacom	181,614		
TOTAL	6,454,319		

Between December 2000 and early 2003 the number of companies reduced through a process of rationalization. Currently there are only two cellular phone companies in operation: Smart and Globe Telecom. It is presumed that subscribers have also consolidated into these two companies.

Tables

Table 1.2.1 Municipality Population of the Study Area in 1980, 1990 and 2000

National / Regional / Province / Municipality	Study Area (km²)	Census Population 1980 Number of Households	1980 Population	1990 Number of Household	1990 Population	2000 Number of Household	2000 Population	2000 Household Population	2000 Average Size of Household	2000 Density (per km²)	Annual Growth Rate (%p.a) 80-90	Annual Growth Rate (%p.a) 90-00
Philippines	294,554.00		48,098,460		60,703,206	15,274,579	76,503,333	76,286,062	4.99	260	2.35	2.34
Region III	18,231.00		4,802,793		6,199,017	1,632,047	8,030,945	8,015,807	4.91	445	2.57	2.62
Zambales (whole province)	3,611.10		287,607		369,665	91,613	433,542	432,729	4.72	120	2.54	1.61
Zambales Province (Study Area)												
Botolan	613.70		27,125	6,844	35,604	9,629	46,602	46,550	4.83	76	2.76	2.78
Cabangan	239.40		11,636	3,192	15,337	4,032	18,848	18,842	4.67	79	2.80	2.73
Castillejos	86.50		19,154	5,453	26,753	7,238	33,108	33,038	4.56	383	3.40	2.15
Iba	153.40		22,791	5,621	29,221	7,260	34,678	34,487	4.75	226	2.52	1.73
San Antonio	205.00		22,382	5,836	26,944	6,483	28,248	28,152	4.34	138	1.87	0.47
San Felipe	103.70		13,834	3,321	15,624	4,094	17,702	17,534	4.28	171	1.22	1.26
San Marcelino	440.90		24,964	7,598	36,589	5,866	25,440	25,401	4.33	58	3.90	-3.57
San Narciso	71.60		19,119	4,868	22,891	5,319	23,522	23,499	4.42	329	1.82	0.27
Grand Total	1,914.20		161,005	42,733	208,963	49,921	228,148	227,503	4.56	119	2.39	1.13
Region III												
Pampanga (East Pinatubo)												
Angeles City	83.35	33,137	188,834	46,421	236,685						2.28	
Arayat	119.42		56,692	12,100	73,189						2.59	
Mabalacat	153.53	13,244	80,966	22,750	121,115						4.11	
Magalang	138.35	5,278	34,840	7,389	43,940						2.35	
Mexico	98.97	9,155	53,491	11,234	69,441						2.64	
Sta. Ana	44.34	4,407	25,361	5,250	32,540						2.52	
Grand Total	637.96	65,221	440,184	105,144	576,910						2.74	
Total Pampanga	2,120.40		992,756		1,295,929	308,445	1,618,759	1,617,040	5.24	763	2.70	2.25
Tarlac (East Pinatubo)												
Bamban	143.14	3,972	26,072	6,209	35,639						3.18	
Capas	61.00	3,053	18,883	4,539	25,795						3.17	
Concepcion	193.35	12,296	76,446	16,162	97,776						2.49	
Grand Total	397.49	19,321	123,401	26,910	159,210						2.75	
Total Tarlac	3,053.40		688,457		859,708	215,395	1,068,783	1,067,484	4.96	350	2.25	2.20

Source: 1980, 1990, 2000 Census of Population and Housing, NSO
Study on Flood and Mudflow Control for Sacobia-Bamban/Abacan River Draining from Mt. Pinatubo, May 1996

Table 1.2.2 Urban/Rural and Male/Female Population: 1990 Census Year

Area	Total Population			Urban Population			Rural Population		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Population									
I. Philippines	61,559,116	30,443,187	31,115,929	29,440,153	14,546,463	14,893,690	32,118,963	15,896,724	16,222,239
II. Provinces Related to Study Area									
Region 3	6,188,716	3,118,227	3,070,489	3,732,073	1,863,319	1,868,754	2,456,643	1,254,908	1,201,735
Zambales	561,554	278,966	282,588	366,690	178,722	187,968	194,864	100,244	94,620
Pampanga	1,530,073	773,513	756,560	1,079,806	542,889	536,917	450,267	230,624	219,643
Tarlac	859,222	434,742	424,480	256,594	127,975	128,619	602,628	306,767	295,861
Percentage Share									
I. Philippines	100.00	49.45	50.55	47.82	49.41	50.59	52.18	49.49	50.51
II. Provinces Related to Study Area									
Region 3	100.00	50.39	49.61	60.30	49.93	50.07	39.70	51.08	48.92
Zambales	100.00	49.68	50.32	65.30	48.74	51.26	34.70	51.44	48.56
Pampanga	100.00	50.55	49.45	70.37	50.28	49.72	29.43	51.22	48.78
Tarlac	100.00	50.60	49.40	29.86	49.87	50.13	70.14	50.90	49.10

Source: 1990 Census of Population and Housing, NSO

Table 1.2.3 Labor Force, Employment Status and Employed Persons by Major Industry Group (1990, 1995, 2000)

(Unit: 1,000)

Item	Philippines		Region 3	
Employment Status				
Household Population, 15 Years Old & Over				
1990	37,999		3,856	
1995	42,770		3,365	
2000	48,076		4,965	
Participation Rate to Labor Force				
1990	64.5		62.2	
1995	65.6		62.8	
2000	64.1		61.3	
Percentage of Labor Force				
Employment Rate (%)				
1990	91.9		90.1	
1995	91.6		91	
2000	89.9		90.1	
Unemployment Rate (%)				
1990	8.1		9.9	
1995	8.4		9	
2000	10.1		9.9	
Underemployment Rate in Percent of Employed (%)				
1990	22.1		15.9	
1995	19.8		13.3	
2000	19.9		8	
Employed Persons by Major Industry Group in 2000				
Agriculture	**10,401**	(37.4)	**683**	(25.0)
Agriculture, Fishery & Forestry	10,401		683	
Industry	**4,444**	(16.0)	**634**	(23.2)
Mining and Quarrying	106		6.0	
Manufacturing	2,792		377	
Electricity Gas and Water	116		19.0	
Construction	1,430		232	
Services	**12,929**	(46.5)	**1,413**	(51.7)
Wholesale and Retail Trade	4,587		497	
Transportation, Storage and Communication	2,024		278	
Financing, Real Estate & Business Service	678		74	
Community, Social & Personal Services	5,636		564	
Industry Not Adequately Defined or Reported	4			
Total	**27,775**	(100.0)	**2,731.0**	100.0

Source: 2001 Philippine Statistical Yearbook, October 2001, NSCB

Note: Percentage of total figures are shown in brackets

Table 1.2.4 Labor Force and Employment: 2000 Census Year

(Unit:1,000)

Area	Household Population	Labor Force Total	Labor Force Employed	Labor Force Un-employed	%lab.force	Not in Labor Force	%HHpop
Population Distribution							
I. Philippines	48,075	30,908	27,775	3,133	10.1%	17,167	35.7%
Male	23,944	19,236	17,258	1,978	10.3%	4,708	19.7%
Female	24,131	11,672	10,516	1,156	9.9%	12,459	51.6%
II. Region III	4,945	3,033	2,731	302	10.0%	1,912	38.7%
Male	2,460	1,972	1,786	186	9.4%	487	19.8%
Female	2,485	1,060	945	115	10.8%	1,425	57.3%
II. Zambales Province	399	232	144	88	37.9%	167	41.9%
Male	223	128	84	52	40.6%	80	35.9%
Female	176	104	60	36	34.6%	87	49.4%

Source: Integrated Survey of Household Bulletin Series, NSO, October 2001

Table 2.1.1 GRDP and Per Capita GRDP by Region: 1990, 1995, 2000 (1/3)

	Area	GDP/GRDP at Current Prices (Million Pesos)	Population	Per Capita GRDP (Pesos)	Ratio to National GDP (%)	Order of GRDP in Regions
1990						
	Philippines	1,077,237	60,703,216	17,522	100	-
1	NCR	347,609	7,948,402	43,593	349	1
2	CAR	20,267	1,146,191	17,608	100	3
3	Region 1	32,501	3,550,642	9,246	53	12
4	Region 2	23,724	2,340,545	9,601	55	11
5	Region 3	91,922	6,199,017	14,966	85	7
6	Region 4	155,817	8,263,099	19,255	110	2
7	Region 5	31,927	3,910,001	7,276	42	14
8	Region 6	75,649	5,393,333	13,337	76	8
9	Region 7	70,766	4,594,124	15,331	87	5
10	Region 8	28,269	3,054,490	8,413	48	13
11	Region 9	31,182	2,459,690	9,760	56	10
12	Region 10	55,120	2,197,544	15,248	87	6
13	Region 11	74,670	4,006,731	17,229	98	4
14	Region 12	37,813	2,032,958	12,853	73	9
15	Region 13	-	4,764,297	-	-	-
16	ARMM	-	1,836,930	-	-	-

Source: 2001 Philippine Statistical Yearbook

Note: 1. The GRDP estimates for the CAR and the ARMM started only in 1987 and 1993 respectively. Before this the contributions to the economy of the province comprising the CAR were accounted for in Region 1 and 2 while those of the ARMM province were accrued to Regions 9 and 12.

2. Data are as of July 2001.

3. Details may not add up to totals due to rounding.

Table 2.1.1 GRDP and Per Capita GRDP by Region: 1990, 1995, 2000 (2/3)

	Area	GDP/GRDP at Current Prices (Million Pesos)	Population	Per Capita GRDP (Pesos)	Ratio to National GDP (%)	Order of GRDP in Regions
1995						
	Philippines	1,905,951	68,616,536	27,124	100	-
1	NCR	623,939	9,454,040	68,429	252	1
2	CAR	38,453	1,254,838	28,912	107	2
3	Region 1	58,810	3,803,890	14,589	54	12
4	Region 2	40,374	2,536,035	14,882	55	11
5	Region 3	159,939	6,932,570	22,316	82	8
6	Region 4	273,578	9,943,096	28,210	104	3
7	Region 5	55,885	4,325,307	12,447	46	14
8	Region 6	132,112	5,776,938	21,464	79	9
9	Region 7	121,438	5,014,588	23,008	85	6
10	Region 8	47,854	3,366,917	13,568	50	13
11	Region 9	52,904	2,794,659	18,306	67	10
12	Region 10	97,682	2,483,272	23,761	88	5
13	Region 11	129,205	4,604,158	24,508	90	4
14	Region 12	54,788	2,359,808	22,943	85	7
15	Region 13	-	1,942,687	-	-	-
16	ARMM	18,991	2,020,903	9,047	33	15

Source: 2001 Philippine Statistical Yearbook

Note:
1. The GRDP estimates for the CAR and the ARMM started only in 1987 and 1993 respectively. Before this the contributions to the economy of the province comprising the CAR were accounted for in Region 1 and 2 while those of the ARMM province were accrued to Regions 9 and 12.
2. Data are as of July 2001.
3. Details may not add up to totals due to rounding.

Table 2.1.1 GRDP and Per Capita GRDP by Region: 1990, 1995, 2000 (3/3)

	Area	GDP/GRDP at Current Prices (Million Pesos)	Population	Per Capita GRDP (Pesos)	Ratio to National GDP (%)	Order of GRDP in Regions
2000						
	Philippines	3,302,588	76,498,735	42,117	100	-
1	NCR	1,178,249	9,932,560	117,391	279	1
2	CAR	75,813	1,365,220	50,881	121	2
3	Region 1	101,191	4,200,478	22,935	54	12
4	Region 2	70,975	2,813,159	23,494	56	11
5	Region 3	245,069	8,030,945	30,784	73	9
6	Region 4	459,733	11,793,655	41,786	99	3
7	Region 5	89,717	4,674,855	18,095	43	15
8	Region 6	215,665	6,208,733	31,767	75	8
9	Region 7	224,872	5,701,064	38,446	91	5
10	Region 8	81,662	3,610,355	20,732	49	13
11	Region 9	82,874	3,091,208	25,290	60	10
12	Region 10	116,867	2,747,585	40,133	95	4
13	Region 11	193,292	5,189,335	35,815	85	6
14	Region 12	86,438	2,598,210	31,978	76	7
15	Region 13	48,127	2,095,367	20,488	49	14
16	ARMM	32,044	2,412,159	13,818	33	16

Source: 2001 Philippine Statistical Yearbook

Notes:
1. The GRDP estimates for the CAR and the ARMM started only in 1987 and 1993 respectively. Before this the contributions to the economy of the province comprising the CAR were accounted for in Region 1 and 2 while those of the ARMM province were accounted for in Regions 9 and 12.
2. Data are as of July 2001.
3. Details may not add up to totals due to rounding.

Table 2.1.2 Gross Regional Domestic Product at Current Prices: 1990, 1995, 2000

(Unit: Million Pesos)

Economic Sector	1990	1995	2000
Gross Domestic Product in Philippines			
1. Agriculture	**235,956**	**412,198**	**525,873**
1) Crop Production	130,290	244,601	307,085
Palay	36,416	64,598	88,458
Corn	16,469	21,751	24,856
Coconut	12,515	25,084	19,093
Sugarcane	6,962	11,971	14,472
Others	57,928	121,197	160,206
2) Fishery	40,833	65,338	76,670
3) Livestock & Poultry	46,025	78,883	114,707
4) Agricultural Activities	9,901	19,243	24,028
5) Forestry	8,907	4,133	3,383
2. Industry	**371,347**	**611,097**	**1,039,017**
1) Mining & Quarrying	16,659	16,801	21,239
2) Manufacturing	267,485	438,247	745,857
3) Construction	64,903	106,639	174,410
4) Electricity, Gas & Water	22,300	49,410	97,511
3. Services	**469,934**	**882,657**	**1,743,428**
1) Transportation & Communication	53,191	88,929	198,956
2) Trade	154,592	261,862	473,004
3) Others	262,151	531,866	1,071,468
4. Total	**1,077,237**	**1,905,952**	**3,308,318**
Gross Domestic Product in Region 3			
1. Agriculture	**22,360**	**38,532**	**51,482**
1) Crop Production			
Palay	-	-	-
Corn	-	-	-
Cocunut	-	-	-
Sugarcane	-	-	-
Others	-	-	-
2) Fishery	-	-	-
3) Livestock & Poultry	-	-	-
4) Agricultural Activities	-	-	-
5) Forestry	19	0	16
2. Industry	**34,750**	**59,398**	**80,633**
1) Mining & Quarrying	2,252	1,248	233
2) Manufacturing	24,445	39,226	65,343
3) Construction	5,939	14,002	13,729
4) Electricity, Gas & Water	2,114	4,922	10,764
3. Services	**34,813**	**62,009**	**118,392**
1) Transportation & Communication	4,827	7,904	17,161
2) Trade	13,634	21,339	34,570
3) Others	16,351	32,766	66,367
4. Total	**91,923**	**159,939**	**250,507**

Source: 2002 Philippine Statistical Yearbook, NSCB

Table 2.1.3 Percentage Distribution of GRDP by Economic Sector: 1990, 1995, 2000

Economic Sector	1990	1995	2000
Philippines			
1. Agriculture	21.9	21.6	15.9
2. Industry	34.5	32.1	31.1
- Manufacturing	24.8	23.0	22.6
3. Services	43.6	46.3	52.9
- Trade	14.4	13.7	14.3
4. Total	100.0	100.0	100.0
Region 3			
1. Agriculture	24.3	24.1	18.8
2. Industry	37.8	37.1	32.9
- Manufacturing	26.6	24.5	24.2
3. Services	37.9	38.8	48.3
- Trade			
4. Total	100.0	100.0	100.0

Source : 2001 Philippine Statistical Year Book, NSCB

Table 2.1.4 Distribution of GRDP per Capita at Current Prices: 1990, 1995, 2000

Item	1990	1995	2000
In Pesos			
Philippines	17,522	27,124	42,117
Region 3	14,966	22,316	30,784
Percentage (%)	85	82	73
In US$ Equivalent			
Philippines	716	1,051	942
Region 3	612	865	688

Source : 2001 Philippine Statistical Year Book, NSCB

Table 2.1.5 Gross Regional Domestic Product at 1985 Constant Prices: 1990, 1995, 2000

(Unit: Million Pesos)

Economic Sector	1990	1995	2000
Gross Domestic Product in Philippines			
1. Agriculture	**160,734**	**172,848**	**190,691**
1) Crop Production	85,870	93,269	99,887
Palay	24,873	28,189	33,134
Corn	10,950	9,837	10,750
Coconut	7,084	7,380	6,520
Sugarcane	3,652	3,694	4,908
Others	39,311	43,899	44,575
2) Fishery	30,783	34,453	36,168
3) Livestock & Poultry	29,069	38,890	45,258
4) Agricultural Activities	7,692	7,457	8,006
5) Forestry	7,320	1,779	1,372
2. Industry	**255,548**	**283,858**	**332,258**
1) Mining & Quarrying	11,091	10,035	10,708
2) Manufacturing	183,925	203,271	237,271
3) Construction	41,858	44,492	51,719
4) Electricity, Gas & Water	18,674	26,060	32,560
3. Services	**304,408**	**345,518**	**435,462**
1) Transport & Communication	41,108	47,366	68,174
2) Trade	107,428	123,430	152,904
3) Others	155,872	174,722	214,267
4. Total	**720,690**	**802,224**	**958,411**
Gross Regional Product in Region 3			
1. Agriculture	**15,849**	**17,258**	**19,590**
1) Crop Production	-	-	-
Palay	-	-	-
Corn	-	-	-
Coconut	-	-	-
Sugarcane	-	-	-
Others	-	-	-
2) Fishery	-	-	-
3) Livestock & Poultry	-	-	-
4) Agricultural Activities	-	-	-
5) Forestry	16	0	7
2. Industry	**28,378**	**34,589**	**34,728**
1) Mining & Quarrying	1,282	592	104
2) Manufacturing	21,370	25,510	27,146
3) Construction	3,911	5,892	4,052
4) Electricity, Gas & Water	1,815	2,595	3,426
3. Services	**24,022**	**26,639**	**31,812**
1) Transport & Communication	3,782	4,223	5,704
2) Trade	10,017	11,095	12,488
3) Others	10,223	11,321	13,620
4. Total	**68,249**	**78,486**	**86,130**

Source : 2002 Philippine Statistical Year Book, NSCB

Table 2.1.6 Real Annual Growth of GRDP by Economic Sector: 1990-2000

(Percentage)

Economic Sector	1990-1995	1995-2000	1990-2000
Philippines			
1. Agriculture	1.46	1.98	1.72
2. Industry	2.12	3.00	2.56
- Manufacturing	2.02	3.14	2.58
3. Services	2.57	4.73	3.64
- Commerce	2.82	4.38	3.59
4. Total	2.17	3.55	2.85
Region 3			
1. Agriculture	1.71	2.31	2.01
2. Industry	4.04	(0.45)	1.77
- Manufacturing	3.61	1.31	2.45
3. Services	2.09	3.61	2.85
- Commerce	-	-	-
4. Total	2.83	1.60	2.22

Source : 2001 Philippine Statistical Year Book, NSCB

Table 2.1.7 Real Growth of GRDP per Capita: 1990-2000

Economic Sector	1990	1995	2000
GRDP per Capita at 1985 Constant Prices (Pesos)			
Philippines	11,872	11,691	12,483
Region 3	11,010	11,321	10,580
Percentage (%)	93	97	85
Annual Growth Rate (%)	**90-95**	**95-00**	**90-00**
Philippines	(0.31)	1.32	0.50
Region 3	0.56	(1.34)	0.40

Source : 2001 Philippine Statistical Year Book, NSCB

Table 2.2.1 Gross Regional Domestic Expenditure at Current Prices: 1990, 1995, 2000

(Unit:million pesos)

Economic Sector	1990	1995	2000
Gross Domestic Product in The Philippines			
1. Personal Consumption	767,061	1,411,904	2,335,535
2. Government Consumption	108,843	217,045	422,428
3. Capital Formation	260,165	427,896	589,335
1. Fixed Capital	248,954	423,197	596,644
a. Construction	129,624	183,740	280,380
b. Durable Equipment	101,968	209,772	271,349
c. Breeding Stock & Orchard Dev.	17,362	29,685	44,915
2. Changes in Stock	11,211	4,699	(7,309)
4. Net Export	(62,133)	(149,121)	202,562
1) Export	296,415	692,952	1,859,441
2) Less: Import	358,548	842,073	1,656,879
5. Statistical Discrepancy	3,301	(1,773)	(247,271)
6. **Total**	**1,077,237**	**1,905,951**	**3,302,589**
Gross Regional Domestic Product in Region 3			
1. Personal Consumption	90,513	158,698	252,055
2. Government Consumption	5,253	11,064	24,083
3. Capital Formation			38,000
1. Fixed Capital	15,586	25,348	41,018
a. Construction	12,983	15,940	23,735
b. Durable E uipment	1,102	6,830	13,067
c. Breeding Stock & Orchard Dev.	1,501	2,578	4,215
2. Changes in Stock		190	(3,017)
4. Net Export			
6. **Total**	**91,922**	**159,939**	**245,069**

Source: 2001 Philippine Statistical Yearbook, NSCB

Table 2.2.2 Percentage Distribution of GRDE by type of Expenditure: 1990, 1995, 2000

	Economic Sector			1990	1995	2000
Philippines						
1.	Personal Consumption			71.2	74.1	70.7
2.	Government Consumption			10.1	11.4	12.8
3.	Capital Formation			24.2	22.5	17.8
	1.	Fixed Capital		23.1	22.2	18.1
	2.	Changes in Stock		1.0	0.2	(0.2)
4.	Net Export			(5.8)	(7.8)	6.1
5.	Statistical Discrepancy			0.3	(0.1)	(7.5)
6.	**Total**			**100.0**	**100.0**	**100.0**
Region 3						
1.	Personal Consumption			98.5	99.2	102.8
2.	Government Consumption			5.7	6.9	9.8
3.	Capital Formation					
	1.	Fixed Capital		17.0	15.8	16.7
	2.	Changes in Stock				
4.	Net Export					
5.	**Total**			**100.0**	**100.0**	**100.0**

Source: 2001 Philippine Statistical Yearbook, NSCB
Gross Regional Domestic Expenditure1996-1998,July 2000, NSCB
JICA Study Team for Percentage Computations

Table 2.2.3 Exports by Majority Commodity Group : 1997- 2000

Commodities	1997	1998	1999	2000
TOTAL EXPORTS	**25,228**	**29,496**	**35,037**	**38,079**
Agro-based Products	**1,373**	**1,361**	**975**	**1,159**
Coconut Products	816	816	449	575
Coconut oil	673	706	342	478
Dessicated Coconut	88	73	89	73
Copra & Copra Meal/Cake	52	36	18	23
Others	3	1	-	1
Sugar & Products	99	99	71	57
Centrigual & Refined	83	80	63	52
Molasses	15	19	8	5
Others	1	1	1	-
Fruits and Vegetables	458	446	455	527
Canned Pineapple	86	79	82	87
Pineapple Juice	9	7	9	12
Pineapple Concentrates	28	33	23	28
Bananas	216	217	241	291
Mangoes	40	42	32	34
Others	79	68	68	75
Other Agro-based Products	**491**	**506**	**500**	**475**
Fish, Fresh or Preserved (Shrimps, Prawns)	292	306	287	321
Coffee, Raw, not Roasted	1	1	-	-
Abaca Fibers	23	17	19	18
Tobacco Unmanufactured	29	22	32	16
Natural Rubber	28	34	25	14
Ramie Fibers,Raw or Roasted	-	-	-	-
Seaweeds, Dried	39	42	33	31
Rice	-	-	-	-
Others	79	84	104	75
Forest Products	**45**	**24**	**20**	**44**
Logs	-	-	-	-
Lumber	26	10	13	34
Plywood	5	2	4	4
Veneer Sheets/Corestocks	14	12	5	3
Others	-	-	-	3
Mineral Products	**762**	**592**	**646**	**650**
Copper Concentrates	44	25	43	28
Copper Metal	231	178	236	234
Gold	49	237	213	185
Iron Ore Agglomerates	90	60	73	77
Chromium Ore	6	6	4	3
Nickel	-	-	-	-
Others	342	86	77	123
Petroleum Products	**258**	**129**	**216**	**436**
Manufactures	**21,498**	**25,819**	**31,301**	**34,018**
Electronic Equipment & Parts	13,028	17,138	21,166	22,178
Gaments	2,349	2,356	2,267	2,563
Textile Yarn/Fabrics	299	242	219	249
Footware	170	135	71	60
Travel Goods & Handbags	174	183	154	177
Wood Manufactures	134	118	129	212
Furnitures and Fixtures	322	323	354	381
Chemicals	383	340	294	327
Non- Metallic Mineral Manufactures	105	105	111	133
Machinery & Transport Equipment	2,685	3,316	4,950	5,909
Processed Food and Beverages	365	322	273	286
Iron and Steel	56	80	47	28
Baby Carriage, Toys, Games & Sporting Goods	231	224	203	169
Basketwork, Wickenwork & other Articles	125	101	94	85
Miscelleneous Manufactured Articles	505	456	455	489
Others	567	380	514	772
Special Transactions	**287**	**331**	**436**	**500**
RE-EXPORTS	**514**	**734**	**943**	**797**

Source: Foreign trade Statistics of the Philippines, 1997-2000 NSO
2001 Philippine Statistical Yearbook

Note: Statistics are taken largely from 2001 PSY with some additions from NSO.
Totals do not always agree with component figures due to rounding.

Table 2.2.4 Imports by Major Type of Goods: 1997-2000

(Unit: FOB Value in US$ Million)

Commodities	1997	1998	1999	2000
TOTAL IMPORTS	36,355	29,524	30,742	31,387
Capital Goods	**14,369**	**12,051**	**11,827**	**12,161**
Power Genaerating & Specialized Machines	3,804	2,568	2,398	2,471
Office and EDP Machines	1,418	1,582	1,483	1,536
Telecommunication & Electrical Machinery	6,437	6,870	6,891	6,973
Land Transport Equipment excluding Passenger Cars	803	445	561	66
Air Crafts, Ships & Boats	1,439	196	102	119
Professional, Scientific, Photographic & Optical Goods	468	390	394	401
Raw Materials & Intermediate Goods	**14,634**	**11,584**	**12,601**	**12,061**
Unprocessed Raw Materials	1,645	1,168	1,518	1,337
Wheat	423	249	363	353
Corn	54	78	35	58
Unmilled Cereals excluding Rice & Corn	2	1	2	4
Crude Materials, Inedible	1,045	766	1,015	821
Pulp and Waste Paper	75	67	81	93
Cotton	107	60	69	53
Synthetic Fibers	110	82	88	87
Metalliferous Ores	349	230	328	242
Others	404	327	449	345
Tobacco, Unmanufactured	121	74	103	102
Semi-Processed Raw Materials	12,989	10,416	11,083	10,724
Feeding Stuffs for Animals	311	283	203	269
Animal & Vegetable Oils & Fats	58	59	101	66
Chemical	2,792	2,206	2,507	2,619
Chemical Compounds	685	559	644	679
Medicinal & Pharmaceutical Chem.	331	311	364	334
Urea	89	68	76	74
Fertilizer Excluding Urea	125	94	81	95
Artificial Resins	867	568	606	695
Others	695	606	736	743
Manufactured Goods	3,983	2,807	3,175	3,151
Paper & Paper Products	337	266	322	333
Textile, Yarn, Fabrics & Made-up Articles	919	789	844	804
Non- metallic Mineral Manufactures	284	144	162	217
Iron & Steel	1,260	764	947	886
Non- ferrous Metals	374	284	363	386
Metal Products	511	371	302	290
Others	298	189	235	235
Embroideries	357	346	332	310
Materials/Accessories for Manufacture	5,407	4,634	4,708	4,207
Iron Ore, not Agglomerated	81	81	57	101
Mineral Fuels & Lubricant	**3,074**	**2,020**	**2,433**	**3,877**
Coal,Coke	109	110	95	92
Petroluem Crude	2,458	1,433	1,998	3,050
Others	507	477	340	734
Consumer Goods	**3,091**	**2,623**	**2,642**	**2,524**
Durable	1,516	901	1,093	1,072
Passenger Cars & Motorized Cycle	643	235	305	370
Home Appliances	142	89	138	160
Miscelleneous Manufactures	731	577	650	542
Non- Durable	1,575	1,722	1,549	1,452
Food & Live Animals Chiefly for Food	1,435	1,603	1,430	1,322
Daily Products	405	300	309	390
Fish & Fish Preparations	70	57	75	57
Rice	211	586	218	123
Fruits & Vegetables	137	108	140	124
Others	612	552	688	627
Beverages & Tobacco Manufactures	75	64	69	76
Articles of Apparel, Accessories	65	55	50	54
Special Transactions	**1,187**	**1,246**	**1,239**	**765**
Articles Temporarily Imported & Exported	869	879	898	426
Others	318	367	341	339

Source: Foreign Trade Statistics of the Philippines, 1997-2000

Table 2.2.5 Exports and Imports by Country : 1996-2000

(Unit : FOB US$ Million)

Country	1996		1997		1998		1999		2000	
	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export
South-East Asian Countries										
1. Japan	7,129	3,671	7,414	4,194	6,030	4,234	6,136	4,664	6,027	5,609
2. Singapore	1,740	1,224	2,171	1,621	1,740	1,832	1,742	2,467	2,115	3,124
3. HongKong	1,360	868	1,549	1,172	1,300	1,326	1,226	1,947	1,217	1,907
4. Taiwan	1,598	661	1,808	1,169	1,415	1,757	1,614	2,993	1,948	2,861
5. Thailand	602	780	791	856	794	634	822	841	846	1,206
6. Korea Republic	1,673	371	2,182	474	2,189	509	2,723	1,032	2,351	1,173
7. Malaysia	801	667	947	640	924	1,142	979	1,479	1,142	1,377
8. China	677	328	872	244	1,199	344	1,040	575	768	663
9. Indonesia	645	142	695	214	592	111	705	123	693	183
10. Brunei	0	2	1	4	0	4	1	5	0	4
Midle Eastern Countries										
1. Saudi Arabia	1,671	55	1,058	30	607	33	811	27	1,048	31
2. Kuwait	16	18	4	17	22	10	34	22	12	9
3. Bahrain	16	4	9	7	13	5	7	3	6	4
American Continents										
1. USA	6,361	6,966	7,154	8,815	6,560	10,098	6,365	10,445	5,323	11,365
2. Canada	259	206	308	234	209	234	198	320	202	343
European Countries										
1. Germany F.R.	1,209	847	1,180	1,060	822	1,035	801	1,229	734	1,329
2. UK	479	936	545	1,086	327	1,757	340	1,766	355	1,506
3. Netherlands	331	1,115	545	1,663	219	2,319	246	2,982	324	2,982
4. France	400	226	781	231	492	251	306	263	348	295
5. Italy	297	94	304	91	219	111	201	129	173	172
6. Romania	16	3	15	2	6	1				
Oceanian Countries										
1. Australia	808	161	955	204	683	170	757	225	816	309
Total	32,427	20,543	35,934	25,228	29,660	29,496	30,742	35,037	31,387	38,078

Source: 20001 Philippine Statistical Yearbook

Note : Total figures include countries not listed in the above table

Table 2.2.6 Official Development Assistance 1995-2000

(Unit: US$ Million)

Item	1995	1996	1997	1998
Bilateral	748.8	748.2	567.3	528.0
Japan	416.1	414.5	319.0	297.6
USA	112.0	46.0	15.0	27.3
Germany	67.6	106.6	56.6	45.4
Italy	3.0	8.7	2.1	2.1
Spain	11.8	4.4	22.7	15.4
Australia	56.0	55.9	42.9	45.0
Canada	19.5	16.4	16.5	14.5
Others	62.8	95.7	92.5	80.7
Multilateral	132.6	131.7	115.0	79.6
ADB	54.8	47.2	49.0	21.3
Others	77.8	84.5	66.0	58.3
Arab Countries	1.6	-0.8	-0.9	-0.9
Total	883.0	879.1	681.4	606.7

Source: Geographical Distribution of Financial Flows to Aid Recipients, Disbursements Commitments Country Indicators 1995-2000, OECD Development Assistance Committee

Note: Official development assistance is defined as grants and loans, with at least 25% grant element, administered with the aim of promoting economic or social development. Figures indicate amounts.

Table 2.2.7 External Debt: 1995-2000

(Unit: US$ Billion)

Item	1995	1996	1997	1998
Total Debt Stocks	37.8	40.1	45.7	47.8
1. Long Term Debt	31.8	31.8	33.0	39.1
2. Use of IMF Credit	0.7	0.4	0.9	1.6
3. Short Term Debt	5.3	8.0	11.8	7.2
Debt Outstanding of Long Term Debt	31.8	31.8	33.0	39.1
1. Public and Publicly Guaranteed	28.3	26.9	26.2	28.2
a. Official Creditors	22.2	20.2	18.5	20.2
- Multilateral	8.5	7.9	7.3	8.0
- Bilateral	13.7	12.3	11.2	12.2
b. Private Creditors	6.1	6.7	7.7	8.0
- Bonds	4.7	5.5	6.2	6.4
- Commercial Banks	0.7	0.6	0.9	1.2
- Others	0.8	0.6	0.5	0.4
2. Private Nonguaranteed	3.5	4.9	6.8	10.9
Total Debt Service	5.4	5.4	4.5	5.2
1. Principal Repayment	3.1	3.2	2.3	2.9
a. Long Term Debt	2.7	2.9	2.1	2.8
b. IMF Repurchases	0.4	0.3	0.2	0.1
2. Interest Payments	2.3	2.2	2.2	2.3
a. Long Term Debts	1.8	1.7	1.7	2.0
b. IMF Charges	0.1	0.0	0.0	0.0
c. Short Term Debts	0.4	0.5	0.5	0.3
Ratios (%)				
1. Total Debt Stocks/GNP	49.7	46.5	53.3	70.1
2. Debt Service Ratio *1	16.1	13.4	9.3	11.8

Source: World Debt Tables, 2001, World Bank

Note: Long Term Debt is defined as having original maturity of more than one year.
*1 Debt service is a percentage of earnings from exports of goods and service (including workers' remitances).

Table 2.3.1 Production of Major Crops: 1990, 1995, 2000

Crop	1990					1995					2000				
	Area	Quantity	Yield	Value		Area	Quantity	Yield	Value		Area	Quantity	Yield	Value	
	(1000ha)	(1000ton)	(ton/ha	Mil. Pesos)	% Share	(1000ha)	(1000ton)	(ton/ha)	(Mil. Pesos)	% Share	(1000ha)	(1000ton)	(ton/ha)	Mil. Pesos)	% Share
Philippines															
1 Cereals	7,139	14,173	1.99	64,699	26.3	6,451	14,669	2.27	103,694	44.9	6,548	16,901	2.6	135,331	46.4
- Palay	3,319	9,319	1.99	45,672	18.5	3,759	10,541	2.80	77,684	33.7	4,038	12,389	3.1	105,558	36.2
- Corn	3,820	4,854	1.27	19,027	7.7	2,692	4,129	1.53	26,010	11.3	2,510	4,511	1.8	29,773	10.2
2 Major Crops	4,054	37,960	9.36	64,760	26.3	4,771	39,204	8.22	87,880	38.1	5,854	46,008	7.9	116,076	39.8
- Coconut	3,112	11,943	3.84	18,745	7.6	3,065	12,183	3.98	20,955	9.1	4,090	12,499	3.1	26,123	8.9
- Banana	312	3,540	11.35	7,254	2.9	339	3,449	10.17	12,457	5.4	348	4,156	11.9	19,365	6.6
- Mango	77	453	5.88	4,325	1.8	108	697	6.45	9,876	4.3	132	848	6.4	16,037	5.5
- Sugar Cane	235	18,667	79.43	11,387	4.6	302	17,774	58.86	13,153	5.7	372	23,519	63.2	16,463	5.6
- Pineapple	41	1,422	34.68	4,774	1.9	44	1,443	32.79	5,079	2.2	43	1,524	35.1	10,392	3.6
- Cassava	214	1853	8.66	3,467	1.4	226	1,906	8.44	4,936	2.1	211	1,771	8.4	6,765	2.3
- Tobacco	63	82	1.30	2,132	0.9	56	64	1.13	1,567	0.7	41	50	1.2	2,419	0.8
- Onion						9	88	10.16	1,002	0.4	10	84	8.8	1,319	0.5
Total Agricultural Crops				**246,242**					**230,396**					**291,956**	
Region 3															
1 Cereals	533.0	1,928	3.62	9,433	83.3	565.0	1,794	3.17	13,200	87.2	554.0	1,965	3.55	16,594	85.4
- Palay	521.0	1,911	3.67	9,366	82.7	548.0	1,757	3.21	12,949	85.5	530.0	1,888	3.56	16,086	82.8
- Corn	12.0	17	1.42	67	0.6	17.0	37	2.12	251	1.7	24.0	77	3.21	508	2.6
2 Major Crops	44.9	2,277	50.68	1882	16.6	45.0	1,228	27.29	1,953	12.8	59.7	1440		2,832	14.6
- Coconut	2.3	11.2	4.87	18	0.2	2.0	8	4.00	14	0.1	1.8	6	3.33	13	0.1
- Banana	3.1	35	11.22	74	0.7	4.0	38	9.50	137	0.9	4.0	40	10.00	186	1.0
- Mango	11.0	44	4.00	420	3.7	18.0	66	3.67	935	6.2	27.5	88	3.20	1,662	8.6
- Sugar Cane	26.6	2,178	81.88	1,329	11.7	19.0	1,109	58.37	821	5.4	24.8	1305	52.62	914	4.7
- Pineapple	0.01	0.025	2.50	0.1	0	0.1	1	7.76	4	0.0	0.1	0.8	8.00	6	-
- Cassava	1.0	8	8.00	15	0.1	1.0	7	6.80	18	0.1	1.1	7	6.36	27	0.1
- Tobacco	0.9	1	1.11	26	0.2	1.0	1	0.66	24	0.2	0.4	0.5	1.25	24	0.1
- Onion															
Table Total				**11,315**	**100.0**				**15,153**	**100.0**				**19,426**	**100.0**

Source: (1) 2001 Philippine Statistical Yearbook, NSCB
(2) Data presented by BAS in Manila

Note: 1. Region III values estimated on the basis of regional production applying unit prices calculated from the national average in the above table
2. % share of value for Philippines is derived from value of all agricultural crop poduction. For Region III, % share of value is derived from totals of cereals and major crops which appear in this table.

Table 2.3.2 Production, Harvested Area and Yield of Paddy in Zambales Province: 1990, 1995, 2000

Item		Jan-June			July -Dec.			Annual Total		
		Production (tons)	Area Harvested	Yield (ton/ha)	Production (tons)	Area Harvested	Yield (ton/ha)	Production (tons)	Area Harvested	Yield (ton/ha)
1990	Zambales Province	21,107	7,380	2.86	54,119	20,680	2.62	75,226	28,060	2.68
	Irrigated	21,107	7,380	2.86	26,147	9,490	2.76	47,254	16,870	2.80
	Rainfed	-	-	-	27,972	11,170	2.50	27,972	11,190	2.50
1995	Zambales Province	14,001	5,320	2.63	42,531	14,920	2.85	56,536	20,240	2.79
	Irrigated	14,001	5,320	2.63	22,323	6,840	3.26	36,328	12,160	2.99
	Rainfed	-	-		20,208	8,080	2.50	20,208	8,080	2.50
2000	Zambales Province	27,394	8,011	3.42	50,633	17,277	2.93	78,027	25,288	3.09
	Irrigated	27,394	8,011	3.42	30,528	9,055	3.37	57,922	18,066	3.21
	Rainfed	-	-	-	20,105	8,222	2.45	20,105	8,222	2.45

Source: Bureau of Agricultural Statistics, Iba, Zambales

Table 2.3.3 Production, Harvested Area and Yield of Corn in Zambales Province : 1990, 1995, 2000

Item		Jan-June			July -Dec.			Annual Total		
		Production (tons)	Area Harvested (ha)	Yield (ton/ha)	Production (tons)	Area Harvested (ha)	Yield (ton/ha)	Production (tons)	Area Harvested (ha)	Yield (ton/ha)
1990	Zambales Province	4	10	0.40	No production			4	10	0.40
	White	4	10	0.40	-	-	-	4	10	0.40
	Yellow	-	-	-	-	-	-	-	-	-
1995	Zambales Province	18	50	0.36	31	60	0.52	49	110	0.45
	White	6	20	0.30	20	40	0.50	26	60	0.43
	Yellow	12	30	0.40	11	20	0.55	23	50	0.46
2000	Zambales Province	53	56	0.95	18	18	1.00	71	76	0.93
	White	30	37	0.81	18	18	1.00	48	57	0.84
	Yellow	22	19	1.21	-	-	-	22	19	1.21

Source: BAS, Iba, Zambales
BAS, Manila

Note: The large increase in white corn production between 1990 and 1995 was apparently financed by Zambali, a local NGO.

Table 2.3.4 Farm-gate Price of Paddy and Corn for Region 3: 1996-2000

(Unit: Pesos/kg)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Average
Paddy													
1996	8.78	9.05	8.84	9.03	9.02	8.87	8.71	8.11	6.99	7.06	6.91	7.15	8.20
1997	7.58	8.09	8.12	8.04	8.14	8.23	8.58	8.54	7.88	7.48	7.30	7.72	7.92
1998	8.23	8.33	8.39	8.53	8.92	8.84	9.12	9.15	8.24	7.56	7.42	7.96	8.11
1999	8.20	8.64	8.66	8.52	8.32	8.52	8.24	7.90	7.41	7.40	7.48	7.62	7.87
2000	8.08	8.61	8.66	8.84	8.87	8.93	9.28	8.93	8.23	7.96	7.78	7.97	8.48
Corn,Yellow													
1996	6.87	6.48	6.87	6.62	6.42	5.64	5.51	5.51	5.69	5.30	5.38	5.59	6.16
1997	6.64	6.65	6.62	6.75	6.39	6.16	5.69	5.59	5.59	5.40	5.29	5.60	5.97
1998	5.90	5.92	5.87	5.84	6.28	6.95	7.52	5.98	5.32	4.85	4.91	4.43	5.65
1999	5.23	5.80	5.70	5.84	5.55	5.40	4.60	4.71	4.81	5.34	5.96	6.81	5.39
2000	7.49	8.19	6.88	6.81	6.94	5.57	5.49	5.42	5.76	6.09	6.07	6.27	8.42
Corn,White													
1996	8.23	8.44	8.14	8.75	8.36	7.08	5.99	6.02	5.76	5.77	5.35	5.59	6.78
1997	6.72	6.63	7.26	7.51	6.66	6.26	6.25	5.95	5.75	5.88	5.57	5.47	6.17
1998	5.93	6.02	6.63	7.56	7.65	7.38	7.85	6.15	4.96	4.45	4.49	4.58	6.62
1999	5.16	5.66	6.99	6.55	6.34	6.70	6.22	6.30	6.22	6.65	6.69	7.00	6.32
2000	6.75	7.78	7.45	7.74	7.80	7.03	5.98	6.30	6.65	6.74	6.87	6.72	6.98

Source: Bureau of Agricultural Statistics, Ben-Lor Bldg, Quezon City

Table 2.3.5 Inventory of Freshwater Fishponds by Municipality in Study Area: 2000

Region/ Province/Municipality	Freshwater Fishpond (ha)			
	Total	Backyard	Medium	Commercial
1. Region 3	25,513.0	2,281.0	9,357.0	13,875.0
2. Zambales Province	98.1	50.8	47.3	0.0
3. Study Area				
Zambales Province	90.1	46.8	43.2	0.0
1 Botolan	4.9	0.0	4.8	0.0
2 Iba	9.2	8.2	1.0	0.0
3 Cabangan	0.0	0.0	0.0	0.0
4 San Felipe	10.9	6.7	4.2	0.0
5 Castillejos	37.6	4.4	33.2	0.0
6 San Antonio	5.2	5.2	0.0	0.0
7 San Marcelino	10.8	10.8	0.0	0.0
8 San Narciso	11.6	11.6	0.0	0.0

Source : BAS, Iba, Zambales
Note : Fishpond size is classified as follows:
Backyard: 500 sq.m. and below
Medium scale: More than 500 sq.m. up to 10 ha.
Commercial scale : More than 10 ha.

Table 2.3.6 Production and Farm-gate Price of Fish Species in Freshwater Fishpond for Zambales Province: 1996-2001

Year		Tilapia	Carp	Catfish	Mudfish	Gourami	Others
Production (tons)							
Zambales Province							
1996		43	-	-	<1	-	-
1997		31	-	-	<1	-	-
1998		23	-	-	<1	-	-
1999		47	-	-	<1	-	-
2000		58					
2001		59					
Farmgate, Wholesale and Retail Price in Aug. 2000 (Pesos/kg)							
1)	Farmgate	45.50	-	-	55.60	-	-
2)	Wholesale	50.55	-	-	60.00	-	-
3)	Retail	60.65	-	-	65.70	-	-

Source: BFAR Region 3
BAS, Zambales

Note: Farmgate price (pesos/kg) depends on the size of tilapia. The bigger the more expensive.

Table 2.3.7 Inventory and Farm-gate Price of Livestock and Poultry: 1996-2000

Item	Cattle	Carabao	Swine	Goat	Duck	Chicken
Inventory (Unit: Heads)						
Zambales Province						
1996	-	-	-	-	-	-
1997	-	-	-	-	-	-
1998	30,197	29,099	162,060	31,438	860,328*	
1999	33,255	29,849	96,770	35,014	909,688*	
2000	32,290	27,779	107,010	43,280	829,448*	
Farm-gate Price						
Unit	Pesos/kg	Pesos/kg	Pesos/kg	Pesos/kg	Pesos/kg	Pesos/kg
Annual Average Price						
1996	-	-	-	55.65	-	50.83
1997	-	-	-	54.23	-	-
1998	-	-	-	76.43	-	53.05
1999	-	-	-	69.20	-	54.14
2000	86.33	77.96	-	65.58	-	62.63

Source: Statistical Yearbook 2001, NEDA region 3
BAS, Iba, Zambales

Note: Prices shown are unit prices of live animals
* Totals also include chicken

Table 2.3.8 Agricultural Land Use by Municipality before and after the Eruption in the Study Area: 1990, 2000

Municipality	Year	Irrigated Rice		Rainfed Rice		Sugarcane		Cassava		Rootcrops		Corn		Legume		Fishpond		Commercial Crops		Fruit Trees		Other Crops		Total
		(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)
Zambales	1990																							
	2000	5,217.59	36.70	5,026.05	35.35	22.91	16.11	254.31	1.79	929.11	6.53	136.33	0.96	165.78	1.17	90.20	0.63	-	-	2,375.49	16.71	-	-	14,217.77
Botolan	1990																							
	2000	871.51	34.73	543.08	21.64	4.38	17.45	65.65	2.62	180.98	7.21	35.20	1.40	62.00	2.47	4.90	0.20	-	-	741.81	29.56	-	-	2,509.51
Iba	1990																							
	2000	678.80	44.36	416.25	27.20	4.00	0.26	17.34	1.13	22.50	1.47	8.75	0.57	5.00	0.33	9.20	0.60	-	-	368.23	24.10	-	-	1,530.07
Cabangan	1990																							
	2000	350.01	21.57	851.17	52.45	12.54	0.77	39.48	2.43	166.33	10.25	7.38	0.48	6.33	0.39	0.00	0.00	-	-	189.63	11.68	-	-	1,622.86
San Felipe	1990																							
	2000	493.00	43.66	432.50	38.30	2.00	0.17	33.78	2.99	42.50	3.76	0.60	0.05	3.50	0.31	10.90	0.97	-	-	110.36	9.77	-	-	1,129.14
Castillejos	1990																							
	2000	296.75	18.60	660.75	41.41	-	-	55.85	3.50	209.00	13.10	5.25	0.33	14.00	0.86	37.60	2.36	-	-	316.45	19.83	-	-	1,595.65
San Antonio	1990																							
	2000	415.50	24.32	918.68	53.78	-	-	14.25	0.83	120.75	7.07	43.25	2.53	42.50	2.49	5.20	0.30	-	-	148.05	8.67	-	-	1,708.18
San Marcelino	1990																							
	2000	971.15	54.41	226.50	12.69	-	-	24.13	1.35	160.00	8.96	32.38	1.81	26.35	1.48	10.80	0.61	-	-	333.58	18.69	-	-	1,784.88
San Narciso	1990																							
	2000	1,140.88	48.81	977.13	41.80	-	-	3.84	0.16	27.05	1.16	3.525	0.15	6.10	0.26	11.60	0.50	-	-	167.38	7.16	-	-	2,337.50

Source : BAS, Iba, Zambales
Note: % areas exclude commercial crops and other crops for lack of data.
1990 data is not available

Table 2.3.9 Inventory of Establishments Registered to DTI by Municipality in Zambales and Study Area: From January 1, 1997 to April 23, 2002

Province/ Municipality \ Type of Industry		Manufacturing	Wholesale & Retail Trading	Services	Others	Total
1.	Zambales Province	507	4,297	3,658	125	8,587
2.	Study Area (in Zambales Province)	102	856	466	54	1,478
	1 Botolan	22	124	45	10	201
	2 Iba	25	265	185	15	490
	3 Cabangan	6	67	29	6	108
	4 San Felipe	9	132	56	17	214
	5 Castillejos	n.a.	-	-	-	-
	6 San Antonio	18	89	59	4	170
	7 San Marcelino	13	94	49	-	156
	8 San Narciso	9	85	43	2	139

Source: Statistical Report dated April 23, 2002, DTI Region 3
Note: This table includes the 8 municipalities that account for about 94% of the Study Area.

Table 2.3.10 Assets of Manufacturing Industry: 1997

(Value Units: Million pesos)

Item	Philippines	Region III
Large, Medium and Small Scale Manufacturers with Average Total Employment of 10 and More and Less than 10.		
1. Number of Establishments (nos)	14,734	1,413
2. Employment (Average for the year)		
1) Total (Persons)	1,109,676	102,727
2) Paid Employees (persons)	1,097,175	101,007
3) Compensation (Million Pesos)	101,009	7,331
3. Production and Value Added		
1) Value of Output *1	1,353,842	151,225
2) Total Cost	989,169	106,134
3) Value Added	558,644	61,176
4. Fixed Assets		
1) Land	29,903	1,903
2) Building	97,763	8,071
3) Transport Equipment	15,402	1,262
4) Machinery	257,985	28,415
5) Other Fixed Assets	18,668	1,028
Total	419,722	40,678
5. Inventory		
Finished Products	97,287	13,601
Work -in- Process	35,912	6,328
Material Fuel & Supplies	128,227	10,109
Goods for Resale	9,721	85
Total	271,147	30,123

Source: 1997 Annual Survey of Establishments, Vol. III Manufacturing NSO

Note: *1 In producer prices

Detail figures may not add up to totals due to rounding.

Small scale and cottage industry with average total employment of less than 10 was added to figures of large and medium scale manufacturers.

Table 2.3.11 Assets of Wholesale and Retail Trade:1997

(Value Unit: Million Pesos)

Item	Philippines	Region 3
I. Average Total Employment of 10 or More, and Less than 10		
1. Number of Establishments (nos)	15,237	896
2. Employment (nos)		
1) Total	466,815	20,953
2) Employees	450,397	20,186
3) Compensation	35,613	1,348
3. Sale Amount and Value Added		
1) Annual sales	788,687	39,616
Costs		
2) Gross Margin	139,278	5,545
3) Value Added	99,214	3,813
4. Fixed Assets		
1) Land	834	46
2) Building	5,122	160
3) Transport Equipment	2,407	104
4) Machinery	5,364	105
5) Other Fixed Assets	330	3
Total Assets	14,057	418
5. Inventory		
1) Goods for Resale	158,096	6,165
2) Materials & Supplies	2,583	42
3) Fuels, Lubricants Oils and Greases	71	13
4) Other Inventories	346	14
Total	161,096	6,234

Source: 1997 Annual Survey of Establishments, Vol.VII Wholesale and Retail Trade, NSO

Table 2.3.12 Assets of Service Industry: 1997

(Value Units: Thousand Pesos)

Item	Philippines	Region 3
I. Medium Sized Enterprise with Average Total Employment of More and Less than 10		
1. Number of Establishments (nos)	14,775	1,396
2. Employment (nos)		
1) Total	564,989	38,359
2) Employees	550,753	34,899
3) Compensation	45,583,801	1,267,197
3. Sale Amount and Value Added		
1) Annual sales	795,960,650	42,311,350
2) Gross Margin	no data	no data
3) Value Added	85,194,595	4,137,424
4. Fixed Assets		
1) Land	1,231,833	3,193
2) Building	10,536,752	256,637
3) Transport Equipment	561,697	245,712
4) Machinery	6,038,017	338,671
5) Other Fixed Assets	516,057	30,869
Total	18,884,356	875,082
5. Inventory		
1) Goods for Resale	1,709,118	55,658
2) Materials & Supplies	6,738,047	249,458
3) Fuels, Lubricants Oils and Greases	87,062	7,092
4) Other Inventories	3,109,639	2,359
Total	11,643,866	314,566

Source: 1997 Annual Survey of Establishments, Vol.VII, NSO, Manila

Table 2.3.13 Family Annual Income and Expenditure at Current Prices: 2000

Item	Philippines		Region 3		Zambales	
I. Average Annual Income (Pesos)	144,039		151,449		123,667	
II. Average Annual Expenditure (Pesos)	118,002		120,003		95,054	
III. Details of Expenditure (%)	100.0		100.0		100.0	
1 Food	43.6	(35.7)	47.0	(37.2)	50.8	(39.0)
- Consumed at home	38.7		40.9		46.9	
- Consumed Outside the Home	5.0		6.2		3.9	
2 Tobacco and Alcohol	1.8		2.2		2.0	
3 Clothing, Other Wear	2.5		2.9		1.8	
4 Housing Expenses	25.3	(20.7)	23.4	(18.5)	22.0	(16.9)
- Fuel, Light & Water	6.3		7.1		6.7	
- Non-Durable Furnishing	2.5		0.2		0.1	
- Furniture and Equipment			1.7		1.0	
- Rental Value of Dwelling Unit	14.2		11.7		11.7	
- Maintenance and Repairs	2.3		2.7		2.5	
5 Taxes Paid	2.1		1.3		2.1	
6 Other Expenses	24.7	(20.2)	23.2	(18.4)	21.3	(16.4)
- Education	4.2		4.1		4.3	
- Medical Care	1.9		2.0		1.1	
- Others	18.6		17.1		15.9	
IV. Annual Savings (Balance)	26,037		31,446		28,613	

Source: 2000 Family Income and Expenditure Survey, Integrated Survey of Households Bulletin Series No. 98, Volume II, February 2002, NSO

Note: Figures in brackets show the ratio of food expenditure to total income.

Table 2.3.14 Consumer Price Index and Inflation Rate: 1985-2001

Year	Month	Philippines		Metro Manila		Outside Metro Manila		Region 3	
		CPI	IR (%)	CPI	IR (%)	CPI	IR (%)	CPI	IR (%)
1985		46.1	23.1	39.8	20.7	48.2	23.6		
1986		46.4	0.8	41.9	5.3	48.2	0.0		
1987		48.2	3.8	44.8	6.9	49.7	3.2		
1988		52.4	8.8	49.3	10.0	53.0	6.7		
1989		58.8	12.2	54.0	9.6	60.0	13.1		
1990		67.1	14.2	62.7	16.1	68.8	14.7	67.8	11.0
1991		79.5	18.5	75.6	20.6	81.0	17.7	81.2	19.8
1992		86.3	8.6	83.8	10.8	87.4	7.9	87.3	7.5
1993		92.3	7.0	91.6	9.3	92.5	5.8	91.6	4.9
1994		100.0	8.3	100.0	9.2	100.0	8.1	100.0	9.2
1995		108.0	8.0	108.2	8.2	108.0	8.0	107.1	7.1
1996		117.8	9.1	117.3	8.4	118.0	9.3	117.3	9.5
1997		124.8	5.9	125.1	6.6	124.6	5.6	124.5	6.1
1998		136.9	9.7	137.9	10.2	136.5	9.6	137.2	10.2
1999		146.0	6.6	145.2	5.3	146.3	7.2	146.1	6.5
2000									
	Jan.	148.8	0.5	147.9	0.7	149.2	0.5	148.8	1.6
	Feb.	149.3	0.3	148.3	0.3	149.7	0.3	149.0	0.1
	Mar.	149.4	0.1	148.6	0.2	149.7	0.0	148.9	-0.1
	Apr.	149.7	0.2	148.9	0.2	150.1	0.3	149.5	0.4
	May	150.4	0.5	150.4	1.0	150.3	0.1	149.9	0.3
	June	151.4	0.7	150.4	0.0	151.8	1.0	151.3	0.9
	Jul.	152.1	0.5	151.3	0.6	152.4	0.4	151.8	0.3
	Aug.	153.1	0.7	152.2	0.6	153.5	0.7	153.1	0.9
	Sep.	153.8	0.5	153.6	0.9	153.8	0.2	152.9	-0.1
	Oct.	154.8	0.7	154.2	0.4	155.0	0.8	154.7	1.2
	Nov.	156.7	1.2	157.5	2.1	156.4	0.9	156.2	1.0
	Dec.	157.8	0.7	157.7	0.1	157.9	1.0	157.4	0.8
2001									
	Jan.	159.0	6.9	159.1	7.6	158.9	6.5	158.3	6.4
	Feb.	159.3	6.7	159.5	7.6	159.2	6.3	157.9	6.0
	Mar.	159.4	6.7	159.9	7.6	159.2	6.3	157.2	5.5
	Apr.	159.8	6.7	160.7	7.9	159.4	6.2	157.1	5.0
	May	160.0	6.4	160.9	7.0	159.7	6.3	157.6	5.1
	June	161.6	6.7	162.5	8.0	161.2	6.2	159.5	5.4
	Jul.	162.5	6.8	163.8	8.3	162.0	6.3	159.7	5.2
2002									
	Jan.	165.0	3.8	167.7	5.4	164.0	3.2	161.5	2.0
	Aug.	167.6	~3.1	168.8	~3.1	167.2	~3.2	163.6	~2.4

Source: 2001 Philippine Statistical Yearbook, NSCB

Note: CPI stands for Consumer Price Index (1994=100)
IR stands for Inflation Rate, an annual inflation rate in percent, in each year and month except 2000, when IR is a monthly inflation rate.

Table 2.3.15 Wholesale Price Index of all Items and Construction Materials in Metro Manila: 1985-2000

Year	Month	Wholesale Price Index									
		General Index (1985=100)			Construction Materials in Metro Manila (1985=100)						
		All Items	Crude Materials Ex. Fuel	Manufac-tured Goods	All Items	Cement	Sand, Stone & Gravel	Rein-Forced Steel	Lumber Products	Fuel & Lubricant	Machinery & Equipment Rental
1985		100.0	100.0	100.0	-	-	-	-	-	-	-
1986		97.5	96.3	103.7	-	-	-	-	-	-	-
1987		105.4	115.3	109.6	-	-	-	-	-	-	-
1988		118.5	143.2	119.6	-	-	-	-	-	-	-
1989		129.9	157.0	130.1	-	-	-	-	-	-	-
1990		141.8	154.3	144.8	157.5	157.9	221.9	171.3	176.2	104.8	182.8
1991		166.1	181.9	165.4	182.6	193.0	258.3	182.7	208.5	152.1	182.8
1992		172.2	192.5	172.6	189.3	200.7	265.4	187.6	221.2	131.6	182.8
1993		172.0	180.2	174.1	191.4	176.1	281.7	189.3	236.0	127.5	254.8
1994		186.9	223.4	179.8	200.6	179.8	300.9	188.5	264.9	126.7	254.8
1995		197.1	217.8	181.6	208.2	196.0	312.0	198.5	268.0	124.5	254.8
1996		214.7	249.8	186.2	214.5	214.7	330.5	207.0	270.4	133.0	254.8
1997		215.8	238.4	190.4	219.5	198.3	343.5	208.6	277.7	140.8	254.8
1998		240.9	285.9	196.6	227.1	182.9	365.9	224.8	284.9	145.4	254.8
1999		254.8	315.9	198.8	229.0	174.7	380.1	224.4	284.3	153.7	296.9
2000											
	Jan.	259.8	300.7	201.6	231.4	190.4	386.5	221.9	286.6	170.0	296.9
	Feb.	258.0	273.2	201.5	231.5	190.9	386.6	221.9	286.6	175.7	296.9
	Mar.	257.7	267.6	201.3	232.4	199.1	389.5	221.9	286.6	180.9	296.9
	Apr.	254.2	259.0	201.3	232.6	199.6	389.5	221.9	286.6	183.3	296.9
	May	256.0	257.8	201.7	232.9	198.6	389.5	221.9	286.6	182.9	296.9
	June	254.0	236.9	201.5	233.1	199.7	389.5	221.9	286.4	188.5	296.9
	Jul.	258.3	222.5	201.3	233.4	199.7	359.5	221.9	286.4	195.9	296.9
	Aug.	257.5	220.4	201.3	233.5	199.5	389.5	221.9	286.4	200.6	296.9
	Sep.	260.4	207.1	201.4	234.0	201.1	391.8	224.0	286.4	204.3	296.9
	Oct.	261.4	212.3	201.8	235.8	201.9	391.8	224.0	288.2	217.8	296.9
	Nov.	270.9	219.9	202.4	237.2	203.8	391.8	232.7	288.2	218.0	296.9
	Dec.	265.5	206.8	203.2	238.0	207.4	392.9	232.7	288.2	230.0	296.9
2001											
	Jan.	265.5	209.1	204.3	240.6	209.7	395.8	237.5	292.9	226.3	296.9
	Feb.	262.3	201.5	204.6	241.3	215.3	395.8	237.5	292.9	223.6	296.9
	Mar.	260.1	200.2	204.9	242.5	215.4	402.0	237.5	296.5	223.6	296.9
	Apr.	260.4	203.8	205.0	242.9	217.5	402.0	237.5	295.9	223.6	296.9
	May	263.2	208.1	205.4	243.1	219.8	403.8	237.5	295.9	222.8	296.9
	June	264.3	215.9	205.9	243.7	227.6	403.8	237.5	295.9	225.2	296.9
	Jul.				244.0	229.6	403.8	237.5	295.9	225.1	296.9
2002											
	Jan.	266.7	244.4	204.2	243.2	228.0	403.1	239.8	296.2	200.9	296.9
	July	n.a.	n.a.	n.a.	251.4	229.7	432.6	239.1	315.6	220.7	296.9

Source: 2001 Philippine Statistical Yearbook, October 2001,NSCB

Table 2.3.16 Foreign Exchange Rate of the Peso versus the US Dollar: 1987-2001

Month	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Jan.	20.478	20.870	21.350	22.543	28.000	26.527	25.348	27.676	24.573	26.185	26.344	42.410	38.717	40.390	50.969
Feb.	20.528	21.010	21.350	22.761	28.000	26.045	25.280	27.701	25.732	26.177	26.333	30.364	39.098	40.845	48.290
Mar.	20.550	21.016	21.330	22.750	28.000	25.383	25.513	27.565	25.987	26.197	26.367	37.081	38.766	41.063	48.467
Apr.	20.484	21.018	21.564	22.805	27.842	25.804	26.385	27.277	26.021	26.173	26.369	39.979	38.018	41.278	50.185
May	20.466	20.905	21.608	22.977	27.806	26.250	27.094	26.874	25.797	26.222	26.374	38.898	38.095	42.829	50.539
June	20.456	21.062	21.807	23.270	27.750	25.584	27.272	26.910	25.575	26.203	26.384	42.091	38.019	43.154	51.488
Jul.	20.440	21.038	21.880	23.860	27.750	24.910	27.695	26.829	25.585	26.228	28.968	42.016	38.245	44.941	*53.562*
Aug.	20.453	21.079	21.880	25.000	27.000	23.924	28.043	26.484	25.875	26.202	30.165	43.874	39.671	45.077	*51.210*
Sep.	20.600	21.336	21.945	25.750	27.000	25.120	29.813	26.000	26.065	26.257	33.873	43.809	41.112	46.283	*51.355*
Oct.	20.725	21.392	22.100	25.750	27.000	24.636	28.831	24.928	25.992	26.285	34.938	40.831	40.158	51.427	*51.935*
Nov.	20.877	21.379	22.234	28.000	26.700	25.492	27.958	23.879	26.183	26.287	34.655	39.462	40.787	49.393	*52.024*
Dec.	20.800	21.335	22.440	28.000	26.650	25.096	27.699	24.418	26.214	26.288	39.975	39.059	40.313	49.896	*51.404*
Average	20.571	21.120	21.791	24.456	27.458	25.398	27.244	26.378	25.800	26.225	29.471	40.893	40.313	44.715	50.936

Source: Data presented by Central Bank
International Financial Statistics, IMF
NSO Monthly Bulletin of Statistics, May 2001, NSO

Note: Italic figures were obtained from "NSO Monthly Bulletin of Statistics, May 2001, NSO".

Table 3.1.1 Inventory of Educational Facilities: 2000-2001 School Year

Item	Philippines	Region 3	Zambales Province
Number of Schools			
Pre-School	11,643	1,573	87
Government	6,450	953	80
Private	4,593	620	7
Elementary School	40,284	3,214	220
Government	36,013	2,609	217
Private	4,271	605	3
Secondary School	7,509	688	41
Government	4,336	311	23
Private	3,173	357	18
Tertiary School	1,603	153	7
Government	389	20	4
Private	1,214	133	3
Numbers of Enrolled			
Pre -School	592,227	*	661
Government	308,667	*	389
Private	283,560	*	272
Elementary School	12,759,900	1,316,719	70,020
Government	11,832,611	1,154,576	67,853
Private	927,289	162,143	2,167
Secondary School	5,378,735	564,729	36,448
Government	4,157,889	393,293	22,574
Private	1,220,846	171,436	13,874
Tertiary School	2,067,965	167,567	7,652
Government	-	65,523	4,063
Private	-	102,044	3,589

Source: 2001 Philippine Statistical Yearbook,NSCB
Data from DECS (Department of Education Culture and Sports), Provincial Division & Region 3

Note: In general, the periods of school attendance for respective schools are as follows:
2 years for pre-school; 6 years for primary school;4 years for secondary school;
and 4 years for tertiary school. The period of tertiary school depends on the field of the study.
* No reliable data

Table 3.2.1 Inventory of Hospitals, Barangay Health Stations and Rural Health Units: 2000

Item	Philippines	Region 3	Zambales Province
1. Hospital	1,712	155	13
Public	623	43	6
Private	1,089	112	7
Bed Capacity	81,016	5,654	549
Bed Capacity per 10,000 population	10.6	7.0	12.6
2. Barangay Health Station	14,416*1	1,464*1	80
3. Rural Health Unit	2,405*2	252*2	35

Source: 2001 Statistical Yearbook, NSCB
Statistical Yearbook, 2001, NEDA Region 3
Department of Health (DOH), Regional Division
Note: *1 1999 data
*2 1997 data

Table 3.3.1 Inventory of Roads and Bridges: December 2001

	Item	Philippines	Region 3	Zambales
1.	Road by System Classification (km)			
a.	National	29,844	1,738.22	188.00
b.	Provincial	27,076	13,481.74*1	1,789.78*1
c.	Municipal and City	22,856		
d.	Barangay	121,989		
	Total	201,765	15,219.96	1,977.78
2.	Road by Surface Type (km)			
	Total			
a.	Concrete	30,024	3,908.42	204.13
b.	Asphalt	13,462	1,435.12	351.02
c.	Gravel	101,542	7,269.44	970.65
d.	Earth	56,737	2,606.99	451.97
	Total	201,765	15,219.97	1,977.77
	National Roads			
a.	Concrete	11,971	879.50	27.27
b.	Asphalt	6,868	711.45	160.72
c.	Gravel	10,571	130.44	-
d.	Earth	434	16.83	-
	Total	29,844	1,783.22	188.00
	Provincial Roads			
a.	Concrete	3,564	3,028.92*1	176.86*1
b.	Asphalt	2,164	723.67*1	190.30*1
c.	Gravel	18,108	7,139.00*1	970.65*1
d.	Earth	3,240	2,590.16*1	451.97*1
	Total	27,076	13,481.74*1	1789.78*1
	Municipal and City Roads			
a.	Concrete	7,632		
b.	Asphalt	3,266		
c.	Gravel	8,494		
d.	Earth	3,463		
	Total	22,856		
	Barangay Roads			
a.	Concrete	6,858		
b.	Asphalt	1,163		
c.	Gravel	64,368		
d.	Earth	49,600		
	Total	121,989		
3.	Road Density (m./sq.km)			
	Land Area (Sq.km.)	300,000	18,231	3,714
a.	National	99	95	51
b.	Provincial	90	740*1	482*1
c.	Municipal and City	76		
d.	Barangay	407		
	Total	673	835	533
4.	Bridge			
	Length of Bridges (m)	286,784	24,060	3,898
-	Permanent *2	262,298	24,038	3,898
-	Temporary *3	24,485	22	-

Source: (1) Data presented by DPWH, Region 3
(2) Data presented by DPWH, Head Office (Planning Service)

Note: *1 All local roads
*2 Concrete, steel, and similar materials
*3 Bailey, timber, coconut, and similar materials
Due to rounding, totals may not exactly equal the sum of individual figures

Table 3.4.1 Number of Households by Type of Water Supply System: 1990, 1997

Item	Philippines 1990	Region 3 1997	Zambales Province** 1990
1. Number of Households by Main Source of Potable Water in 1990 census Year (Unit: 1000)			
a. Own Use, Faucet, Community Water System	2,572.4	277.4*	36.7
b. Shared, Faucet, Community Water System	2,169.7	174.6*	18.5
c. Own Use, Tubed/Piped, Deep Well	967.4	221.8*	19.6
d. Shared,Tubed/Piped, Deep Well	1,696.1	244.2*	13.4
e. Tubed/Piped, Shallow Well	920.2	184.8*	16.3
f. Dug Well	1,566.2	29.4*	6.3
g. Spring, Lake, River, Rain, etc.	1,314.0	16.3*	4.3
h. Peddler	201.2	14.7*	0.4
Total	11,407.3	1,163.2*	115.6
2. Household Served by Potable Water Systems (Unit: 1000)			
Level I *1	3,395.2		
Level II *2	28.0		
Level III *3	634.2		
Total	4,057.4		
3. Coverage of Household Served (%)			
Population (1000)	60,559.1	7,371.9*4	563.0
Households (1000)	11,407.3	1,163.2*	115.6
Coverage by Level I, II, & III (%)	35.6		
Coverage by Level III	5.6	2.4*	3.2

Source: (1) 1990 Census of Population and Housing, NSO

Notes:
* 1997 data
** Figures are estimates on a 10% sample and include Olongapo City
*1 Level I is a point source, consisting of shalllow wells, deep wells and dug wells, developed springs, river/ponds/undeveloped springs and rain collectors.
*2 Level II is communal faucet system, generelly suitable for rural areas.
*3 Level III is a piped system with individual house connections, suitable for densely inhabited urban areas.
*4 Estimated by interpolation to give 1997 figure

Table 3.5.1 Electrification Program: Coverage, Number and Percentage Served : December 2000

Item	Philippines	Region 3
1. Municipality Level		
Program Coverage (nos)	1,454	92
Number Energized (nos)	1,454	92
Percent Served (%)	100%	100%
2. Barangay Level		
Program Coverage (nos)	36,075	2,097
Number Energized (nos)	27,879	2,021
Percent Served (%)	77%	96%
3. Total Connection		
Program Coverage (nos)	7,784,000	700,000
Number Energized (nos)	5,300,056	662,151
Percent Served (%)	68%	95%

Source: 2001 Philippine Statistical Yearbook,NSCB

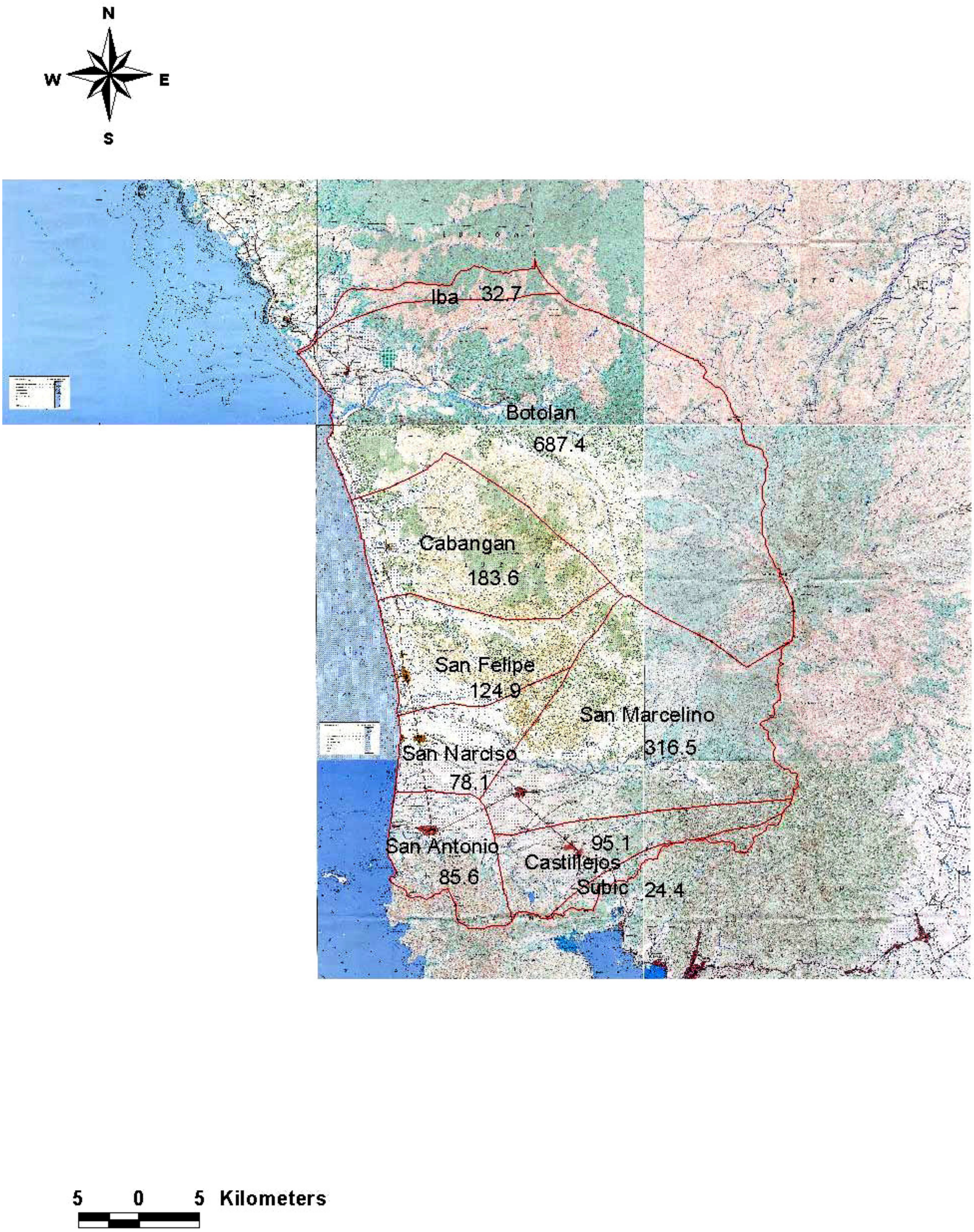
Table 3.6.1 Telephone Service Penetration by Operation by Operator Category : 2000

Item	Philippines	Region 3
Telephone Distribution		
- Telephone		
Lines	6,905,962	513,626
Exchanges	992*1	110
- Subscribers	3,061,387	222,915
- Population (1000)	76,503	8,031
- Telephone Density per 100 Persons		
Lines	9.0	6.4
Subscribers	4.0	2.8

Source: '(1) 2001 Statistical Yearbook, NSCB
'(2) 2000 Census of National, Regional and Provincial Population

Note *1 For 1999
*2 As a reference, the telephone density in NCR, was 29.6 of lines and 14.5 of subs
*3 Telephone lines were managed by PLDT and DIGITEL in Region 3

Figures



THE GOVERNMENT OF THE PHILIPPINES
THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

The Study on Sabo and Flood Control for Western River Basins of Mount Pinatubo in the Republic of the Philippines

JAPAN INTERNATIONAL COOPERATION AGENCY

Figure 1.2.1

Areas of Municipalities within the Study Area