Economic and Environmental Aspects of Public Health

The Public Health Situation in the Philippines

The country faces a lot of difficulties in its promotion of public health, foremost of which are bottlenecks in the supply of health services and excessive demand for such, due to population growth, poverty and the effects of environmental deterioration.

The nation's ability to provide health services is severely constrained by its scarce budget which contributes greatly to the lack of medicines, insufficiency and inefficiency of medical personnel and the lack of medical supplies and facilities. Competent doctors and nurses numbering about 100,000 are "brain-drained" annually. In fact, the country ranks second in the world in exporting doctors and nurses, with its people wanting in medical attention.

In addition, the development and motivation for the mobilization of the 67,000 employees of the Department of Health is not the field of specialization of doctors who comprise the majority of hospital managers. These doctors are often not good managers, although they may be good in the medical profession.

About 90 percent of the total taxes paid by both urban and rural population are circulating in Metro Manila, while the remaining 10 percent are subdivided among the 73 provinces of the country. In effect, the bulk of medical personnel and facilities is in Manila and other urban centers, while the rural areas are far behind in medical attention. Also, the benefits of government health programs, supposedly aimed to help the poorest sector of the society, accrue instead to people who are GSIS and SSS members -- those who could afford to pay for Medicare and other health care plans.

At the Philippine General Hospital (PGH), for instance, those who benefit from free medicines are people who have connections with the hospital staff. Therefore, when a poor man needs free medicine, the hospital has already run out of supply. One study shows that for every 20 patients, only one will be subsidized for the cost of the drugs. The rest will have to buy their own medicine.

Concentration of health and medical services in Metro Manila has not necessarily benefitted its population significantly, however. The bias towards specialization in the medical profession is visible in institutions like the Heart Center, Kidney Center and Lung Center which cater to the very few class A-B citizenry. This super-specialization needs (To Page 2)

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During the third in a series of PIDS Resource Speakers' Forum, this time focused on the subject of "Economics of Public Health," Dr. Metodio Palaypay, Senior Clinic Physician at the University of the Philippines' Health Services and a Consultative Volunteer on matters of health to the Chairman of the Committee on Health at the Congress of the Philippines, made incisive assessments and workable proposals to improve the country's health delivery system.

Speaking on various aspects of issues related to public health, Dr. Palaypay analyzed the health situation in the country, describing each issue in detail, supported by statistics. Given the scarce health budget, he presented various options the government may consider, such as the alternative and adaptable health technology which makes use of indigenous and economical materials.

In addition, Dr. Palaypay proposed a sanitary, efficient and income-generating way of waste disposal which is a very important factor in promoting public health. His proposals, contained in this issue's main article may prove valuable, not only to the country's decisionmakers on health but also to the general public as well.

Also in this issue is the sixth in a series of the Clearinghouse Project where completed, ongoing and future research projects on economic development are listed. Under the Update Section, we continue to report the latest events and seminars conducted by PIDS. This issue also features the first in a series of Senate and House Bills on Economic Affairs which will serve to monitor bills relating to the economy.
It is a mistake for policymakers to prescribe only one set of health policy for all the regions in the country without considering the socio-cultural norms, traditions and needs of each region.

The health problem is also aggravated by the large population. Families with many children tend to belong to the poorest sector with very little means to afford even the basic health services. Bearing and nurturing a child is a wasted investment if the child will die after his first birthday due to lack of antibiotics and immunization. Even in military reports, the list of casualties in one year is almost similar to the number of children under six years old who die within ten days after birth due to lack of medical attention. The military reports in fact show that out of three soldiers who died, only one actually died in a clash, the other two died of diseases.

The crowded small houses, especially in the slum areas, provide little room for ventilation. The lack of fresh air, plus the smoking habits of some members of the households contribute to the high incidence of bronchitis, pneumonia and cancer in these areas, especially among children under six years of age.

The unsanitary environment contributes significantly to the degraded health situation. It has been found that 90 percent of diseases come from filth. People are unaware that improper garbage/waste disposal system which clogs canals and breeds flies, endangers their lives when they inhale the polluted air and eat the food where a mosquito or a fly had landed. (Figure 1).

Because of the unsanitary environment, the country is losing in terms of opportunities in the consumer business. Dirty public markets which are 1 percent Filipino-owned, turn away many consumers towards cleaner groceries which are mostly owned by foreigners.

Likewise, the more pressing problems of alcoholism, drug addiction and cigarette (tobacco) smoking are not yet fully addressed by the government because the country is still preoccupied with resolving the basic health care problem. Television commercials on beers and cigarettes are still allowed. The government has no incentive to stop these because it also gains ₱8 billion and ₱9 billion income, in the form of taxes, from alcohol and nicotine, respectively. These are called productivity hazard incomes which do not all go to the Bureau of Internal Revenue but to cases of graft and corruption.
Recommendations

The management of the country’s health problems thus necessitate improvements in the supply of health and medical services, as well as addressing the factors affecting demand for such. The following are recommended:

Decentralize the country’s health care system to improve the existing health delivery system. This implies that the management of funds will also be decentralized. In turn, this would help minimize graft and corruption among officials since funds shall no longer be held in huge amounts.

With decentralization, the government could simultaneously establish an alternative situational health technology which is consistent with specific socio-cultural norms, traditions and religious beliefs in each region.

This set up could provide the opportunity to use indigenous resources such as herbal medicine which is more economical and affordable especially to the people in the rural areas. For example, diarrhea can be cured by taking soda and drinking buco juice. Further, this set up would be biased for the poor and disadvantaged, the prime target group of government health services.

Adopt the “barangay” approach. As a starter, the people in the communities should be educated and trained not only in the curative but also in the preventive ways of health care such as environmental sanitation.

Tapping the manpower resource pool in the communities is necessary in order to augment the inadequate number of health personnel, especially in the rural areas. Given the situation wherein many of the medical graduates in the Philippines prefer to work abroad, the government must exert all efforts to be able to utilize what the country has on hand, i.e., the members of the local community.

A cost-and-benefit analysis is in order with regard to alcoholism and smoking. There is a need for the government to analyze how much it stands to lose in the form of diseases and crimes in exchange for the taxes paid by the beer and cigarette industries. Surely, there are other worthwhile and health-conducive forms of investments.

Since it has been found out that 90 percent of diseases are filthy-borne, the government should help develop a sanitary, efficient and income-generating way of waste/garbage disposal system. The potential for this is large, and the substantial points are as follows:

The Material Recovery System and the “Eco-aides”

There is a need to look at the foci of this health problem which is the environment for this we employ Nidal (or analysis of Nidal, a Russian). For instance, the Russians did not have epidemics in their wars, as in the Bolshevik Revolution, despite the freezing cold because they used Nidal. Another example is Dr. Jose Rizal’s solution to a health problem in Dapitan. As a physician, Rizal acted with an ecological dispatch by analyzing the situational needs of Dapitan – management of amoebiasis and cholera – in terms of putting up a potable water system and a sanitary sewerage disposal system in the area. He also installed an efficient and income-generating way of waste disposal.

Reduce waste at generation point as the ultimate goal of solid waste management. This will involve the household members who will have to sort out or segregate the dry inorganic component of waste such as paper, cartons, plastics, tins cans in another receptacle while setting aside the wet organic component of waste in another container (Figure 2). Public markets must likewise have appropriate receptacles for each type of waste (such as drums for liquids and food leftovers).

Establish Storage-Redemption Center in each community. The government must establish a Material Recovery System (like a junk shop) in each corner of a barangay where households’ and markets’ waste, retrieved by ecology-aide collectors using handcart for accessibility, could be stored. A storage center with appropriate tools and handcarts can designate regular time for the ecology aide to retrieve the pre-segregated waste for final pre-sorting at the center. The two-way receptacle in every household shall be enforced, properly guided by a pre-sorting handbill, and by continuing information, education dissemination of refuse recovery and recycling technology.

Community Material Recovery System (MRS). The inorganic waste could be bought and recycled by glass, plastic and paper factories. The government may also consider establishing a fine arts center in each vocational school, encouraging the use of old newspapers in making papier mâché’s. These could be an additional source of income since the country still could not adequately supply the demand from abroad for papier mâché. The livelihood thrust of this community MRS would mean providing the initial revolving trust fund, tools like weighing scale, redemption-storage center, handcart, and ecology aide training sessions. Proper composting technology should be introduced as well as establishing contract with factories engaged in buying and selling raw materials that are recyclable.

In fact, some 50 percent of our inorganic wastes could be recycled by factories. According to a World Bank study, if recycling is removed in the Philippines, the underground economy would suffer because their survival depends on recyclable items, and worse, consumers will end up buying a plastic basin or a pail for 300 instead of 50 because factories will be using virgin plastics.

Moreover, 20 percent of our wastes could be used as animal feeds and another 20 percent for fertilizers. Fertilizers could be obtained from compost-making. The

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remaining 10 percent of our sewerage could be used as fillers for macadamized roads before putting asphalt, or fuel for the biogas tank. For example, Republic Flour Mills (RFM) Corp. has already completed its bio-gas tank; it only needs replication.

To remember these recyclable items, we employ the word REFUSE, which when letter F is dropped, becomes REUSE. The letter F stands for feeds, fertilizer, fuel, fillers, fine arts crafts and factory returns, as indicated in Figure 3. Here, we show ways of waste reduction using the Filipino Six 'F' scheme of waste resource recovery that will lead towards practically zero-waste pollution, in addition to benefits derived by the community such as cleanliness, livelihood, ecological greening - edible and functional landscaping and maximizing the use of raw materials aside from reducing harborage for pest and insects, hence disease transmission is controlled. Other forms of garbage called rejects or fillers which cannot be recycled will be picked up at least once a week by government dump trucks (compactor type) for disposal at new filling (landfill) sites.

We need waste reduction management for every dense urban communities. In every community, effective waste management lies in the proper collection of waste. The collection of garbage and its disposal has always been a problem of many fast growing urban communities. In Metro Manila alone, about 3,500 metric tons of solid wastes are being generated every day. About 46 percent of the total Metro Manila revenue goes to garbage collection and disposal. The problem of wastes disposal has long been besetting the urban residents and have even caused various health and sanitation problems. Much has been said and done, and elaborate plans to abate the problem have been put forward but these only looked good on paper or were either shelved or not fully implemented due to limited funds.

The traditional and outdated practice of wastes disposal involved garbage collection which ends up in a dump site. The dump site, wherever it be, is an eyesore and a veritable breeding ground, for cockroaches, flies, rats and pest, which in turn cause the transmission and proliferation of many pest-borne diseases and food-borne diseases. Our Department of

Health's statistics show that for the past fifty years, the top ten diseases in the country are brought about by these food-borne or pest-borne diseases. These include typhoid, parasitism, gastroenteritis, cholera, tetanus, infectious hepatitis, tuberculosis, malaria, H-Fever, poliomyelitis, amoebiasis, and others.

Since yearly we spend ₱900 million for the removal of garbage that clogs our Metro Manila drainage, we might as well minimize such expenditure by setting up in every strategic area a waste redemption center to buy the factory returnables and the compost.

Garbage recycling will certainly solve one half of the problem of sanitation-linked diseases, apart from providing additional income for the barangay and its people because the Bureau of Internal Revenue (BIR) could now tax the barangays. An experiment was conducted in San Andres Market where an MRS was set up, accepting all recyclable inorganic items like tetra-brick packs, cullets (pieces of broken bottles) and plastics, in exchange for cheez curls, a snack variety. When rainy season came, there were no floods nor clogging because canals were free of garbage.

With the effective implementation of

MRS, garbage disposal which has always been a problem since the time of President Magsaysay could now be solved. The people would now have a pollution-free environment like Singapore where sewerage is stored and transformed into 90 megawatts of electricity. Their system is a modern facility which is air-conditioned, with a push-button system and monitored by white-gowned engineers.

There are, however, also some problems which could make the MRS difficult to set up.
"In planning for an effective public health policy, priority must be taken so that the waste-reduction concept is understood and implemented at every household level or at the waste-generation level."

**Problems on the Material Recovery System (MRS)**

**Colonial mentality.** In one case, the plastics which clogged canals were transformed into "eslon pipes" by certain engineers. Unfortunately, consumers prefer to buy imported "asbestos pipes" from Australia. As a result, the squatters, seeing no buyers for their pipes from recycled materials, did not bother to retrieve the plastics from canals anymore.

**Lack of political will.** There are some, if not all, local officials who may not find the concept acceptable because it means putting a stop to the bribes from porters which they often avail of barding the use of imported fillers in macadamized roads.

**Recommendations for an Alternative Sewerage Disposal System**

"In planning for an effective public health policy, priority must be taken so that the waste reduction concept is understood and implemented at every household level or at the waste generation level." The key to its success is the formation of a joint multi-agency board for waste policy-support consisting of the local police, Board of Investments (BOI), Department of Education, Culture and Sports (DECS), BIR, Department of Agriculture (DA), National Economic and Development Authority (NEDA) to monitor for the Cabinet, Department of Tourism (DOT), and the media, under the leadership umbrella of the Department of Health.

For a starter, the government could put up an action brigade for sanitation in every barangay which could be a forum for sanitary health education including the introduction of the MRS in the community. The NEDA could spearhead this brigade together with several government agencies.

**Support for the Implementation of the Material Recovery System (MRS).** The various government agencies must spearhead in motivating everyone to contribute to the success of waste reduction.

The government must also reconsider certain priorities in its policies, such as giving priority to the provision of housing facilities when what people need at the moment is to have three square meals a day.

**The Role of the Bureau of Internal Revenue (BIR).** The BIR must operationalize the existing pollution rebate tax which serves as incentive to manufacturers and factory owners. It should also come up with an incentive to motivate the concerned factories to buy materials such as papers, plastics, tin cans, bottles, cardboard, etc. from the community-based waste-redemption/storage center for their recycling purposes. These factories can apply the pollution tax rebate as an incentive. The receipts issued by the waste-redemption/storage center will be honored upon accreditation by the BOI or the Department of Local Government (DILG) as legitimate member of the Waste Reduction Management Program. This will encourage all the scrap buyers and factory owners to buy the recycled papers, tins, cardboard, broken bottles collected by the barangay as part of the livelihood scheme of the community.

Penalties should be imposed on people who throw unsorted waste/garbage in their MRS. Therefore, a monitoring system should also be set up in each barangay.

**The Role of the Board of Investments (BOI).** The BOI must encourage all the factories to utilize the relevant materials among the recycled waste that are retrieved from the residential areas. The BOI can link-up the investment of various factories with that of the livelihood program on waste recycling. They can even come up with something like "adopt a barangay" scheme.

**The Role of the Department of Agriculture (DA).** The role of the DA is to assure the barangay livelihood project that they are willing to support the users of the compost materials derived from the organic waste. They can send technicians to assist the barangay on the proper way of organic composting. They can produce pamphlets on various ways of composting wet organic waste. This
will include proper collection of feeds such as kitchen slops, pigswill and food left-overs through an effective retrieval system.

The Role of the City/Municipal Authorities. City and municipal officials will have to designate proper areas for redemption-storage center as well as the proper site for composting/nursery-seedling area.

The Role of the Department of Education, Culture and Sports (DECS). The DECS must institutionalize the teaching of the environmental-ecological recycling concept among the students as well as the parents through the Parents Teachers Association (PTA). They can invite the DA's technician, an agriculturist, to conduct composting technology session or organic nature farming/gardening. The PTA could provide incentive prizes for the cleanest community with the most efficient waste management program as well as conduct slogan competition and posters on this topic.

The Role of the Department of Local Government (DLG). The DLG can allow even only the percent of the realty tax to be utilized for the waste reduction management to operationalize the community MRS livelihood component. They may even send trainors to conduct seminars on proper composting; how to set-up the storage-redemption center and to design the handcart, including the proper tools for seedling nursery. They can also assist in locating the proper site for the organic composting area as well as the redemption center.

The Role of the Technology Resource Center (TRC). The TRC can produce trainors who will conduct the livelihood component such as composting technology, nursery-seedling use of organic compost, conversion of dry inorganic waste materials into paper-mache craft; bones into bonecraft; plastics into plastic crafts; woods into woodcrafts; tin cans into metal crafts, and others. They can also invest some amount for the conversion of some of the collected waste into feeds for animals, factory returnable/re-use or fine art craft materials.

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Economics, Tariff Commission and PIDS participated in the training.
5. **RdB (Relational Database)** - This training was held on December 12-14, 1988 at the Decision Systems Training Center in Singapore Airlines Building along Horacio dela Costa, S.J. Street in Makati, Metro Manila. The EDP unit together with other PIDS staff attended the three-day seminar.

**Employment Impacting Policy Issues Discussed in Seminar.**

A two-part seminar on "Employment Impacting Policy Issues" was held on November 28, 1988 at PIDS, NEDA sa Makati Building. The first part was conducted by Dr. Edna A. Reyes, Research Fellow at PIDS, who discussed on "Employment, Wages and Productivity in the Philippine Labor Market: An Analysis of Trends and Policies," which is also a paper by Dr. Reyes in collaboration with Edwin Milan and Ma. Theresa Sanchez, Research Associates at PIDS.

The paper provides a comprehensive historical account of policies and policy changes directly or indirectly related to employment, wages and labor productivity. It also analyzes the trends in those areas while assessing the impact of present policies on employment, wages and productivity on future developments.

Deputy Executive Director Caridad Dequiro of the National Wages Council of the Department of Labor and Employment (DOLE) commented on the paper.

The second part of the seminar focused on the paper by Dr. Rosario G. Manasan, also a Research Fellow at PIDS, on "Employment Effects of Selected Structural Adjustment Policies in the Philippines." The paper tackles the employment impacts of certain structural adjustment policies like the tariff reform and import liberalization programs, industrial promotion incentives, wage policy and other related reforms. Economic Development Analyst Vicente K. Fabella of the Trade, Industry and Utilities Staff of the NEDA commented on the second paper.

An earlier seminar on the same topic was held last November 15, also at PIDS, in order to generate comments and suggestions from the PIDS staff.

Representatives from the National Wages Council (NWC) of the Department of Labor and Employment (DOLE), United States Agency for International Development (USAID), NEDA, Trade Union Congress of the Philippines (TUCP), University of the Philippines, Philippine News and Features (PNF-Media) and PIDS, participated in the November 28 seminar.

**The Role of Law and Law Enforcement Agencies.** There is a need for some legal reforms to formalize some of the informal activities related to the MRS. An initial step would be to legalize the junk shop which will be renamed Material Recovery System. Subsequently, there should be moves to legalize the scavengers who will be called eco-aides. The government should give them an accredited area where they could buy recyclable items, and they should be provided an initial capital of, say, P500.

Encouragement and protection to all accredited MRS handcart should be provided.

Finally, as cited by the World Health Organization (WHO), on environmental sanitation in a technical series bulletin, the fastest way to improve the health of the community is to develop a three-pronged approach in every barangay or society that is: (1) priority thrust in waste management and sanitation to control pest and pollution; (2) good child care program; and (3) a good maternal health program. Budgetary, institutional and legal support are necessary for the material recovery system to become operational. Since the health authorities have relegated their function into advisory and technical support to waste management in every municipality, the problem of waste and diseases will continue to be a perennial problem. The neglect by the health authorities on this aspect will result to more importation of drugs due to increased sanitation-linked diseases, and importation of pesticides due to increasing harborage of pest.
**Bautista on Computable General Equilibrium Model**

An in-house staff seminar on the "Computable General Equilibrium Model" was held on November 4, 1988 at the PIDS, NEDA Sa Makati Building. Dr. Romeo Bautista of the International Food Policy Research Institute in Washington D.C., U.S.A. discussed his study entitled "Macroeconomic Models for East Asian Developing Countries."

This study reviews the Macroeconomic Model (MEM) and Computable General Equilibrium (CGE) on developing economies in East Asia. The study also addresses data-related problems in both types of model and discusses how numerical values of model parameters are determined. Ways by which the MEM and CGE models are solved and validated were further discussed while the application of these models to East Asian developing countries for economic projection and policy analysis were described.

The seminar was attended by representatives from the NEDA and the PIDS staff. ■

**An Economist's View on Health Care**

The fourth of the PIDS Resource Speaker's Forum Series was held on November 10, 1988 at the PIDS, NEDA Sa Makati Building, on the topic "The Economics of Primary Health Care". The discussion leader was Dr. Ralph Andreano, Professor of Economics at the University of Wisconsin and regarded as one of the world's best health economists. Dr. Andreano presented the highlights of his paper entitled "The Challenges to HFA (Health For All) by the Year 2000 and PHC (Primary Health Care): An Economist's Perspective. Dr. Andreano pointed out certain contradictions in the concepts of HFA and PHC and showed how the policy prescriptions given to countries could be distorted. His paper discussed the issues involved and the trade-offs between equity and efficiency. He suggested that new resources for health will have to come from internally-generated sources. Dr. Andreano explained the appropriate roles of government and private sector in the production and distribution of services. His paper also analyzed the policy choices available as to how to generate from internal sources the health resources needed for the next decade. Representatives from the University of the Philippines' College of Public Health (UPCPH) and School of Economics (UPSE), De La Salle University (DLSU), Ateneo de Manila University (AdMU) and the PIDS attended the forum. ■

**Emergency Funding Through Cooperative Credit Unions**

How does one obtain a short-term loan in case of emergency? This was the topic of the PIDS Resource Speaker's Forum: Fifth of a Series, held on November 16, 1988 at PIDS, NEDA Sa Makati Building. Dr. Mario B. Lamberte, Vice-President of PIDS, served as the discussion leader during the forum.

Dr. Lamberte, together with Joven Z. Balboza of the University of the Philippines' School of Economics, earlier conducted a research study on the "Informal Savings and Credit Institutions With Focus on Cooperative Credit Unions" which is at present being circulated as Working Paper Series No. 88-06 and is available for sale at the PIDS office. This seminar was conducted in connection with certain proposals to look into various schemes which the PIDS staff could avail for emergency purposes. It was the consensus that a PIDS Cooperative Credit Union could be the answer. ■

**EDP Training Program for Staff Development**

The EDP Unit of PIDS conducted a series of basic and advance EDP Train-
| W.P.#8801 | A General Assessment of Foreign Trade Barriers to Philippine Exports. Erlinda M. Modalla (P23.00). |
| W.P.#8802 | Economics of Upland Resource Depletion: Shift ing Cultivation in the Philippines. Marian S. de los Angeles (P23.00). |
| W.P.#8804 | An Analysis of the Role of Pawnshops in the Financial System. Mario B. Lamberte (P14.00). |
| W.P.#8805 | The Financial Markets in Low-Income Urban Communities: The Case of Sapaeng Palay, Mario B. Lamberte and Ma. Theresa Bunda (P23.00). |
| W.P.#8806 | Informal Savings and Credit Institutions in the Urban Areas: The Case of Cooperative Credit Unions. Mario B. Lamberte and Joven Z. Balboza (P37.00). |
| W.P.#8807 | The Manufacturing Sector and the Informal Credit Markets: The Case of Trade Credits in the Footwear Industry. Mario B. Lamberte and Anita Abad Jose (P31.00). |
| W.P.#8808 | Japan's Aid to ASEAN: Present Realities and Future Challenges. Filologo Pantoja, Jr. (P12.00). |
| W.P.#8809 | The Effect of an Exchange Rate Devaluation on a Small Open Economy with an External Debt Overhang. Josel T. Yap (P9.00). |
| W.P.#8810 | Financing the Budget Deficit in a Small Open Economy: The Case of the Philippines, 1981-86. Ma. Socorro S. Geochoco (P23.00). |
| W.P.#8811 | The On-site and Downstream Costs of Soil Erosion. Wilfrido D. Cruz-Hermia A. Francisco / Zenaida Tapawan-Conway (P56.00). |
| W.P.#8813 | Flexible Functional Form Estimates of Philippine Demand Elasticities for Nutrition Policy Simulation. Agnes Quisumbing (P50.00). |
| W.P.#8814 | Political Economy of Credit Availability and Financial Liberalization: Notes on the Philippine Experience. V. Bruce J. Tolentino (P11.00). |
| W.P.#8818 | Transactions Costs and Viability of Rural Financial Intermediaries. Teodoro S. Uy and Carlos E. Cuevas (P24.00). |
| W.P.#8822 | Funds Transfer Operation: Bono de Bane to the Viability of Rural Financial Intermediaries. Julius P. Halisang and Mario B. Lamberte (P17.00). |
| W.P.#8825 | The Urban Informal Credit Markets: An Integrative Report. Mario B. Lamberte (P19.00). |
| W.P.#8827 | A Review of Investment Incentives in ASEAN Countries. Rosario G. Manasan (P14.00). |
| W.P.#8828 | Science and Technology and Economic Development. Marilao B. Lamberte (P10.00). |

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