

# **BASELINE VULNERABILITY ASSESSMENT FOR THE PHILIPPINE FOOD INSECURITY AND VULNERABILITY INFORMATION AND MAPPING SYSTEM (FIVIMS)**

**Technical Report of the Asia FIVIMS Trust Fund Project No. 2  
- GCP/RAS/170/JPN -**



The FAO Global Information and Early Warning System (GIEWS) on Food and Agriculture

Rome, Italy

## CONTENTS

1. INTRODUCTION
2. POVERTY TRENDS DURING THE 1990s
3. IMMEDIATE IMPACTS AND RECOVERY
4. INCOME AND EXPENDITURE
5. NUTRITION AND HEALTH OUTCOMES
6. EDUCATION
7. ACCESS TO BASIC SERVICES
8. LABOR FORCE AND LAND INSECURITY PATTERNS
9. HOUSEHOLDS HEADED BY FEMALES
10. CHILD LABOR AND SCHOOL DROPOUT
11. CONCLUSION AND RECOMMENDATIONS

Acknowledgements

### ANNEXES:

- A. Preliminary Assessment and Identification of Vulnerable Areas at the Provincial Level
- B. Per capita Poverty Thresholds by Regions: 1985 to 2000
- C. Poverty Incidence – Average Annual Rates of Change
- D. GINI Concentration Ratios and Their Trends
- E. Percentage Distribution of Total Family Expenditure by Major Non-Food Expenditure Groups: 1997 and 2000
- F. Main Components of Family Worsening-off (1998-1999)
- G. Household Head Occupations by National Per Capita Income Decile

August 2002 (version 1)

Asia FIVIMS Trust Fund Project: GCP/RAS/170/JPN  
Global Information and Early Warning System (GIEWS)  
Commodities and Trade Division, Economic and Social Department  
Food and Agriculture Organization (FAO) of the United Nations  
Rome, Italy

Cover Photo: “The fishing village of Luciente, Pangasinan, with bancas, traditional fishing boats used in the open sea” (*Source*) FAO Media Base

## 1. Introduction

The Philippines has been considered as one of the countries in Southeast Asia less affected by the 1997 financial crisis. Nevertheless, the most recent available data reveal that its negative impact has been more significant than originally predicted, and recovery, slower than expected. Not simply poverty --- as defined by the traditional indicators<sup>1</sup> --- but also welfare conditions, including education, health, and access to basic services, have been more or less suddenly worsened after 1997, having involved --- particularly but not necessarily --- the poorest strata of the population.<sup>2</sup>

The financial crisis in the Philippines, aggravated by the 1998 El Niño,<sup>3</sup> has unveiled the vulnerability of many Filipino households and drew more attention of decision makers to the need for identifying and monitoring not simply the poor but also the “vulnerable.” For example, the National Anti-Poverty Commission (NAPC) has decided to undertake a study entitled “*The Identification of Vulnerability Indicators Through the Analysis of Poverty Movements During Economic Transition.*”<sup>4</sup> The Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) Project, a prominent project-based research unit, also argues that “*the recent experience of the Philippines has shown that it is possible to wipe out the gains in poverty reduction that have been achieved in many years with just one major crisis. This highlights the vulnerability not just of the poor but also on the non-poor to macroeconomic crises and natural calamities.*”<sup>5</sup>

## 2. Poverty Trends in the 1990s

According to the official data, the incidence of poverty had significantly decreased during the 1990s. However, the 1997 economic crisis slowed down the positive trend and even reverted it in many areas of the country. At the national level, the poverty incidence had decreased from 49.5% to 36.8% between 1988 and 1997 in terms of population but significantly went up to 40.0% in 2000. The trend of poor families followed a similar path: from 40.2% (1998) to 31.8% (1997), and then reaching 34.2 (2000). Figure 1 shows the trend during 1985-2000 in terms of the percentage of poor population. The 1997 reversing point is more than evident in the chart.<sup>6</sup>

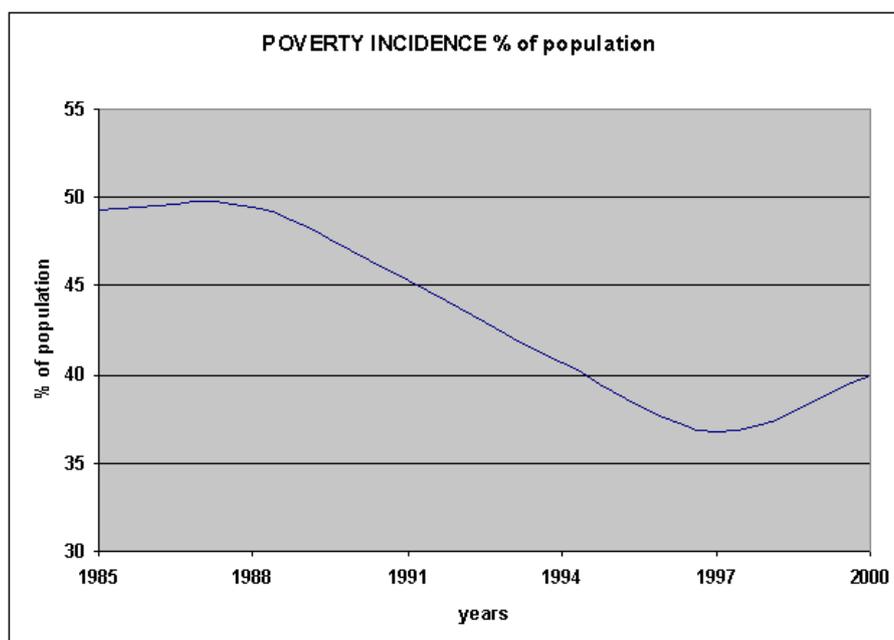


Figure 1. Poverty Incidence during 1985-2000 (% of Population)

On the other hand, Table 1 shows that the poverty incidence for 2000 reached 108.7% and 107.5% for poor population and poor families, respectively when compared with those for 1997, the previous survey year.

Table 1. Poverty Incidence for 1991, 1994, 1997 and 2000  
(previous NSO survey = 100)

	1991	1994	1997	2000
<b>% Poor Population</b>	91.5	89.6	90.6	108.7
<b>% Poor Families</b>	99.3	89.0	89.6	107.5

(Source: FIES 1991, 1994, 1997 and 2000)

It is evident that, due to the high population growth rate, the poverty magnitude has become an endemic problem in the Philippines. When the number of poor population in 2000 is compared against that for 1991, population and families under the poverty threshold have increased significantly by 11.2% and 9.1%, respectively in the Philippines (Table 2 and Figure 2). This increase appears to be further significant if comparison is made with 1997 that is the turning point of the Philippine economy: 16.8% for poor population and 15.6% for poor families. The GINI income distribution coefficient substantiated this assumption, although the data available for estimating it is limited to the regional level.<sup>7</sup>

Table 2. Magnitude of Poor Population and Families

	1985	1988	1991	1994	1997	2000
<b>Population:</b>	26,231,305	25,005,345	28,119,758	27,274,205	26,768,532	31,283,209
<b>Families:</b>	4,355,052	4,230,484	4,780,865	4,531,170	4,511,151	5,215,421

(Source: FIES 1991, 1994, 1997 and 2000)

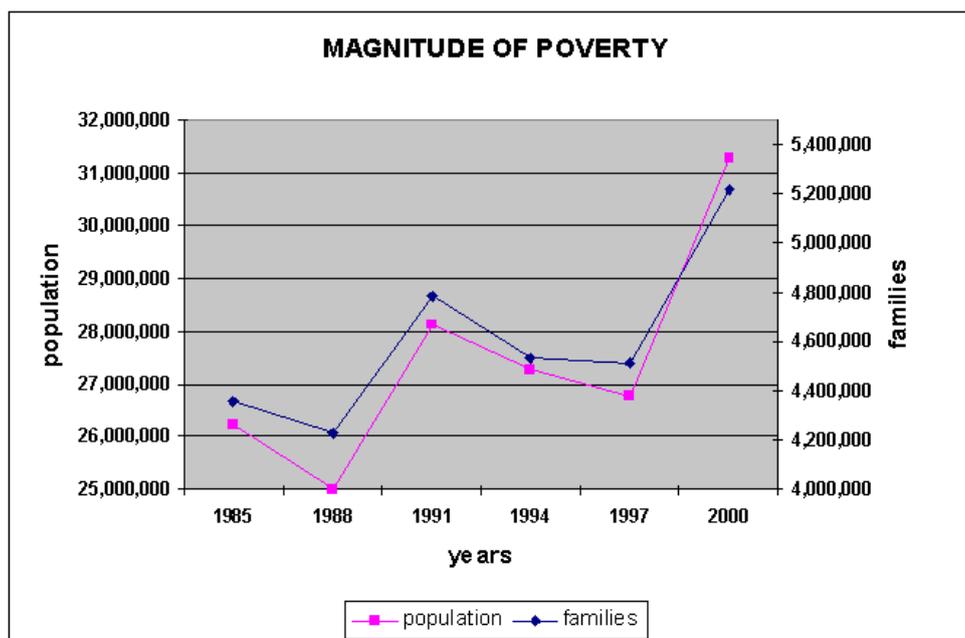
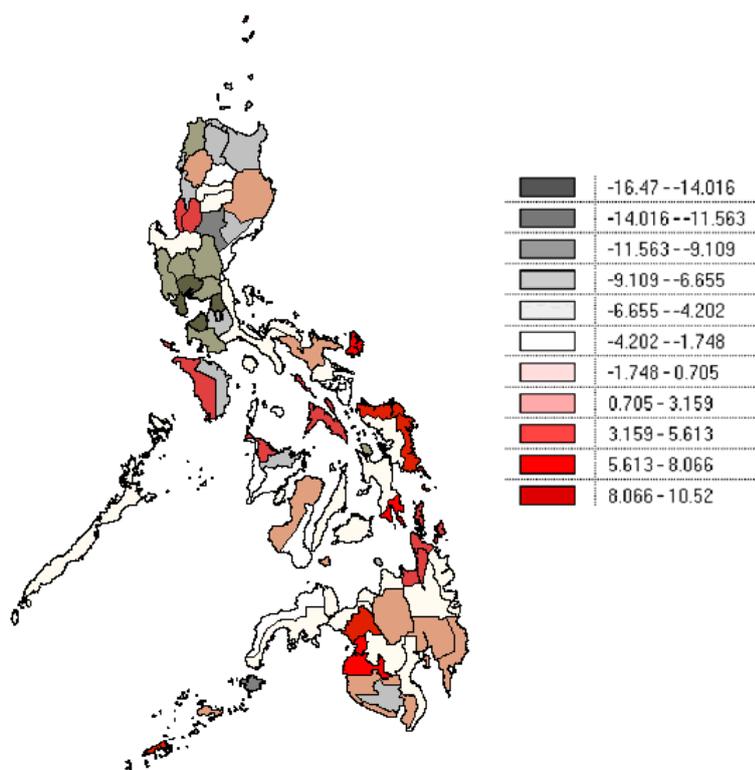


Figure 2. Magnitude of Poverty

However, the above figures simply reflect overall aggregated national trends hiding the actual complexity of phenomena observed during the 1990s. The trends at the provincial level appear

differently in terms of areas affected and periods prolonged. Annex C shows different provincial-level trends of poverty incidence during three sub-periods, for which data are available, i.e. 1991-94, 1994-1997 and 1997-1998.<sup>8</sup> Understanding the actual complexity is fundamental for currying out vulnerability analysis in the Philippines.

During the period 1991-1994, there was a decrease in poverty incidence in most provinces of the country. However, during 1994-1997, economic development had brought about internal contradictions in the endeavour of alleviating poverty in different parts of the country. The majority of the already poor areas had experienced a further worsening of their conditions. In other words, the poverty incidence had increased in these areas. On the other hand, the majority of the previously better off areas had continued to be better off, contributing to a further decline in the overall national poverty incidence at the country level. However, the 1997 economic crisis affected the provinces whose poverty incidence was low as well, although it appears that overall these provinces had maintained a better performance when the entire 1991-1998 period is taken into account (Map 1).



Map 1 Poverty incidence: average annual rate of change by province during 1991-1998

Advanced multi-factorial statistical analysis using clustering techniques helped identify eight different levels and trends of sub-national poverty incidence as well as corresponding provinces. It revealed the complexity of phenomena, i.e., which and when provinces had been better or worse off. They are described in this section below and depicted in Map 2. Groups of provinces are organised and described according to the following name convention: P(oor), AVE(rage) and N(ot)P(oor). The number of Ps and Ns in the group names indicates, to some extent, the level of poverty incidence and the level of better off. PP is further subdivided in three different patterns, or profiles, (A, B and C) because the poverty incidence is not so consistent within the PP group of provinces, and rather each of their time-series trends has peculiar characteristics (Figure 3).

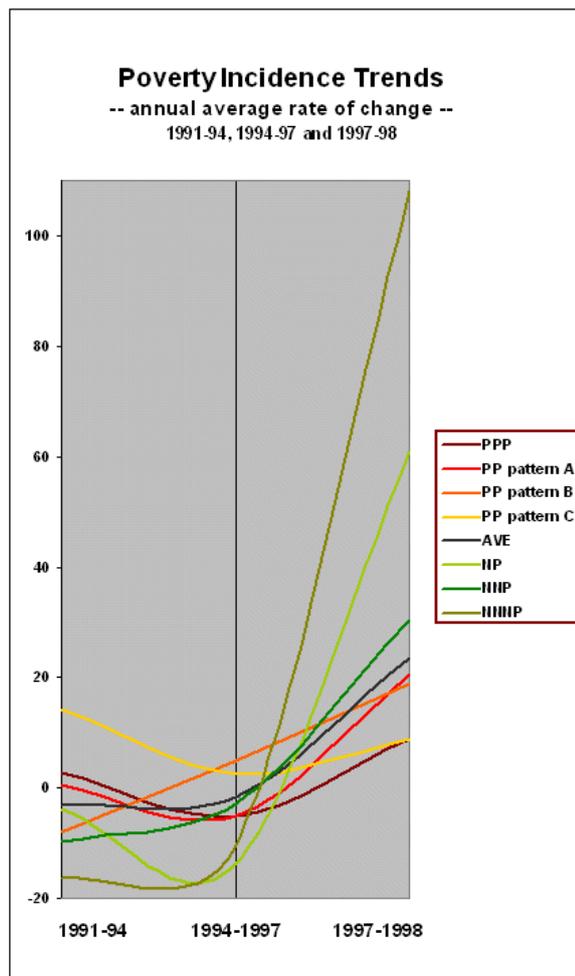
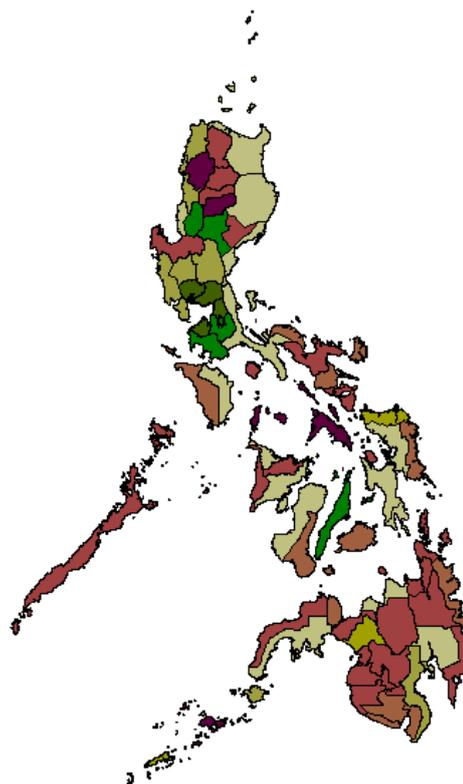


Figure 3. Poverty Incidence Trends



Map 2 Provinces classified by poverty incidence trend

### PPP

This group includes most of the poorest provinces since 1991. In general, their conditions had worsened during the first few years of the 1990s. They slowly improved only in the phase 1994-1997. Probably because they were already very poor, the negative impact of the crisis on their livelihoods was not so strong with exception of one year when the poverty incidence showed an increase i.e., up to 9%. In summary the overall poverty incidence for 1998 was by and large the same as that for 1991. The following provinces are included in this category: Abra, Ifugao, Masbate, Romblon and Sulu.

### PP pattern A

Poor provinces that had never changed their poverty incidence level during the 1990s. A slight improvement during the phase 1994-97 was reverted by the 1997 crisis. The poverty incidence, or the overall group profile level, for 1998 was higher than that for 1991. These provinces are: Agusan Del Norte, Agusan Del Sur, Antique, Apayao, Biliran, Bukidnon, Camarines Sur, Camiguin, Capiz, Davao Oriental, Kalinga, Lanao Del Norte, Maguindanao, Marinduque, Mountain Province, North Cotabato, Palawan, Pangasinan, Quirino, Sorsogon, Sultan Kudat, Surigao Del Norte and Zambouabga Del Norte.

### PP pattern B

A group with an overall profile very similar to the previous one. However, in this case, 1991-1994 was a positive phase --- i.e., the poverty incidence had slowed down --- but was followed by a drastic increase in the poverty incidence index: + 5% annually in the period 1994-97 and worsened

by the 1997 crisis. Also in this group, the 1998 poverty incidence, or overall group profile level was higher than that for 1991. Provinces included in the group are: Albay, Bohol, Camarines Norte, Cataduanes, Eastern Samar, Misamis Occidental, Negros Oriental, Occidental Mindoro, Saranggani, Siquijor, South Cotabato and Surigao Del Sur.

#### PP pattern C

A group including few provinces with a particular poverty incidence path. While considered relatively not poor in 1991, they became poor more and more in 1998 reaching the level of the previous two groups. The provinces of Lanao Del Sur, Northern Samar and Tawi-Tawi are included.

#### AVE

Provinces with poverty incidence very similar to the national level up to 1997 belong to this group. Also the incidence in and after the 1997 crisis can be considered similar to that at the national level. Provinces included: Aklan, Aurora, Cagayan, Davao, Guimaras, Iloilo, Isabela, La Union, Leyte, Misamis Oriental, Negros Occidental, Oriental Mindoro, Quezon, Samar (WESTERN), Southern Leyte and Zamboanga Del Sur.

#### NP

Provinces with an overall group profile slightly better than that for the whole country at the beginning of the 1990s, characterised by a significant improvement during the phase 1994-97. The success, however, was drastically deteriorated by the crisis bringing the overall poverty incidence for this group of provinces to the 1994 level. Provinces: Basilan, Bataan, Davao Del Sur, Ilocos Norte, Ilocos Sur, Nueva Ecija, Tarlac and Zambales are included.

#### NNP

Provinces include those not impoverished throughout the 1990's, and but affected by the 1997 crisis at the level of the national average. Provinces: Batanes, Batangas, Benguet, Cebu, Laguna and Nueva Vizcaya.

#### NNNP

This group includes better off provinces, characterised by the lowest poverty incidence since 1991, which had impressively improved their conditions until 1997 when the impact of the economic crisis severely affected them. Within only one year, the poverty incidence became more than doubled. Provinces: NCR, Bulacan, Cavite, Pampanga and Rizal.

Table 3 here below depicts the full quantitative description of each group of provinces examined.

Table 3. Outcome of Multi-factorial Statistical Analysis

CLASSE	N. of Provinces	PI 1991	PI 1994	PI 1997	PI 1998	PI 91-94	P 94-97	PI 97-98
PPP	5	72.2 ++++	78.0 ++++	66.6 ++++	72.5 ++++	2.7 ++++	-5.0 ~ ~	9.0 - -
PP pattern A	23	55.1 + +	55.7 ++++	47.6 + +	57.1 + +	0.4 + +	-5.1 ~ ~	20.5 - -
PP pattern B	12	52.1 + +	40.6 ~ ~	46.6 + +	54.9 + +	-8.0 - -	5.0 ++++	18.8 - -
PP pattern C	3	32.8 - -	47.4 + +	51.4 ++++	54.7 + +	14.2 ++++	2.4 + +	8.7 - -
AVE	16	44.8 ~ ~	40.6 ~ ~	38.6 ~ ~	47.8 + +	-3.1 + +	-1.6 + +	23.7 - -
NP	8	41.8 ~ ~	37.2 ~ ~	24.1 - -	37.2 - -	-3.8 ~ ~	-13.9 ----	60.9 + +
NNP	6	31.0 - -	22.5 ----	21.0 - -	27.2 ----	-9.8 - -	-2.8 ~ ~	30.5 ~ ~
NNNP	4	21.7 ----	12.5 ----	8.8 ----	18.3 ----	-16.4 ----	-10.4 - -	108.2 ++++
National Average	77	43.9	39.6	35.8	44.8	-4.7	-4.0	36.0

### 3. Immediate Impacts and Recovery

Available literatures, official reports and documents focus mainly on assessments of most important indicators, both at the national and provincial levels. However, very few detailed analyses have been conducted according to different socio-economic population categories, particular age-groups, and so on.<sup>9</sup>

Existing survey data in the Philippines are extraordinary sources for the assessments of immediate negative impacts of the 1997 economic crisis, which was combined with the El Niño episode, and of the slow recover of the nation. Especially the sizable digital data derived from the NSO-conducted household surveys covering the most crucial period 1997-2000<sup>10</sup> allow identifying not only major vulnerability components, or *risk factors*, but also the most relevant *coping mechanisms* of the Filipino people.

The Annual Poverty Indicators Survey (APIS) 1998 includes, though limited, questions on the negative impacts of the 1997 economic crisis and the El Niño. It reveals an overall perception of the effects of the financial and natural calamities. At the national level, about 90% of the respondents considered price hike as the most serious negative effect of the crisis (Table 4).<sup>11</sup> Although drought was perceived as the second most negative impact by both urban and rural populations, it was considered more serious in the rural sector (71.5%).

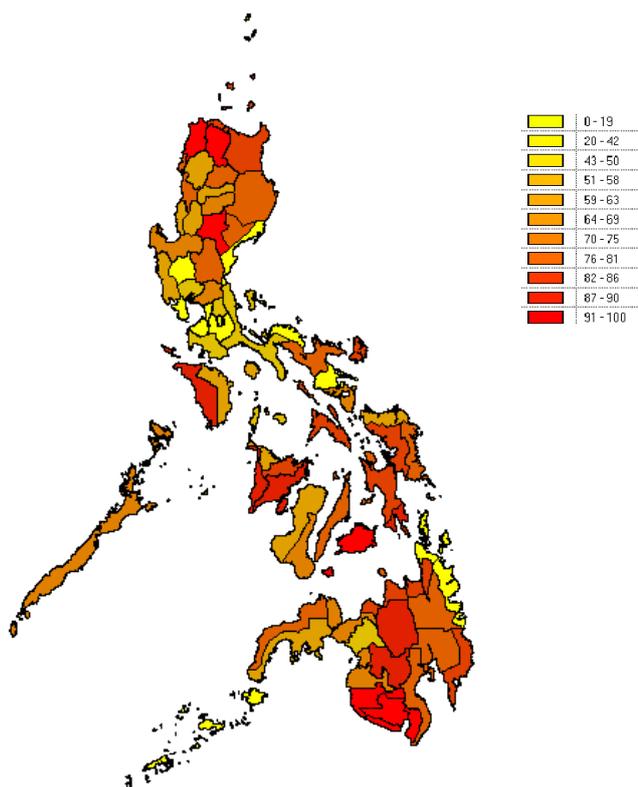
Table 4. Types of Impacts of the 1997 Economic Crisis coupled with El Niño

		Total	Urban	Rural
<b>Price increase of goods and services</b>	% of families	89.9	89.3	90.8
<b>Drought</b>	% of families	56.6	46.5	71.5
<b>Loss of job (local)</b>	% of families	18.4	20.8	15
<b>Reduced wages</b>	% of families	15.5	16.7	13.7
<b>Loss of job (abroad)</b>	% of families	4.3	4.9	3.4
<b>Total families</b>	% of families	100	100	100

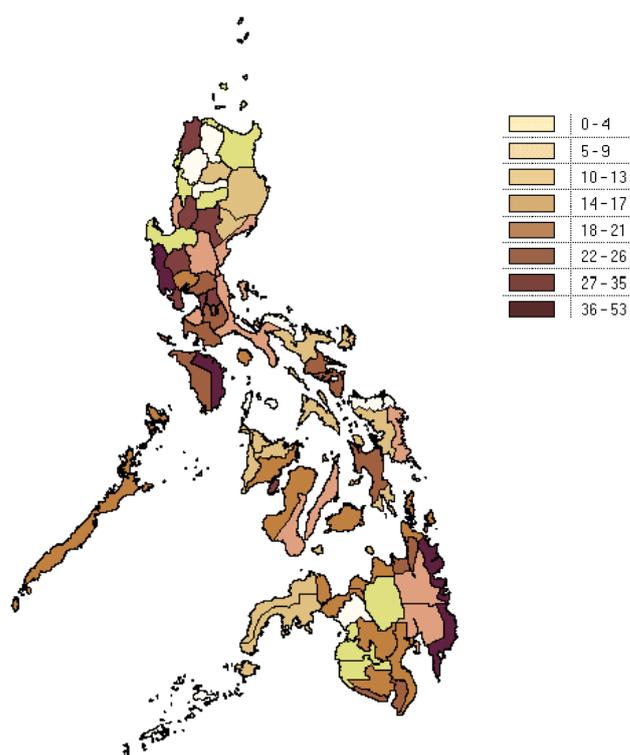
Source: APIS 1998; Processed by the Asia FIVIMS mission

The same data set was used to understand perceptions of the impacts of the crisis by rural families. Map 3 shows the percentage of rural families by province that included “drought or El Niño” into their answers. The map depicts that in Regions I, II, overall Mindanao and part of Visayas, drought was considered a negative outcome at the time of the crisis more than any other regions. This perception can be supported by the fact that crop production loss caused by the drought during the 1998 El Niño period was recorded significantly higher in these regions than others.<sup>12</sup>

On the contrary, the reduced wages and the loss of local jobs were more evident in other parts of the country. Map 4 shows the percentage of families (urban and rural together) that considered the loss of local jobs caused by the crisis. Not surprisingly, the most affected areas were: NCR, Central Luzon and surroundings, the northern part of Region IV and the eastern border of Mindanao.



Map 3 Percentage of rural families considered drought as negative impact of the crisis



Map 4 Percentage of families affected by job losses

A more sophisticated analysis using multi-factorial statistical technique can provide better understandings of the concomitance of negative impacts during the period.

The most common mechanism developed by the affected people was “to change diet patterns” (47% of the Filipino households in both urban and rural areas)<sup>13</sup> followed by:

- to increase the working hours (29%, and particularly in rural areas: 33%)
- to take children out of school as additional labour force (6.4%, it was more a rural (7.1%) than urban (5.9%) coping mechanism
- to migrate to other places (4.6%, also in this case: rural = 5.3% versus 4.1% (urban)

Financial and in-kind assistance to cope with the crisis was also sought and obtained from “others” (15%) as well as the Government (6.1%). Table 5 summarises the coping strategies according to APIS 1998.

Despite the fact that APIS 1999 had a different survey format and design making it incomparable with APIS 1998, it was still possible to understand an indication of the slow recover from the crisis (Table 6). Only 15% of the Filipino families had improved their conditions between 1998 and 1999. On the contrary, 32% of the families considered their conditions worsening (Map 5). This trend has been more evident in urban areas, underlining the need for vulnerability analysts and decision-makers to pay more attention to urban poverty and food insecurity. Finally, more than 51% of the families did not see any significant change in their livelihood.

Table 5. Coping Strategies Taken by Families Under the Crisis

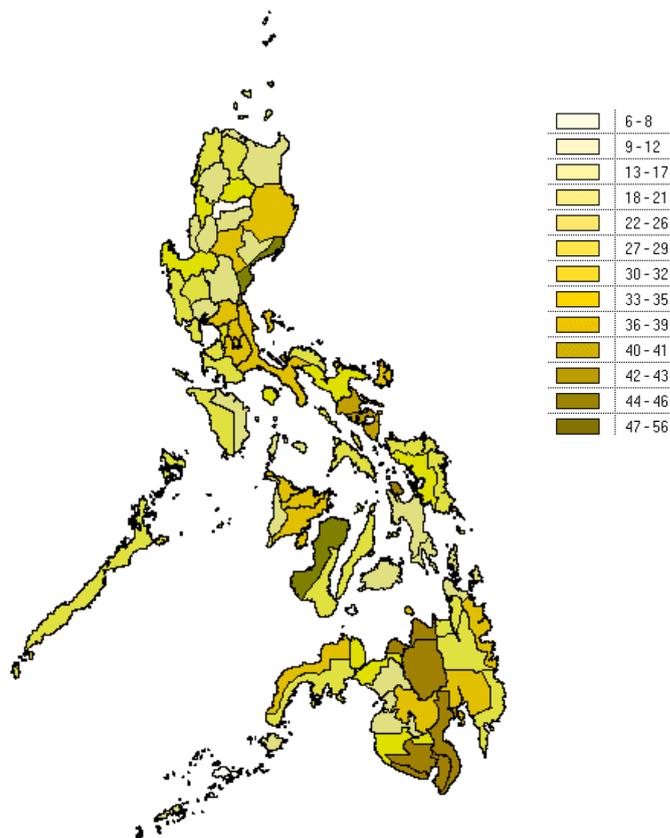
		Total	Urban	Rural
<b>Changed eating patterns</b>	% of families	47.4	48	46.6
<b>Increased working hours</b>	% of families	28.7	25.7	33
<b>Took the children out of school</b>	% of families	6.4	5.9	7.1
<b>Migrated to other place</b>	% of families	4.6	4.1	5.3
<b>Received assistance from others</b>	% of families	15.4	15.3	15.4
<b>Received assistance from government</b>	% of families	6.1	4.9	7.8
<b>Others strategies (not specified)</b>	% of families	9.5	9.7	9.2

Source: APIS 1998; Processed by the Asia FIVIMS mission

Table 6. Comparison of Household's Situations (1998 vs. 1999)

		Total	Urban	Rural
<b>Better off</b>	% Families	14.6	14.7	14.4
<b>Worse off</b>	% Families	32.4	33.4	30.9
<b>About the same</b>	% Families	53	51.9	54.7

Source: APIS 1998 and 1999; Processed by the Asia FIVIMS mission



Map 5 Percentage of families conceiving their condition worsened after the crisis

The improved situations in urban areas were mainly due to “new earnings” and “new jobs with higher salary”<sup>14</sup> (59%), while in rural areas “abundant harvest” (23%) as well as the previous two factors (54%) contributed to the improvement. Probably more interesting survey results, partially comparable with the previous APIS 1998, can be found in coping mechanisms taken by the affected populations.<sup>15</sup> Coping strategies commonly adopted by the families surveyed in 1999 are identical to those in 1998: the change in diet patterns still remains the most commonly taken scheme, followed by the increase in assistance from others, working hours, taking children out of school, and migration.

In both 1998 and 1999, the last three mechanisms are more relevant in the rural environment. On the contrary, it is worth noting that the propensity to change diet patterns is more associated with families residing in urban areas, emphasising the need for decision makers to pay more attention to food insecurity and vulnerability in relation to this coping strategy in the urban environment (Table 7). Maps of the coping mechanism of worsening-off families are found in Annex F.

Furthermore attempts were made to identify *in which deciles* and *regions* (i.e., urban or rural), people mostly developed the said coping mechanisms. Due to the apparent difference in distributions by deciles between urban and rural households when using the “national income decile distribution,”<sup>16</sup> the *coefficient of specialisation*<sup>17</sup> was applied in order to improve the quality of the analysis (Figure 4).

Table 7. In response to the Worse-off Condition

		Total	Urban	Rural
<b>Do you want to change the eating pattern of the family?</b>	% fam. worsening off	49.1	50.8	46.3
<b>Do you want to increase your working hours?</b>	% fam. worsening off	38.5	34.4	44.8
<b>Do you want to take the children out of school?</b>	% fam. worsening off	9.3	8.8	10.1
<b>Do you want to migrate and your household to the city or other countries?</b>	% fam. worsening off	5.4	4.3	7.2
<b>Specify other solutions other than above solutions.</b>	% fam. worsening off	18.3	18.5	18
<b>Do you receive assistance from friends/other relatives locally/abroad?</b>	% fam. worsening off	21	21.4	20.3
<b>Do you receive assistance from the government?</b>	% fam. worsening off	4.9	4.6	5.3

Source: APIS 1999; Processed by the Asia FIVIMS mission

In general, it was found that:

1. The aforementioned coping mechanisms are more commonly developed by the lower decile populations. In other words, higher coefficients can be observed among the populations in the lower deciles. This fact appears evident in Figure 4. Up to the third decile, the coefficients are higher than 1.
2. For each decile, specific coping mechanisms taken by rural families differ from those by urban households. For instance:
  - To change eating or diet patterns is equally important to urban and rural families belonging to the first, second and third deciles. However, in higher deciles, this coping strategy was adopted more by urban residents rather than rural ones. Apparently rural populations can cope with their “worsening” conditions without changing their eating patterns.

- To receive assistance from friends or relatives is a mechanism more relevant in urban areas regardless of income levels, while the difference between urban and rural is more evident in the lower deciles.
- To migrate to cities --- including from cities to cities --- or abroad is more relevant in urban regions in the lower and higher deciles. On the other hand, this strategy is rather relevant among middle income people in rural areas. Perhaps in deep rural poverty there are not enough capitals, resources and opportunities to trigger and facilitate migration flows. On the contrary, a slightly better condition in the middle deciles give people an incentive to move away.

The Philippine FIVIMS can further conduct vulnerability analysis based on the baseline assessments carried out in this report by the Asia FIVIMS mission. More in-depth data processing of APIS 1999 will allow the National FIVIMS Task Force to better identify which socio-economic groups have developed particular coping mechanisms.<sup>18</sup>

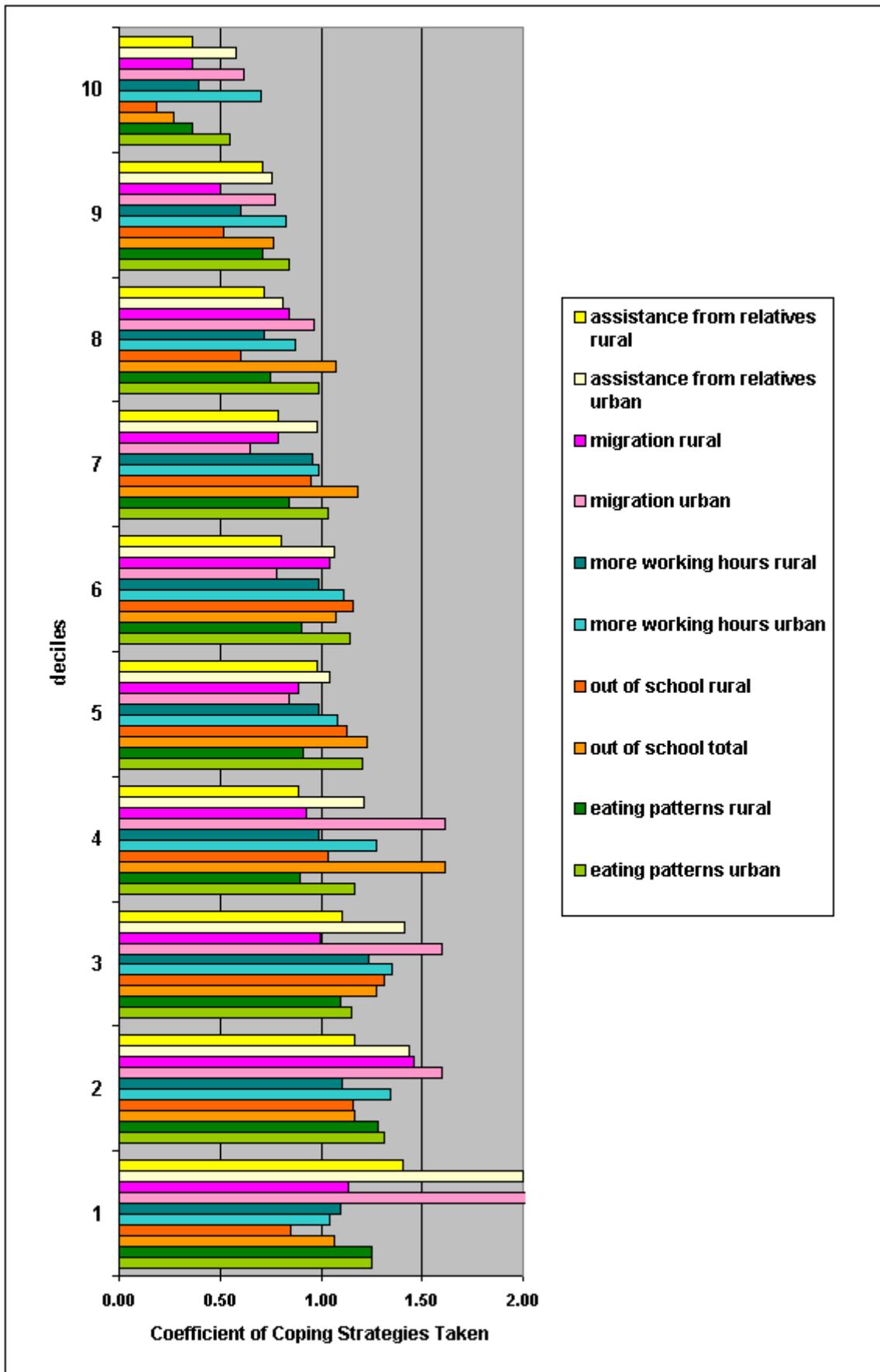
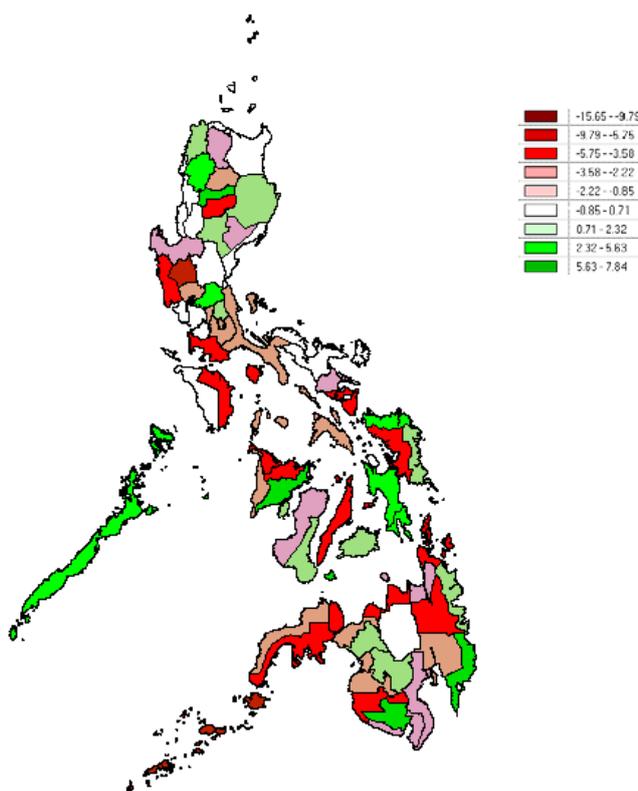


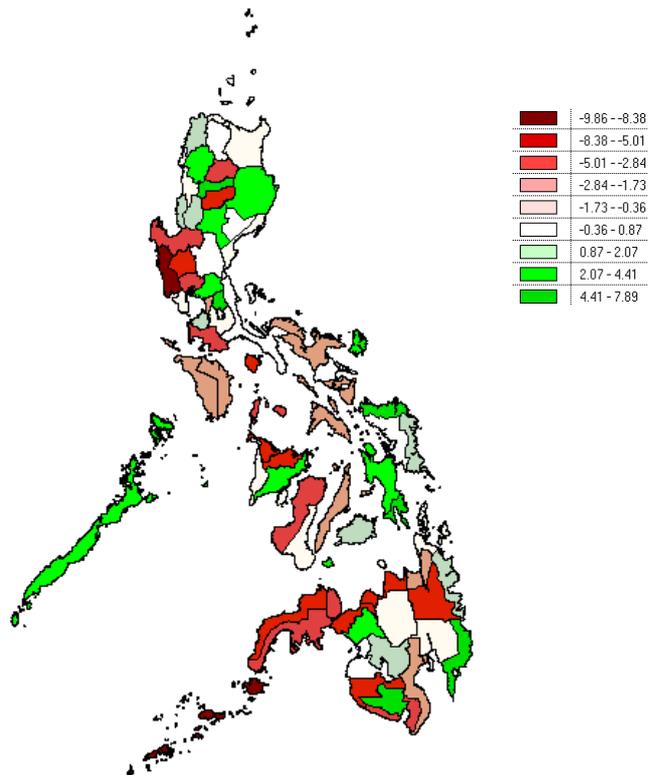
Figure 4 Coping Mechanisms: Coefficient of Coping Strategies Adopted by Urban and Rural Deciles

#### 4. Income and Expenditure

It has been argued that recovery from the 1997 economic crisis was slower than expected in the Philippines. Between 1997 and 2000 the average family income had decreased by 1.4% annually, while the average family expenditure had decreased by 0.9% annually.<sup>19</sup> These national averages hide significant differences in the rates between provinces, whose consequences should be paid to due consideration in any future FIVIMS analysis in the Philippine. Map 6 shows the average annual rate of change in per capita income at the provincial level.<sup>20</sup> Provinces having experienced positive growth are depicted in different green saturation colour, while the worst or negative performances are indicated in red, and white showing provinces with the near zero growth rate.



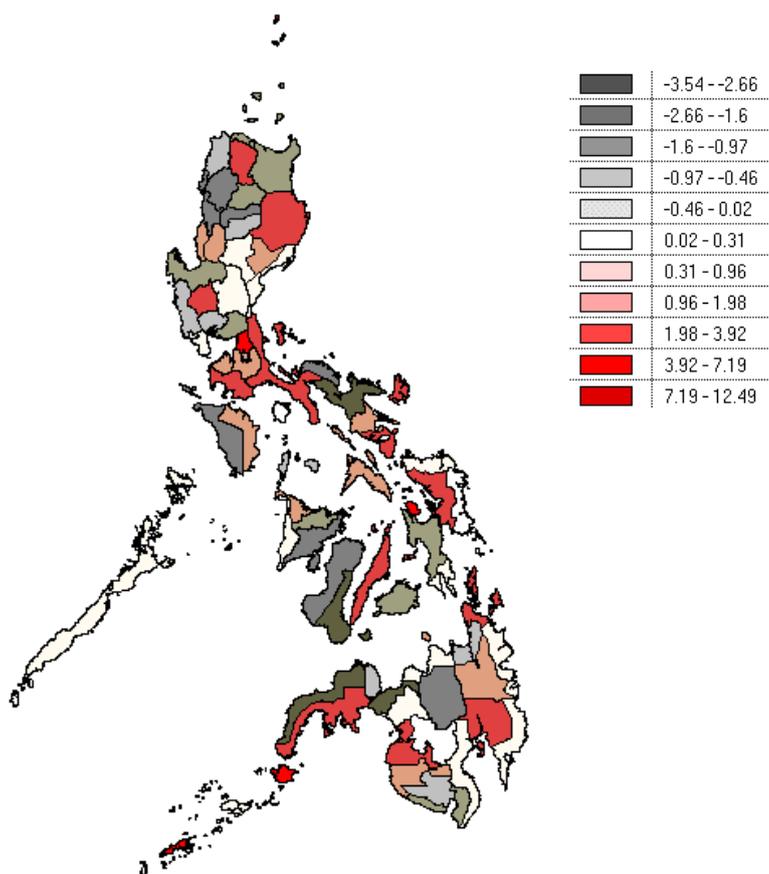
Map 6 Average annual rate of change in income



Map 7 Average annual rate of change in per capita expenditure

On the other hand, in comparison with Map 6, Map 7 portrays that the average per capita expenditure pattern is not exactly in proportion to the average rate of change in income. Therefore, the ratio between expenditure and income was used as one of the most significant indicator in carrying out vulnerability analysis.

At the national level the “average saving”<sup>21</sup> had decreased significantly during the period - 3.3% yearly. More detailed, provincial-level per capita trend was computed by the Asia FIVIMS mission. It points out that in spite of some relative improvements achieved according to the income and expenditure indicators, most of the poorest areas had worsened their conditions in terms of “saving capacity.” This was due to the fact that their per capita income had either increased with slower rates or decreased with higher ones when compared with the expenditure trends. Map 8 depicts the most worsened-off areas.



Map 8 Most Worsened off Areas

Due to the time constraint, the scope of analysis of this report is limited to the use of provincial average data only. However, a preliminary assessment carried out by using the provincial data disaggregated by deciles, has clearly shown that the above pattern is more evident when considering only the first two or three deciles into account, which corroborates what was emphasised by NSO in its report.<sup>22</sup>

Table 8. Per capita Expenditure / Income Ratio (2000)

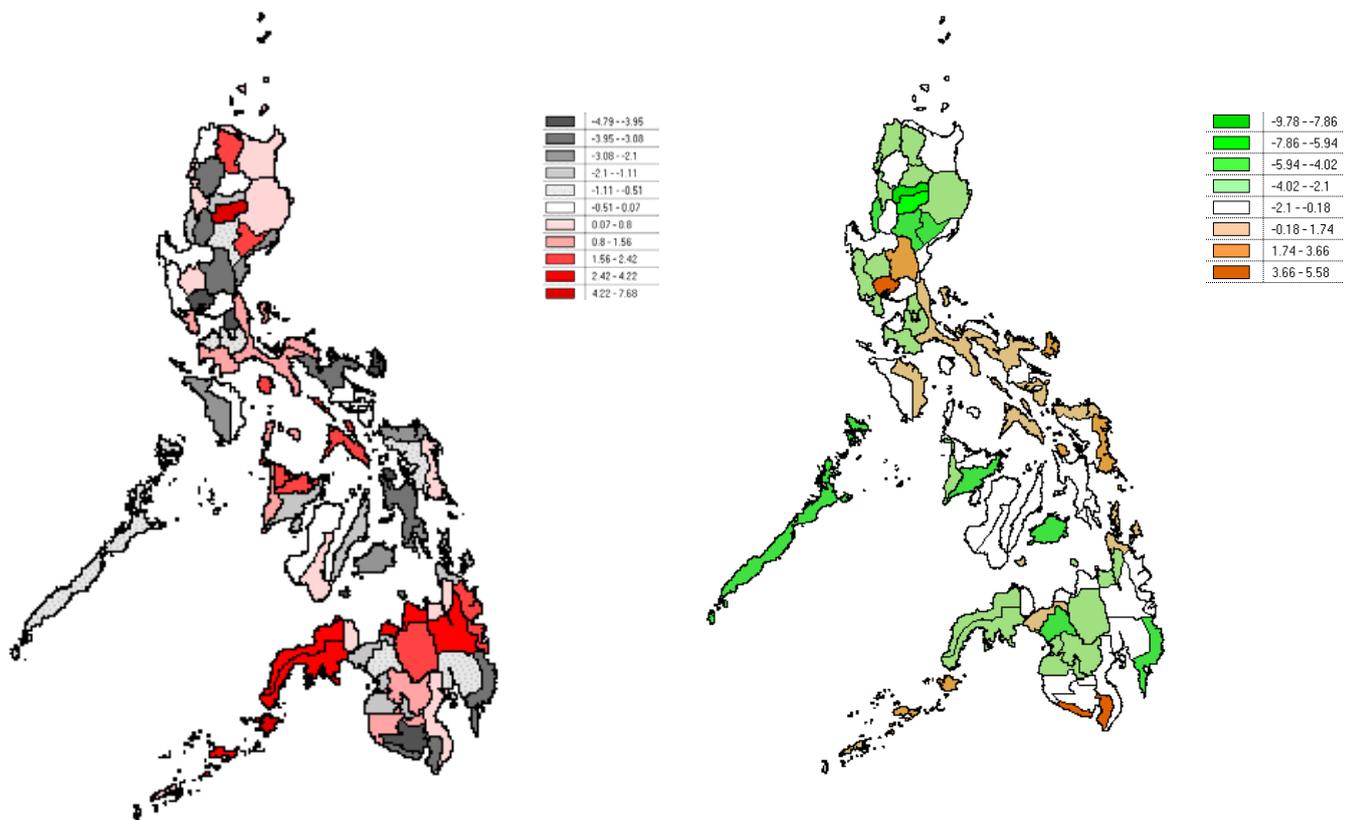
1st Decile	106.9
2nd Decile	102.7
3rd Decile	98.6
4th Decile	95.5
5th Decile	92.3
6th Decile	90.0
7th Decile	88.0
8th Decile	83.2
9th Decile	79.5
10th Decile	69.2

*Source: FIES 2000; Processed by the Asia FIVIMS mission*

For FIVIMS purposes, it is very useful to conduct an intensive processing of the Family Income and Expenditure Survey (FIES) 2000 data in order to identify populations belonging to the first two deciles as well as their locations. Provincial-level analysis can simply assist in revealing most macroscopic phenomena. As reported by NSO that used the Gini coefficient ratio at the regional level, the “movement towards a widening income disparity” is observed in many areas.<sup>23</sup> Only a more in-depth data processing of the FIES 2000 data will allow identifying where this trend is more evident.

Analysis of expenditure patterns also assists with the identification of “vulnerable” areas. Expenditure patterns usually reflect different need status. In general, less spending on primary needs (e.g., food, clothes, shoes) means better livelihood conditions. In the short term, it can be very useful for identifying vulnerable areas and populations by undertaking the assessments of expenditure patterns and, in particular, food expenditure. This is a reason why NSO is monitoring this indicator.<sup>24</sup> Map 9 helps identify areas where the share of food expenditure to total expenditure is increasing, despite the decreasing trend at the national level. Many of the already identified worsened-off provinces (in green) are identical to the provinces with an increased share of food expenditure.<sup>25</sup> The map does not include NCR nor makes reference to urban and rural components of each province.

A further investigation to identify more vulnerable provinces can be carried out by using more specific indicators, for example, the share of “cereals and cereals preparation” to total food expenditure during 1997-2000 by using real price figures.<sup>26</sup> Map 10 clearly shows provinces considered as more vulnerable at least in terms of the need for allocating more resources to cereals.



Map 9 Share of food expenditure to total expenditure

Map 10 Provinces with high share of cereal to total expenditure

It is obvious that vulnerability conditions result from the concomitance of various factors, several of which have been tested and explained in this and previous chapters. The Philippine FIVIMS should take this into account when developing and adopting vulnerability assessment and monitoring procedures in the future. The indicators examined in this report assist substantially in identifying vulnerable groups in the Philippines if the NSO data are processed at not only the provincial level but also the household level.

## 5. Nutrition and Health Outcomes

Most current FIVIMS outcome indicators for monitoring food insecurity are available for 1996 and 1998.<sup>27</sup> This data availability enables conducting a preliminary assessment of the short term effects of the 1997 economic crisis. As is well known, the Philippines succeeded in reducing child undernutrition until 1996. However, the economic crisis, coupled with the El Niño, had reverted the trend at least temporarily. The prevalence of undernourished children successfully declined since the beginning of the 1990s (down to 8.8% according to the FNRI-PPS<sup>28</sup>) but gone up to 9.2% in 1998, an increase by 4.5% between 1996 and 1998<sup>29</sup> (Figure 5).

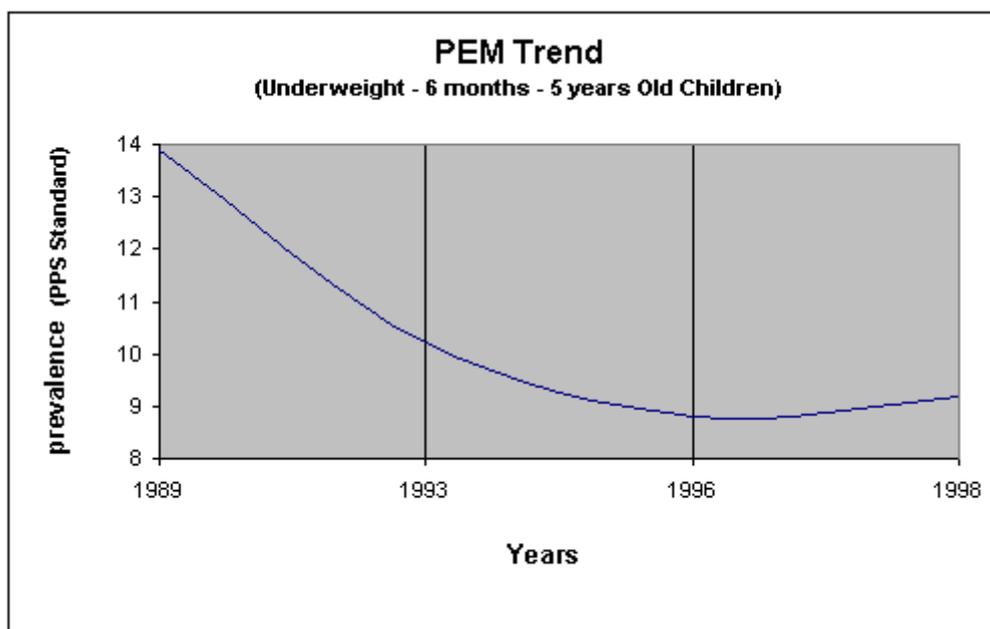
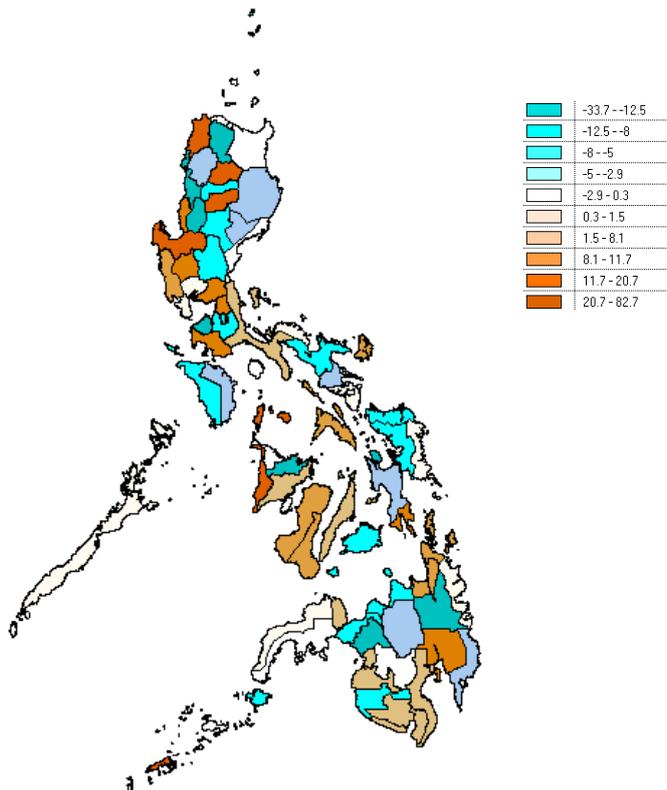


Figure 5. PEM Trend

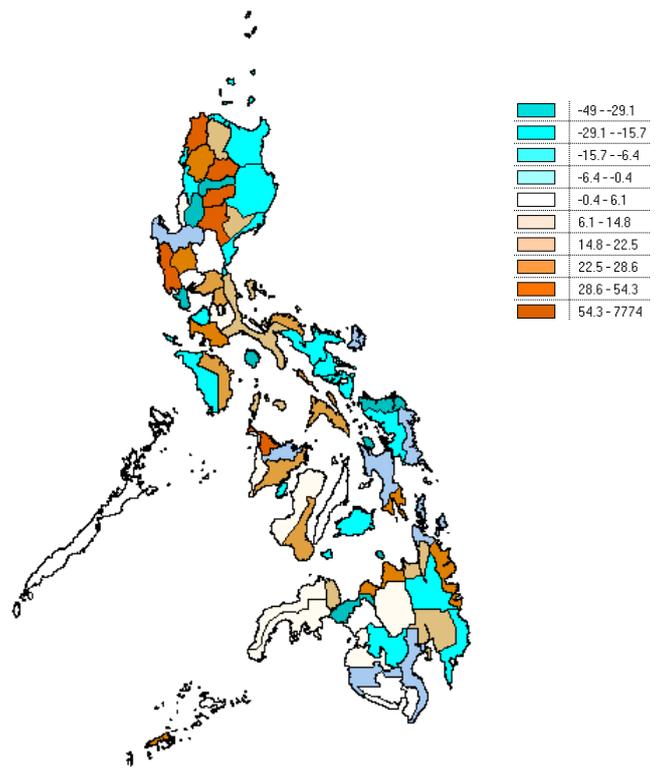
The PEM (Protein Energy Malnutrition) trend during 1996-98 is shown in Map 11 using the data of underweight children between 6 months and 5 years old measured based on the cut-off point of the international standard (NCHS-WHO). On the other hand, Map 12 refers to “at least moderately underweight” children according to the cut-off point of the FNRI-PPS (1985).

As is well known, the two classification criteria, or different cut-off points, are not comparable. The Asia FIVIMS mission intends to emphasise the fact that the trend of prevalence of underweight should be at least similar regardless of which method is used. However, the lesson learned is that the assessment of the trend could be affected by the use of different reference standards. Provinces with a positive trend shown in Map 11 can appear to be affected negatively in Map 12: for instance, refer to Abra and Oriental Mindoro. One of the possible reasons for such a rather evident discrepancy could be attributed to the statistical reliability of provincial-level data when using the same standard in two different years, i.e., 1996 and 1998.

It is true that the 1997 economic crisis had strongly affected the undernutrition trend not only in a negative but also in a positive way on one hand, many changes at the provincial level were not easily understandable.<sup>30</sup> Philippine FIVIMS should take this fact into consideration for future data analysis activities.



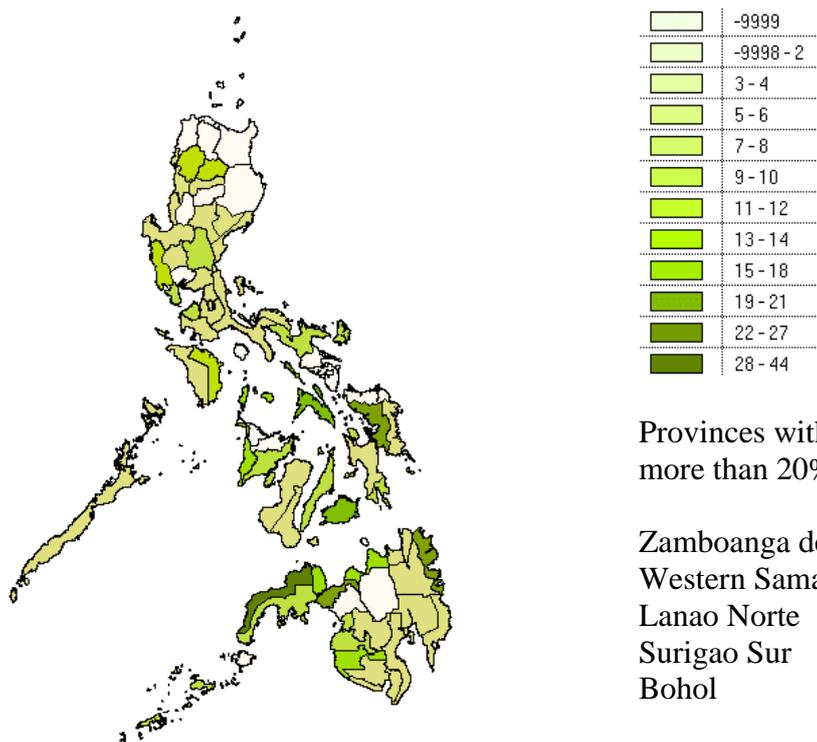
Map 11 Underweight children trend 1996-1998



Map 12 At least moderately underweight

Three additional indicators could be used for identifying different food insecurity situations:

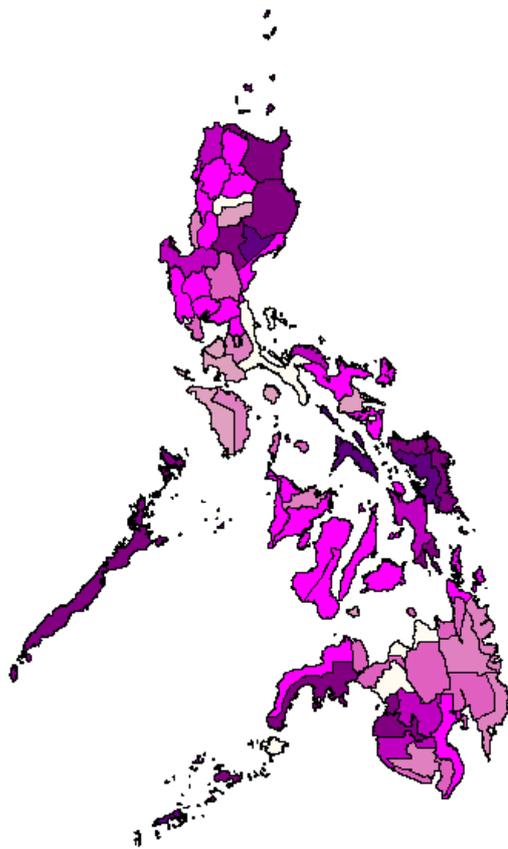
- (a) Prevalence of Vitamin A Deficiency among 6-59 months children for 1998;<sup>31</sup>
- (b) Iron Deficiency Anemia (IDA) for the same year and for the same age classes; and
- (c) Severe Urinary Iodine Excretion<sup>32</sup> (1998, school children).



Provinces with higher prevalence - more than 20% of the children

- Zamboanga del Norte
- Western Samar
- Lanao Norte
- Surigao Sur
- Bohol

Map 13 Prevalence of Vitamin A Deficiency 1998

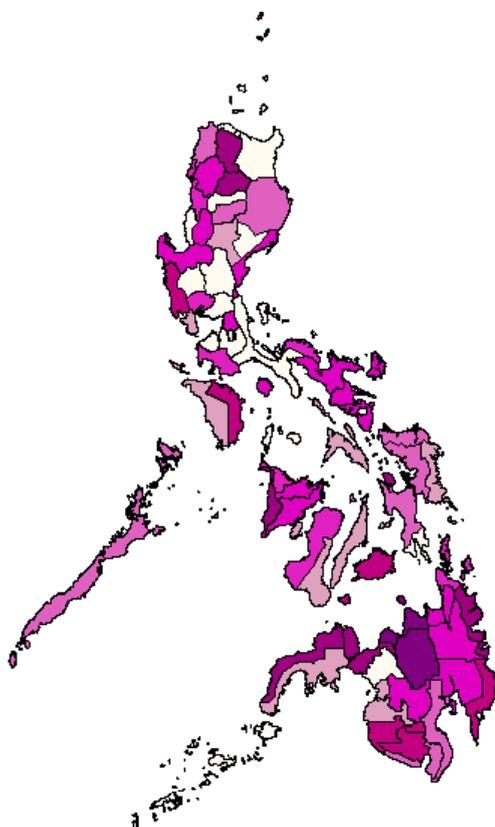


-9999
-9998 - 12
13 - 19
20 - 23
24 - 26
27 - 32
33 - 37
38 - 40
41 - 43
44 - 48
49 - 52
53 - 62

Provinces with higher prevalence - more than 50% of the children  
Tawi-tawi

- Western\_Samar
- Quirino
- Masbate
- Eastern Samar
- Northern Samar
- Nueva Vizcaya
- Cagayan

Map 14 Iron Deficiency Anemia (IDA) for the same year and for the same age classes



-9999
2 - 5
6 - 8
9 - 10
11 - 12
13 - 14
15 - 18
19 - 24
26 - 33
36 - 41

Provinces with higher prevalence - more than 30% of the children

- Misamis Oriental
- Bukidnon
- Camiguin
- Apayao
- Lanao Norte
- Misamis Occidental
- Surigao Sur
- Antique

Map 15 Severe Urinary Iodine Excretion

As evident from the maps, the prevalence of the three phenomena is not necessarily located in the same provinces. This is a reason why it is recommended to use appropriate statistical tools, for instance, a multi-factorial, or cluster, analysis approach, instead of simple ranking and cross-tabulation techniques as vulnerability is a manifestation resulted from the concomitance of various factors.<sup>33</sup>

## 6. Education

At the first glance, it seems that the 1997 economic crisis did not affect school education so severely at the national level in the Philippines as with other Asian countries. Probably due to the fact that the Filipino people consider child education very important, major educational national performance indicators show a slight negative effect of the crisis, followed, by and large, by an apparent recover. Figure 6 shows the Index Number (previous year = 100) of the most relevant indicators.

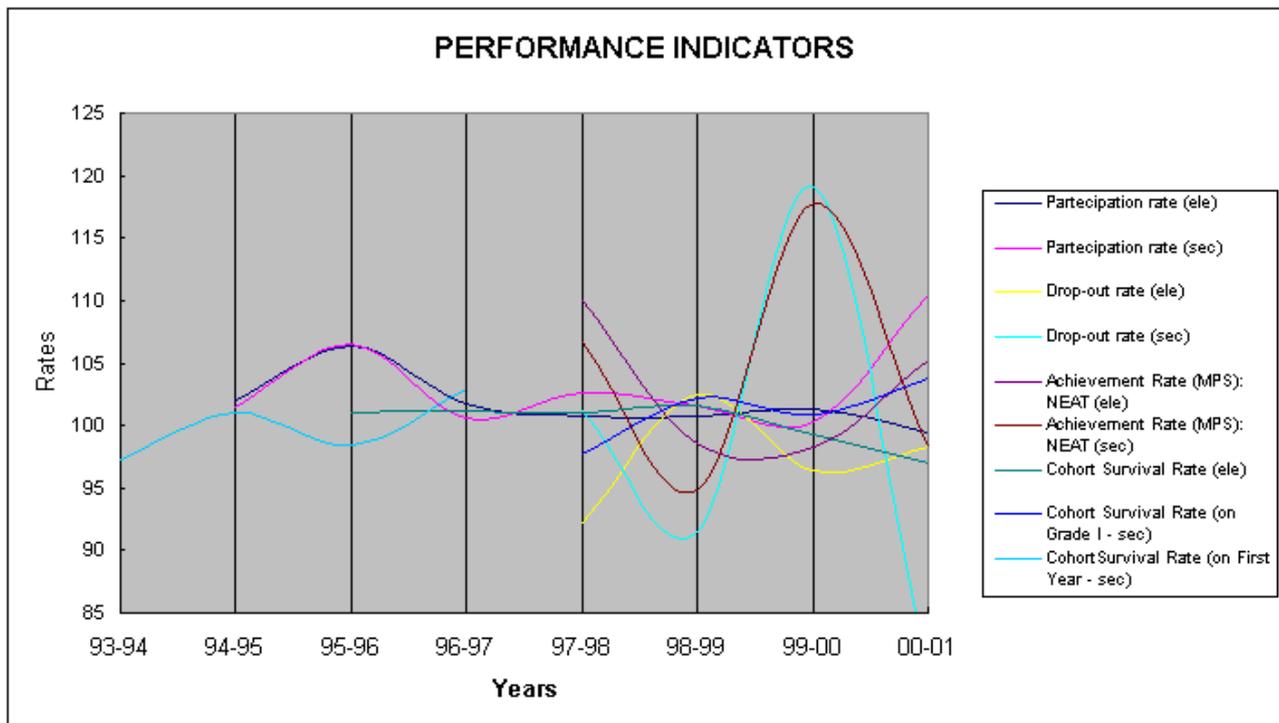


Figure 6 Performance Indicators

However, the positive trend has been accompanied by the declining performances. For instance, both the achievement rate and the cohort survival rate<sup>34</sup> for primary school recorded significant decreases, i.e., lower performance,<sup>35</sup> in the post crisis period. In addition, the participation rate in primary and secondary school had simply decreased, during the post crisis first year, compared to their previous positive trends.<sup>36</sup> A less positive path is shown by the drop-out rates.<sup>37</sup> While the phenomena seem less affecting the primary school (with a temporary increase in the school years 1998-99), the secondary school recorded a significant worsening in the school year 1999-2000.

Although APISs 1998 and 1999 prove that the traditional coping mechanisms of “taking out children from school” is not commonly practised in the Philippines,<sup>38</sup> the same surveys have demonstrated that the use of this indicator could be very useful for FIVIMS purposes. Figure 7 compares the information available from APISs 1998 and 1999. An immediate impact of the financial crisis in 1998 is shown in that the distribution of this incidence is more scattered through the deciles and, to a certain extent, centred around the middle deciles.

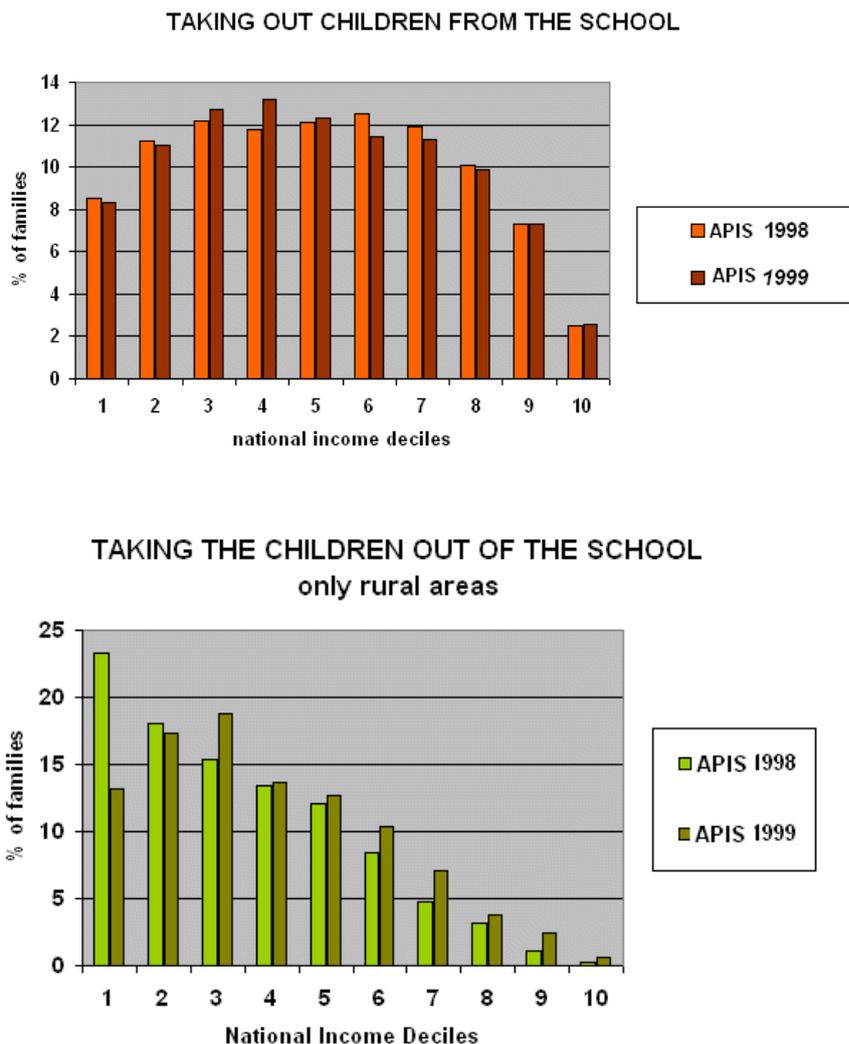
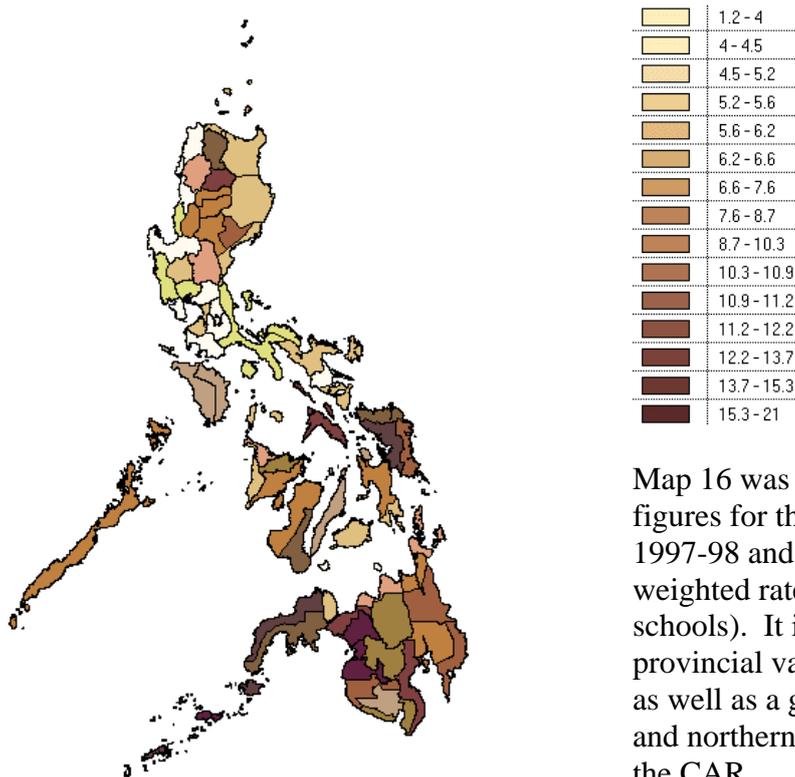


Figure 7 (top) To take out children out of school; (bottom) To take out children from school - rural areas

On the contrary, “to take out children from the school” was a coping strategy more evident in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> deciles in 1999, which probably reflects rising indirect and direct costs for education or less possibility of access to school by families in these deciles.<sup>39</sup> It is also evident from the surveys that this coping strategy was more common in rural areas than urban regions, although the difference between the two regions is not so significant.

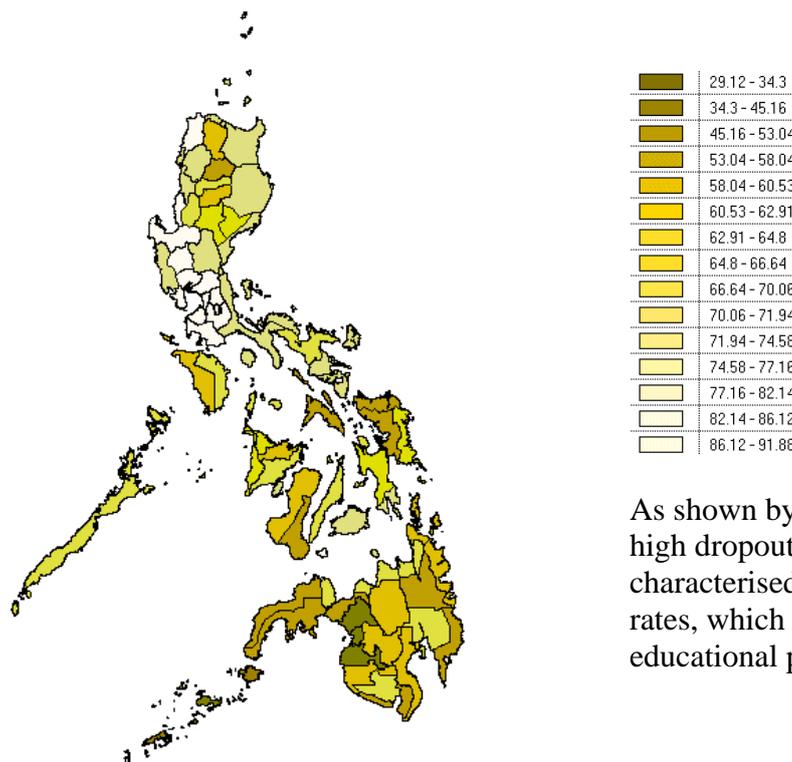
What is more important for the identification of vulnerable groups is the variation in distribution among different deciles for 1998 and 1999, respectively. The right chart of Figure 7 shows that the immediate impact of the 1997 economic crisis was mainly on the lowest deciles in rural areas (APIS 1998). It linearly decreases when shifting to the highest deciles. On the other hand, the 1999 situation can be characterised by a more stabilised situation, a pattern similar to the overall trend that took into account both rural and urban families together.

The data acquired from the Department of Education, Culture and Sports (DECS) further assisted in understanding the spatial distribution of the phenomena.<sup>40</sup> In spite of the fact that dropout is not so significant at the national level, its inter-provincial variability is apparently extremely high.



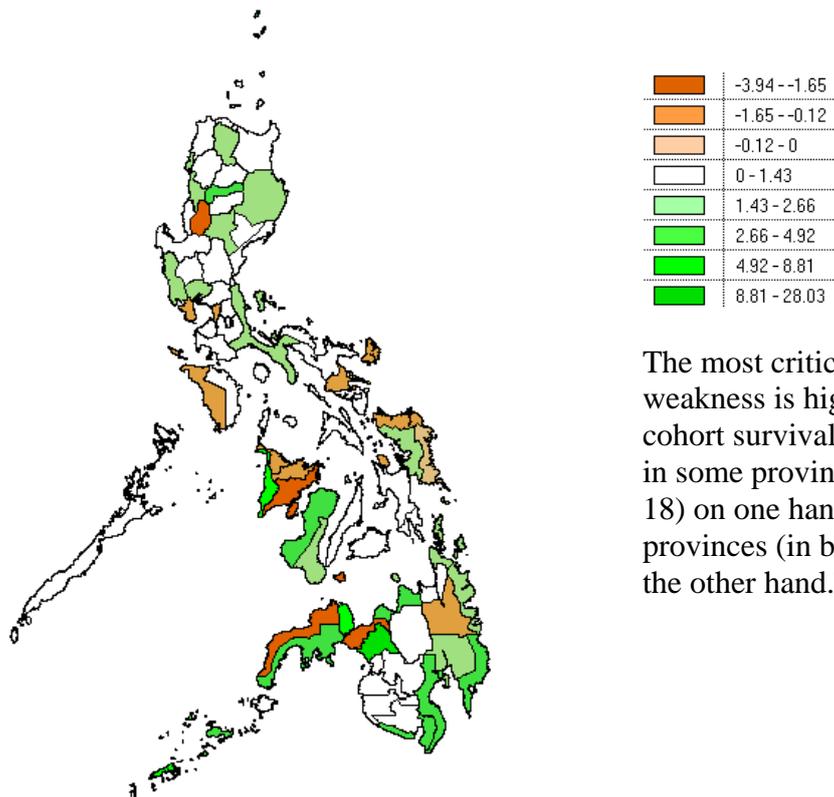
Map 16 was derived by smoothing the figures for the two different periods, 1997-98 and 1998-99, and using weighted rates (public and private schools). It indicates a high inter-provincial variability in the dropout rate as well as a gap between the southern and northern regions excluding most of the CAR.

Map 16 Inter-provincial variability of the “Dropout Rate”



As shown by Map 17, provinces with high dropout rates are at the same time characterised by low cohort survival rates, which affirms structural educational problems and weakness.

Map 17 Lower “cohort survival rates”



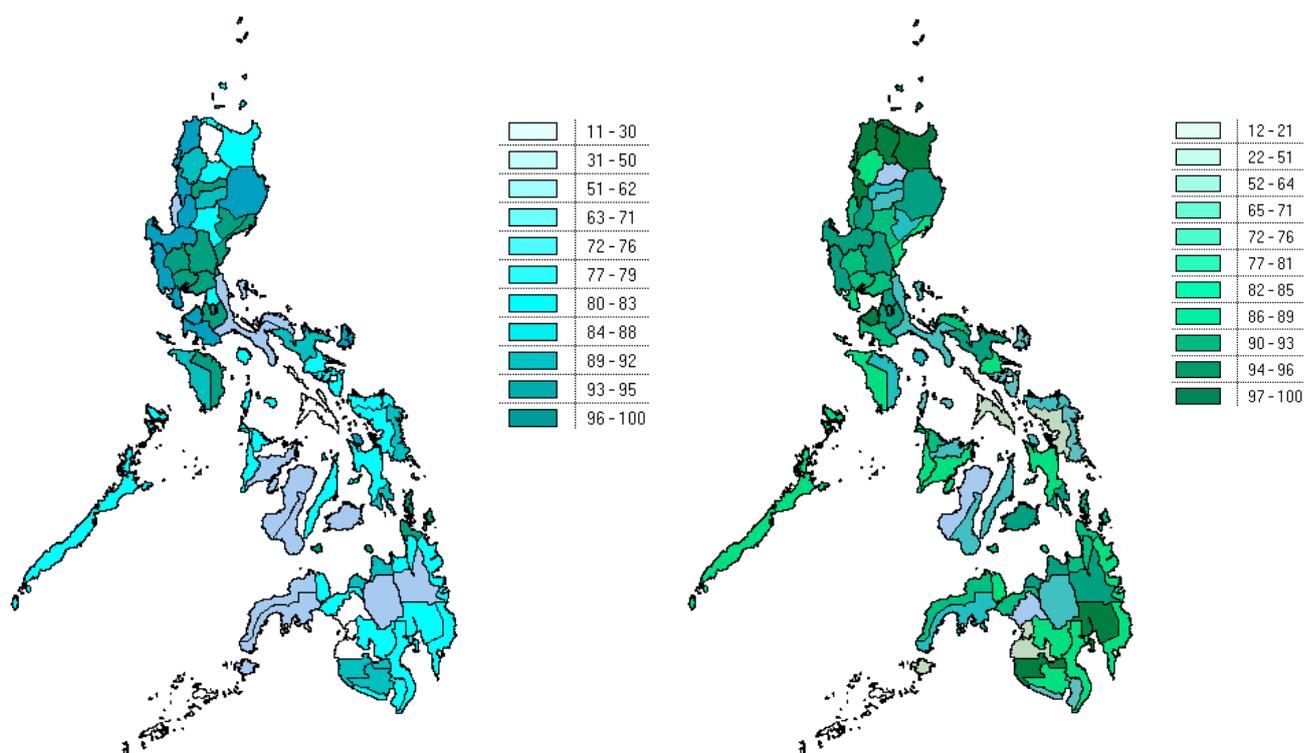
The most critical aspect of this structural weakness is highlighted in that the cohort survival rate is slightly improving in some provinces (colored green in Map 18) on one hand, the trend for other provinces (in brown) are worsening on the other hand.<sup>41</sup>

Map 18 “Cohort survival rates” Improving or Worsening

## 7. Access to Basic Services

The inter-provincial difference in access to basic services is still significant in the Philippines, although the overall situation has improved over the last decade. The two most significant indicators derived from APIS 1999 are “the percentage of families having access to safe drinkable water” and “having their own sanitary toilets.”<sup>42</sup> Both indicators show very large inter-provincial variations (Map 19 and 20).

At the national level, the estimates show that the number of families with access to safe water had slightly increased from 74% (1991) to 77% (1997).<sup>43</sup> However, a significant difference still remains between urban and rural areas. For example, it was only 1997 that the percentage of rural families having access to safe water became lower than the level recorded for urban areas in 1985. In other words, there is still a gap of more than a decade in this basic service. The trend of families with their own sanitary toilets is very similar: from 72% in 1991 to 76% in 1997. The rural-urban gap in 1997 was very high: 68% vs. 86%.<sup>44</sup>



Map 19 & 20 (left) Percentage of families with access to safe drinkable water; (right) Percentage of families with an own sanitary toilet

These two indicators appear to be highly relevant to future FIVIMS analysis not simply due to the fact that they emphasise the inter-provincial variations, but also --- and especially because --- the two indicator are very sensitive to income levels.<sup>45</sup> A preliminary analysis carried out by the Asia FIVIMS mission has shown that, not surprisingly, the lowest access to both services is largely associated with the families in the first decile. In rural areas, the first three deciles include more than 70% of families without any toilet facility. On the other hand, , the percentage is lower in urban regions (48%) – Figure 8.

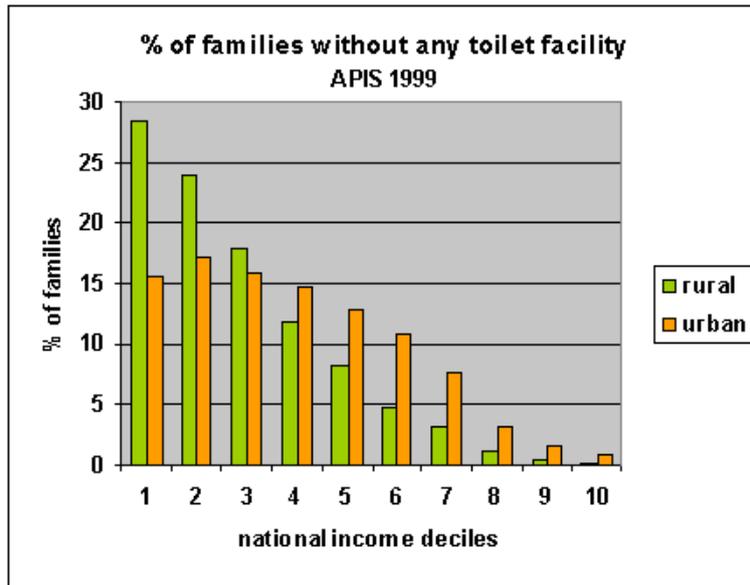


Figure 8. Percentage of families without any toilet facility

## 8. Labor Force and Land Insecurity

According to FIES 2000, about 33% of household heads in the nation work in the primary sector (Table 9).<sup>46</sup> Their per capita income distribution, when classified by per capita decile, is skewed toward the lowest deciles (Figure 9). 54% of the household heads whose occupation is in the primary sector belong to the first three deciles. On the contrary, only 28.6 % of the total household heads are under the first three deciles if the overall distribution of total household heads is taken into account. Attention should be given to the “dimension” of the phenomena. The farmers and other plant growers represent 23.8% --- about one-fourth --- of total Filipino household heads’ occupations. They also represent 72.6% of total primary sector occupations. For further comparison, a table “Household Head Occupation by National Per Capita Income Decile” is attached as Annex G.

Table 9. Household Head Occupations by National Per Capita Income Decile

			1 <sup>st</sup> Decile	2 <sup>nd</sup> Decile	3 <sup>rd</sup> Decile	1-3 Deciles
	% Total activities	% “Primary Sector”	Percent	Percent	Percent	Percent
<b>Forestry and Related Workers</b>	0.3	0.8	26.7	13.3	13.3	53.3
<b>Agricultural, Forestry, Fishery and Related Laborers</b>	4.4	13.4	22.8	18.7	18.1	59.6
<b>Farmers and Other Plant Growers</b>	<b>23.8</b>	<b>72.6</b>	19.4	17.6	15.6	52.6
<b>Fishermen</b>	4.3	13.2	14.1	22.8	19.0	55.9
<b>Total “Primary Sector”</b>	<b>32.8</b>	100.0	19.2	18.4	16.3	<b>54.0</b>
<b>Total Activities</b>	100.0		8.8	9.7	10.0	<b>28.6</b>

Source: FIES 2000; Processed by the Asia FIVIMS mission

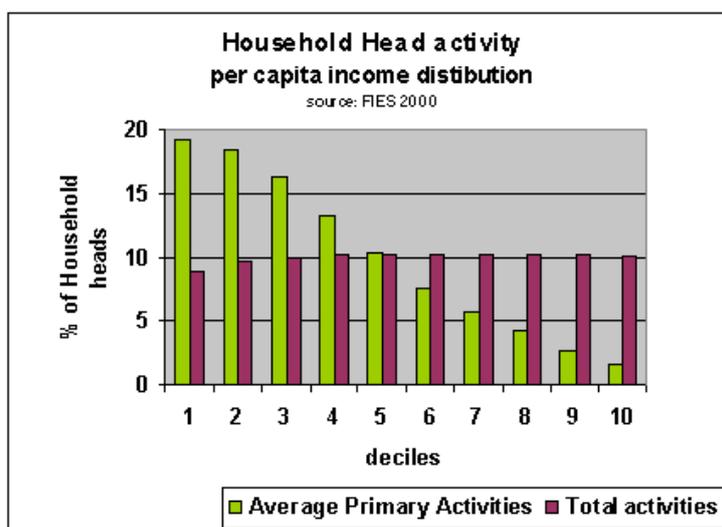
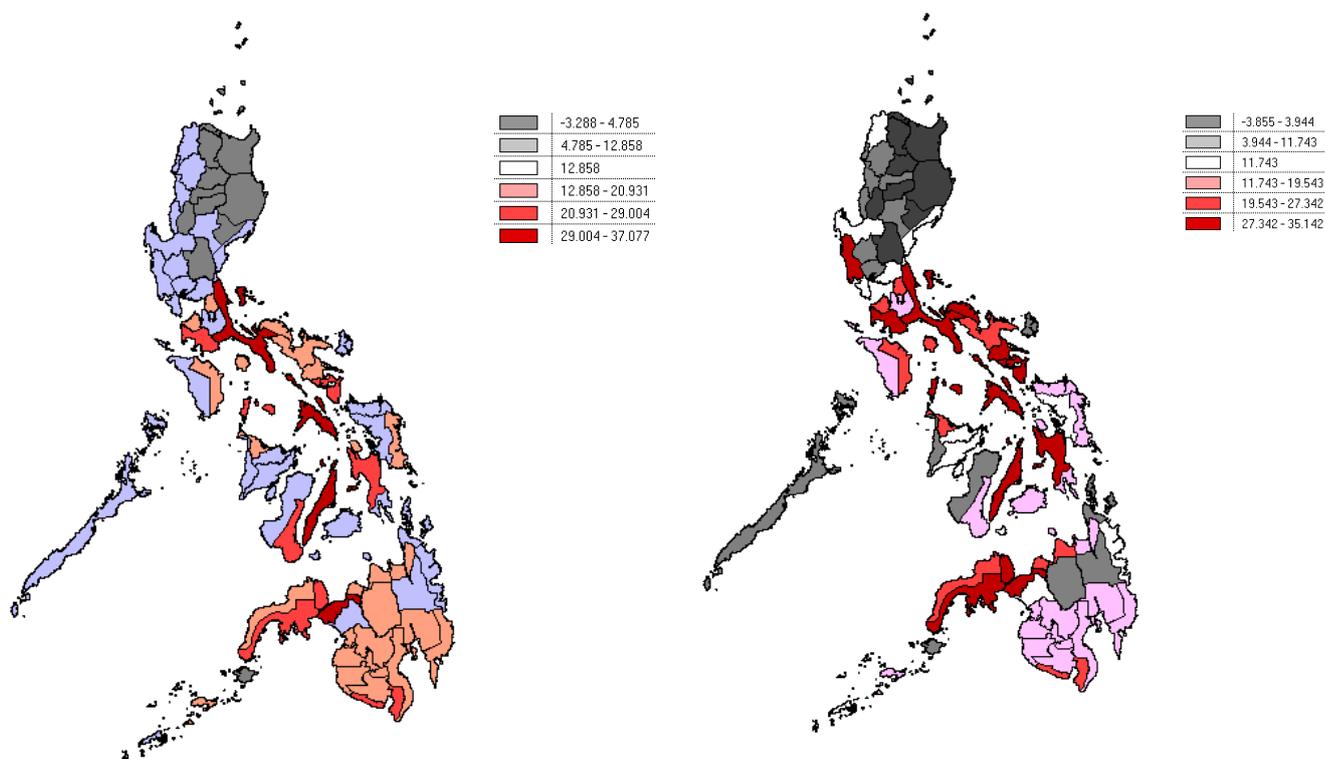


Figure 9. Household head activity

The primary sector households certainly need to be attentively monitored by future FIVIMS activities in the Philippine. Through the rich data sets provided by the four NSO survey (and the future ones), it is/will be possible to identify their sub-profiles, understand their improving or worsening trends, and estimate their population size and locations.

Unfortunately, FIES 2000 does not provide any additional information on land tenure, which would be very useful for further vulnerability analysis.<sup>47</sup> The only available data on land tenure come from the last Agricultural Census conducted more than ten years ago. Their use is therefore very limited, also considering that the Comprehensive Agrarian Reform Program (CARP) has partially changed the land tenure systems.<sup>48</sup>

Apparently tenancy is still a major factor hampering development in the agricultural sector. The two maps were derived from the Agricultural Census 1991 and show the extent of tenanted farms in terms of percentage of such farms (left) compared to the national average and of percentage of areas (right).<sup>49</sup> Unfortunately a new Agricultural Census has been postponed, which should have provided National FIVIMS with other significant information helpful for understanding food insecurity and vulnerability of the Philippines.



Map 21 (left) Tenanted farms in terms of percentage of farms; (right) percentage of areas

On the other hand, APIS 1999 could partially provide some useful information for understanding land tenure in rural areas, at least allowing inter-provincial comparisons. For instance, APIS 1999 collected the information on the ownership of land. In 1999, 21.4% of families surveyed own agricultural land, and one third of them (33.9%) belonged to the first three income deciles ---against 24,6% of other families (Figure 10). Only 7.2% of the families owning agricultural land had acquired it through the CARP land distribution programme. It also should be noted that most of the beneficiaries (52.7%) belong to the five highest deciles.

With regard to the use of land as a copy strategy, MIMAP quotes “*Land is important not just as a factor of production. In times of crisis, vulnerable households have used this asset either by selling it or using it as loan collateral to stabilize consumption. This coping mechanism, however, has significant implications on the future productive capacity of the agricultural household.*”<sup>50</sup> In the future, a more detailed data processing of APIS at the household level will allow the Philippine FIVIMS to understand how much “selling or loaning fixed assets” had been/are important components of the coping mechanism.

APIS 1999 is also an important source for understanding the locations of the poorest farmers and CARP beneficiaries.<sup>51</sup> Map 22 depicts provinces with highest percentages of farmers belonging to the first three national income deciles.

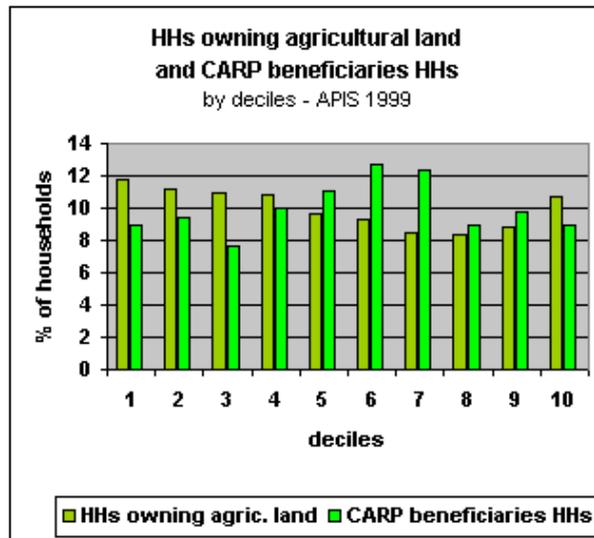
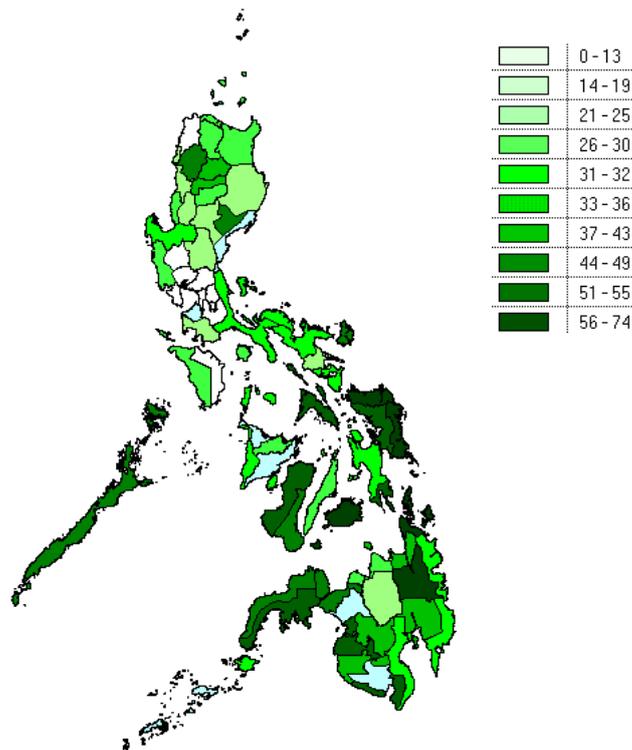


Figure 10. Households Owning Agricultural Land and CARP Beneficiaries



Map 22. Farmers belonging to the lowest 3 national income deciles

## 9. Households Headed by Females

According to FIES 2000, the households headed by females represent 18% of the Filipino households (Figure 11).

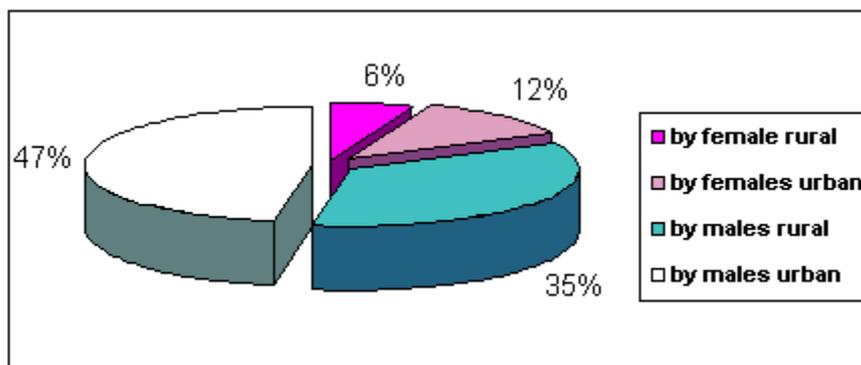


Figure 11. Rural and Urban Households Headed by Females and Males (FIES 2000)

In 1998 using three modules of the Integrated Survey of Households (ISH),<sup>52</sup> MIMAP identified four socio-economic groups called “subdomains” in the Survey: *farmers, landless agricultural workers, fisherfolks and female-headed households* in order to estimate the poverty incidence for each of them comparing it with the national-level estimates. Vulnerability analysis, in general, pays attention to the assumption that households headed by females are more vulnerable than those headed by males. However, MIMAP found out that female-headed households had “its average regional estimate of poverty incidence lower than that of the general population”<sup>53</sup>

FIES 2000 offers a new opportunity to verify if female-headed households are necessarily more vulnerable at least in term of income. Figure 12 –14 are self-explanatory. While the highest percentage of female-headed households is in the lowest income decile, the presence of such households is very noticeable in the highest four deciles. When the distribution by rural and urban areas is taken into account, it becomes more evident that the income level of female-headed households is lower in urban areas than rural communities, ascertaining that this indicator could be rather significant for use in vulnerability analysis in the urban environment.

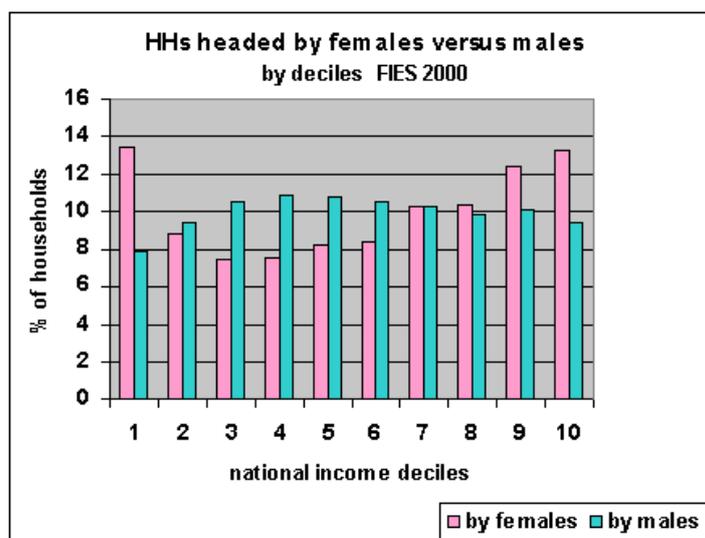


Figure 12. Households Headed by Females and Males

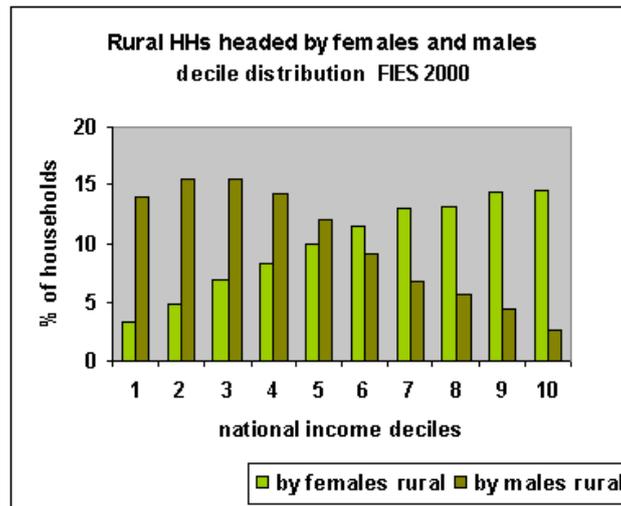


Figure 13. Rural Households Headed by Females and Males

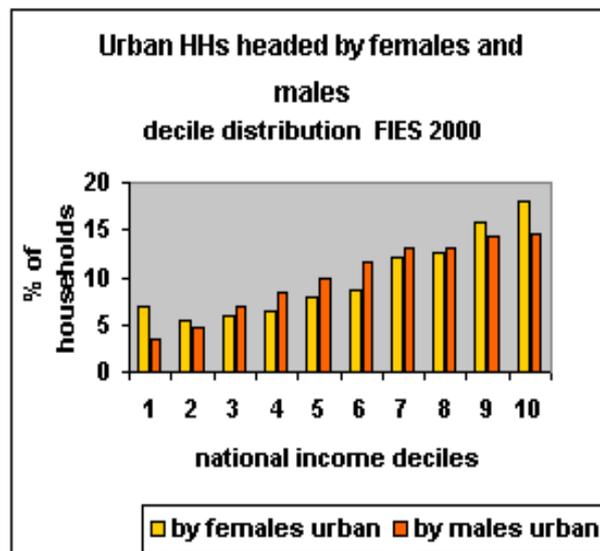


Figure 14. Urban Households Headed by Females and Males

## 10. Child Labor and School Dropout

Among so called “enabling indicators” or “selected poverty indicators” collected and used for ranking provinces by APIS, most important for vulnerability analysis is probably the percentage of families with working children 5-17 years old. APIS 1999 helped show that the percentage of working children was 7.6% at the national level with a huge discrepancy between urban and rural children (4.5% versus 11.5%), although in both regions, distribution does not appear to be affected so much by the level of income except for the 9<sup>th</sup> and 10<sup>th</sup> deciles (Figure 15). Map 23 depicts the situation revealed after having processed the APIS 1999 data. A darker gray corresponds to the higher percentage of families with working children.

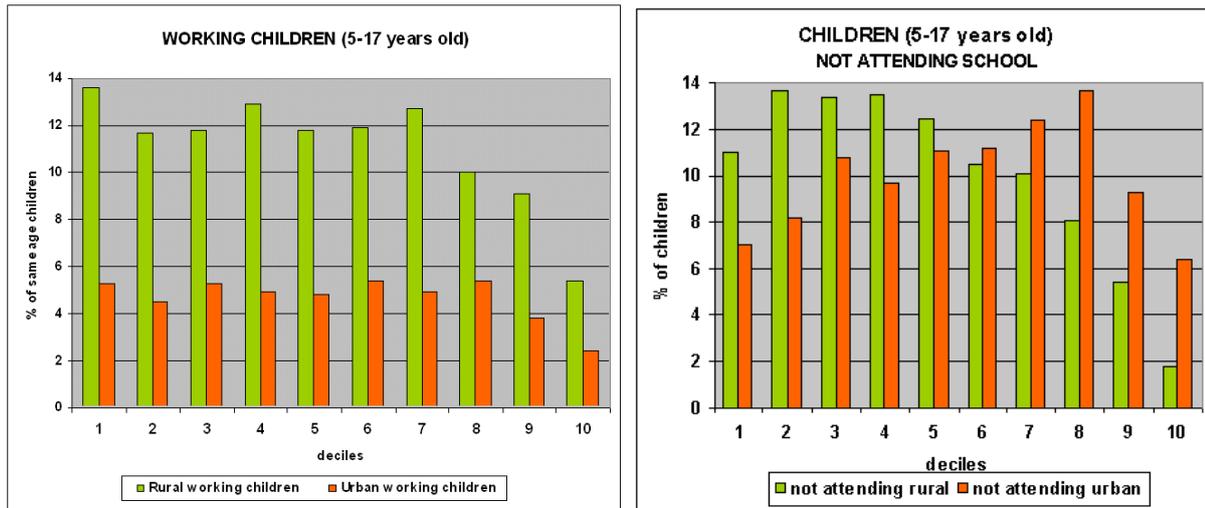
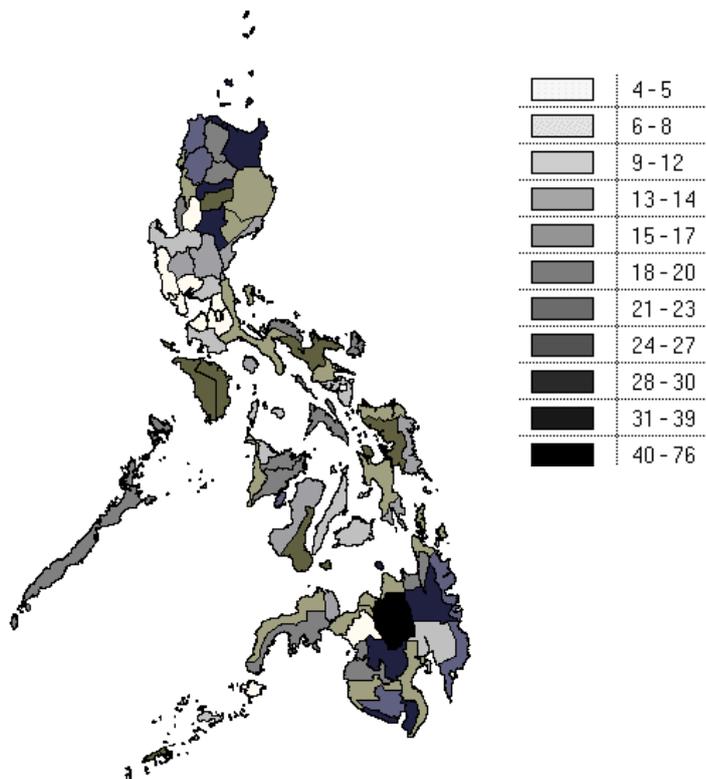


Figure 15. (left) Percentage of working children by urban and rural areas; (right) Distribution of children by decile not attending school



Map 23. Percentage of families with working children (5-17 years old)

The 1999 survey also allowed us to estimate that 13.4% of children included in the range 5-17 years old were not attending the school (10.6% in urban areas versus 16.9% in rural ones). However, it is worth pointing out that the “Not Attending” phenomenon is salient in the lower income deciles in rural areas on one hand, opposite is true in urban regions.

Further analysis of APIS 1999 reveals that a relatively small portion of the children give up school education due to labor requirements (Table 10). At the national level, only 13% of children are out of the school for this reason implying that school education is very important for Filipino people as already seen in Chapter 6, especially in the section on dropout.

Table 10. Reasons for Not Attending School (age 5-17)

Reasons	Total	Urban	Rural
Lack of personal interest	35.99	32.06	39.12
High cost of education/parents cannot afford expenses	24.24	27.87	21.35
Employment/Looking for work	9.20	10.48	8.18
Housekeeping	3.84	3.81	3.87
School are very far/No school within the barangay	2.81	1.14	4.15
No regular transportation	0.48	0.47	0.49
Illness/Disability	4.97	5.91	4.21
Others	12.34	12.99	11.83
<i>Source: APIS 1999, PUFMEM99.dat file; Processed by the Asia FIVIMS mission</i>			

The “lack of personal interest” is the most significant reason for “Not Attending” in both urban and rural areas: 32% in urban and 39% in rural areas. This is followed by “financial constraint” that is more evident in urban areas with 27.9% in urban versus 21.4% in rural regions.<sup>54</sup> Overall, it is suggested that the attitudinal and cultural aspects of analysis in relation to vulnerability should be paid more attention to in future FIVIMS activities in the Philippines.

Lastly, the Asia FIVIMS mission would like to point out that the age-class definition, i.e., 5-17 years old, is too wide to detect the most crucial issues. Therefore, the mission suggests that the next APIS collect this type of indicators using more disaggregated thresholds.

## 11. Conclusion and Recommendations

The Philippines was considered one of the Southeast Asia countries less affected by the 1997 financial crisis. Nevertheless, the recent data have shown that:

1. the 1997 negative impact on food security and livelihoods was more significant than originally forecasted;
2. the overall welfare condition had been suddenly worsened after 1997; and
3. recovery has been/is slower than expected.

Aggravated by the concurrent El Niño, the 1997 economic crisis deprived the country of much of the economic advancement achieved in the past decades. At the same time, through the FIVIMS assessments conducted by the mission, it revealed the vulnerability of many Philippine households, belonging to not only the poorest strata of the population but also those in the middle and high income deciles.

It is in this context that National FIVIMS in the Philippines must play a significant role in providing answers to “Who are food insecure and vulnerable?”, “Where are they located?”, “Why are they food insecure and vulnerable?” and “How many are they?” The information necessary to answer the FIVIMS questions can be extracted from the already existing national statistical data and well-consolidated sectoral information databases contributing to finding out who is suffering from or at risk of food insecurity. In particular, the sizable digital data sets available from the four NSO surveys covering the most crucial period (1997-2000) are extraordinary sources offering an unusual opportunity to assist the Philippine FIVIMS in achieving its objectives and monitoring vulnerability trends.<sup>55</sup>

Due to the complexity of vulnerability patterns in the Philippines, it became evident that a simple geographical approach, particularly if carried out using score methods,<sup>56</sup> could only partially assist the Philippine FIVIMS in answering the FIVIMS questions, and in fact could not allow it to quantify and conduct in-depth analyses of the vulnerable people. The mission fully agrees with the opinion “... *unfortunately [the geographical targeting], which has the virtue of simplicity, is susceptible to the problem of exclusion as well as leakages ...*”<sup>57</sup> In the case of poverty assessments, this approach revealed a serious gap between the outcome of the assessment and the reality. The same author argued that “*only 11 percent of the poor [are located] in the 20 priority provinces that the government initially identified for the implementation of the SRA.*”<sup>58</sup>

The above assumptions do not imply the fact that the Philippine FIVIMS should not regularly collect and update provincial indicators and routinely carry out exploratory multi-factorial statistical analysis. Instead, the geographic approach will help understand the overall changes in food insecurity trends and will provide fundamental suggestions for implementing the FIVIMS steps proposed in the next sections in this Chapter. A geographical approach can also be used as an “exploratory attempt” to identifying the most evident vulnerability patterns. The example contained in Annex A emphasizes positive aspects of the approach, i.e., its simplicity, and at the same time, shows its limitations, namely, *exclusion* and *leaking*.

However, if FIVIMS is required to answer the “How many” question, the geographic approach is unable to allow conducting a quantitative estimation of vulnerable populations. A household approach, on the other hand, will enable the Philippine FIVIMS to quantify and make more in-depth analysis of vulnerability conditions using the existing survey data, with possibilities of detecting socio-economic categories, particular age-groups, and so on, and consequently assist decision-makers in drawing sound food security policies.

### 11-1. Major Findings

Although the 16 indicators were used by the Asia FIVIMS mission for grouping the provinces according to their relative homogeneity and food insecurity characteristics and computed using data from many sources, the majority of the variables were derived by processing provincial level data extracted from the Public User Files (PUFs) of the last four NSO surveys. There is no doubt that the last four NSO surveys (FIES 1997, APIS 1998, APIS 1999, and FIES 2000) should represent the “plinths” for future Philippine FIVIMS building. The information available through these NSO surveys covering the most crucial period (1997-2000) offers an unusual opportunity for identifying not simply major vulnerability components, *risk factors*, but also the most relevant *coping mechanisms*.

Because of their main characteristics and sample designs, the four surveys are essential for answering the FIVIMS-type questions. These characteristics and designs include:

- the high number of surveyed households;<sup>59</sup>
- statistical significance at the provincial level;
- designed for specific purposes, i.e., to assist anti-poverty policy formulation;
- data collection frequency;<sup>60</sup> and
- information on household food consumption patterns.

In spite of the lack of full comparability between the four sources, the Asia FIVIMS mission considers the four surveys an exceptional source for the Philippine FIVIMS in order to identify food insecure and (socio-economically) vulnerable populations in the country.

There are still a few limitations for the systematic use of the above sources.

- There is no consistency in criteria linking together the surveys in selecting households. Apparently, only a household panel data is “saved” through the time;<sup>61</sup>
- Unfortunately, at the time being, the PUF (Public Use File) databases do not contain household identifiers, and consequently it has not been/is not possible to reconstruct the post-crisis history of households belonging to the panel mentioned above;<sup>62</sup>
- The purpose of FIESs and APISs are rather different.<sup>63</sup> This fact could partially affect refining Philippine FIVIMS activities in the future; and
- Budgetary constraints could in the future affect regular FIES/APIS survey activities,<sup>64</sup> or could oblige to reduce the number of surveyed households with a consequence of diminishing the provincial statistical significance.

The Asia FIVIMS mission considers that the full involvement of NSO in FIVIMS core activities will reduce these limitations and instead introduce significant synergies to the benefit of the country. Once food insecure and vulnerability patterns are identified at the household level and their locations are mostly understood, it will be possible to improve the profiles of the identified vulnerable populations with ancillary information, from both more aggregated databases<sup>65</sup> and disaggregated results of the planned two Censuses<sup>66</sup>

## 11-2. Methodological Approach

The FIVIMS mission considers that the advanced multi-factorial statistical, or cluster, analysis could be the most suitable methodological approach to take by the Philippine FIVIMS, given that (i) high quality of existing information systems in the Philippines regularly collecting data suitable for FIVIMS and (ii) high skill and knowledge of data analysts in many national government agencies.

As explained in a IAWG-FIVIMS document, categories defined by multi-factorial analysis “*are highly descriptive of both similarities and differences in and across households and regions. ... the use of cluster methods provides some important insights into the causes of vulnerability. In addition, the characteristics of the individual clusters, or typologies, often provide sufficient information for analysts and decision-makers to draw their own conclusions regarding the relative level of vulnerability across clusters. In contrast, with the simple index approach, where indicator weights may be similarly subjective, the subjective interpretation of cluster analysis results is transparent and, if done properly, defensible. Rather than the black box of the index approach, where the reasons for a particular outcome aren’t readily apparent, cluster analysis opens interpretation of the data to decision-makers in a simple and straightforward fashion.*”<sup>67</sup>

## 11-3. Qualitative and Quantitative Analysis of FIVIMS Phenomena: Practical Issues

The recommended actions for conducting qualitative and quantitative assessments of FIVIMS phenomena are: (i) identifying vulnerable groups and creating their profiles; and (ii) understanding group profiles trends and reasons for trend changes

### (i) *Identifying Vulnerable Groups and Creating their Profiles*

**Step 1:** To cluster households according to changes in their conditions during the period for which such information is available.

Notably APIS 1999 allows identifying<sup>68</sup> which households were “worsening off,” had “no changes” and became “better off” between 1998 and 1999 as well as the reason for these changes. Additional, very important household member information<sup>69</sup> can be obtained from the same survey enabling the Philippine FIVIMS to reconstruct more detailed household profiles and linking to separate databases.

Consequently, it is recommended to extract a sub-set of “items” from the original “Household” and “Persons” files, and to generate new household records containing indicators most significant for FIVIMS purposes, describing household’s main socio-economic and behavioural patterns. When generating these new indicators, a particular emphasis should be given to those that would allow detecting different kinds of possible “exposure to risks,” for instance, unstable job conditions, debts, access to loan, levels of income and expenditure, composition of food consumption, access to basic services and education, and so on.

Using appropriate multi-factorial statistical, or cluster, analysis techniques it will be possible to classify the 37,448 households according to food insecure and vulnerable typologies. Because of the large samples and wide coverage of the survey, the typologies can be statistically significant, making it possible to define the number of households belonging to each food insecure and vulnerable typology and to locate them at least at the provincial level. It is expected that the food insecure and vulnerable typologies will include not only all the households declaring that their

conditions are “worsening off”,<sup>70</sup> but also those households whose conditions have not changed but were already vulnerable. For conducting such analysis, on-the-job training should be provided to selected FIVIMS technical staffs, including staffs from NSO, DOST and NAPC.

**Step 2:** To update the 1999 results

The food insecure and vulnerable typologies identified by processing the APIS 1999 data cannot be automatically found and quantified in the most recent NSO survey, i.e., FIES 2000, due to its different purpose for surveying and different characteristics, and because at the time being, the FIES 2000 PUF contains information at the household level only.<sup>71</sup> However, the household file<sup>72</sup> contains several proxy information through which it will be possible to identify types of households with profiles similar to those defined by the 1999 data clustering. Additional attempts would be taken place in order to verify if new vulnerable groups are emerging by reprocessing the whole FIES 2000 database independently.

Advantages of updating the 1999 data clustering results, although using proxy indicators, include not only the use of more recent information but also, for instance, the fact that the FIES 2000 household file contains more information on consumption patterns. Additional on-the-job training, if necessary, should be provided in order to establish a small but highly skilled core technical team inside the Philippine FIVIMS.

(ii) *Understanding the trends of vulnerable group profiles and reasons for trend changes*

**Step 3:** To calibrate the profiles and make them comparables in different time periods

Once vulnerable groups profiles and food insecurity and vulnerability patterns are defined through the previous two steps, it is worth to improve the quality of the results by understanding the trends of the vulnerable groups and the reasons for their changes. A challenging opportunity is offered to the Philippine FIVIMS by matching 17,897 households between FIES 1997, APIS 1998 and APIS 1999.<sup>73</sup>

It is recommended, first and foremost, to improve the quality of each 1999 household record appending new significant indicators computed from the previous two NSO surveys (FIES 1997 and APIS 1998) and possibly from FIES 2000.<sup>74</sup> Then, the 17,897 household records should be analysed with appropriate multi-factorial, or cluster, analysis to identify groups of household histories. Although the limited number of households will not necessarily guarantee that results are statistically significant at the provincial level, the newly updated group profiles, making reference to the household “historical path,” will assist in understanding the overall classifications provided by step 2.

Matching FIES 1997 to the profiles is highly relevant in better understanding links between the levels and patterns of consumption, the role of diet patterns and the ability to cope with risks, and so on. The integration of indicators extracted from APIS 98 will allow the FIVIMS analysts to better understand relationships between immediate impacts and the risk of further worsening off or the possibility of recovering.

#### 11-4. Reporting and Evaluation

It is suggested that, at the end of each step mentioned above, the FIVIMS technical staff should produce a report describing major outcomes and limitations to the analysis. The outcomes should

be discussed at workshops participated by the FIVIMS Task Force members and other national and international organizations involved in poverty and vulnerability issues in the Philippines.

It is expected that such workshops will:

1. evaluate if the outcomes are consistent with generally recognised interpretation of the post-crisis food insecurity and vulnerability issues in the Philippines;<sup>75</sup>
2. assess if the outcomes could assist decision-makers in drawing adequate food security policies after the crisis occurred; and
3. judge the adequacy of the data analysis techniques used for producing food insecure and vulnerable profiles.

Comments and suggestions from the participants should be taken into consideration for carrying out future Philippine FIVIMS activities.

### **Acknowledgements**

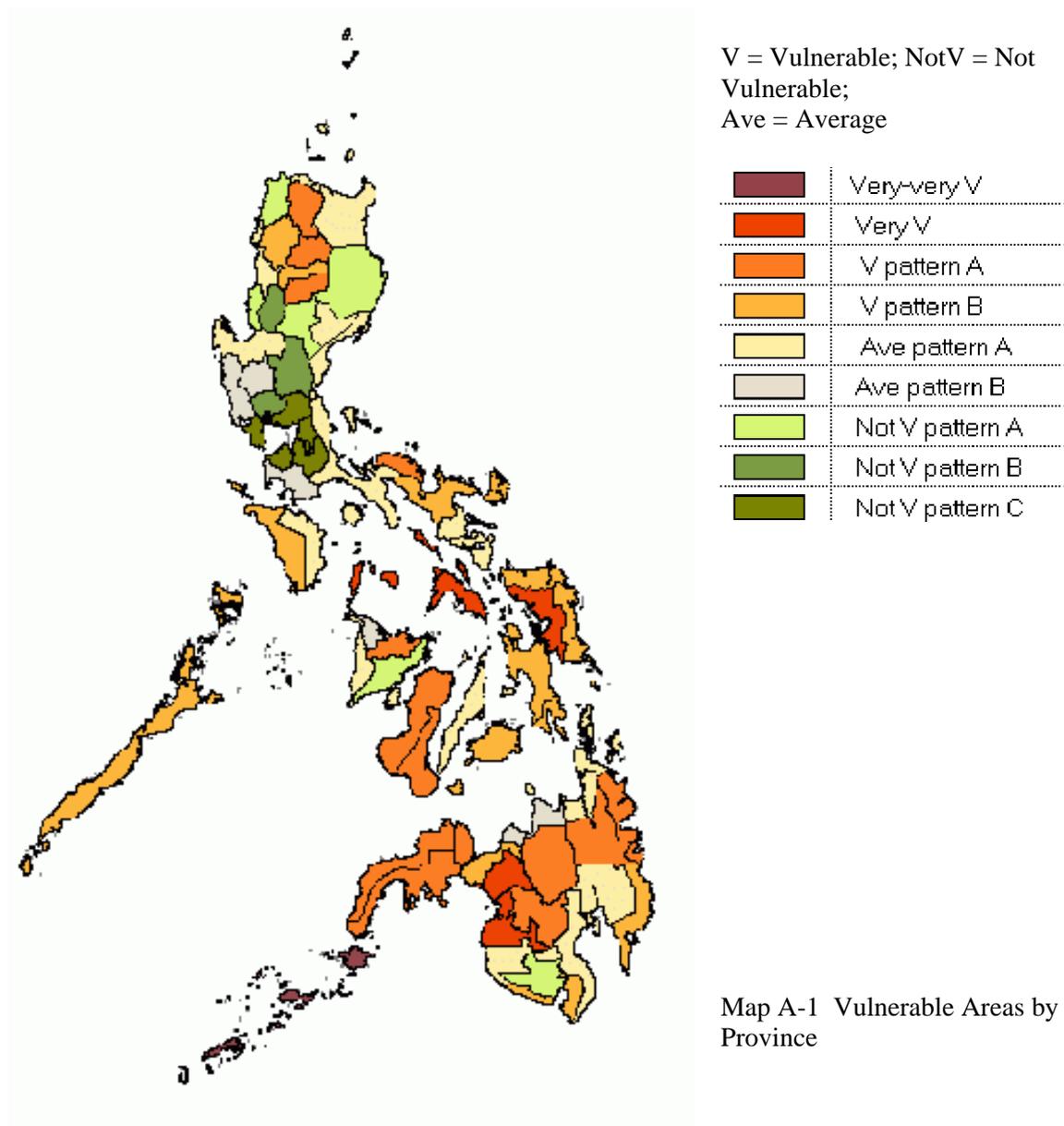
The mission team consisted of Naoki Minamiguchi, Vulnerability Analysis Coordinator of the Asia FIVIMS Trust Fund Project and Professor Paolo Santacroce, the Istituto Universitario di Architettura di Venezia, Italy. The mission was conducted in April 2002 with financial support from the Government of Japan through the Ministry of Agriculture, Forestry and Fisheries. The analyses conducted for this report are attributable largely to Professor Santacroce. Part of the data collected from the FIVIMS Task Force agencies were compiled with assistance from the National FIVIMS Secretariat staff at the National Nutrition Council, Department of Agriculture. The authors also wish to thank all the Task Force agencies that generously provided required data to the mission.

## **Annex A Preliminary Assessment and Identification of Vulnerable Areas at the Provincial Level**

A provisional identification of vulnerable areas at the provincial level was undertaken by the Asia FIVIMS mission by applying the multi-factorial statistical analysis technique and conducting data computation based on in-depth studies, interviews and data collection carried out during the mission. More detailed vulnerability analysis by sector and descriptions on rationales for the use of the selected indicators are described in this main report: Chapters 1 through 10.<sup>76</sup>

In order to identify vulnerable areas the following sixteen indicators have been used with emphasis on the *identification and understanding of livelihoods and their dynamics in the post crisis phase*.

1. Poverty incidence (1997 -- pre crisis situation)
2. Per capita income (2000 -- last available)
3. Average annual rate of change (1997-2000) in:<sup>77</sup>
  - per capita income
  - per capita expenditure
  - per capita expenditure/income ratio
  - per capita food expenditure/total expenditure ratio
  - per capita cereal expenditure/food expenditure ratio<sup>78</sup>
4. Percentages of families perceiving their conditions worsened in 1998-1999
5. Underweight children trend (1996-1998)
6. Two significant indicators on access to basic services:
  - water (percentage of families with access to safe drinking water)
  - sanitation (percentage of families with own sanitary toilet)
7. Two indicators on educational performances in elementary school:
  - dropout rate
  - cohort survival rate
8. Percentage of families with working children; and
9. Two indicators on agricultural land owned by poor owners:
  - percentage of agricultural land owners in the lowest three income deciles
  - percentage of agricultural land under tenancy (used as a supplementary indicator only; not for computation).



The Asia FIVIMS mission collected and acquired a substantial amount of digital data at the sub-national level, highly relevant to National FIVIMS, with assistance from the National FIVIMS Task Force agencies. The mission processed the data, variable by variable --- and element by element in the case of survey data --- in order to extract most critical information reflecting country's vulnerability situations. An output map derived through this process depicts vulnerable areas by province (Map A-1). 77 provinces (excluding NCR) have been classified into nine groups of provinces according to the level of vulnerability to food insecurity. 38 provinces could be considered vulnerable due to the concomitance of different factors contributing to their vulnerabilities.

The profiles for the nine groups of provinces are described here below. For each group, emphasis is placed on its unique characteristics given by the concomitance of different factors. For a detailed quantitative description for the groups, see the table at the end of this Annex.

To indicate the degree of different vulnerability levels, the following classifications were used.

- V(ulnerable) and N(ot)V(ulnerable)
  - V(ulnerable):
    - VVV = Very, Very Vulnerable
    - VV = Very Vulnerable
    - VA = Vulnerable pattern A
    - VB = Vulnerable pattern B
  - N(ot)V(ulnerable):
    - NVA = Not Vulnerable pattern A
    - NVB = Not Vulnerable pattern B
    - NVC = Not Vulnerable pattern C
  - Between Vulnerable and the Not-Vulnerable:
    - AveA = Average pattern A
    - AveB = Average pattern B

Provinces VVV: includes the three most vulnerable provinces, i.e., Basilan, Sulu, Tawi-tawi provinces.

Their average poverty incidence was far below the national level (1997), and the same should be said for per capita income (2000).<sup>79</sup> But most significant is the fact that during the phase 1997-2000 both per capita income and expenditure (at real prices) had drastically decreased<sup>80</sup>; and that the negative growth rate was higher for income than expenditure, resulting in a significant increase in the expenditure share<sup>81</sup>.

At the same time, these provinces experienced an increase in expenditure for food and in particular for cereals.<sup>82</sup> The rate of change in the incidence of child undernutrition during the period 1996-98<sup>83</sup> is higher than the national average, and access to basic services, i.e., safe drinking water and own sanitation, is still extremely unsatisfactory (1999).<sup>84</sup>

In the field of education, the dropout rate is not far away from the national average, but student performance in term of the cohort survival rate is worryingly low.<sup>85</sup> In 1999 not so many families perceived, when compared with the national average, that their conditions had worsened in comparison with the previous years because the situation was already at the bottom level.

Provinces VV: includes five very vulnerable provinces with different trends as far as the income and expenditure indicators are concerned, and when compared to the VVV provinces: Romblon, Masbate, Western Samar, Lanao Sur, and Maguindanao.

The average poverty index and per capita income are higher than and similar to those for the VVV provinces, respectively.<sup>86</sup> However, this group of provinces were not so seriously affected in terms of the average annual rate of change in

per capita income and expenditure. Their slightly negative trends including an expenditure share increase<sup>87</sup> are very close to the national averages from the statistical point of view.

Access to basic services is still very low in 1999 with worryingly low educational performances.<sup>88</sup> The group is characterised by the high extent of households in the first three national income deciles who own their lands.<sup>89</sup>

Provinces VA & VB:

Two vulnerable groups of provinces include 30 provinces together, both characterised by poverty indexes for 1997 and per capita income for 2000 similar to the previous groups, but their post crisis performing can be described in a rather different way.

In particular, their per capita incomes are still significantly below the national average and show completely different trends between VA and VB groups.

VA provinces followed the national worsening trend closely. On the contrary, VB provinces clearly improved its income condition. A similar dichotomy is identified in the average annual rate of change in per capita expenditure. VA significantly tightened its expenditure, more than the national trend; VB, on the other hand, expanded its expenditure.

However, by considering the two factors together into consideration, the result appears to be similar between the two groups of provinces in terms of the annual rate of change in the per capita expenditure/income ratio.

Worth noting is that, affected by a decline in per capita income and expenditure, VA provinces had faced a most drastic increase in the cereal share as a component in food expenditure.<sup>90</sup>

In the meantime, both VA and VB provinces show low school performance,<sup>91</sup> and low access to some basic services.<sup>92</sup> The high percentage of households perceived that their condition had worsened.<sup>93</sup> Child labour is one of the highest rates<sup>94</sup> and the extent of households owning their lands under the first three national income deciles is particularly significant.<sup>95</sup>

Provinces included in VA: Camarines Norte, Capiz, Negros Occidental, Negros Oriental, Zamboanga Norte, Zamboanga Sur, Bukidnon, Misamis Occidental, North Cotabato, Agusan Sur, Surigao Sur, Ifugao, Kalinga, Apayao

Provinces included in VB: Mindoro Occidental, Palawan, Camarines Sur, Catanduanes, Bohol, Siquijor, Leyte, Biliran, Southern Leyte, Northern Samar, Eastern Samar, Davao Oriental, Sarangani, Lanao Norte, Abra, Mt. Province

Provinces AveA & AveB:

Two groups of provinces with their overall profiles deviated not so from the national average, and including 25 provinces<sup>96</sup>

The AveA group was affected by the higher poverty incidence in 1997 and showed a lower per capita income in 2000 in comparison with AveB

provinces.<sup>97</sup> But these differences are a result of diverging trends. In spite of being characterised by higher exposition to risk factors than AveB provinces,<sup>98</sup> AveA provinces show a better average annual rate of change in many indicators when compared with AveB. For instance, per capita income and expenditure worsened at a rate lower than that for AveB.<sup>99</sup> A slower increase in the rate of change in the expenditure/income ratio and a similar trend for the child undernutrition indicator are other examples. It is worth noting that AveB provinces were affected by a significant increase in the food share in total expenditure.<sup>100</sup>

Provinces included in AveA: Ilocos Sur, Pangasinan, Cagayan, Quirino, Marinduque, Mindoro Oriental, Quezon, Aurora, Albay, Sorsogon, Antique, Guimaras, Cebu, Camiguin, Davao, Davao Sur, Sultan Kudarat, Agusan Norte, Surigao Norte

Provinces included in AveB: Batanes, Tarlac, Zambales, Batangas, Aklan, Misamis Oriental

The rest of the provinces should be considered “better off” both in terms of income and welfare conditions. Obviously it does not mean that these provinces have not been affected by the economic crisis of 1997 coupled with the El Niño in 1998. However, without any doubt, their recover was/will be easier than other provinces. Among the better off provinces, many of which are located in Luzon, three groups of provinces have been identified.

Provinces NVA: This group includes six provinces that could be considered “Not Vulnerable,” despite the fact that the poverty index was still near the national average in 1997. Provinces included: Ilocos Norte, La Union, Isabela, Nueva Vizcaya, Iloilo, South Cotabato.

Their economic condition trend was probably one of “less worse” or one of the “best.”<sup>101</sup> But according to APIS 1999, the percentage of families perceiving that their economic condition was worsening was still higher than the national average.<sup>102</sup> At least during 1996-98, the child undernutrition rate recorded a high increase.

Provinces NVB: One of the better off groups in terms of welfare condition. Economically affected by the crisis at the level of the national average but with a significant increase in cereal expenditure.

Provinces included: Nueva Ecija and Pampanga

Provinces NVC: This group includes provinces surrounding NCR. The effects of the economic crisis were certainly strong<sup>103</sup> but their already higher-level welfare condition worked as a safety net.

Provinces included: Bataan, Bulacan, Cavite, Laguna, Rizal

## Vulnerability Classification by Province

Cluster	# of Prov	POV_IN97	PCINC2000	DPCIN	DPCEX	DEX_IN	DFEX%	DCEEX%	WORSE%	AVE_PEM	WATER	TOILET	DROPOUT	COHORT	CH_LAB	1-3DOWNL	TENAN_A
VVV	3	49.2 ++	13013 ----	-12.83 ----	-9.56 ----	3.84 ++++	3.51 ++++	1.81 ++++	12.4 ----	7.8 ~~	32.0 ----	26.6 ----	9.0 --	37.3 ----	14.0 --	23.4 --	9.0 --
VV	5	56.5 ++++	13911 ----	-1.94 ~~	-0.10 ~~	1.90 ++	0.07 ++	-2.20 --	24.8 --	5.9 ~~	50.4 ----	50.9 ----	17.2 ++++	43.8 ----	17.7 ~~	42.1 ++	15.6 ++
VA	14	46.1 ++	17403 --	-1.82 ~~	-2.66 --	-0.83 --	1.72 ++++	-2.26 --	38.2 ++	7.5 ~~	67.6 --	76.7 --	11.3 ++	56.3 --	25.1 ++	42.9 ++	11.6 ~~
VB	16	46.3 ++	18772 --	2.58 ++	1.54 ++	-1.02 --	-2.77 ----	-1.01 ~~	29.0 --	-5.6 --	82.2 ~~	86.4 ~~	12.6 ++	64.0 --	19.4 ++	44.3 ++	14.5 ~~
AveA	19	38.9 ++	20237 --	-2.71 --	-1.59 --	1.17 ++	-0.04 ~~	-0.86 ++	33.8 ~~	4.2 ~~	82.4 ~~	87.1 ~~	8.6 --	70.6 ~~	14.9 ~~	32.0 ~~	16.1 ++
AveB	6	24.8 --	25977 ++	-7.19 ----	-5.10 ----	2.26 ++	1.24 ++	-2.37 --	34.6 ++	34.0 ++++	93.3 ++	92.1 ++	9.3 --	79.0 ++	11.2 --	21.6 --	17.6 ++
NVA	6	34.8 ~~	26331 ++	3.46 ++++	3.53 ++++	0.11 --	-1.09 --	-3.50 --	36.2 ++	15.7 ++	82.4 ~~	91.9 ++	8.0 --	71.2 ++	20.4 ++	19.1 --	6.3 --
NVB	3	16.8 ----	28019 ++	-1.47 ~~	-1.16 ~~	0.30 ~~	-3.61 ----	4.11 ++++	24.8 --	-4.0 --	98.9 ++++	93.7 ++	9.6 ~~	76.5 ++	10.5 --	18.2 --	4.0 ----
NVC	5	10.5 ----	40369 ++++	0.69 ++	2.17 ++	1.48 ++	-1.23 --	-2.03 --	35.3 ++	4.1 ~~	91.8 ++	95.0 ++	8.7 --	86.2 ++++	6.3 ----	8.1 ----	13.8 ~~
Average	77	35.7	23254	-1.25	-0.71	0.59	-0.42	-1.34	32.9	6.2	80.3	84.4	10.2	68.3	16.1	30.0	13.2

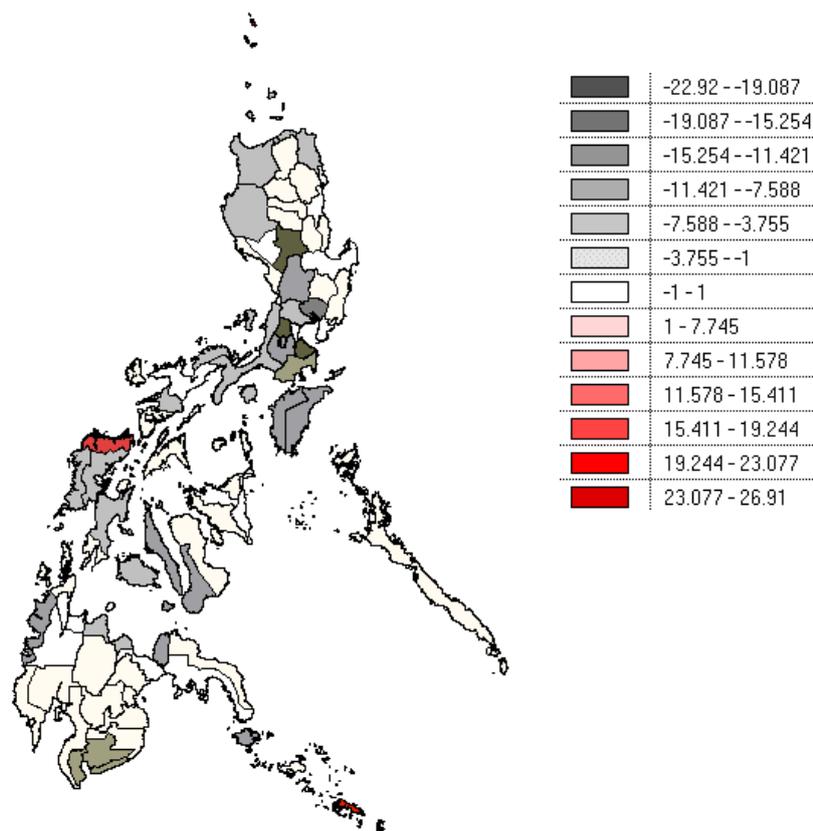
Legend	POV_IN97	Poverty Incidence 1997 (FIES 1997)
	PCINC2000	Per Capita Income 2000 (FIES 2000)
	DPCIN	Average Annual Rate of Change in Per Capita Income 1997-2000 (real prices) (FIES 1997 and 2000)
	DPCEX	Average Annual Rate of Change in Per Capita Expenditure 1997-2000 (real prices) (FIES 1997 and 2000)
	DEX_IN	Average Annual Rate of Change in Per Capita Expenditure / Income ratio (1997-2000, real prices) (FIES 1997 and 2000)
	DFEX%	Average Annual Rate of Change in Per Capita Food Expenditure / Total Expenditure ratio (1997-2000, real prices) (FIES 1997 and 2000)
	DCEEX%	Average Annual Rate of Change in Per Capita Cereal and Cereal prep. Expenditure / Total Food Expenditure ratio (1997-2000, real prices) (FIES 1997 and 2000)
	WORSE%	Percentage of families worsening their conditions (1998-99) (APIS 1999)
	AVE_PEM	Average underweight children (5 months - 5 years old) Dynamic 1996-98 (FNRI-DOST)
	WATER	Percentage of families with access to safe drinking water (APIS 1999)
	TOILET	Percentage of families with own sanitary toilet (APIS 1999)
	DROPOUT	Drop out rate (public and private elementary school) average (1996-97 ... 1998-99) (DECS)
	COHORT	Cohort survival rate (public and private elementary school), average (1996-97 ... 1998-99) (DECS)
	CH_LAB	Percentage of families with working children 5-17 years old (APIS 1999)
	1-3DOWNL	Percentage of families with own agricultural land and belonging to the national income first three deciles (APIS 1999)
	TENAN_A	Percentage of agricultural land under tenancy (Census of Agriculture 1991) (supplementary indicator)

Explanation of symbols	
----	> -1SD
--	-1SD -- -0.2SD
~~	-0.2SD -- +0.2SD
++	+0.2SD -- +1SD
++++	> +1SD
SD = Standard Deviation	

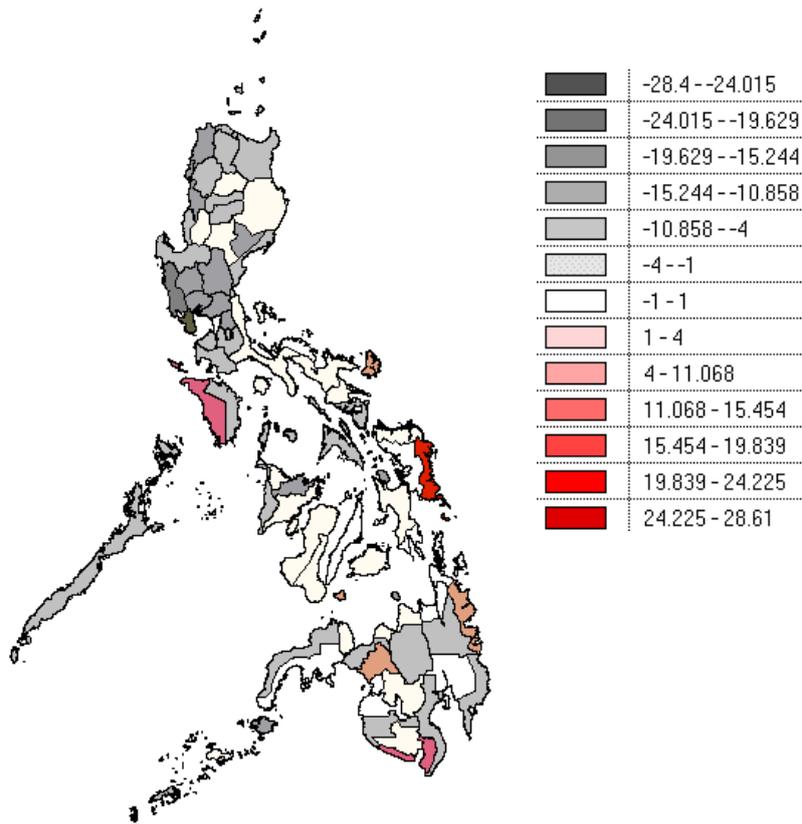
## Annex B Per Capita Poverty Thresholds by Region (1985- 2000)

PER CAPITA POVERTY THRESHOLD	1985	1988	1991	1994	1997	2000
(current prices)	pesos	pesos	pesos	pesos	pesos	pesos
Philippines	3744	4777	7302	8885	11319	13916
National Capital Region (NCR)	4527	6576	9286	11230	14299	18001
Cordillera Administrative Region	-	5116	8332	10853	12836	15706
Region I - Ilocos Region	3775	4934	8060	10022	11975	14800
Region II - Cagayan Valley	3448	4573	7035	8316	9880	12488
Region III - Central Luzon	3895	5242	8173	9757	11389	14653
Region IV - Southern Tagalog	3794	4832	8075	9537	12452	15307
Region V - Bicol Region	3434	4144	6385	8319	10378	13010
Region VI - Western Visayas	3675	4344	6403	8197	10560	12646
Region VII - Central Visayas	3305	3711	5585	6425	8718	11089
Region VIII - Eastern Visayas	3283	3818	5138	6444	8727	10868
Region IX - Western Mindanao	3521	3793	6351	7074	9732	11046
Region X - Northern Mindanao	3546	4523	6433	7938	10440	12131
Region XI - Southern Mindanao	3645	4876	6544	8201	10503	12546
Region XII - Central Mindanao	3673	4147	7321	8971	11119	12247
Autonomous Region of Muslim Mindanao	-	-	7450	8889	11134	14017

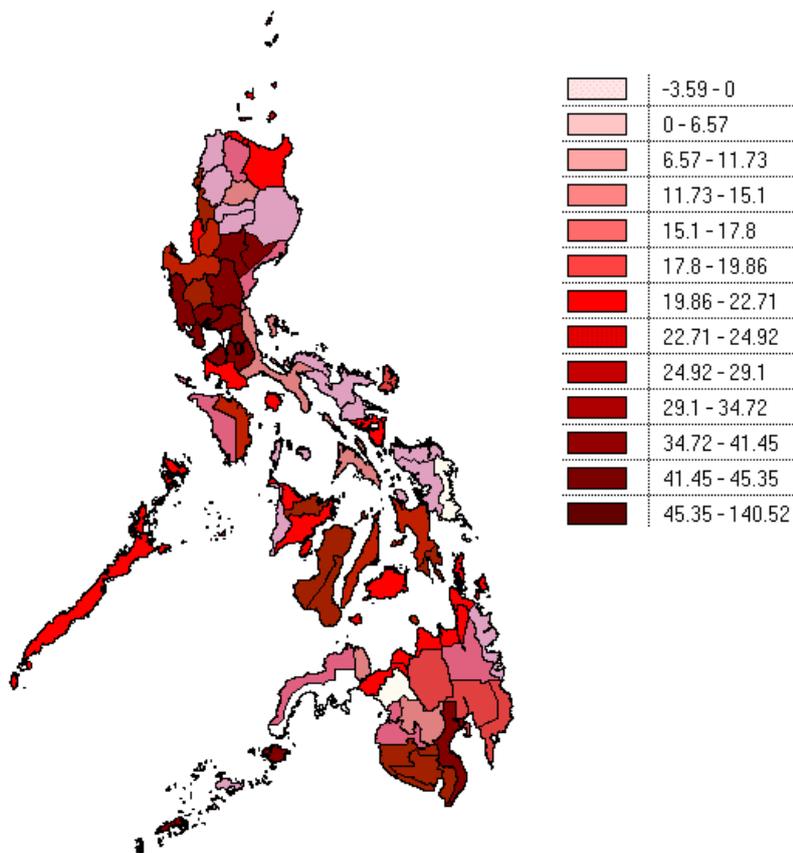
## Annex C Poverty Incidence – Average Annual Rate of Change



Map C-1 1991-1994



Map C-2 1994-1997



Map C-3 1997-1998

## Annex D GINI Concentration Ratios by Region

Regions	1985	1988	1991	1994	1997	2000
<b>NCR</b>	0.4146	0.4258	0.4282	0.3967	0.4622	0.4451
<b>CAR</b>		0.3741	0.4372	0.41	0.464	0.4439
<b>R1</b>	0.4011	0.3743	0.4039	0.3814	0.4257	0.4071
<b>R2</b>	0.3856	0.3962	0.4172	0.4056	0.413	0.4227
<b>R3</b>	0.3992	0.3861	0.3986	0.363	0.3638	0.3568
<b>R4</b>	0.4058	0.4034	0.4236	0.4016	0.4247	0.4241
<b>R5</b>	0.3798	0.3876	0.391	0.4116	0.4362	0.4458
<b>R6</b>	0.4499	0.408	0.4031	0.4063	0.4412	0.4594
<b>R7</b>	0.4537	0.4602	0.4604	0.4417	0.475	0.4691
<b>R8</b>	0.3904	0.4041	0.4149	0.4198	0.4457	0.4807
<b>R9</b>	0.3947	0.4087	0.4057	0.3861	0.4684	0.4606
<b>R10</b>	0.4539	0.4424	0.438	0.4157	0.4944	0.4728
<b>R11</b>	0.3932	0.4019	0.4348	0.4114	0.4495	0.4565
<b>R12</b>	0.3709	0.3583	0.405	0.428	0.4491	0.4409
<b>ARMM</b>			0.3197	0.3125	0.3406	0.322
<b>CARAGA</b>					0.4387	0.4118
<b>Philippines</b>	0.4466	0.4446	0.468	0.4507	0.4872	0.4818

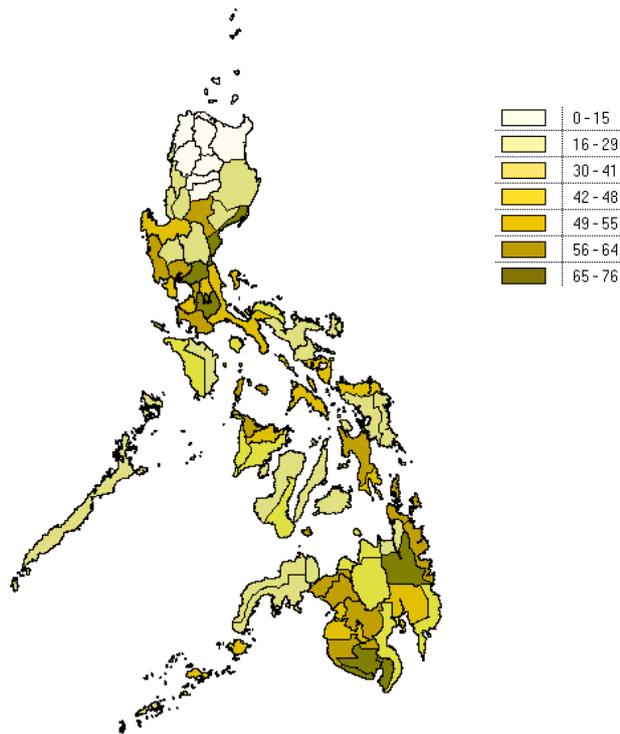
## Average Annual Rates of Change in Gini Concentration

Regions	1985-88	1988-91	1991-94	1994-97	1997-2000	1991-2000
<b>NCR</b>	0.89	0.19	-2.51	5.23	-1.25	0.43
<b>CAR</b>		5.33	-2.12	4.21	-1.47	0.17
<b>R1</b>	-2.28	2.57	-1.89	3.73	-1.48	0.09
<b>R2</b>	0.91	1.74	-0.94	0.60	0.78	0.15
<b>R3</b>	-1.11	1.07	-3.07	0.07	-0.65	-1.22
<b>R4</b>	-0.20	1.64	-1.76	1.88	-0.05	0.01
<b>R5</b>	0.68	0.29	1.73	1.95	0.73	1.47
<b>R6</b>	-3.21	-0.40	0.26	2.78	1.36	1.46
<b>R7</b>	0.48	0.01	-1.37	2.45	-0.42	0.21
<b>R8</b>	1.16	0.88	0.39	2.02	2.55	1.65
<b>R9</b>	1.17	-0.25	-1.64	6.65	-0.56	1.42
<b>R10</b>	-0.85	-0.33	-1.73	5.95	-1.48	0.85
<b>R11</b>	0.73	2.66	-1.83	3.00	0.52	0.54
<b>R12</b>	-1.15	4.17	1.86	1.62	-0.61	0.95
<b>ARMM</b>			-0.76	2.91	-1.85	0.08
<b>CARAGA</b>					-2.09	
<b>Philippines</b>	-0.15	1.72	-1.25	2.63	-0.37	0.32

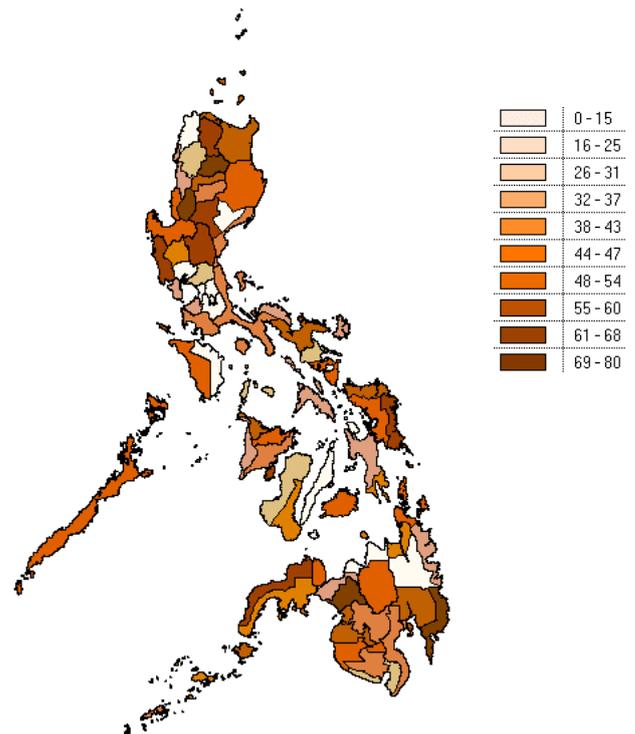
## Annex E Percentage Distribution of Total Family Expenditures by Major Non-Food Expenditure Group (1997 and 2000)

	1997 %	2000 %	increase 1997-2000
RECREATION	0.72	0.89	24.11
TRANSPORTATION AND COMMUNICATION	10.04	12.10	20.56
FUEL, LIGHT AND WATER	9.50	11.21	18.02
EDUCATION	6.63	7.47	12.71
PERSONAL CARE AND EFFECTS	5.91	6.41	8.31
RENT/RENTAL VALUE OF DWELLING UNIT	25.45	25.27	-0.71
SPECIAL OCCASIONS OF THE FAMILY	4.30	4.27	-0.71
HOUSEHOLD OPERATIONS	4.12	4.09	-0.71
OTHER EXPENDITURES	5.38	5.16	-4.02
GIFTS AND CONTRIBUTIONS TO OTHERS	1.79	1.60	-10.64
MEDICAL CARE	3.94	3.38	-14.25
TOBACCO	2.33	1.96	-15.99
TAXES PAID	4.48	3.74	-16.60
DURABLE FURNITURE AND EQUIPMENT	5.38	4.45	-17.26
CLOTHING, FOOTWEAR AND OTHER WEAR	5.91	4.80	-18.76
HOUSE MAINTENANCE AND MINOR REPAIRS	1.97	1.60	-18.76
ALCOHOLIC BEVERAGES	1.61	1.25	-22.78
NON-DURABLE FURNISHINGS	0.54	0.36	-33.81
<b>Total non food expenditure</b>	<b>100</b>	<b>100</b>	<b>1.08</b>
Source: NSO, Special Release n. 036, Feb. 2002.			
Computed by the Asia FIVIMS mission			

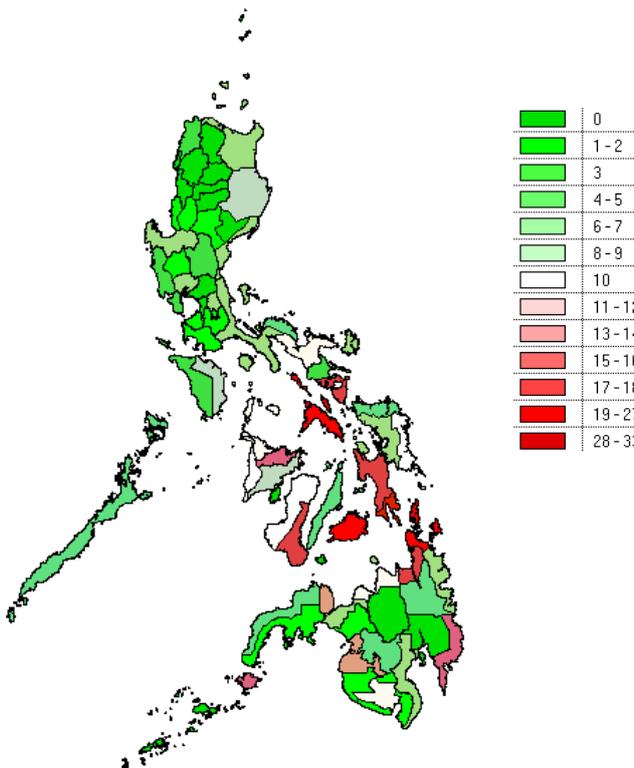
## Annex F Major Coping Strategies of Family Worsening off (1998-1999)



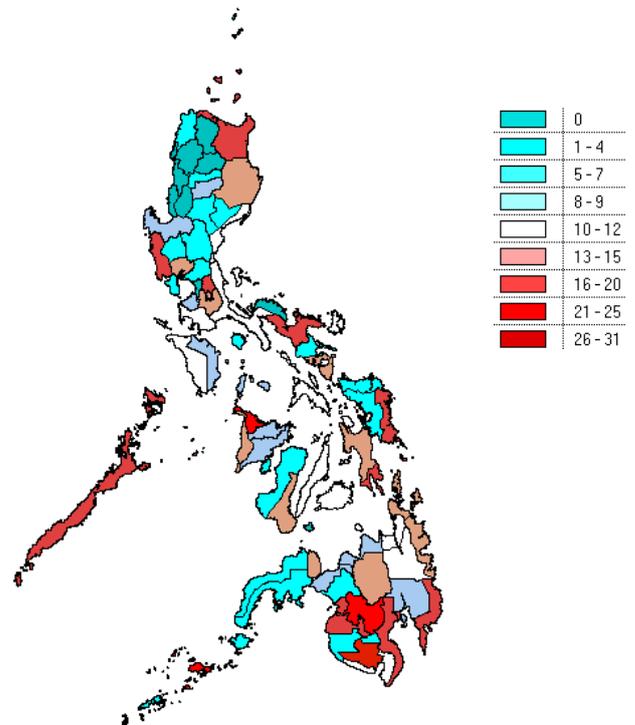
Map F-1 Percentage of worsening off families, who declared to want to change their eating patterns (Urban and Rural together)



Map F-2 Percentage of worsening off families, who declared to want to increase their working hours (only rural areas)



Map F-3 Percentage of worsening off families, who declared to want to migrate to the city or other countries (only rural areas)



Map F-4 Percentage of worsening off families, who declared to want to take the children out of the school (only rural areas)

Source: APIS 1999 – processed and computed by the Asia FIVIMS mission

## Annex G Household Head Occupations by National Per Capita Income Decile

Household Head Occupation	1st Dec. Percent	2nd Dec. Percent	3rd Dec. Percent	4th Dec. Percent	5th Dec. Percent	6th Dec. Percent	7th Dec. Percent	8th Dec. Percent	9th Dec. Percent	10th Dec. Percent
Total	8.8	9.7	10	10.2	10.3	10.3	10.2	10.3	10.2	10.1
Forestry and Related Workers	26.7	13.3	13.3	10.5	15.2	7.6	6.7	1	1.9	3.8
Agricultural, Foerstyr, Fishery and Related Laborers	22.8	18.7	18.1	13	9.7	6.6	5.5	3	1.9	0.7
Farmers and Other Plant Growers	19.4	17.6	15.6	12.8	10.4	8.1	6.1	4.8	3.2	2
Fishermen	14.1	22.8	19	16.1	10.9	6.9	4.8	3.1	1.5	0.8
Laborers in Mining, Construction, Man. and Transport	10	12.8	13.1	12.7	14.7	12.2	10.6	7.5	5	1.5
Other Occupations Not Classifiable	8.6	2.9	2.9	8.6	5.7	14.3	11.4	8.6	25.7	11.4
Precision, Handicraft, Printing and related Trades Workers	8.2	7.1	6.6	11.5	9.8	10.4	14.8	12.6	10.4	8.7
Life Science and health Associate Professionals	7.4	6.6	6.6	4.9	9.8	12.3	12.3	17.2	14.8	8.2
Mining, Construction and Related Trades Workers	7.2	10.5	11.6	15	14.5	12.4	11.5	9.9	5.5	1.8
Other Craft and related Trades Workers	6.2	7.6	11.2	11.8	13.8	13.4	12.3	9.9	8.7	5.1
Animal Producers	5.2	6.2	7.5	8.5	10.8	13.7	13.1	12.9	12.6	9.5
Sales and Services elementary Occupations	4.4	7.3	9.3	10.8	13.9	14.3	13.2	11.5	8.6	6.7
Non-Gainful Occupations	4	8	12	4	4	8	20	0	20	20
Not Applicable	3.9	5.1	6	7.8	8.8	10.9	12.2	14.3	15.9	15.1
Machine Operators and Assemblers	3.6	3.2	5.4	5.7	10.4	12.1	18.9	13.9	15.7	11.1
Stationary Plant and Related Operators	3.1	2.1	9.7	9.2	10.3	14.4	13.8	12.8	13.3	11.3
Drivers and Mobile-Plant Operators	3	5.5	8.2	11.1	13.4	15.2	14.2	13.7	10.5	5.3
Personal and Protective Services Workers	2.9	4.9	5.9	8.3	9.7	12.9	13.2	15.4	15.3	11.5
Metal, Machinery and Related Trades Workers	2.9	3.4	6.9	9.7	12.2	13.4	14.7	16.2	13.6	7
Customer Services Clerks	2.5	3.6	5.4	6.5	9.7	12.9	9	15.4	15.1	20.1
Officials of Gov't and Special Interest Organizations	2.3	4.2	5.8	6.6	6.8	7.5	9.3	13.5	14.9	29.2
Models, Salespersons and Demonstrators	2.3	5.1	5.9	9.4	10.2	11.7	10.5	14.5	15.3	15.1
Physical Science and Engineering Associate Profess.	2.2	3.9	3	3	3.9	10.8	12.1	16.9	19.9	24.2
Armed Forces	2.1	3.6	5.7	4.2	2.1	7.3	14.1	26.6	20.3	14.1
General Managers or Managing-Proprietors	2	3.4	4.6	5.8	8.2	9.4	11.8	13	18.5	23.3
Related Associate Professionals	0.9	0.9	4	2.5	5.8	4.3	13.5	13.5	21.1	33.6
Other professionals	0.8	1.2	1.6	3.3	2.1	6.2	8.6	6.6	20.6	49
Office Clerks	0.4	1.9	3.3	4.5	6.3	9.2	15.1	15.8	22.2	21.3
Corporate Executives and Specialized Managers	0.3	0.9	1.3	1.6	1.3	4.1	7	9.8	17.1	56.6
Supervisors	0.2	1.2	2.9	2.5	3.7	6.9	10.1	16.5	19.9	36.1
Teaching professionals	0.2	1	0.4	0.6	1.6	4	9.9	14.3	26.3	41.6
Physical, mathematical and Engineering Science Profess.	0	0.9	0	1.4	0.9	3.7	4.2	11.6	23.1	54.2
Life Science and health Professionals	0	0	0.7	1.4	3.5	4.2	5.6	14.8	19	50.7
Teaching Associate Professionals	0	0	0	0	0	50	16.7	16.7	16.7	0
Hunters and Trappers	0	0	0	0	100	0	0	0	0	0

(Source) FIES 2000 - Processed by the Asia FIVIMS mission

## Endnotes

---

<sup>1</sup> According to FIES, the most significant indicators used in the Philippines for monitoring poverty are:

- (i) Poverty Incidence: is defined to the percentage of families/population with an income lower than the poverty threshold. *To get the magnitude of poverty, the per capita annual income of each sample family of the FIES is computed and compared to the respective annual per capita poverty threshold of the region (urban/rural) where the sample family resides. Those with incomes below or above the poverty threshold are identified. The number of sample families falling below the poverty threshold is blown up to estimate the total number of poor families. For each region/urban-rural area, appropriate raising factors are used depending on the sampling fractions used in this survey. The number of families below the poverty threshold at the national level is determined by adding the number of families below the poverty threshold for each region, urban and rural. The incidence of poverty is computed by getting the percentage of the number of families below the poverty threshold to the total number of families.*
  
- (ii) Poverty Threshold: is defined as *“the amount of income necessary to meet the basic food and non-food requirements.”* In the Philippines, different poverty thresholds are estimated by the NSCB (National Statistical Coordination Board) using a provincial food or subsistence threshold (in terms of peso value of a *“low-cost food menu that satisfies the nutritional requirements for an average healthy Filipino doing moderate activities.”* *“To satisfy the nutritional requirement”* means meeting 100% of the per capita RDA (Recommended Dietary Allowances) for energy (2,000 Kcal) and protein and 80% of the per capita RDA for vitamins, minerals and other nutrients. *“In order to estimate the total poverty threshold (food plus non-food basic needs), the food threshold is divided by the proportion of the food expenditures (FE) to total basic expenditures (TBE) derived from the latest FIES using the FE/TBE’s of families within the +/- 10 percentile of the food threshold. TBE is the aggregate of expenditures on food, clothing and footwear; fuel, light and water, housing maintenance and other minor repairs; rental/rental value of occupied dwelling units; medical care; education; transportation and communications; non-durable furnishings; household operations and personal care and effects. The proportion used is derived from patterns of expenditures of families/individuals whose annual per capita incomes fall below the annual per capita food threshold. Poverty threshold are computed for each region, on an urban/rural basis. The poverty threshold for the region is the weighted average of the urban/rural thresholds”.*

Annex B contains the most recent time-series Regional Poverty Thresholds.

- (iii) Subsistence Incidence: *“is measured by determining the number of families with per capita annual incomes below the food threshold. The per capita annual income of each sample household in the Family Income and Expenditures Survey is compared to the food threshold to determine whether it is above or below the threshold. The magnitude of sample families determined to be poor is then blown up by the appropriate raising factor of the survey”.*
  
- (iv) Computation of the food thresholds: the per capita per day food cost is multiplied by 30.4 (approximate number of days per month) to get the monthly food threshold or by 365 days (30.4 days per month x 12 months) to get the annual food threshold. The annual food threshold derived is thus interpreted as the subsistence threshold – the annual income necessary to meet nutritional requirements.
  
- (v) Income Gap Ratio: the average income shortfall (expressed in proportion to the poverty line) of those below the threshold.
  
- (vi) Poverty Gap Ratio: the income short fall (expressed in proportion to the poverty line) over the whole population.

*Note:* Reference was made to FIES for the quotations included in the above paragraphs.

<sup>2</sup> From the statistical point of view, the adverse effects of the 1997 economic crisis and the 1998 El Niño phenomenon can be fully detected in 1998.

<sup>3</sup> Apparently the aftermath of the 1997 economic crisis was worsened by the El Niño phenomenon. However, to which extent the El Niño has been important and relevant to the aftermath is still contestable.

<sup>4</sup> This is a brief project document provided by the Director of the NAPC to the Asia FIVIMS mission. It points out that *“unlike poverty, vulnerability carries with it the notion of a downside risk of welfare shocks, thus opening up an*

additional set of issues related to potential variability of welfare. Among these issues is the impact of various economic transitions, i.e., national income upturns and downturn, on household welfare, including food expenditure and ability to find work.” NAPC’s recent attention to “vulnerability to poverty” as well as a number of poverty assessments and research by MIMAP that are highly applicable for FIVIMS, suggest that these two institutions become core members of the FIVIMS Task Force and be actively involved in FIVIMS activities.

<sup>5</sup> Celia M. Reyes, “Movements In and Out of Poverty in the Philippines,” a paper presented in a conference on “Assessment of Poverty Reduction Policies” organised by INSEA and IDRC under the MIMAP Project, January 28-31, 2002, Rabat, Morocco, page 39.

<sup>6</sup> In order to create the chart, the data available from the Family Income and Expenditure Surveys (FIES) conducted by the National Statistics Office (NSO) for 1985, 1988, 1991, 1994, 1997 and 2000 have been interpolated and plotted.

<sup>7</sup> The Gini concentration ratio provides a measure of income inequality. A value close to 1 indicates a high degree of inequality while close to zero means a high degree of equality. An improvement of the Gini coefficient could be observed during the period 1991-94 with the average annual rate of change equal to -1.25%, the most equalitarian phase in the recent economic development in the Philippines, which is also corroborated by the analysis of the poverty incidence trends in this report.

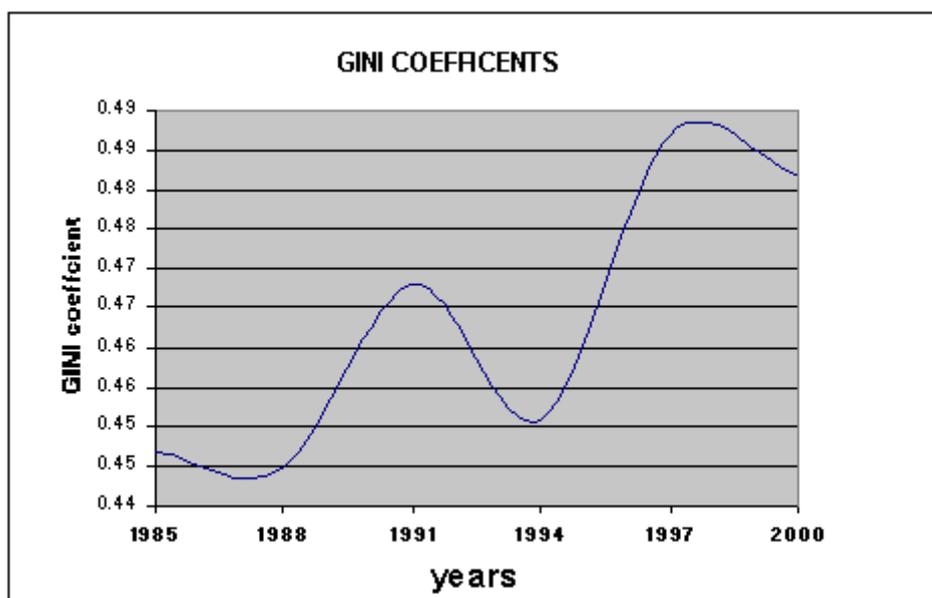


Figure 3. GINI Coefficient

This short-term trend has been reverted during the following period (1994-97); the income distribution had been drastically worsened with the annual rate of change equal to 2.63%. As a paradox, a slight “improvement” (Gini coefficient annual rate of change = -0.37%) had been made during the 1997-2000 phase. In spite of the most recent trend, it must be noteworthy that the 2000 Gini coefficient was 2.95% higher than that at the beginning of the 1990s. For a detailed table at regional level, see Annex D.

<sup>8</sup> The estimates for 1998 are taken from Reyes, “Poverty Profiles of the Philippines”, MIMAP Research Paper No.50, January 2001 (revised), the table 2A.2.1.4, downloadable from its web site. As “the NSCB did not come up with estimates of poverty thresholds for 1998, the poverty thresholds of 1997” has been adjusted by the author “for inflation to arrive at estimates of 1998 poverty threshold.” These estimates of poverty thresholds are used by the author to determine poverty incidence in 1998. More specifications are provided in Reyes (2000): the sources used for defining the poverty incidence are the FIES and APIS questionnaires. But “The questionnaires used for the FIES and APIS are not the same. The APIS covers more topics such as questions on government programs. However, APIS has less detail on income. The reference period is also different. FIES collects data from the first and second semesters of the year in 2 survey rounds. On the other hand, APIS collects income data for the second and the third quarters of the year. Because of these two factors (differences in questionnaires and reference period), the NSCB has decided not to release poverty incidence data based on the APIS. Nonetheless, MIMAP Philippines has decided to generate poverty incidence estimates based on APIS” ... “in the absence of official poverty thresholds for 1998 and 1999, poverty thresholds have been estimated by adjusting the poverty thresholds in 1997 to account for inflation.

*Annual income of the households is estimated by doubling the income for six months from APIS. It would have been ideal to incorporate some seasonality adjustment to this methodology but in the absence of distribution of income by quarter or month, it was not possible to do so” (page 30).*

<sup>9</sup> MIMAP documentation represents one of the best examples.

<sup>10</sup> Namely, FIES 1997 and 2000 and APIS 1998 and 1999. In this report, analyses have been carried out at the provincial level due to time constraints. However, as described in Conclusion and Recommendations, because of the high quality of the available data, a similar analysis should be done at the household level. In spite of the concerns and limitations as to the full comparability of the four surveys, the Asia FIVIMS mission emphasises the importance of utilizing the surveys in a more extensive way.

<sup>11</sup> The respondents were allowed to provide more than one answer.

<sup>12</sup> The Bureau of Agricultural Statistics collects a time series data on rice and corn production damage and loss by droughts and other natural disasters, which were made available to the Asia FIVIMS mission.

<sup>13</sup> All the percentages listed in this paragraph were computed including 9% of families who didn't answer the question.

<sup>14</sup> In the case of “reasons for better off,” the APIS 1999 allowed only one answer.

<sup>15</sup> “Partially”: while APIS 1998 investigated the coping mechanisms actually taken, APIS 1999 asked “which type of coping mechanisms the families wanted to develop in response to worse off. In addition, APIS 1999 addressed this type of questions only to the families worsening off. As a result, and unfortunately, it cannot be known if and which coping mechanisms were developed by at least more than half of the Filipino families who did not change their livelihoods within the twelve months.

<sup>16</sup> As provided by the APIS 1999 Public Use File (PUFHH99.dat)

<sup>17</sup> The coefficient of specialisation is defined as the following ratio:

$$\frac{\% \text{ of rural or urban families included in a specific national income decile and developing a particular coping mechanism}}{\% \text{ of rural or urban families included in the same national income decile}}$$

If the coefficient is  $> 1$ , it means that the coping mechanism concerned is more evident in that particular urban or rural decile.

<sup>18</sup> Suggested analyses include survey data processing according to main economic activities at the household level. Due to the time constraint and considering the structure of the APIS 1999 Public Use File (PUFHH99.dat), this was beyond the scope of the Asia FIVIMS mission.

<sup>19</sup> Used the net inflation rate. See NSO. Special Release. n. 036, Feb. 2002, ISSN 0116-2640. In Annex E, the indicators have been computed by the FIVIMS mission using the information available in the Special Release. Between 1997 and 2000 the inflation-adjusted estimates (at prices 1997) indicate that:

the total family income grew by an average annual increase of 1.0%; the total family expenditure by an average of 1.5% annually. Only 9 out of 16 regions experienced growth in real income. The average family income decreased by 1.4% annually; the average family expenditure decreased 0.9% annually. The total saving and the average saving decreased by 0.9% and 3.3% annually, respectively. The share of food expenditure to total expenditure decreased from 44.2% in 1997 to 43.6% in 2000. Important expenditure groups that had larger shares in 2000 were as follows (in the order of importance of share increase in the period 1997-2000): Transport and communication (+21%), Fuel, light and water (+18%), Education (+13%), Personal care and effects (+8%). The share of other significant expenditure significantly diminished: Medical care (less access: -14%), Clothing, footwear and other wear (-19%), Durable furniture and equipment (-17%).

<sup>20</sup> The provincial trends have been computed by the Asia FIVIMS mission using FIES 1997 and 2000 Public User Files. The figures have been deflated using the provincial “Consumer Price Index for All Income Household” provided by NSO to the Asia FIVIMS mission.

<sup>21</sup> On page 4 of the previously quoted document, NSO defines the “saving” as the “Income Net of Expenditure” and explains that “*net of inflation [the saving went] down by 2.8 percent over the period 1997-2000.*” In particular, NSO

argues that the “*estimates in 2000 showed dissaving for the first two deciles, similar in 1997.*” As far as the average saving is concerned, NSO points out that “*net of inflation the saving decreased at national level of 9.7% over the period 1997-2000.*” (page 5)

<sup>22</sup> NSO, *ibid.*

<sup>23</sup> *ibid.* page 6.

<sup>24</sup> “*The share of food expenditure to total expenditure decreased from 44.2% in 1997 to 43.6% in 2000,*” wrote NSO in its already quoted special release document, noting that a larger decrease of the “*food consumed at home*” has been partially compensated by an increase of the “*food consumed outside the home.*” (page 7).

<sup>25</sup> Note that this indicator was computed using data based on real prices.

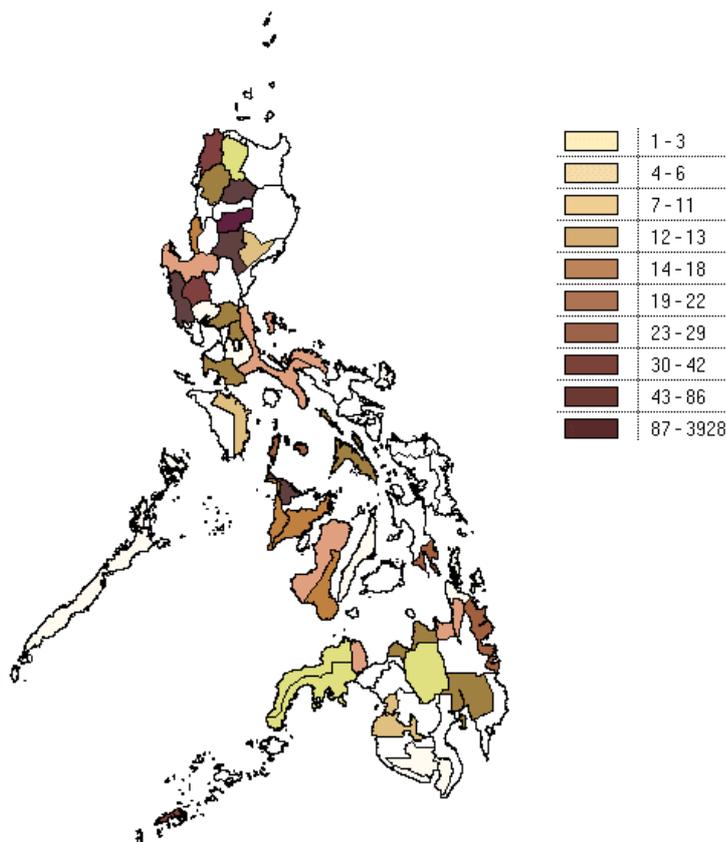
<sup>26</sup> FIES 1997 and 2000 offer a lot of opportunities to carry out this type of analysis. It is evident that the indicators used in this report can be computed at the household level, allowing the Philippine FIVIMS to monitor the situation in a better way.

<sup>27</sup> Data for 1996 are available through the *1996 Updating of National Status of Philipino Children at the Provincial Level*, FNRI, Department of Science and Technology (DOST), see *DNRI Special Bulletin*, July 1997; Data for 1998 through 1998, *National Nutrition Survey (NNS)*, FNRI, DOST; The most relevant outcomes have been published on: *Philippine Nutrition, Facts and Figures*, FNRI-DOST, 2001 where the indicators are published using the NCHS/WHO Standard; and on the *Reports of the Fifth NNS 1998*, in “*Philippine Journal of Nutrition*,” special issue: vol 48, Nos 3.4, July-December 2001, with indicators computed according to the Philippine standard, FNRI-PPS. The 1998 NNS is the fifth (and the most recent) one conducted in the Philippines. Unfortunately more recent information is not available, at least in a systematic way, due to the continuous postponement of the new NNS.

<sup>28</sup> As well know the FNRI-PPS substantially differs from the NCHS-WHO (International) Standard. Some misunderstanding (outside the environment of the specialists) could arise from the fact that current literature in the Philippines uses the general term “*underweight*” making reference to “*at least moderately underweight*” and consequently excluding so called “*mildly underweight.*” A comparison (versus the NCHS-WHO cut-off point) when including also “*mildly underweight,*” applied to the fifth NNS cut-off point, has been recently published in the already quoted “*Philippine Journal of Nutrition*,” special issue: vol 48, Nos 3.4, July-December 2001, pages 117-130.

<sup>29</sup> It is worth noting that the prevalence of “*wasted*” children shifted from 5.8% (1996) to 7.2% (1998), or increased by about 24% within the two years.

<sup>30</sup> As a preliminary attempt of identifying provinces with a most probable increase in the prevalence of underweight children, it was possible to compute an average trend using only the case showing the increase during the period 1996-1998 according to both the PPS and NCHS/WHO International standards. This solution certainly does not solve the problem, but at least can allow identifying the most evident cases. The results are shown in the map below.



<sup>31</sup> Using the definition of “Deficient” when Plasma Retinol or Vitamin A (ug/dL) > 10.

<sup>32</sup> Defined “Severe” when the Urinary Iodine Excretion is < 20 (ug/L) according to the Joint WHO/UNICEF/ICCND Consultation cut-off point.

<sup>33</sup> An example is shown in annex A.

<sup>34</sup> The cohort survival rate makes reference to “the proportion of enrollees at the beginning grade or year who have reached the final grade or year at the end of the required number of years of study”.

<sup>35</sup> While the achievement rate apparently recovered during the 2000-2001 school year, the cohort survival rate went down to the 1995-96 level. That means that out of the 100 students who entered Grade 1, only 67 had finished the elementary grade. In the same year, the secondary school cohort survival rate was 73. Consequently, combining the two rates, we can assume out of the students who enter Grade I, only 49 will have completed the high school.

<sup>36</sup> A participation rate is defined as “the ratio of enrolment in the school-age range to the total population in that school-age bracket” or, in other words, the proportion of 6-12 years old children who are enrolled in primary schools.

<sup>37</sup> Defined as “the proportion of pupils/students who left the school during the year as well as those who completed the grade/year but failed to enrol in the next grade/year level the following school year to the total number of pupils/students enrolled during the previous school year.”

<sup>38</sup> According to APIS 1999, the percentage of families who “want to take the children out of school in response to worse off” in the rural area is equal to 10.1%; in the urban ones, 8.8%; (average = 9.3%). According to APIS 1998, the percentage of families who had “taken the children out of school” in the rural areas is equal to 7.1%; in the urban regions, 5.9%; (average = 6.4%).

<sup>39</sup> APIS 1999 also offers many useful data for an overall assessment of the “financial constraints” component for “not attending school” (using the FUFMEM99.dat file). Several preliminary examinations have been included in Chapter 10 “Children Labor and School Dropout.”

<sup>40</sup> Unfortunately, the most recent available information at the provincial level is for the 1998-99 school year.

<sup>41</sup> The map shows the average annual rate of change in the cohort survival rate computed for the period 1996/97 – 1998/99.

<sup>42</sup> APIS 1999 collected information related to housing characteristics and household amenities owned by the families and uses them for “ranking [the provinces] for selected poverty indicators. The selected indicator are divided into:

- A - Survival Indicators which includes the access to safe drinking water and the availability of sanitary toilets;
- B - Security Indicators on housing units, e.g., roofs and outer walls, made of strong materials; and
- C - Enabling Indicators (see Chapters 9 and 10 on gender and children issues respectively).

<sup>43</sup> A comparison is possible using the FIES data set.

<sup>44</sup> A similar to the “access to sake water”: rural-urban gap is 70% versus 87%.

<sup>45</sup> As suggested in “Conclusion and Recommendations,” future in-depth FIVIMS analysis should be carried out at not the provincial level, which uses provincial averages, but the household level, taking advantage of the household data available from FIESs 1997 and 2000; APISs 1998 and 1999, and any future surveys.

<sup>46</sup> The following activities have been used for the estimation:

- Forestry and Related Workers
- Agricultural, Forestry, Fishery and Related Laborers
- Farmers and Other Plant Growers
- Fishermen

Note: “Animal Producers” have been excluded in the computation due to their completely different income distribution patterns

<sup>47</sup> “Farmers and other Plant Growers” are included in the overall category of the “Professionals”

<sup>48</sup> CARP was developed in 1998 during the Aquino Corazon presidency.

<sup>49</sup> The maps show the distance between the provincial figures and the national average.

<sup>50</sup> See Celia M. Reyes, “Poverty Profiles of the Philippines,” MIMAP Research Paper No.50, January 2001 (revised)

<sup>51</sup> C.M. Reyes argues in “Movements In and Out of Poverty in the Philippines” (2002) that “*compared to non-ARBs (Agrarian Reform Beneficiaries), ARBs tend to have higher incomes and lower poverty incidence. However, poverty incidence among ARBs is still high. Complementary inputs are necessary to maximise the benefits from agrarian reform. irrigation, credit and government services tend to promote higher income. Moreover, agrarian reform communities tend to increase the chances of a farm-beneficiary to be non-poor*”.

<sup>52</sup> Namely, FIES, Labor Force Survey (LFS) and Functional Literacy and Mass Media Survey (FLEMMS).

<sup>53</sup> See MIMAP, “Measuring Poverty Incidence among Specific Groups”, MIMAP Project Updates, Vol.5, No1, 1998.

<sup>54</sup> This fact should bring one’s attention more to links between education and vulnerability, although already existing literature has largely emphasised links between education and poverty. Many UN agencies and WB documents are increasingly insisting on this aspect. But probably the best demonstration of this link has been recently provided by MIMAP (see: Celia M. Reyes, “Movements In and Out of Poverty in the Philippines”, a paper presented in a conference on “Assessment of Poverty Reduction Policies” organised by INSEA and IDRC under MIMAP Project, January 28-31, 2002, Rabat, Morocco). Using a Logit Model for detecting significant factors affecting the poverty status of households in the year 2000, MIMAP has demonstrated that “*the likelihood of a household, whose head has a high level of educational attainment, being nonpoor is around 22 points higher than of households with heads having a lower level of educational attainment*” (page 27).

<sup>55</sup> The FIVIMS “Tools and Tips: Understanding Food Insecurity and Vulnerability,” a FAO FIVIMS document, proposes two major methods for identifying food insecure and vulnerable groups and developing vulnerable groups

profiles: (1) an informal information gathering method; and (2) a formal survey method.” The second method was applied to the FIVIMS assessments in the Philippines due to the reason mentioned in this report.

<sup>56</sup> The methods currently practiced in the Philippines. See, for instance, the APIS techniques or the use of the HDI.

<sup>57</sup> See Reyes, *ibid.* 2002, page 38.

<sup>58</sup> See again Reyes, *ibid.* 2002, page 38. SRA stands for Social Reform Agenda.

<sup>59</sup> 39,615 households for FIES 2000 (according to its Public Domain File), of which 39,300 are localised at the provincial level.

<sup>60</sup> It’s well known that FIES is carried out every three years and the APIS is planned to be carried out in the FIES intermediate year-legs. However it’s also known that this combined time schedule has been recently not respected due to financial constraints.

<sup>61</sup> According to MIMAP, it’s possible to match the 17,897 households between FIES 1997, APIS 1998 and APIS 1999. This panel data has been used by Ms. Reyes for distinguishing between “chronic and transient poverty” and to describe/quantify the *movements in and out of poverty in the Philippines*. (see Reyes, *ibid.* 2002). The Asia FIVIMS mission, while in the Philippines, did not have an opportunity to verify whether the same panel was “saved” for FIES 2000.

<sup>62</sup> But this would be possible if the above panel data of households would be made available to the Philippine National FIVIMS Task Force by the NSO as the Office already did so to MIMAP.

<sup>63</sup> As already noted, the FIES questionnaire has more details on income and expenditure (including food consumption), while the APIS questionnaire is more attentive to livelihood levels. This fact did not hamper MIMAP to carry out its analysis on “poverty movements.” For FIVIMS, as the objective is to identify “vulnerable” and not simply “poor” people, the definition and construction of appropriate “proxy indicators” will be necessary.

<sup>64</sup> As was already happened in 2001.

<sup>65</sup> Fundamental information could be provided by the planned Sixth FNRI-DOST National Nutritional Survey and by DECS (if a more reliable reporting will be provided in the future).

<sup>66</sup> Namely from the new Population Census, and from the planned but postponed Agricultural Census.

<sup>67</sup> Quoted from Point (c), page 12, “*Secondary Information Methods*” of IAWG 5/12 “A Comparison of Vulnerability Analysis Methods and Rationale for their Use in different Contexts”, by F. Riely, August 8, 2000 (preliminary draft).

<sup>68</sup> By using its 37,448 households’ records contained in the PUFHH99.DAT file.

<sup>69</sup> The APIS 1999 PUFMEM(ber)99.DAT file contains 188,671 “person records”

<sup>70</sup> For instance, those belonging to the higher income deciles may well have enough resources to cope with their worsening off conditions.

<sup>71</sup> However, the NSO Administrator has confirmed that the PUF MEM(ber)file for 2000 will soon be available. Its availability will certainly facilitate the definition of proxy indicators enabling the comparison with the 1999 clusters.

<sup>72</sup> File name: FIES2000.DAT

<sup>73</sup> A panel provided by NSO to MIMAP in order to make analysis for the “Movements In and Out of Poverty in the Philippines”, see C.M. Reyes’ already quoted paper.

<sup>74</sup> As mentioned previously, the Asia FIVIMS mission, while in the Philippines, did not have an opportunity for verifying whether the same panel was “saved” for FIES 2000.

<sup>75</sup> Including a quantitative definition of the phenomena on food insecurity and vulnerability caused by the 1997 crisis.

- <sup>76</sup> As already explained, many indicators used in this report have been computed by the Asia FIVIMS mission using the data provided generously by different national institutions and agencies.
- <sup>77</sup> The data used are based on real prices.
- <sup>78</sup> “Cereal and cereal preparation,” according to NSO
- <sup>79</sup> Poverty Index (1997) = 49.2%; Per capita Income (2000) = 13,013 Pesos.
- <sup>80</sup> Annual rate of change in per capita income (1997-2000) = -12.83%, and that for expenditure = 5.96% (real prices).
- <sup>81</sup> A “dissaving” phenomena according to NSO: the annual rate of change = 3.84%.
- <sup>82</sup> For food, the rate of change is 3.51%; for cereal and cereal preparation, 1.81%
- <sup>83</sup> Annual rate of change (1996-98) = 7.8%
- <sup>84</sup> 32.0% and 26.6%, respectively.
- <sup>85</sup> Only 37.3%.
- <sup>86</sup> 56.5% and 13,911 Pesos, respectively.
- <sup>87</sup> Still 1.9%
- <sup>88</sup> Particularly, the dropout rate was 17.2%, but also the cohort survival rate was still low: 43.8%.
- <sup>89</sup> 42.1% according to APIS 1999. Worth noting is that in 1991 a high proportion of land was under tenancy. In the cluster classification, the Asia FIVIMS mission used “Percentage of Land under Tenancy” (from the Agricultural Census 1991) as a “supplementary indicator” --- supplementary means not affecting the computation, but assisting in the interpretation. This too-much-outdated indicator cannot be used as an “active” variable in the computation, although the Asia FIVIMS mission expects more recent information on this be produced by the next Agricultural Census.
- <sup>90</sup> Average annual rate of change in the food share in the total expenditure = 1.72%
- <sup>91</sup> Dropout rates: VA = 11.3%, VB = 12.6%. Cohort survival rates: VA = 56.3%, VB = 64.0%.
- <sup>92</sup> At least for VA where only 67.6% of the households had access to safe drinking water and 76.7% to their own sanitary toilet in 1999.
- <sup>93</sup> Non surprisingly, the percentage was higher in Province Group VA (38.3%) and lower in Province Group B (29.0%).
- <sup>94</sup> Particularly in VA (25%) according to APIS 1999.
- <sup>95</sup> 42.9% in VA and 44.3% in VB
- <sup>96</sup> Interesting to note is that this “being near the average” is supported by the percentage of households who considered their livelihood conditions worsening according to APIS 1999.
- <sup>97</sup> Poverty Incidence: Province Group AveA = 38.9%; Province Group AveB = 24.8%. Per Capita Income: Province Group AVA = 20, 237; Province Group AveB = 25,977 Pesos. The reason for not considering the Province Group AveB as “not vulnerable” is mainly associated with consideration of the above two indicators, although the provinces in this group are also characterized with some very negative trends of other significant indicators (see quantitative table at the end of this Annex).
- <sup>98</sup> For instance, lower access to basic services; lower cohort survival rate, more child labor than Province Group AveB
- <sup>99</sup> Yet, still with a higher negative rate when compared with the national one.

---

<sup>100</sup> Annual rate of change = 1,24%.

<sup>101</sup> The average annual rate of change in both per capita income and expenditure recorded higher than 3% and very similar. In other words, virtually, no changes in the expenditure/income ratio. But, more significantly, the food expenditure share decreased and in particular the cereal component: average annual rate of change = 3.5%.

<sup>102</sup> 36.2% of families. Worth noting is that the percentage of families with child labor was also high: 20.4%.

<sup>103</sup> According to APIS 1999, the percentage of families considering their condition worsening was one of the highest in the country.