

Major economic reforms and realignment started to be implemented intensively in the 1990s. A number of reforms which were done under unilateral programs or within multilateral agreements were pushed through in the trade sector, in industry (through privatization and deregulation), in the fiscal and budget sector, and in the financial market, including the foreign currency market.

The implementation of these reforms provided positive signals to foreign investors, resulting in a dramatic increase in the country's foreign capital inflows. Figure 1 shows how the foreign capital surge affected the Philippine net foreign assets (NFA)—from a negative P141 billion in 1990 to a high of P233 billion in 1996 and P240 billion in 1999.

Impact of Capital Inflows: A CGE Analysis*

Caesar B. Cororaton**

There was, however, one unfavorable macroeconomic effect of this capital surge and that is the pressure on the exchange rate to appreciate. This can be seen in Figure 2 which shows the exchange rate movement over the period 1991 to 1996. It can be observed that the peso/U.S. dollar exchange rate appreciated in nominal terms from 1991 to 1996. The appreciation in real terms would be a lot bigger if the inflation differences between the Philippines and its major trading partners were considered. In addition, the exchange rate depreciated by almost double in nominal terms in 1998 due to the contagion brought about by the Asian financial crisis.

Although the appreciation of the currency both in nominal and real terms was not unique to the Philippines during those years, one can say that five to six years of such depreciation would have big repercussions on resource allocation. This can be supported by a number of empirical studies which showed that this led to a situation where resources flowed into non-

Figure 1: Net foreign assets (in P billion)

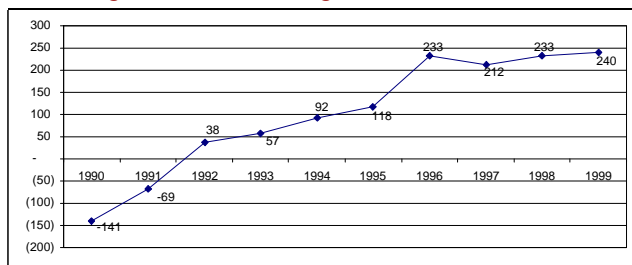
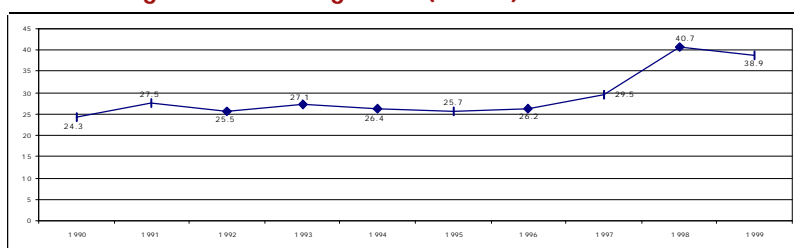


Figure 2: Exchange rate (P/US\$)



*Based from MIMAP Research Paper No. 49.

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Second MIMAP Policy Forum

As part of its continuing advocacy effort, the Micro Impacts of Macroeconomic Adjustment Policies (MIMAP)-Philippines Project held its Second MIMAP Policy Forum on June 15, 2000 at the Asian Institute of Management (AIM) Conference Center to present the socio-economic effects of selected macroeconomic policies in the Philippines. In particular, the forum tackled the policies on financial and foreign exchange liberalization, privatization, stabilization, and deregulation/demonopolization and their effects on incomes and ultimately on nutrition, health, and educational status of households.

Invited as resource speakers were Dr. Josef Yap, Dr. Aniceto Orbeta, Jr., and Dr. Caesar Cororaton, Senior Research Fellows at the Philippine Institute for Development Studies (PIDS), who presented the following papers:

“Structural Adjustment, Stabilization Policies and Income Distribution in the Philippines: A Re-examination of the Period 1986-1999” by Dr. Josef Yap;

“Impact of Capital Inflows: A CGE Analysis” by Dr. Caesar Cororaton;

“Impact of Macroeconomic Policy Changes on the Schooling and Labor Force Participation of Children: Additional Simulation Results” by Dr. Aniceto Orbeta, Jr.; and


“Impact of Macroeconomic Policy Changes on the Demand for Outpatient Care: A Note on Further Simulation Results” by Dr. Aniceto Orbeta, Jr.

The presentations were based on results of simulations done using the various models developed by the

project through the years, namely, the macroeconometric with income distribution bloc model, the computable general equilibrium model and the household models on education, health and nutrition.

Serving as discussants were distinguished personalities in the government and private sectors which included Dr. Johnny Noe Ravalo, Chief Economist of the Bankers Association of the Philippines, Director Diwa Guinigundo, Managing Director In-Charge of Research, Bangko Sentral ng Pilipinas, Committee on Privatization Executive Director Crisanta Legaspi, Deputy Director-General Rodolfo Vicerra of the Congressional Planning and Budget Office, Dr. Cristina David, Senior Research Fellow at the Philippine Institute for Development Studies, Mrs. Grace Villavieja, Division Chief at the Food and Nutrition Research Institute, Assistant Secretary Ma. Lourdes de Vera of the Department of Education, Culture and Sports and Dr. Alejandro Herrin, Professor at the University of the Philippines School of Economics.

Representatives from the Philippine Chamber of Commerce and Industry (PCCI), National Economic and Development Authority (NEDA), Department of Trade and Industry (DTI), Makati Business Club (MBC), University of Asia and the Pacific (UAP), National Statistics Office (NSO), De La Salle University (DLSU), Department of Finance (DOF), Bangko Sentral ng Pilipinas (BSP), Department of Agriculture (DA), University of the Philippines at Los Baños (UPLB), Department of Social Welfare and Development (DSWD), Economic Coordinating Council (ECC), Agricultural Credit and Policy Council (ACPC), University of the Philippines School of Economics (UPSE), BusinessWorld and the Office of Congressman Ralph Recto also participated in the forum discussions.

The second MIMAP Policy Forum, like the first one, served as a venue for discussion and interaction between the government and the private sectors on some macro and micro economic issues in the country. As a result, the MIMAP project benefited a lot from the comments elicited from the participants for the improvement of its various research works. *RCR* 

RESEARCH RESULTS

Capital Inflows... (From Page 1)

tradable sectors such as real estate, construction and other speculative activities.

In order to analyze how the surges in foreign capital inflows would have affected the households' income and consumption pattern, a simulation exercise was done using the computable general equilibrium (CGE) model.¹ It should be emphasized that foreign capital inflows would have been more appropriately analyzed in a financial CGE model and not in a real CGE model as used here. The analysis here only covers the net capital inflows within the 1990s and does not attempt to model the transformation mechanisms of each of the reforms.

As shown in the simulation results, in terms of consumption, the effects are regressive, which implies that households belonging to the lower decile experienced higher reduction in consumption than those in the higher decile. In particular, households in decile 10 showed positive consumption effects while the rest were negative (Figure 3). Similarly, the effects on income are regressive as illustrated in Figure 4. Although all the decile groups displayed a reduction in income,

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¹The model has 34 production sectors and 10 household types grouped in deciles. The model was calibrated using the 1990 Social Accounting Matrix (SAM) constructed by the National Statistical Coordination Board (NSCB).

Figure 3: Household consumption effects (total percent change from base)

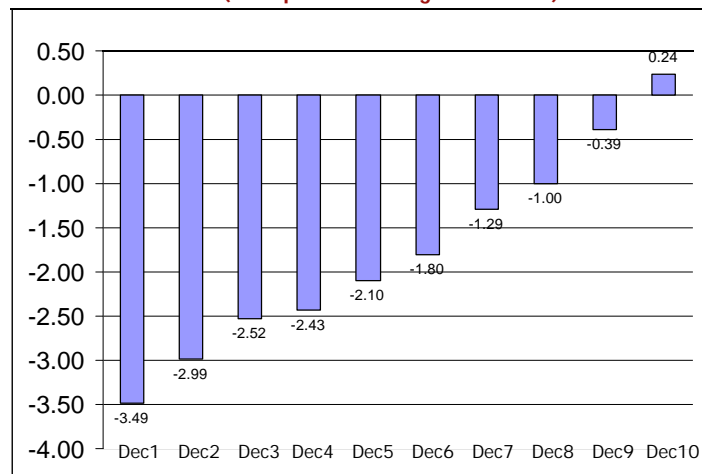


Figure 4: Household income effects (total percent change from base)

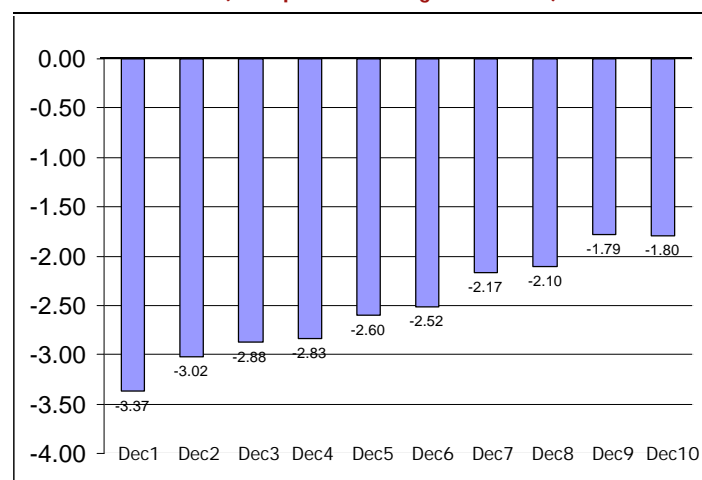


Table 1: Scenario – actual changes in net foreign capital inflows and foreign exchange rate

Major Sectors	Output Effects (change relative to base)									Average Period Change			Period Totals		
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991-96	1997-99	all	1991-96	1997-99	all
Agriculture	-0.59	0.00	-0.01	-0.01	0.03	-0.71	0.03	-0.63	-0.08	-0.22	-0.23	-0.22	-1.30	-0.68	-1.98
Mining	-0.41	-0.13	-0.07	-0.05	-0.08	-0.04	-0.05	0.27	-0.02	-0.13	0.07	-0.06	-0.78	0.21	-0.57
Total manufacturing	-0.84	-0.36	-0.07	-0.04	0.02	-0.67	-0.09	-0.14	0.02	-0.33	-0.07	-0.24	-1.97	-0.20	-2.17
Manufacturing–food	-1.71	-1.18	-0.15	-0.30	-0.11	-2.00	-0.18	-0.67	-0.01	-0.91	-0.29	-0.70	-5.44	-0.86	-6.30
Manufacturing–others	-0.23	0.21	-0.02	0.15	0.10	0.25	-0.02	0.23	0.04	0.08	0.08	0.08	0.46	0.25	0.71
Construction	0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Utilities	-5.54	0.08	-0.50	-0.62	-0.66	-1.00	-0.18	-0.14	-0.19	-1.37	-0.17	-0.97	-8.25	-0.51	-8.76
Services	-0.20	-0.12	-0.04	0.01	0.01	-0.09	-0.04	0.01	0.01	-0.07	-0.01	-0.05	-0.42	-0.02	-0.43

RESEARCH RESULTS

Capital Inflows... (From Page 3)

the households in the lower deciles suffered a bigger decline.

On the other hand, Tables 1 and 2 present the output effects of the major production sectors in the economy. Generally, on a year-to-year basis, the changes

are not very significant. In fact, the average change within the period is relatively small in major production sectors. However, the effects vary greatly across industries within these major production sectors as shown in Table 2 for the output effects and in Table 3 for the price effects.


In conclusion, the results of the analysis involving net capital inflows show some regressive effects both in terms of consumption and income. 

Table 2: Scenario – actual changes in net foreign capital inflows and foreign exchange rate

Industries	Output Effects (change relative to base)										Average Period Change			Period Totals		
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991	1997	all	1991	1997	all	
										-96	-99		-96	-99		
Palay and corn	0.24	0.19	0.16	0.34	0.33	-1.01	-0.18	-1.48	0.08	0.04	-0.53	-0.15	0.26	-1.58	-1.32	
Fruits and vegetables	0.03	0.00	-0.12	-0.25	0.39	2.48	0.39	-0.02	0.00	0.42	0.13	0.32	2.54	0.38	2.92	
Coconut and sugar	5.02	1.05	-0.38	-0.74	-0.73	-2.48	0.25	3.40	-0.25	0.29	1.14	0.57	1.72	3.41	5.14	
Livestock and poultry	0.53	0.06	-0.02	-0.01	0.00	-3.15	-0.03	-0.04	-0.22	-0.43	-0.10	-0.32	-2.59	-0.29	-2.88	
Fishing	-4.82	0.02	0.01	-0.03	-0.63	0.86	-0.04	-1.82	-0.19	-0.77	-0.68	-0.74	-4.59	-2.05	-6.64	
Other agriculture	-3.87	-1.17	-0.22	-0.44	-0.46	-1.60	0.05	-0.79	0.01	-1.29	-0.24	-0.94	-7.75	-0.73	-8.49	
Forestry	2.50	-2.39	0.26	0.06	-0.26	-2.74	-0.01	1.21	-0.41	-0.43	0.26	-0.20	-2.57	0.78	-1.78	
Mining	-0.41	-0.13	-0.07	-0.05	-0.08	-0.04	-0.05	0.27	-0.02	-0.13	0.07	-0.06	-0.78	0.21	-0.57	
Rice and corn milling	0.36	0.21	0.18	0.40	0.38	-0.86	-0.20	-1.58	0.10	0.11	-0.56	-0.11	0.68	-1.69	-1.01	
Milled sugar	13.37	-1.45	-0.48	-0.67	-1.34	-2.54	-0.24	13.98	-0.35	1.15	4.46	2.25	6.89	13.39	20.27	
Meat manufacturing	-3.14	-5.18	-0.71	-0.62	0.06	-2.89	-0.37	-0.65	-0.14	-2.08	-0.39	-1.52	-12.49	-1.16	-13.65	
Fish manufacturing	25.28	-4.57	-1.48	-0.90	-1.29	-5.11	-0.64	-3.76	0.02	1.99	-1.46	0.84	11.93	-4.38	7.55	
Beverage and tobacco	-7.80	2.01	-0.36	0.91	-0.61	1.01	-0.52	-1.41	-0.09	-0.81	-0.67	-0.76	-4.84	-2.02	-6.85	
Other food																
manufacturing	-2.75	0.05	0.03	-0.62	-0.38	-2.32	-0.02	-0.57	0.01	-1.00	-0.19	-0.73	-6.00	-0.58	-6.58	
Textile manufacturing	-0.71	0.37	0.08	0.10	0.18	0.59	-0.04	-0.34	0.05	0.10	-0.11	0.03	0.61	-0.33	0.27	
Garments and leather	-1.38	0.40	0.10	0.07	0.24	0.89	-0.12	-0.89	0.06	0.05	-0.31	-0.07	0.32	-0.94	-0.63	
Wood manufacturing	-2.27	1.80	0.44	2.12	1.14	3.14	-0.38	3.29	0.25	1.06	1.06	1.06	6.37	3.17	9.55	
Paper and paper																
products	0.05	-0.85	-0.23	-0.37	-0.36	-1.10	0.12	-0.28	0.01	-0.48	-0.05	-0.33	-2.86	-0.14	-3.00	
Chemical manufacturing	1.43	0.58	0.05	0.16	0.22	0.32	-0.04	0.50	0.03	0.46	0.16	0.36	2.76	0.49	3.25	
Petroleum refining	-0.90	-0.37	-0.10	-0.19	-0.21	-0.18	-0.06	0.37	-0.05	-0.32	0.08	-0.19	-1.94	0.25	-1.69	
Nonmetal manufacturing	0.29	1.02	0.05	0.28	0.25	1.61	0.06	1.80	0.06	0.58	0.64	0.60	3.50	1.91	5.42	
Metal manufacturing	0.01	0.00	-0.06	0.07	0.00	0.00	-0.04	0.13	0.02	0.00	0.04	0.01	0.02	0.11	0.13	
Electrical equipment																
manufacturing	-0.83	0.74	-0.06	0.38	0.11	-0.14	0.04	-0.02	0.16	0.04	0.06	0.04	0.21	0.18	0.39	
Transport and other																
machinery																
manufacturing	0.21	-0.78	-0.19	0.12	0.09	0.32	-0.04	0.96	0.03	-0.04	0.32	0.08	-0.23	0.95	0.72	
Other manufacturing	-0.76	0.21	0.07	0.11	0.11	-0.39	0.16	-0.62	-0.02	-0.11	-0.16	-0.13	-0.66	-0.48	-1.14	
Construction	0.01	-0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.01	0.00	
Electricity, gas																
and water	-5.54	0.08	-0.50	-0.62	-0.66	-1.00	-0.18	-0.14	-0.19	-1.37	-0.17	-0.97	-8.25	-0.51	-8.76	
Financial sector	0.06	-0.71	-0.18	0.03	-0.02	-0.86	0.11	0.34	-0.05	-0.28	0.13	-0.14	-1.68	0.40	-1.28	
Private education	8.93	7.66	1.14	-0.05	-0.02	8.85	-0.81	6.09	0.19	4.42	1.82	3.55	26.51	5.47	31.98	
Private health	19.16	4.92	1.19	-0.13	1.24	3.66	0.37	5.70	-0.14	5.01	1.98	4.00	30.04	5.93	35.97	
Public education	-0.07	0.21	0.01	0.15	-0.19	0.04	0.01	-0.01	0.00	0.03	0.00	0.02	0.17	0.01	0.18	
Public health	-0.60	-0.53	0.05	-0.01	-0.06	-0.22	0.08	-0.01	0.00	-0.23	0.02	-0.14	-1.36	0.07	-1.29	
General government	-0.52	-0.01	-0.11	0.00	0.00	-0.55	0.02	0.08	0.00	-0.20	0.03	-0.12	-1.20	0.10	-1.09	
Other services	-0.22	-0.12	-0.04	0.01	0.01	-0.09	-0.05	0.00	0.01	-0.07	-0.01	-0.05	-0.44	-0.03	-0.47	

CBMS Results from Barangay Old Guinlo, Northern Palawan

The Pilot Survey Site

Barangay Old Guinlo is one of the two pilot survey sites for the implementation of a community-based monitoring system in Palawan. It is situated within the boundaries of the municipality of Taytay, Northern Palawan covering a land area of 1054.8 hectares. The area is described as hilly although about 50 percent of the total area is classified as coastal barangay.

The nearest educational facility in the area is an elementary school which is situated within the barangay. The secondary school is located about 2.1 kilometers away from Old Guinlo while the preschool, college and vocational school buildings are 24 kilometers away from the barangay.

In terms of health facility, the most accessible health facility is the barangay health center. Private medical clinics, hospitals, maternal health clinics and drugstores are located 24 kilometers away from the barangay.

The available modes of transportation in the area are jeepneys and tricycles.

Population statistics

The pilot survey, conducted last November 1999, noted a total of 114 households living in the barangay. One hundred six (106)

households or 93 percent of the total are headed by males and only 8 households or 7 percent were reported as female-headed households.

Results of the survey as shown in Table 1 indicate that the barangay has a population of 575 persons, with households having an average size of 5 persons. Males represent roughly 51.7 percent of the population and adults or persons 18 years old and above constitute about 47.5 percent of the population.

Economic activities

With regard to the economic picture of the

barangay, 75.5 percent are engaged in the agriculture, fishery, and forestry sector. Fishing is considered as the main source of livelihood in the community with 66.3 percent work-

Table 1: Population make-up of Barangay Old Guinlo

	<i>Number</i>	<i>Percent to total population</i>
Population	575	100.0
Male	297	51.7
Female	278	48.3
Infants	24	4.2
Children (1-6 yrs. old)	112	19.5
6-12 yrs. old	119	20.7
13-16 yrs. old	53	9.2
14 yrs. old and below	259	45.0
male	130	22.6
female	129	22.4
15 yrs. old and above	316	55.0
male	169	29.4
female	147	25.6
10 yrs. old and above	381	66.3
18 yrs. old and above	273	47.5

Fishing is considered as the main source of livelihood in Barangay Old Guinlo.



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CBMS Results... (From Page 5)

Table 2: Employment by sector

Sector	Number	Percent
Agriculture, fishery and forestry	139	75.5
agriculture	17	9.2
fishing	122	66.3
forestry	0	0.0
Industry	20	10.9
manufacturing	9	4.9
construction	9	4.9
electricity, gas and water	2	1.1
mining and quarrying	0	0.0
Services	23	12.5
wholesale, retail trade	10	5.4
transport, storage and communication	2	1.1
community, social and postal services	11	6.0
financing, insurance	0	0.0
real estate business services	0	0.0
Others, not elsewhere classified	2	1.1
Total	184	

ing members engaged in this type of activity while agriculture is a secondary source of livelihood which employs about 9.2 percent of the working members of the community. Table 2 shows the share of employment by sector.

The most widely utilized fishing method in the area is the *gill net* which is used by almost 56 percent of the households who are engaged in fishing activity. Other common fishing implements used are the *bobo* and *bokatot*.

The average frequency of fishing activity in a week is 5 days, and with the average duration of the activity as 7 hours. On the average, the volume of catch is 40.4 kilos.

Meanwhile, the most commonly planted crop in the barangay

is palay, with 70.4 percent of agriculture-based households growing the said crop (Table 3). It may be noted that almost 89 percent of the farm-based households own the land that they cultivate.

The most widely used farming facilities are the plow, beast of burden and the harrow, with farmers reporting that they have no access to other farm implements and facilities such as tractors, granary or warehouse, farmsheds and irrigation pumps (Table 4).

In terms of farm technology, a number of households engaged in agriculture in the area have access to various technologies like the use of pesticides, high yielding crops, and organic fertilizer as gleaned in Table 5.

Pilot Test Results

Based on the survey, the following results, as recorded in Table 6, were obtained.

On income and livelihood

In 1999, the poverty threshold for Region IV or the annual income an average Filipino living in Region IV should have to meet his/her food and nonfood needs, was computed at P14,575.29. Taking this into account, out of the 114 households in Barangay Old Guinlo, 88.6 percent may thus be considered poor.

Table 3: Crops planted by households

Type of crops	Number of households	Land area (has)	Unit of measure	Volume harvested	Volume sold	Amount in pesos
Palay	19	19.5	cavan	496	48	12450
Sweet potato	7	5.75	pails	93	38	1600
Cassava	1	0.25	pails	5	0	0
Vegetables	2	1	bundle	20	20	100
Coconut	1	0.5	pieces	400	400	500

Table 4: Agriculture-based households with access to agriculture implements/facilities

Implements/facilities	Number	Percent
Beast of burden	16	59.3
Plow	18	66.7
Harrow	14	51.9
Mower	7	25.9
Thresher	3	11.1
Sprayer	9	33.3
Tractor	0	0.0
Granary/warehouse	0	0.0
Farmshed	0	0.0
Irrigation pumps	0	0.0

Seventy-one percent of the households rely on fishing as their main source of livelihood while 11.4 percent rely on agriculture. Fourteen (14) households, meanwhile, are engaged in both fishing and agricultural activities.

On employment

The labor force population or the number of persons 15 years old and above currently employed or actively seeking for

INDICATORS

Table 5: Agriculture-based households with access to farm technology

<i>Farm technology</i>	<i>Number</i>	<i>Percent</i>
Use of high-yielding crops	7	25.9
Use of organic fertilizer	6	22.2
Use of inorganic fertilizer	3	11.1
Use of pesticides	12	44.4
Use of soil dressing	1	3.7

work was shown to be 220 persons. Out of this number, 183 were em-

ployed, leading to an employment rate of 83.2 percent. Underemployment rate was registered at 41 percent, meaning that out of the 183 persons employed, 75 wanted to have additional work.

On education and literacy

Of the 119 school-aged children of 6-12 years old, al-

most 85 percent are attending primary education while only 45 percent of the 53 school-aged population of 13-16 years old are attending secondary education. These numbers are below the provincial figures of 91.8 percent for the elementary level and 79.6 percent for the secondary level, respectively.



Table 6: Summary statistics, Barangay Old Guinlo

<i>Indicators</i>	<i>Statistics</i>	<i>Indicators</i>	<i>Statistics</i>
Income and livelihood (percent)		Health and nutrition	
Poverty incidence	88.6	Households with access to health services and facilities (percent)	60.5
Households engaged in:		Malnourished children	33
agriculture and fishing	12.3	Malnutrition rate (percent)	24.3
agriculture	11.4	Households with malnourished children	28.8
fishing	71.1	Households eating less than 3 meals a day (percent)	13.2
other activities	5.3	Incidence of infant deaths	0
Employment (no. of persons)		Incidence of child deaths	0
Labor force	220	Political participation	
male	142	Registered voters	208
female	78	Actual voters during the last electoral process	202
Employed persons	183	Participation rate during the last electoral process (percent)	97.1
male	133	Persons in community organization	54
female	50	Persons in community organization over 15 yrs and above population (percent)	17.1
Underemployed persons	75	Security	
male	49	Crime incidence	0
female	26	Incidence of domestic violence	0
Employment rate (percent)	83.2	Incidence of armed encounters	0
male	93.7	Shelter (percent)	
female	64.1	Households in makeshift housing	7.1
Underemployment rate (percent)	41.0	Households squatting on house and lot	2.7
male	36.8	Water and sanitation (percent)	
female	52.0	Households with access to:	
Education and literacy		safe water supply	37.5
Children (6-12 yrs. old) in elementary public	101	sanitary toilet facility	62.5
Children (13-16 yrs. old) in secondary public	24	Energy and electricity (percent)	
private	23	Households with access to electricity	37.7
Participation rates (percent)		Proportion of household used wood for cooking	70.2
elementary	84.9		
secondary	45.3		
Literate persons (10 yrs. old and above)	377		
Literacy rate (percent)	98.9		

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CBMS Results... (From Page 7)

The total number of persons 10 years old and above in the community was 381. Out of this population, 377 persons (or 98.9 percent) can read and write a simple message in any dialect.

On health and nutrition

Almost 61 percent of the households surveyed were able to avail of health services and facilities. The most frequently availed services pertain to immunization for children and preventive and curative health services. These were mostly obtained from the barangay health center.

With regard to malnutrition rate, Table 6 shows that it reached 24.3 percent, with 33 children being malnourished. Only 28.8 percent of the households surveyed have cases of malnourishment among their children. There were no incidence of infant deaths nor deaths among children reported.

On security

No incidences of crimes and armed encounters were reported by all of the households surveyed last year. Neither were there incidences of domestic violence.

On political participation

Out of the 208 registered voters in Barangay Old Guinlo, 202 participated in the last electoral process. This gives a participation rate of 97.1 percent. As to barangay residents who were members of community organizations, the survey results show a total of 54.

Table 7: Sources of water supply of households

Sources of water supply	Number	Percent
Community water system	35	31.3
own use	1	0.9
shared	34	30.4
Deep well	7	6.3
own use	3	2.7
shared	4	3.6
Shallow well	1	0.9
Spring, lake, river, rain, etc.	65	58.0
Other sources	4	3.6
Total	112	100
No response	2	

On shelter

Sixty-eight (68) percent of the households own the house and lot that they live in while 18 percent own houses on rent-free lots with consent of the lot owners. On the other hand, there are 3 households who squat on the land they live in.

Houses in the community are mostly made up of light materials like bamboo, sawali, cogon, or nipa. Floors are mostly made of wood, palm or bamboo materials. Seven percent of the total households, however, live in makeshift, salvaged and improvised houses.

Table 8: Type of toilet facility used by households

Type of toilet facility	Number	Percent
Flush, own use	2	1.8
Flush, shared	1	0.9
De buhos, own use	45	40.2
De buhos, shared	11	9.8
Closed pit	11	9.8
Open pit	3	2.7
Others	2	1.8
No toilet facility	37	33.0
Total	112	100.0
No response	2	

On water and sanitation

Of the total number of households in the barangay, only 37.5 percent have access to safe water supply. The most common source of safe water supply in the barangay is the community water system which is shared by 34 households. Meanwhile, 58 percent of the households in the area obtain their water from other sources such as spring, lake, river and rain, among others (Table 7).

On the other hand, 62.5 percent of the households surveyed have access to sanitary toilet facility, with the most common facility used as the "de-buhos" type. Meanwhile, there are still about 33 percent of the households in the area who do not have a toilet facility (Table 8).

For garbage disposal, about 98.2 percent of the households burn their garbage.

On electricity

The survey results show the lack of access to electricity of the majority (62.3 %) of households in the barangay, with the electricity usually only lasting for 4 hours. Meanwhile, it was noted that a large proportion (70.2 %) of the households use wood for cooking.

Top Unmet Needs and Possible Interventions

One notable observation from the survey results is the *lack of productive employment opportunity* in the barangay. Though practically all households have at least one

INDICATORS

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employed member, almost 89 percent of the households are considered poor, with incomes below the poverty threshold. With most of the employed population in the agriculture and fishery sector, one would initially note the importance of farm-to-market roads in this area. However, in spite of the development of the said infrastructure to facilitate the delivery of the people's produce to prospective markets, the distance and time required for travel makes the delivery of produce a costly venture. This, aggravated by a lack of access to capital (there is no cooperative in the barangay), makes it difficult for fishermen and farmers in the community to market their goods.

For instance, 91.4 percent, on the average, of the produce of the fishing households surveyed are sold in the market mostly through middlemen who buy their goods at a lower price than the going market rate. On the other hand, only 5 percent of the produce of palay-growing households are sold in the market. The rest of the produce serve mainly as the people's daily sustenance.

In this regard, the development of a cooperative which could provide access to capital to fisher-

men and farmers could help in the marketing, and in turn, pricing of the residents' produce at a more profitable rate. In addition, alternative sources of livelihood (may be a potential beneficiary of the province's program for livelihood and small and medium enterprise development – "one village-one product") may also be created in the barangay.

Another area of concern is the lack of access to safe water by more than half of the barangay's population. Based on the standard definition, only water supply derived from a community water system, deep well or shallow well is considered safe or potable. It was observed that a big number of households in the area source their water from springs. An initial and less expensive intervention (rather than building a deep well) is to have a sample of such water supply tested for potability. It might turn out that the water from that source is safe and, in turn, the definition of "potable" with respect to this survey site might need to be changed for future monitoring.

In addition, a prominent result of the survey is the lack of access to electricity by most of the household respondents. One cru-

cial issue in consideration for addressing the latter need pertains to the use of wood for cooking which could be minimized had electricity been made available for all households in this area. It may be noted that forest destruction caused by wood-gathering is a major problem which the province targets to address. *BEM/KCI*

MIMAP

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The **Updates** may now be downloaded in Adobe Acrobat format for free from the Project's website. The site can be accessed through <http://www.panasia.org.sg/mimapph>.

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Capital Inflows... (From Page 4)

Table 3: Scenario – actual changes in net foreign capital inflows and foreign exchange rate

Industries	Price Effects (change relative to base)									Average Period Change			Period Totals		
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1991 -96	1997 -99	all	1991 -96	1997 -99	all
Palay and corn	-2.40	2.10	-0.10	-0.50	-0.40	1.20	0.10	2.50	-0.20	-0.02	0.80	0.26	-0.10	2.40	2.30
Fruits and vegetables	-1.10	-0.50	0.00	0.10	-0.70	-4.10	-0.50	-0.10	-0.10	-1.05	-0.23	-0.78	-6.30	-0.70	-7.00
Coconut and sugar	-30.00	-19.30	4.50	5.70	3.50	12.30	-5.20	7.20	2.50	-3.88	1.50	-2.09	-23.30	4.50	-18.80
Livestock and poultry	-8.60	-10.60	-1.60	-1.50	0.00	3.50	-0.60	-1.40	0.40	-3.13	-0.53	-2.27	-18.80	-1.60	20.40
Fishing	9.80	-0.90	-0.30	-0.20	0.60	-2.40	0.00	2.10	0.20	1.10	0.77	0.99	6.60	2.30	8.90
Other agriculture	16.80	6.90	0.90	1.30	1.70	1.90	-0.50	3.40	-0.30	4.92	0.87	3.57	29.50	2.60	32.10
Forestry	-9.10	8.80	-0.70	1.10	1.40	10.70	-0.20	-1.10	1.50	2.03	0.07	1.38	12.20	0.20	12.40
Mining	-0.10	-0.90	-0.20	-0.70	-0.70	-1.60	0.40	0.30	-0.20	-0.70	0.17	-0.41	-4.20	0.50	-3.70
Rice and corn milling	-1.30	-0.70	-0.30	-0.70	-0.60	0.00	0.30	1.90	-0.20	-0.60	0.67	-0.18	-3.60	2.00	-1.60
Milled sugar	-29.70	4.50	1.10	2.00	3.50	6.40	0.50	-28.90	0.80	-2.03	-9.20	-4.42	-12.20	27.60	39.80
Meat manufacturing	3.10	5.70	0.70	0.50	-0.20	2.60	0.40	0.70	0.10	2.07	0.40	1.51	12.40	1.20	13.60
Fish manufacturing	-24.30	5.60	1.80	1.00	1.50	6.00	0.80	4.80	0.00	-1.40	1.87	-0.31	-8.40	5.60	-2.80
Beverage and tobacco	10.30	-2.90	0.30	-1.30	0.60	-2.10	0.70	1.70	0.00	0.82	0.80	0.81	4.90	2.40	7.30
Other food															
manufacturing	3.90	-0.40	-0.10	0.80	0.50	2.40	0.10	0.80	-0.10	1.18	0.27	0.88	7.10	0.80	7.90
Textile manufacturing	-0.40	-1.50	-0.40	-0.70	-0.70	-2.30	-0.20	1.10	-0.20	-1.00	0.23	-0.59	-6.00	0.70	-5.30
Garments and leather	3.60	-1.50	-0.40	-0.30	-0.80	-3.20	0.40	2.70	-0.20	-0.43	0.97	0.03	-2.60	2.90	0.30
Wood manufacturing	6.20	-5.50	-1.50	-6.00	-3.40	-9.30	1.00	-8.90	-0.90	-3.25	-2.93	-3.14	-19.50	-8.80	28.30
Paper and paper															
products	-1.70	6.50	1.00	2.30	1.90	7.60	-0.90	2.90	-0.20	2.93	0.60	2.16	17.60	1.80	19.40
Chemical manufacturing	-3.50	-2.00	-0.10	-0.90	-1.00	-2.10	0.20	-0.20	-0.20	-1.60	-0.07	-1.09	-9.60	-0.20	-9.80
Petroleum refining	1.00	18.30	0.70	6.40	3.50	3.80	-0.10	-0.50	0.60	5.62	0.00	3.74	33.70	0.00	33.70
Nonmetal manufacturing	-1.80	-4.30	-0.50	-1.20	-1.20	-7.10	-0.40	-6.80	-0.30	-2.68	-2.50	-2.62	-16.10	-7.50	-23.60
Metal manufacturing	-1.20	-1.60	-0.30	-0.70	-0.60	-2.10	0.30	0.40	-0.20	-1.08	0.17	-0.67	-6.50	0.50	-6.00
Electrical equipment															
manufacturing	2.00	-2.60	0.10	-1.20	-0.50	-0.30	0.00	0.60	-0.50	-0.42	0.03	-0.27	-2.50	0.10	-2.40
Transport and other															
machinery															
manufacturing	-1.30	0.50	0.10	-0.30	-0.30	-1.20	0.20	-1.50	-0.10	-0.42	-0.47	-0.43	-2.50	-1.40	-3.90
Other manufacturing	2.70	-1.00	-0.40	-0.40	-0.50	1.70	-0.70	3.40	0.10	0.35	0.93	0.54	2.10	2.80	4.90
Construction	-0.90	-0.60	-0.10	-0.20	-0.20	-0.70	0.10	-0.20	0.00	-0.45	-0.03	-0.31	-2.70	-0.10	-2.80
Electricity, gas															
and water	29.90	-0.10	2.00	2.60	2.80	4.20	0.70	1.50	0.80	6.90	1.00	4.93	41.40	3.00	44.40
Financial sector	-2.30	5.00	1.10	-0.30	-0.10	5.50	-1.10	-0.50	0.50	1.48	-0.37	0.87	8.90	-1.10	7.80
Private education	-8.90	-7.60	-1.30	-0.10	-0.20	-8.90	0.80	-5.90	-0.30	-4.50	-1.80	-3.60	-27.00	-5.40	-32.40
Private health	-18.90	-5.90	-1.70	-0.20	-1.70	-4.90	-0.60	-6.40	0.00	-5.55	-2.33	-4.48	-33.30	-7.00	40.30
Public education	-0.30	-0.10	-0.10	-0.10	0.20	-0.40	0.00	0.10	0.00	-0.13	0.03	-0.08	-0.80	0.10	-0.70
Public health	0.20	0.60	-0.10	0.00	0.00	-0.20	-0.10	0.00	0.00	0.08	-0.03	0.04	0.50	-0.10	0.40
General government	0.20	0.10	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.08	0.00	0.06	0.50	0.00	0.50
Other services	-0.10	-0.20	-0.10	-0.20	-0.10	-0.60	0.10	0.20	-0.10	-0.22	0.07	-0.12	-1.30	0.20	-1.10