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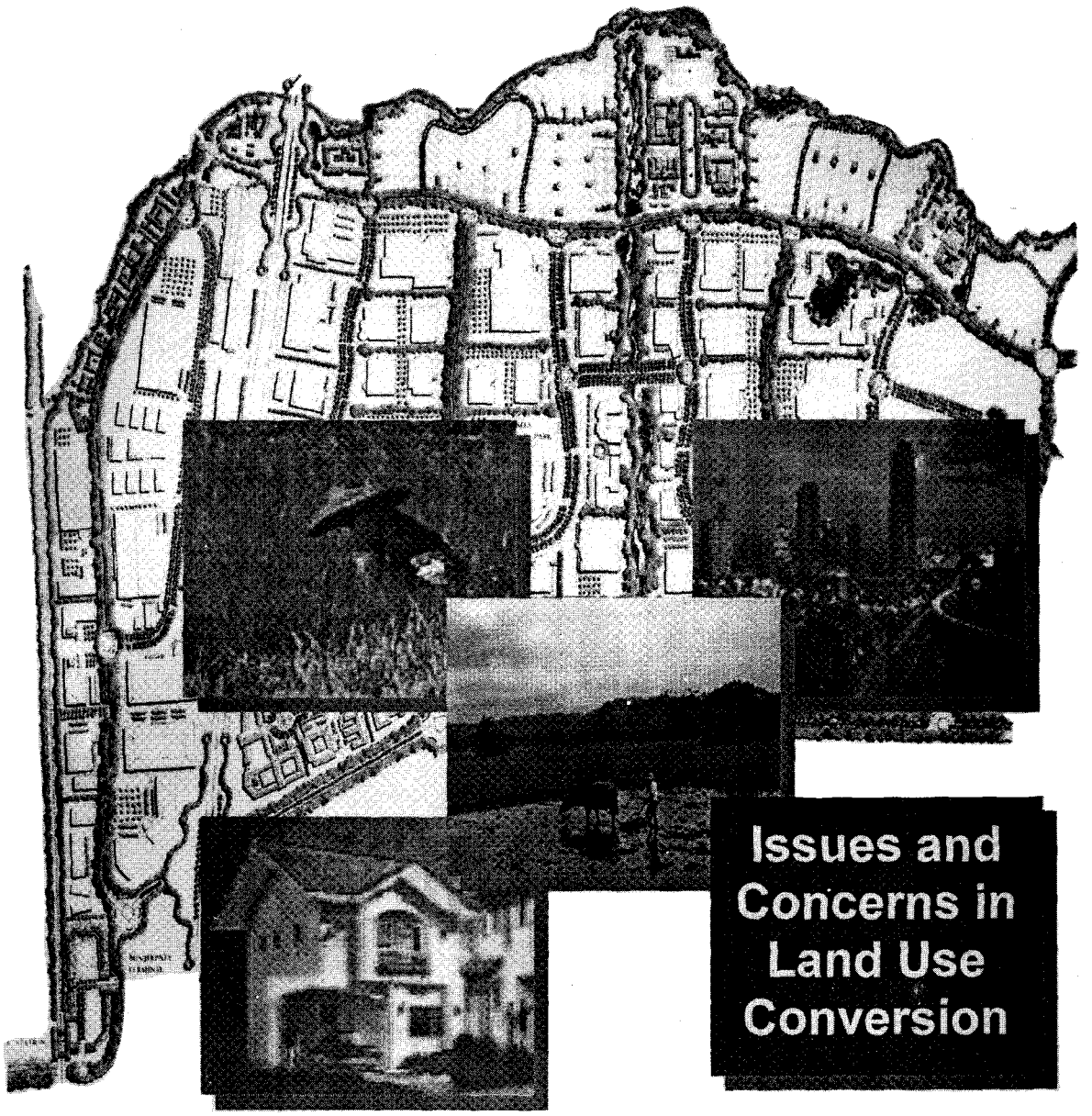

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A STUDY ON THE UNCHECKED CONVERSION OF AGRICULTURAL LANDS INTO NON-AGRICULTURAL USES: THE CALABARZON EXPERIENCE

Ma. Haezel M. Barber

I. INTRODUCTION

A. Background

The recent trend towards global competitiveness and industrialization has effected an upsurge of manufacturing activity in the country. A shift in macro-economic policy pronouncements has been made to spur this industrialization trend. The passage of Republic Act 7916, otherwise known as the Special Economic Zone Act of 1995, affirms the government's response to this trend through the establishment of regional agri-industrial centers (RAICs), regional industrial centers (RICs) and special economic zones (SEZs). A large number of establishments have, in fact been started, and of these, a significant number is found in the provinces located near Metro Manila. These provinces are Cavite, Laguna, Batangas, Rizal and Quezon (CALABARZON). Large-scale, export-oriented and foreign-financed industries have been set-up resulting in the conversion of vast tracks of agricultural lands into industrial sites. These have become very attractive to investors as well as migrants, partly because of the limited opportunities for investment and employment in the National Capital Region (NCR), and partly because of the resources that are available in these areas.

Since the Philippines is an agricultural country, conversion of agricultural land is the inevitable response to the pressure exerted by industrial development and urban expansion. The growth in urban population has resulted in an increase in demand for housing and urban services. Industrial, residential, and commercial uses thus compete with agriculture for scarce land.

There is, therefore, a need to promote the judicious use of land and other physical resources based on the principles of sustainable development.

B. Statement of the Problem

The CALABARZON subregion is proclaimed as an industrial estate regardless of its agricultural potential. Local officials and landowners took this as a go-signal for conversion. Productive agricultural lands have been tagged as future industrial sites by virtue of policies for industrial estates development and, hence, out of the Comprehensive Agrarian Reform Program coverage. As far as agricultural lands being converted to residential uses is concerned, recent studies made by the Housing and Land Use Regulatory Board (HLURB) showed that out of the 7% or 500 hectares of irrigated agricultural land taken up by subdivisions, approximately 68% is located in CALABARZON.

The conversion of agricultural lands into subdivisions in the subregion was intended to expand and facilitate the access of land to as many income groups as possible. Access to land would mean availability and the opportunity to put it into use, taking into consideration factors such as cost of the property, location, cost of transportation to and from the site, terms of acquisition, and applicable development regulations.

While the results of the consultations with the concerned local government officials and their constituents generated interest and enthusiasm in CALABARZON, it cannot be denied that certain issues - particularly those pertaining to the social, economic, and environmental effects of unchecked conversion - warrant serious consideration. Given present conversion practices in the field, there is now the genuine concern for the future capacity of remaining agricultural land to meet the needs of national food self-sufficiency.

Based on the above scenario, the paper is an attempt to address the problems confronting conversion of agricultural lands into non-agricultural purposes specially those converted into residential uses.

C. Objectives of the Study

The intention of land use conversion in identified economic zones is to accommodate increasing industrial and economic activities, as well as assign or allocate residential sites for housing the increasing migrant and natural population. The latter, though, becomes more pressing than the allocation of sites for industrial uses. Given the above discussions, the objectives of the paper are as follows:

1. to assess the existing laws, rules and regulations enacted which serve as bases for the conversion of agricultural lands into non-agricultural uses; and,

2. to determine the social, economic and environmental effects and implications of unchecked conversion.

D. Limitations of the Study

The study focuses on discussions on conversion of agricultural lands into subdivisions in CALABARZON. While the intention of this paper is to cover as wide a scope as possible, limited time was allotted for the preparation of the study and logistic support was inadequate.

E. Methodology

In undertaking the study, secondary data in the form of published and unpublished documents were sourced. Interviews with key persons in authority were also conducted to solicit their views on the subject matter. Reference was also made to various related meetings and conferences to identify other emerging issues and current trends.

II. BACKGROUND STUDIES

This portion of the study presents an overview of the CALABARZON project, its expected future role in the national economy, its position in spatial development, and availability of resources. The basic principles as well as legal mandates on land use conversion will also be discussed to provide a frame of reference in understanding the conversion process.

A. CALABARZON Project Brief

The Project CALABARZON is a large-scale, multi-sectoral complex planned in a region contiguous to Metro Manila. The project was originally conceived by the Department of Trade and Industry (DTI) to transform agro-based rural economies to industrial/urban through high industrialization, led primarily by foreign-export-processing type enterprises. It is an ambitious regional development project designated by the government as one of the 5 special projects for financing under the Philippine Assistance Program (PAP) of the Multilateral Assistance Initiative (MAI).

As a model case of regional development in the Philippines, different areas in the CALABARZON subregion will be transformed for the benefit of the local people: from urban squatter areas to quality housing sites having good access to high-grade social services and urban amenities; from crippled to fully equipped urban centers; and, from poverty-stricken rural surroundings to a rich environment containing industries surrounded by productive agricultural land and forest areas.

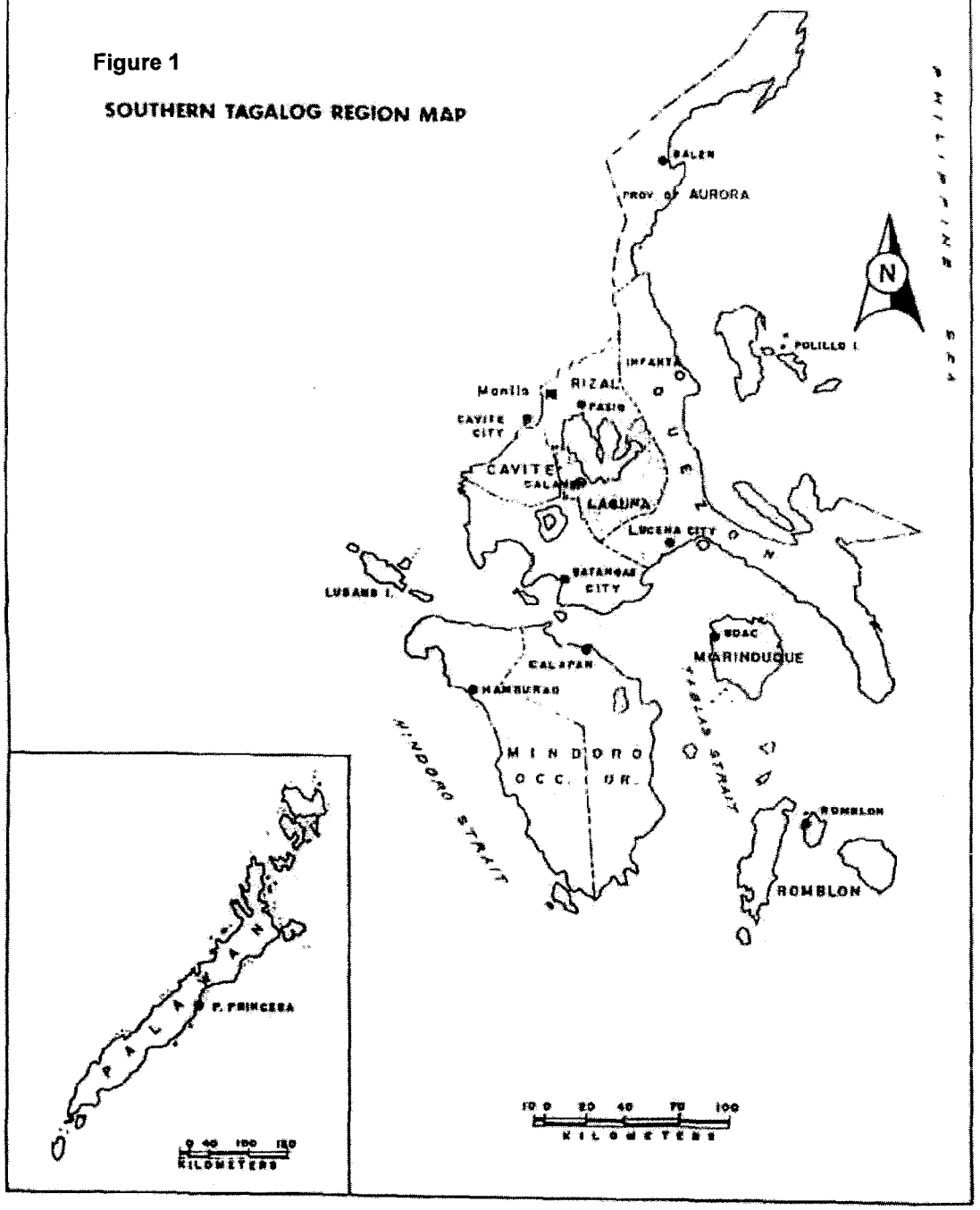
Project Area/Coverage. The CALABARZON subregion occupies the central part of the Southern Tagalog region. It comprises the provinces of Cavite, Batangas, Laguna, Rizal, and Quezon (Figure 1). The subregion has a total land area of 16,229 sq. kms. corresponding to 35% of the land area of Region IV and 5.4% of the total national area. The population in the area as of 1991 is estimated at 6,349,000 accounting for 77% of the region's total and 10.5% of the national population. The CALABARZON area is a receiving area for the spill-over population from Metro Manila which accounts for this high rate.

Expected Future Roles of CALABARZON. The CALABARZON subregion is expected to play a range of important roles in the future development of Region IV and the country as a whole.

Economically, it is expected to become a driving force of further industrialization in the country together with Metro Manila and other areas in the National Industrial Core. Its share of the gross domestic product is 11.7% which is larger than its population and territorial shares. Horticulture (fruits) and a few industrial crops (coffee, black pepper) have likewise contributed relatively large shares in the national production.

Figure 1

SOUTHERN TAGALOG REGION MAP



Another expected role of the region, implied by its industrialization function, is to attract foreign and domestic investments and substantially contribute to export. In addition to political stability, the provision of a better natural and human environment will be the general expectation of prospective investors, supported not only by better physical infrastructure but also by capable people and an efficient social system. In terms of infrastructure, the subregion appears to be in a better position than the rest of the country except for Metro Manila. Although with the rapid urbanization and population growth, difficulties in providing these are beginning to arise.

As for spatial development, the subregion is centrally located and forms part of mainland Luzon or the Growth Corridor Subregion. As mentioned earlier, this serves as a receiving area of spill-over from areas in Metro Manila and provides alternative locations for industries.

The subregion is endowed with rich natural resources. Most of it is favorable for various agricultural activities. However, since part of the area is relief hills and mountains, these have to be denuded to accommodate increasing economic activities.

Development Strategies. As a catalyst for the development of the entire region, the following development strategies were formulated:

1. ***Integrated Planning Strategy.*** This will follow an integrated regional development plan, coordinating the efforts of various implementing agencies and reflecting the interests of the people, to effectively solve and alleviate problems that go with sprawl and expansion.
2. ***Agro-Based Strategy.*** This strategy will emphasize agriculture, agro-processing and the development of services directed to the rural population. It will call for increasing agricultural outputs to support processing industries and changing the cropping patterns to exploit the marketing opportunities in Metro Manila and the growing urban centers within CALABARZON. It will also emphasize the maximum utilization of indigenous assets such as tourism resources, minerals, and human resources. Utilization and processing of raw materials to be used as supplies by other provinces may expand the resource base for this strategy.

   This strategy alone, however, cannot support the high growth expected for the subregion. The shares of the agriculture sector in the CALABARZON economy and employment are already small, and the sector can grow only at a relatively low rate. With the conversion pressure on urbanization/industrialization in CALABARZON, substantial increase in agricultural land is not likely, and so another strategy must be adopted.
3. ***High Industrialization Strategy.*** This scheme will make the most of the spill-over from Metro Manila for the high industrialization of CALABARZON. This influx, however, will be directed to ideal locations in a more organized manner by deliberate planning and location policies.

Anchor Project Components. The CALABARZON Special Development Project has different sets of anchor components for which implementation will happen during Phase I (1991-1995) and Phase II (1996-2000). These are categorized into six areas as follows:

1. ***Port Development*** - involves the expansion and modernization of the facilities of the Port of Batangas to serve as an alternate international seaport, and the development of Sangley Point into a transhipment/container port.
2. ***Roads and Highways Development*** - involves the construction and improvement of the various major road networks that will link Metro Manila to CALABARZON.
3. ***Industrial Development*** - encompasses sites and services improvement of existing industrial estates and export processing zones in Cavite and Laguna, and construction of new industrial centers and industrial estates in Batangas and Rizal, respectively.
4. ***Power Generation and Transmission*** - includes the construction/expansion of thermal plants and power stations, and the improvement of transmission and distribution systems in the different substations.

5. ***Telecommunications*** - requires the upgrading and increase of telecommunication facilities in selected cities/municipalities and identified sites of industrial estates in the area. This is being done through the National Telephone Program-Tranche I-1 and the PLDT's X-5 Program.

6. ***Social Development*** - includes the comprehensive packaging and implementation of socio-civic programs and projects to contribute to the social and human development in the area.

B. Basic Principles for Land Use Conversion

Philippine Constitution

The guiding principle for state intervention in land use conversion is embedded in the Philippine Constitution. The relevant provisions in the Constitution give a foundation which specifically addresses the issue of industrialization based on sound agricultural development and agrarian reform while ensuring the optimal use of the nation's limited land resources (Article XII, Section I). It advocates the equitable access to land. This provision is qualified by the declaration that the use of property bears a social function, implying maximum productivity for all lands (Article III, Sections 1, 15 and 16). The Constitution also requires the harmonization of national and local government responsibilities in determining the direction of land uses in their respective jurisdictions consistent with the objective of decentralization (Article XII, Section 6). This is explicitly translated through the passage of the 1991 Local Government Code (RA 7160).

In the medium-term, both the national and local government units should reconcile land-use related activities. It is important that conversion guidelines be made flexible and adaptable to respond to the dynamic conditions at the local level at the same time be consistent with the national framework and approach to development.

- **National Physical Framework Plan (NPFP)**

The document sets a policy agenda for land use planning incorporating regional, local and sectoral policies. It recognizes the need for a national policy and focuses on the rational use of resources in a multi-sectoral approach to decision-making. The goals and principles outlined in the plan are directed towards:

1. the pursuit of increased regional plan cohesion and integration;
2. guided spatial planning process for urban development and provision of services; and,
3. a concept of development that proceeds according to the efficient utilization of land and best use, promoting industrialization through sound agricultural practice and agrarian reform.

The NPFP stresses the important role of community-based planning which relies on the empowerment of groups (small farmers, tribal groups, upland farmers, women's groups) who presently have little power in society. Such planning would be mandated at both the national and local levels.

- **Medium-Term Philippine Development Plan**

The document emphasizes the equality of women and men in development and serves as a basis for raising the consciousness in the position and needs of women as political and economic participants in society. Concern for the role of women in the land conversion process centers on the likelihood of them being disadvantaged due to the traditional social relations which give the man the sole decision-making power. Women should be empowered to negotiate for their own interests by legitimate and meaningful participation in the various stages of a project and within the local level organizations.

- **Geographical Planning Unit**

The implementation of a more comprehensive program of land use planning requires the definition of an effective geographical planning unit that will provide an appropriate focus.

- **Environmental Assessment**

It is important that current environmental procedures be improved to measure the potential impacts and potential costs more effectively and thus serve as a critical tool in planning and land use conversion decisions.

C. *Legal Mandates*

A summary of the laws, rules and regulations needed to implement and translate the above principles into an agenda of action is listed in the following table.

Table 1. LEGAL DOCUMENTS RELEVANT TO LAND USE CONVERSION

Legal Documents	Description
Section 20 of RA 7160, otherwise known as the 1991 Local Government Code	• provides the authority of reclassification of agricultural lands to LGUs in accordance with prescribed limits, providing for the manner of their utilization or disposition • confers upon the city or municipality the general authority to reclassify lands consistent with the town planning process, and reserves or maintains the land use conversion authority to the DAR
Sections 4 and 5 of EO 129-A Section 65 of RA 6657, otherwise known as the Comprehensive Agrarian Reform Law	• gives to DAR the exclusive authority to disapprove or approve the conversion, restructuring or readjustment of agricultural lands into non-agricultural uses
DAR AO 1,2, and 8 series of 1990 DAR AO 5 series of 1992	• provides rules and regulations to implement the provisions of RA 6657 • outlines the conditions where land use conversion may be allowed • provides the granting of a disturbance compensation to displaced farmer beneficiaries affected by the conversion
DOJ Opinion 44 Series of 1990	• excludes coverage from RA 6657 a parcel of land when it has been classified as commercial, industrial or residential before the effectivity of the law on 15 June 1988 • should be pursuant to the Land Use Plan or Zoning Ordinance of the City/Municipality as approved by HLURB.
DOJ Opinion 181 Series of 1990	• exclusion of declared areas of lands under the Lungsod Silangan Town Reservation in the Province of Rizal from RA 6657 since these have been reserved as townsite purposes and not deemed agricultural lands as defined under the said law
RA 7279 otherwise known as the Urban Development and Housing Act	• provides for the formulation of an Urban Development and housing Program • provides among others: ➢ utilization of residential lands in consideration of the needs and requirements of underprivileged and homeless citizens and not merely on the basis of market forces ➢ development of urban areas conducive to commercial and industrial activities which can generate more economic opportunities for the people ➢ accessing land and housing by the underprivileged and homeless citizens

III.

III. ASSESSMENT OF EXISTING SITUATION

A. Land Use Conversion Practices

The current practice of land use conversion in CALABARZON can generally be described as being in accordance with the rules and regulations prescribed by existing laws.

Presently, there is no comprehensive data for the amount of agricultural land actually converted to non-agricultural use. Data available are collated in various registers such as the DAR, HLURB, the Mayor's Office, and Department of Public Works and Highways. Under present policies, the authority to act on land use conversion applications covering five (5) hectares or less is delegated to the DAR Regional Office while application for lands greater that five (5) hectares are acted upon by the DAR Central Office. There are also conversions that go on without the approval from DAR or any government agency as well as cases when conversion has already been done before filing the application for conversion. These situations explain the unreliable statistics on land use conversion.

The seriousness of the threat of conversion to agricultural land cannot be estimated from existing data as some statistics indicate an increase in harvest from rainfed and irrigated land.

The authority granted to local government units to reclassify agricultural lands gives them considerable power in decision-making. The town plans they prepare are used as guides for land use conversion. However, if the plan was approved prior to June 1988, the allocation of land to non-agricultural use in a town plan is sufficient authority to convert without DAR approval. Thus, DAR has no control over such conversion and has, therefore, raised questions as to the validity of current town plans as bases for land use conversion.

An assessment of the impacts of land use conversion is effected through the issuance of an Environmental Compliance Certificate. Land use planning and conversion are, thus, guided by costs associated with the destruction of the environment and the depletion of resources.

The following discussion will further present an assessment of the conversion practices in the CALABARZON taking into consideration the different factors directly related to land use conversion.

Land Use

Land use in the region is predominantly agricultural consisting of rice, sugarcane, pineapple, coconut and other crops. Vegetables are also common especially in the areas close to Metro Manila. Mountain areas are covered with coconut plantations and forests which are partly denuded. Table 2 presents the general land use in the subregion. A more detailed presentation of the different land uses for the five provinces is given in Annex A.

Table 2. GENERAL LAND USE, CALABARZON Subregion

Land Use	Cavite, Laguna, Batangas, Rizal		Quezon	
	Area (ha.)	%	Area (ha.)	%
Agricultural crops	411,434	54.7	455,610	52.3
coconut	173,182	(23.0)	385,932	(44.3)
sugarcane	92,667	(12.3)	-	(0.0)
Grass and Shrubland	192,065	25.5	68,858	7.9
Forest and Woodland	72,157	9.6	310,463	35.7
Built-Up Area	41,104	5.5	33,289	3.8
Total	752,223	100.0	870,660	100.0

Source: Master Plan for CALABARZON: Appendix

Agricultural lands constitute about 863,000 has. (53%) of the total CALABARZON region. Of this area, grassland accounts for 268,000 has. (17%) while forest and woodland cover 280,000 has. (18%). Some parts of the lowland area which are mainly paddy fields have been converted into built-up areas especially in Rizal, Cavite, and Laguna. Agricultural land use in the region seems reasonable in general being in accordance with its topographic and soil characteristics.

Fertility of the soil is generally high as it contains organic wastes originating from the upland and carried by storm runoffs. The region, however, is susceptible to soil erosion. This condition is directly related to loss of top soil on cultivated lands, and in turn to siltation problems at the lower parts of the river systems due to soil lost from the agricultural land.

It is worth mentioning the availability of approved land use plans as bases for managing and guiding land resources properly. Many of the existing plans were prepared and approved in the early 1980s when there was not much pressure of industrialization in the region. Updated and approved land use plans are effective tools that will regulate future land uses and will check indiscriminate conversion of lands.

Agriculture

The following factors were considered as constraints to agricultural development in the region, namely: natural conditions; farming practices; poverty of farmers; support services by government; and, competition with other sectors.

Based on the survey on the socio-economic situation of the agricultural sector conducted by the Department of Agriculture, the poverty incidence of about 38% in the region is rather low compared with 70% for the whole Philippine rural area. Low income was nevertheless considered the most common factor of dissatisfaction. This is followed by road access, health care, irrigation, water supply, and post-harvest facilities. Dissatisfaction in terms of the environment was raised mainly from the more developed provinces or areas.

As considerable measures for improving present living conditions have been effected, most of the people in the area expect government subsidy on farm inputs and credit and cooperative development. Infrastructure such as roads and irrigation facilities is demanded in Quezon while many people in Batangas believe that employment opportunities in factories can improve their living conditions. Not many people regard the current agrarian reform program as a way of solving dissatisfaction.

Land conversion to non-agricultural purposes was also given as one of the major constraints to agricultural development. With the expansion of Metro Manila, urbanization and industrialization continue at the expense of agricultural land, especially the lowland paddy areas in Cavite, Laguna and Rizal. Although the provincial governments have their own land use plans, it is feared that agricultural land will ultimately be converted unless an effective law on land use is established. Land productivity is much higher in industry than in agriculture. Thus, farmers opt to sell their agricultural lots to investors without realizing their future prospects in terms of employment opportunities and housing provisions when industries or subdivisions are put up.

Table 3 clearly illustrates the rate by which agricultural lands are converted into non-agricultural purposes for all the regions. It will be noted that even if Region IV registered a decreasing rate of conversion over a four-year period and increasing at a low rate during 1995, it still ranks first in the country.

Table 3. AGRICULTURAL LANDS CONVERTED INTO NON-AGRICULTURAL PURPOSES (in hectares, as of December 1995)

Regions	1991	1992	1993	1994	1995
CAR	0.4106	13.6998	5.4421	2.0581	1.9180
Region I	7.6085	14.1211	6.7187	29.1668	55.2734
Region II	39.4408	6.8075	0.9103	79.5051	1.0718
Region III	73.3496	246.2123	272.5225	882.4606	131.5967
Region IV	2,883.6566	1,249.2114	470.3415	443.7146	748.1970
Region V	10.3763	3.7215	28.7131	49.4279	159.0808
Region VI	49.7300	412.9362	310.5879	304.0323	120.3474
Region VII	0.8417	42.7278	36.2529	101.0303	-
Region VIII	20.1314	29.1284	0.8719	9.3319	0.8420
Region IX	26.8777	9.0743	117.4387	30.6881	-
Region X	56.0464	24.9295	99.0382	37.3554	611.0585
Region XI	133.7669	128.5308	301.2400	1,203.5402	166.6715
Region XII	18.4108	28.6894	8.9281	167.5114	17.1776
ARMM	-	-	-	-	-
Total	3,320.6473	2,209.7900	1,659.0059	3,339.8227	2,013.2347

Source: Center for Land Use Policy and Planning Implementation (CLUPPI)
Bureau of Agricultural Statistics

Table 4. POPULATION IN CALABARZON SUBREGION

Province	Total Population			Growth rate p.a. (%)		Population Density in 1990 (per ha.)
	1970	1980	1990	70-80	80-90	
Cavite	520,180	771,320	1,153,000	4.02	4.10	8.95
Laguna	699,736	973,104	1,374,000	3.35	3.51	7.81
Batangas	926,308	1,174,201	1,476,000	2.40	2.31	4.66
Rizal	307,238	555,533	973,000	6.10	5.76	7.43
Quezon	902,865	1,129,277	1,373,000	2.26	1.97	1.58
CALABARZON	3,356,327	4,603,435	6,349,000	3.21	3.27	3.91
Share of Population to Region IV Population	75.32	75.24	76.86			

SOURCE: National Statistics Office
CALABARZON Master Plan Appendix I: Social Development

Social Development

The social sector is defined as that which provides the basic social services to the people and their community. This particular sector is expected to contribute directly to the improvement of life of the people as well as to ensuring the sustainable development of the economy by strengthening the human resources.

The population of the CALABARZON subregion in 1990 was estimated to be 6,349,000 accounting for 76.9% of the population for Region IV. The annual growth rate of this area is increasing from 3.21% during the 1970-1980 period to 3.27% for the 1980-1990 period. While the population growth in the area has accelerated in the 70s and 80s, the population growth in Region IV as well as the whole nation decreased in the same period. Population is dense in Cavite with 8.95 persons per hectare closely followed by Laguna with 7.81. Table 4 presents the population per province with their corresponding growth rate.

The expanding population in CALABARZON is primarily a result of migration. Based on surveys conducted by the National Statistics Office (NSO), the in-migration rate is about 6.2% while out-migration is only 3.5%. Rizal and Cavite have the most in-migration with 13.2% and 8.4% respectively. The out-migration experienced by Rizal and Quezon indicate a case of rural-push-out migration. Table 5 presents the migration rates experienced in CALABARZON.

Table 5. MIGRATION RATES, CALABARZON SUBREGION

Province	In-Migration		Out-Migration		Net-Migration
	Total	Rate*(%)	Total	Rate*(%)	
Cavite	53,045	8.4	15,150	2.4	37,895
Laguna	43,638	5.4	21,369	2.7	22,269
Batangas	18,165	1.8	28,464	2.8	(10,299)
Rizal	54,795	13.2	26,493	6.4	28,302
Quezon	22.718	2.2	32,951	3.2	(10,233)

* Total in- or out- migration divided by 1975 population
SOURCE: National Statistics Office

The general pattern of distribution by major income source and class indicated that the income levels of agricultural activities are concentrated in relatively lower classes while wages and salaries from non-agricultural activities apply to the medium and higher income groups.

With developments in CALABARZON, conflicts have arisen among its people and communities. Foremost of these are pollution and environmental problems, dislocation of small farmers and other affected communities and specific groups to give way to infrastructure projects, and rise in land prices. The latter has brought about a negative impact on tenant farmers due to increase in lease rates. Likewise, public services are also affected by such high land prices.

Urban and Spatial Development

The macro policy framework of industrial dispersal has been adopted as a national development strategy since the early 1980s. In the Philippines, this has been done with the designation of regional industrial centers (later termed as regional agro-industrial centers or RAICs) as focal points in industrial dispersal efforts. Among those identified by DTI as RAICs in Region IV are the Cavite Export Processing Zone (EPZ) and Batangas City.

The existing regional spatial structure indicates that most parts of CALABARZON, except peripheral areas of Batangas and the Bondoc peninsula and the Polillio Islands in Quezon, are within the 100 km radius of Metro Manila. This location characteristic of CALABARZON has made it a special region in the national spatial development. It is expected that the area will become a production and service center to support the development of the national economy.

Because of its proximity to Metro Manila, the development of CALABARZON has been influenced by the growth of the metropolis in socio-economic and physical terms, mainly caused by the over-spill of the population. This suburbanization trend has taken forms of private subdivision of lands, government-sponsored low-cost housing and site and services programs, and spontaneous development of residential areas in existing towns. The establishment of small manufacturing enterprises as well as large-scale industries has also taken place.

At present, within the 30 km radius from Manila, this trend is proceeding along existing major roads. The pressure of land development for housing and manufacturing facilities will continue to be very high along the major transportation axes. The highest potentials are areas with good accessibility along the South Superhighway, areas in Rizal, and lowlands in the Cavite area.

Housing

Based on the NSO's housing statistics, of the total number of housing units in the CALABARZON area, 97.22% are occupied with an average of 1.03 households per housing unit. Most of the houses are made of strong materials and were built after 1980. While the results of the survey indicated that most owners have acquired their housing units on their own, they greatly depended on the government to provide them with the site to build the structures.

The government housing projects in CALABARZON are related to the housing problems in Metro Manila where there is difficulty in accessing decent housing units. This results in the proliferation of squatters and squatter syndicates, increasing the number of the homeless, urban deterioration, and in effect, inadequate, inefficient, and ineffective delivery of basic services. Resettlement projects have been implemented for squatters in Metro Manila. Such projects are found in San Pedro, Laguna and two areas near Dasmariñas, Cavite. However, none of these resettlement project areas have successfully provided sufficient job opportunities to residents.

Table 6 presents the distribution of land use conversion applications into residential purposes.

Table 6. LAND USE CONVERSION APPLICATION INTO RESIDENTIAL PURPOSES

Province/ City/ Municipality	Under DOJ Opinion	Under Process (R.O. & C.O.)	Approved (has.)	Total (has.)	Conversion Application Approved from Mar 1988 - Dec 1990	% Increase
BATANGAS	101.7997	65.7847	337.2073	504.7917	112.30	29
CAVITE	1,171.0141	127.1049	751.2312	2,049.3502	555.80	37
LAGUNA	1,464.8146	631.7938	263.3609	2,359.9693	134.40	6
QUEZON	43.9917	145.9271	157.1942	347.1130	51.60	17
RIZAL	833.9426	31.7110	599.0152	1,464.6688	610.60	71
Total	3,615.5627	1,002.3215	2,108.0088	6,725.8930	1,464.70	28

Source: Center for Land Use Policy and Planning Implementation (CLUPPI), DAR November 17, 1995

Strategies to resolve expected housing problems in the area as a result of the in-migration and over-spill population have been outlined. For one, low-cost housing is an important component of the proposed integrated industrial/urban development program. The provision of housing for those to be displaced or affected by the implementation of Project CALABARZON is also one of its essential components.

RA 7279 has also listed CALABARZON as one of the priority areas for shelter development. As such, it is integral in the provision of socialized housing and resettlement areas for the immediate and future need of the underprivileged. Priority shall be given to on-site development. Table 7 gives the priority areas for implementation of the Act in CALABARZON.

Table 7. PRIORITY AREAS FOR SHELTER DEVELOPMENT AND IMPLEMENTATION OF RA 7279 IN REGION IV (CALABARZON Area)

Major Island Grouping	Regional Growth Poles	Priority Urban Areas For Implementation of RA 7279		
	City/Mun.	Province	City/Municipality	
Luzon	Lungsod Silangan	Batangas	Alitagtag	San Jose
			Batangas City*	San Luis
			Bauan	San Pascual
			Lemery	Sta. Teresita
			Lipa City	Sto. Tomas
			Mabini	Taal
			Malvar	Talisay
			Mataas na Kahoy	Tanauan
		Cavite	Bacoor	Mendez-Nunez
			Carmona	Naic
			Dasmarinas	Rosario*
			Gen. Mariano Alvarez	Silang
			Gen. Trias	Tagaytay City
			Imus	Tanza
			Kawit	Ternate
		Laguna	Alaminos	Trece Martirez
			Bay	Pakil
			Binan	Pangil
			Cabuyao	Pila
			Calamba	San Pablo City
			Liliw	San Pedro
			Los Banos	Sta. Cruz
			Paete	Sta. Rosa
			Pagsanjan	Siniloan
		Rizal	Angono	Victoria
			Antipolo	Cardona
			Baras	Morong
			Binangonan	San Mateo
			Cainta	Taytay
				Teresa

*Regional Industrial Center
Source: Housing and Land Use Regulatory Board

B. *Investigation of Issues*

The expansion of urban population and consequently the demand for urban land has rapidly taken place in the area. Studies indicate CALABARZON as the most probable site for resettling because of its proximity to Metro Manila and as such, has led to increases in the demand for housing and other urban services. While the availability of flat land has been an essential to the establishment of residential subdivisions, the problem is that much of this land is either irrigated or irrigable.

The authority given to LGUs to reclassify lands to pursue their respective local development goals has contributed to land use conversion. The measures adopted to achieve such development objectives range from "allocation of adequate/suitable land for industrial development" to promoting the "development of industrial estates in suitable areas and appropriate locations."

A comparative analysis of the studies made in 1992 and the inventory made by CLUPPI of DAR in November 1995 (Table 8) have indicated an increase of 26.37% (59,860 has.) in land use conversion applications. A percentage increase of about 19.96% (15,495 has.) represents approved land use conversion applications both at the Central and Regional Offices.

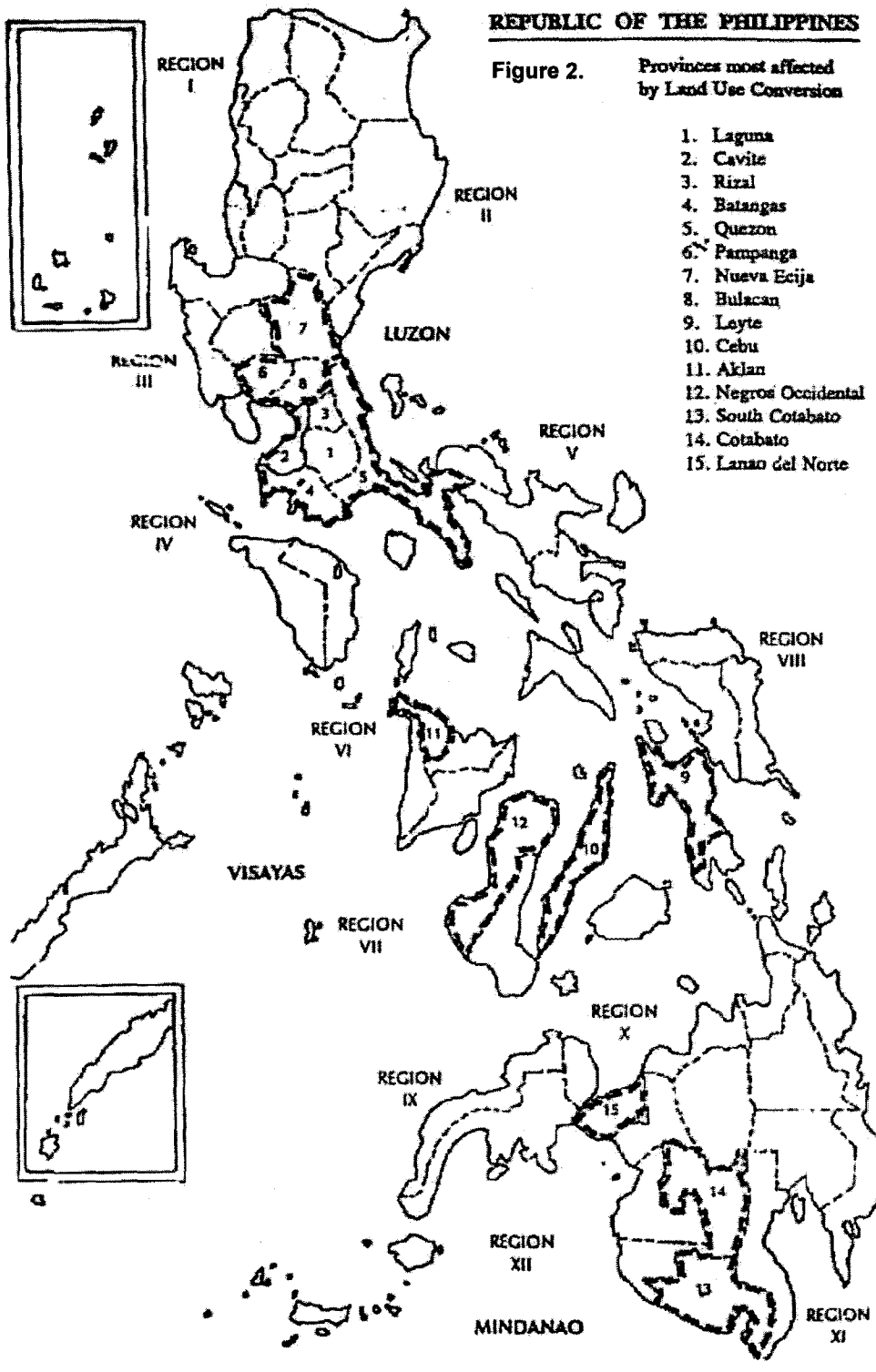
The magnitude of land use conversion seems to be irrelevant at the national level. Figures in Table 8 represent land conversion applications which show that not all the regions are affected equally. But upon scrutiny of these regions, some provinces have been more susceptible to land use than others. Studies made in 1992 have indicated that the CALABARZON area stands out as among those most vulnerable to conversion (Figure 2). Figure 3 presents the 12 critical municipalities, 75% of which belong to CALABARZON.

Table 8. SUMMARY OF STATUS OF LAND USE CONVERSION APPLICATIONS
As of 17 November 1995

Region	Approved			DOJ Opinion			Under Process			Total		
	No.	Total Area in has.	% Inc.*	No.	Total Area in has.	% Inc.*	No.	Total Area in has.	% Inc.*	No.	Area in has.	Ave. % Inc.*
Phils.	1,387	15,495.44		635	24,846.26		546	10,167.40		2,568	59,859.9125	
CAR	23	40.43	32.00	2	14.45	151.40	4	16.67	47.89	29	45.57	100
I	39	124.69	1.38	2	144.50		10	296.35	2.07	51	585.34	1
II	156	166.38	26.45	8	26.65		5	101.13	44.00	169	154.43	25
III	168	2,288.87	21.53	48	1,718.88	7.23	79	2,549.61	18.88	295	5,987.36	12
IV	470	7,392.18	20.42	424	17,179.35	7.16	175	3,692.63	124.02	1,069	38,051.34	13
V	53	307.57	15.51	11	333.39		45	588.52	17.53	109	1,255.30	8
VI	85	1,392.97	13.49	43	837.16	31.84	97	1,582.97	7.22	225	3,257.28	19
VII	43	208.36	11.15	10	72.50		30	273.94	54.47	83	418.94	30
VIII	23	75.57	89.08	20	301.64		11	181.43	527.14	54	784.71	24
IX	20	240.86	11.58	5	37.64		8	50.45	1733.35	33	125.74	61
X	99	913.18	6.14	10	3,303.74		28	313.16		137	6,920.64	
XI	155	2,042.96	5.67	45	783.88		49	382.80	114.81	249	1,950.56	12
XII	53	301.42	5.05	7	92.48		5	137.73	189.76	65	322.70	39
		Average	19.96			15.20			221.63			26.37

* Computations are based on the figures indicated in the Report on Land Use Conversion Practices, November 1992

SOURCE: Center for Land Use Policy and Planning Implementation (CLUPPI), Department of Agrarian Reform (DAR)


REPUBLIC OF THE PHILIPPINES
Figure 2.
Provinces most affected by Land Use Conversion
1. Laguna
2. Cavite
3. Rizal
4. Batangas
5. Quezon
6. Pampanga
7. Nueva Ecija
8. Bulacan
9. Leyte
10. Cebu
11. Aklan
12. Negros Occidental
13. South Cotabato
14. Cotabato
15. Lanao del Norte
REGION I
REGION II
REGION III
REGION IV
REGION V
REGION VI
REGION VII
REGION VIII
REGION IX
REGION X
REGION XI
REGION XII
LUZON
VISAYAS
MINDANAO

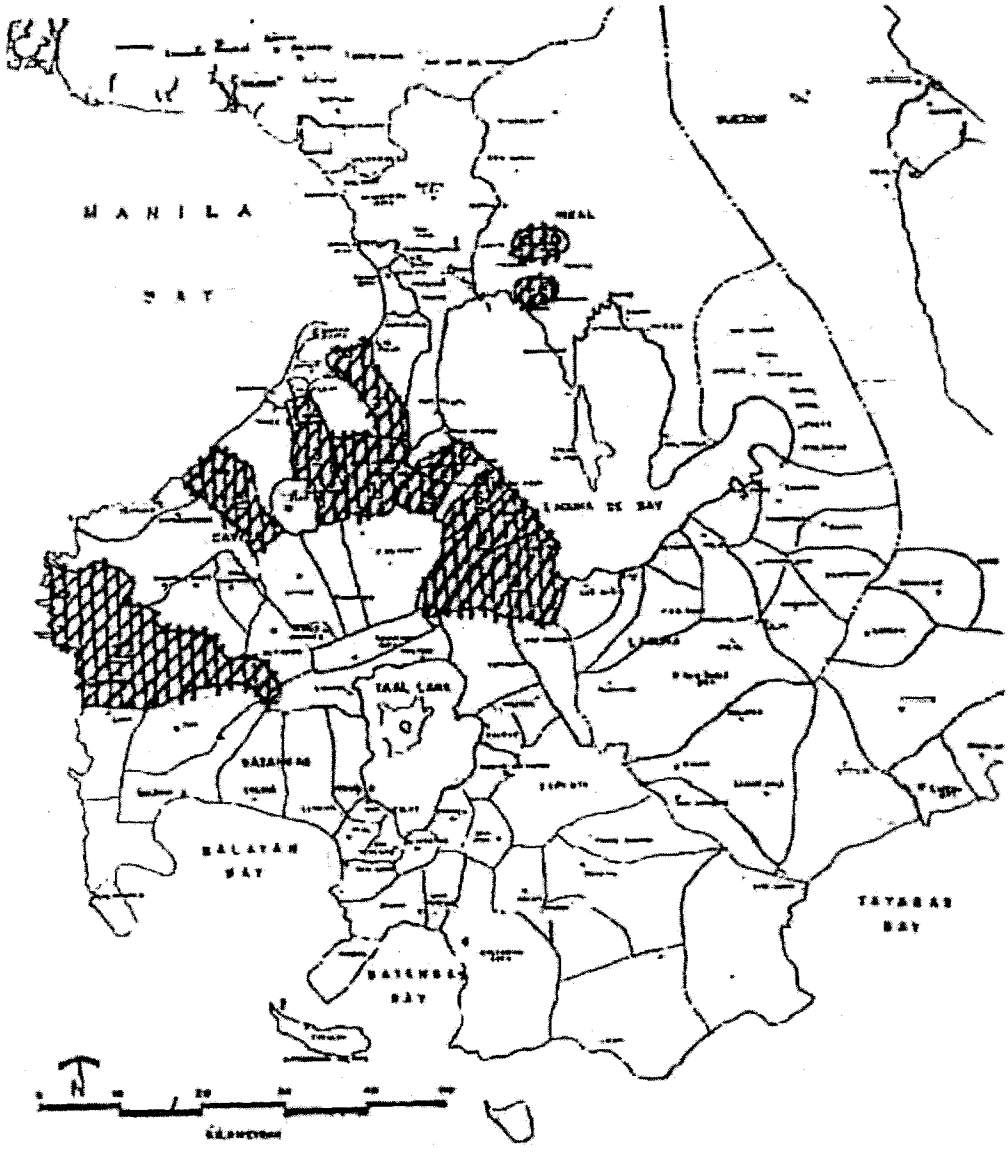


Figure 3. Distribution of "Critical" Municipalities in Region IV

1. Dasmarinas
2. Bacoor
3. General Trias
4. Carmona
5. Naic
6. St. Rosa
7. Binan
8. Calamba
9. Cabuyao
10. Antipolo
11. Angono
12. Nasugbu

Data as of November 1995 have indicated that the following municipalities in CALABARZON have registered the highest land use conversion from agricultural to residential, industrial, and commercial purposes: Nasugbu, Gen. Trias, Biñan, Sta. Rosa, Silang, Binangonan, Antipolo, Calamba, Dasmariñas, and Angono.

Although reports show that there is an apparent reduction in the coverage of agricultural lands in favor of residential areas, the data point to a threat but do not indicate gravity of the situation. The question of whether land use conversion is indeed a serious threat to the land reform program and to valuable agricultural land cannot be proven unless in-depth studies are carried out in areas affected by land use conversion.

With reduction in agricultural land coverage, CARPable lands will also be reduced considerably. While the law says that farmer beneficiaries (FBs) who may be adversely affected by the conversion may be relocated to other areas, and that DAR may identify possible areas for redistribution, the truth is almost every inch of arable/cultivable lands in the country is already occupied and claimed. Those available are marginal lands that are not economically feasible and environmentally sound for agricultural use.

Conflicting government policies and priorities have also significantly contributed to issues of land use conversion. On one hand, the government advocates industrialization to address the country's industrial needs in terms of employment generation, and goods and services. The impression generated by this action is that industrialization is a bigger economic factor than agriculture. On the other hand, pursuant to the principles of the Constitution, the promotion of industrialization is said to be based on sound agricultural development and agrarian reform, thus priority in land utilization should be given to these.

The above situation points to a fact that there is a dichotomy between agriculture and industry. But their relationship could be symbiotic. This is why there is an integrated agriculture and industry (agro-industrial) framework advocated to strengthen linkages between the two. This should ensure that the output of agriculture will be used by industries and vice versa.

In terms of food security, a more careful analysis would show that this issue does not seem to be a strong justification for land use controls. Food security is a broad concept. For instance, the import of some food items and agricultural inputs, which to a certain degree increases domestic production of certain food items, may not have substantial impact on food security, especially if agricultural land is not reserved for the production of important food staples. In short, relative to other incentives and disincentives affecting the agricultural sector, "protecting agricultural land from conversion may have little impact on food security."

Furthermore, the problem with restricting the use of land that is highly suitable for agriculture is that the same land may also be highly suitable for urban use. Preventing the conversion of certain plots of land simply because these are very fertile ignores the logic of comparative advantage and could result in very inefficient allocation of land.

The proclamation of CALABARZON as an industrial zone has also created conflicts since agricultural and CARP-covered lands are located therein but are becoming targets for conversion to industrial, settlement and other non-agricultural uses. This may have also been brought about by the absence of a rational national land use policy that will provide the framework for determining the most economically and socially efficient use of available lands.

The potential benefits of economic development are envisioned to be equitably distributed among the region's political units. However, the issue of shared influence and political capital for the units' governing elite is a political question that has to be resolved.

The question is how far the CALABARZON environment can sustain poverty at rates of greater increase. The project squarely concerns itself with the issue, an intimidating one since environmental problems can no longer be ignored nor even downplayed. The real issue is not a trade-off between economic development and environmental conservation but rather environmental management for sustained economic growth.

C. Effects and Implications

1. Environmental and Physical

a. Industry's encroachment on agriculture's domain pushes dislocated communities to the uplands. Upland migration carries with it the problem of slash and burn farming which results in soil erosion. The eroded material ends up in rivers, reservoirs, and irrigation canals which reduce lowland

agricultural productivity. Furthermore, denuded uplands are one of the main causes of devastating floods.

b. The change from agricultural, forested or rural land to highly urbanized land causes dramatic changes from the construction phase to actual use of the land. The process of urbanization directly affects soils in the following ways:

b.1 Soil may be scraped off and lost

b.2 Once sensitive soils are disturbed, they may have lower strengths when they are remodeled.

b.3 Materials may be brought in from outside areas to fill a depression prior to construction, leading to a much different soil type than was previously there.

b.4 Draining soils and pumping them to remove water may cause desiccation (drying out) and other changes in soil properties.

b.5 Soil in urban areas is susceptible to pollution resulting from deliberate or inadvertent addition of chemicals to soils. This problem is serious if hazardous chemicals have been applied.

c. Environmental degradation can effectively remove the main sources of livelihood for the vast majority of the people creating even greater urban poverty. It is expected that the impact of environment change will bring about major economic, social, political and institutional changes in the region.

Land conversion problems cannot be dissociated from environmental policy concerns. Any decision to convert agricultural lands into urban/industrial uses will result in the further diminution of the already limited farmland, changing the biophysical nature of the area with its negative effect to the over-all environment.

2. Economic

Positive:

a. Increases per capita of the rural and urban population through accelerated increase in industrial and agricultural productivity and employment generation.

b. Induces a climate conducive for investors and producers to participate in the agro-based industrialization of the region.

c. Disperses industries, disperses economic opportunities, disperses population.

d. Economic development has positive effects on political stability and peace. As people become weaned away from poverty, social tensions decline. Similarly, economic development is a pre-condition for improving the quality of life in society as wealth increases and is dispersed across a wider section of the society. The institutionalization of democracy has a better chance under conditions of economic progress.

Negative:

a. The conversion of the remaining prime agricultural lands will pose a problem for food production. More inputs will be required to sustain agricultural yield and inevitable movement to the uplands for food production will intensify. Further, as mentioned earlier, alterations to land forms in the pursuit of laying the foundation to urban/industrial growth will impair existing ecosystems and may bring about more environmental stress.

b. Land use conversion threatens food self-sufficiency and environmental quality. Conversion of productive agricultural lands and marginal areas go on with seeming disregard for its implication on the sustainability of economic growth.

3. Social

Positive:

a. Better housing, together with improved health, sanitation and education, has a significant effect in increasing labor productivity in the long run. By increasing the capacity of the poor in terms of physical and mental work, their chances of getting jobs will be higher. The long term effect is a tendency towards the distribution of income among regions, social classes and cultural groups.

b. Promotes equitable development avoiding the rise of urban poor and squatters.

c. Creates better human environment and increases social capacity for development.

d. Existence of cheap labor which serves as main attraction for foreign investors.

e. The provision of housing impact on the economic stability and well-being of the family based on the assumption that poverty and economic insecurity are major causes of social problems and social instability.

Negative:

a. Increase in the number of application for land use conversion and rapid increase of land prices translate into a potential displacement of small farmers, tenants, fishermen and landless workers. Possessing minimal skills, they will be unable to find jobs that will provide enough income for decent food, shelter and services. This can result in the proliferation of squatters and slums characterized by a lack of security of tenure to their houses. They suffer unhygienic conditions and inadequate basic services such as water, electricity and waste disposal.

b. Inflow of migrants from other areas will result in increased demand for housing, transportation, education and other social services. CALABARZON may experience the problems besetting Metro Manila.

c. On the relocation of displaced farmer beneficiaries to marginal lands, costs to make these poor grade lands productive increase. A crucial point concerns not only acreage but the technical possibilities and constraints in the conversion of presently marginal lands to active farming. The benefits that may be obtained from the development of rice lands and its replacement by the conversion of marginal farmlands may not be worth the risk taken in the process.

d. The social component is treated with much less enthusiasm than it deserves. While the plan has stated its development goals of productive employment, equity, social justice, and social development, much has to be done to translate these into concrete actions. Economic and social components should be brought together and be mutually supportive of each other. Possession of land bears with it the ability to provide people with a higher level of economic standing.

The effects mentioned may lead to a number of potential impacts which include the following:

1. Positive socio-economic impacts

a. new employment opportunities/ livelihood

b. increased wealth for the community

c. better access to remote areas and goods and services because of new infrastructure

d. increased economic activity

2. Negative socio-economic impacts

a. introduction of new diseases

b. reduction of services available to the host population due to increase in density

c. reduced yields and incomes and long-term environmental degradation through lack of land for population expansion

d. impoverishment

e. social conflicts caused by compressing disparate cultural groups into a single area

3. **Impacts on sensitive ecological environments**
   a. reduction in the population and biodiversity of plant, fish and animal species
   b. reduction in animal and plant productivity
   c. possible loss of wildlife areas due to increased pressure on remaining wilderness areas
4. **Impacts on the natural resource base**
   a. natural resource exploitation and depletion due to greater population densities
   b. excessive competition for land, surface and ground water supplies, wildlife, fish, timber and natural vegetation

IV. CONCLUSION AND RECOMMENDATIONS

The paper recognizes the positive effects and impacts which the provision of housing can contribute to the over-all improvement of the individual, the community and the environment. However, it cannot be denied that certain concerns have to be addressed with the conversion of the use of lands specifically into residential purposes. Foremost of these concerns lie in food security and self-sufficiency. It has been argued that because of these, agricultural lands cannot be invoked for socialized housing or low-cost housing. But neither is it true to say that retaining agricultural lands defeats the purpose of comparative advantage because economic development does not solely rely on industries.

There are lots of arguments on land conversion. The list mentioned in this paper is not exhaustive. The subject can never really be settled if one sector insists on having its own interest over the other. Indeed, difficult and even painful options have to be made. Conditions have to be set. The final decision has to be based on what is for the greater good and interest of the people and that which is in accordance with the principles of sustainable development.

The following recommendations are mere proposals. Some sectors have openly advocated a few of these suggestions. The primary consideration lies in government support and the attainment of its vision for the country. These actions must be supported by people empowerment and initiatives to ensure that both government and people are in accord with the call of social and economic development based on sound environmental principles.

1. Conduct a macro-level over-all assessment of the entire CALABARZON to determine the availability of critical resource components and the capacity of the environment to absorb proposed development options.
2. Review the plan for the CALABARZON from the perspective of application of the concept of "Environmental Management of Sustained Economic Growth."
3. Research studies to upgrade environmental planning to better protect and service urban settlements in the context of industrial expansion and urbanization.
4. Formulation of an explicit land use policy that will serve as the framework of action of local government units in delineating their respective land uses.
5. Encouragement of a strong social accountability among the investors should be exerted together with private sector participation in financing large-scale investment.
6. To make development plans more meaningful at the local level, the participation of local government, community-based organizations and other non-government organizations should be encouraged. Community participation is very crucial in identifying land uses and appropriate industries. This also allows check and balance within the administrative structure and in the process of approving conversion.
7. Inclusion of a program for increased environmental awareness and consciousness to balance the expected intensification of the clamor for industrialization and, in the process, create a corporate and public attitude supportive of sustainable development concepts.
8. Utilization of idle or vacant lands to reduce sprawl and help the preservation of agriculture lands. This also reduces duplication of urban services and utilities, and for developers, an opportunity to respond to new markets. Imposition of taxes on idle lands can encourage more efficient utilization of these.
9. Provision of development skills for local government officials in land use planning would result in efficient, effective, and rational land utilization and management.

Annex A: Present General Land Use in CALABARZON

Land Use	Cavite		Laguna		Batangas		Rizal		Quezon		Total	
	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%
Total Provincial	128755	100	175973	100	316581	100	130892	100	870660	100	1622861	100
Agricultural Crops:	83149	64.6	98494	56.0	201538	63.7	19037	14.5	452235	51.9	854453	52.7
➢ Paddy: Irrigation	6578	5.1	22300	12.7	2300	0.7	3531	2.7	21922	2.5	56631	3.5
➢ Paddy: Non-Irrigation	22095	17.2	1036	0.6	37556	11.9	4015	3.1	16718	1.9	81420	5.0
➢ Other Seasonals	4938	3.8	1980	1.1	3989	1.3	44	0.0	13626	1.6	24577	1.5
➢ Fruit Trees												
➢ Banana	12267	9.5	1497	0.8	990	0.3	1215	0.9	0.0	0	15963	1.0
➢ Coconut	20904	16.2	55871	31.7	51949	16.4	2119	1.6	47236	5.4	178079	11.0
➢ Coconut/ coffee					166	0.1						
➢ Coconut/ lanzones					300	0.1			1852	0.2	2152	0.1
➢ Coconut/ banana					6238	2.0			29541	3.4	35689	2.2
➢ Coconut/ shrubs					26450	8.4			309246	35.5	335696	20.7
➢ Sugarcane	10397	8.1	11824	6.7	70304	22.2					92525	5.7
➢ Other Perennials	5970	4.6	3672	2.1	606		8021		588		18857	1.2
Forest and Woodland	14129	11.0	25048	14.2	18817	5.9	16648	12.7	280364	32.2	355006	21.9
Bamboo	873	0.7			10149	3.2	5742	4.4			16764	1.0
Pasture			320	0.2	690		92		11596	1.3	12698	0.8
Grassland and Shrubland	20565	16.0	38855	22.1	74856	23.6	71968	55.0	75977	8.7	282221	17.4
Wetland and Special Use Areas	1788	1.4	304	0.2	2437	0.8			27590	3.2	32119	2.0
Built-Up Area	8251	6.4	10592	6.0	7040	2.2	15231	11.6	2424	0.3	43538	2.7
Mining and Quarrying			64	0.0	276	0.1	1520	1.2	16	0.0	1876	0.1
Riverwash			346	0.2					356	0.0	702	0.0
Beach Sand					406	0.1			293	0.0	699	0.0
Rivers and Lakes			322	0.2	1062	0.3	442	0.3	1306	0.2	3132	0.2
Reservoir			1174	0.7							1174	0.1
Kaingin			774	0.4			304	0.2	30099	3.5	31177	1.9

Source: Bureau of Soils, Department of Agriculture

10. To ensure protection of good agricultural lands from unnecessary conversion to urban uses, the concept of the Network of Protected Agricultural Areas (NPAAs) developed by DA should provide a basis for land use decisions. The NPAAs indicate the levels of restriction from conversion - from conditional to moderate to high. Priority should be given to the marginally sustainable lands, designated as "conditionally restricted" areas. Extreme necessity could justify conversion of "moderately restricted" areas and should be subjected to Environmental Impact Assessment Studies. Highly restricted agricultural areas must be considered non-negotiable.

    However, refinement on some of the items should be made specific in order to avoid ambiguous interpretations in the future. Policies in support of the NPAAs, such as those to make agricultural use more competitive with other uses should be made more explicit.

11. The Key Production Area (KPA) development approach also advocated by DA can serve as a framework in enabling farmers and fisherfolk to increase their incomes and realize a better quality of life through the best returns on their investments.

    The KPA approach identifies and focuses government support on priority areas where agro-climatic factors and market conditions are favorable for producing, processing and marketing specific products.

12. Finally, mitigation measures that can protect the environment from the adverse effects of land use conversion can be implemented. Some of the key options which can be considered are the following:

    a. establishment of a data base to include information on the population, resource use patterns, fauna and flora, social infrastructure, public health conditions and institutional assessment;

    b. introduction of a monitoring and evaluation scheme to periodically assess predicted and unpredicted impacts of resettlement;

    c. training of local people especially for less skilled jobs, making special efforts for minorities and disabled individuals;

    d. strengthening existing local institutions or developing new ones to undertake long-term development and regional planning and handle an increased number of disputes and social problems; and,

    e. provision of social, psychological and counseling services to old and new residents to enable them to cope with socio- economic changes, particularly for vul-nerable groups and the aged.

BIBLIOGRAPHY

Goals, Standards, Social Indicators and Popular Participation. *The Social Impact of Housing.* Report of an Interregional Seminar on the Social Aspects of Housing, New York: United Nations, 1977.

The Master Plan Study on the Project CALABARZON - Final Report. Department of Trade and Industry, October 1991.

The Medium-Term Agricultural Development Plan, 1993 - 1998. Department of Agriculture, November 1993.

Elements of an Effective Agricultural Land Use Conversion Policy, Rules and Regulations. Gerardo Calabia. A Paper presented at the National Symposium on Agricultural Land Use and Soil Conservation, 10 June 1991.

Guidelines for Land Allocation and Conversion. Prepared for the Australian Assistance to Physical Planning. NEDA-NLUC, January 1993.

Project to Develop Land Use Conversion Guidelines - Report on Land Conversion Practices. NEDA-NLUC, November 1992.

Regional Development: Issues and Strategies on Urbanization and Development. *Philippine Development Planning Studies.* Regional Planning Studies Series, Nos. 1 and VIII. NEDA, 1982.

CALABARZON Master Plan: Issues and Implications. A Report by the Philippine Consultative Panel chaired by Carlos P. Ramos. Ramon Magsaysay Award Foundation, July 1991.

LAND USE CONVERSION AND THE DEVELOPMENT PROSPECTS OF MALOLOS, BULACAN

Sem H. Cordial, Genice L. Bodeta, Gladstone A. Cuarteros, Joey S. Sena, Edgar L. Doña, Mario Libiran, Merci L. Angeles

I. INTRODUCTION

A. Background of the Study

The pace of change in areas on and near the fringes of Metro Manila has stepped up in recent years. A key manifestation of this rapid change is the transforming rural landscape as a result of the conversion of agricultural lands into other uses.

Bulacan stands as a clear example of an agricultural area bowing to increasing urban pressures. All of its towns are experiencing, in varying intensities, the pressure to convert parts of their extensive agricultural holdings.

Interestingly, land use conversion is a restricted activity under the Comprehensive Agrarian Reform Program (CARP), a banner social justice undertaking of the government.

The pace and extent of the land use conversion process indicate profound changes in areas where the phenomenon is occurring.

B. Problems and Objectives of the Study

This study took a close look at the land conversion phenomenon. Taking Malolos, the capital town of Bulacan, as the study area, it sought to examine its concomitant issues and determine the development direction of the municipality. Specifically, the study aimed:

1. To determine the status of land conversion in Malolos;
2. To identify the actors and factors that govern land conversion in the municipality;
3. To document the land conversion process and determine their adherence to policy;
4. To determine the implications of land conversion to the stakeholders and the development path of the municipality; and,
5. To determine the degree of convergence between regional development theory and practice.

C. Significance of the Study

The study provides empirical evidence of the threats and opportunities inherent in unregulated land conversion that a community faces. It adds to a growing body of literature on the land conversion phenomenon around Metro Manila. As of present time, most of the literature focuses on the South, the choice of a town on the northern fringe would serve to even out this trend.

Finally, it provides a fresh and well-grounded argument for the enactment of, at the very least, a comprehensive town plan for municipalities similarly situated, in order to forestall dangers and channel development impulses to social and economic areas consistent with the desires of the community.

II. RELATED LITERATURE

The rash of conversion of land to non-agricultural purposes that have taken place, particularly in the face of the implementation of the CARP has been cited by Nantes as early as 1992. Her study revealed that legal and illegal conversions are common in the rural fringes of the National Capital Region and there may be reason to believe that more illegal conversions actually occur than are reported in official government records or as acknowledged by local officials.

Cabrido cited the food security implications of the land conversion issue. In his paper, he stated the need "to preserve prime agricultural lands and direct urban expansion away from them because these lands serve as food baskets of the country and are critical resources in achieving food security for both present and future generations."

Cabrido's statement raises the fundamental question of whether food security pertains to self-reliance in agricultural production or food

sufficiency. The former focuses on local (area) production, while the latter is directed to distribution concerns. This is an important distinction because of its implications in the evaluation of the conversion issue (and the resulting loss of local agricultural production areas).

Other references used by the researchers included the National Economic and Development Authority's Land Conversion Study which outlines the underlying causes and possible implications, on a national scale, of land conversion and Silva's series on the effects of land use conversion in the CALABARZON area. The latter is focused on the enforcement of the land use conversion procedures and payment of disturbance compensation and other effects on the farmers affected by conversions in the area.

A textbook by Bryant, et al, provided an exhaustive discussion of the effects of the city on its adjacent rural areas.

III. THE STUDY AREA

Malolos lies around 40 kilometers from Metro Manila (see Figure 1). Except for its historical significance, and its primacy as provincial capital, Malolos is a typical town in Bulacan.

Malolos was the seat of government of the First Philippine Republic proclaimed in 1898. It was in Malolos where the first Philippine Constitution was drafted. In the municipality stands Barasoain Church which housed the framers of the first Republican Constitution in Asia.

Despite its distinguished history, Malolos continues to be predominantly rural and agricultural. It is characterized by small agricultural barangays where neighborhood ties are strong. Its people exude strong traditional values.

According to its 1990 social, economic and physical profile, 4,707 (73.4%) hectares are agricultural; 1,549.85 has. (24.2%) are residential; 13.98 has. (0.2%) are commercial; 106.44 has. (1.7%) are institutional; and, 37.40 has. (0.6%) are open spaces.

Of the agricultural areas, 2,804 has. (36.3%) are devoted to crops and 1,909 has. (24.5%) are given to aquaculture. The northern portion of Malolos is devoted to rice production and the southern portion to fishing and aquaculture. Of the 2,804 hectares for crops, 2769 (98.8%) are irrigated ricelands. Other crops produced are permanent fruit crops, fruit vegetables and leafy vegetables. The other commercial crops are sugar, tobacco, mongo, peanuts, and bananas.

Today, however, Malolos, like the rest of Bulacan, is in the throes of change. Through the process of land conversion, a large portion of Malolos, particularly those near the Poblacion, has been transformed from its original agricultural character into residential zones and commercial establishments. This is attested to by the conversion of agricultural areas near the Poblacion and along the national road into other uses. Only the more remote areas, particularly those located farther away from the national road and the Poblacion, are shielded for now, from the rushing change.

A key issue related to the study is that Malolos, as with the province of Bulacan, does not have a comprehensive land use or town plan. Based on information gathered by the researchers, the documents at both the municipal and provincial levels are currently being revised. As these plans outline the general guidelines and policies on the usage and allocation of land as an important resource, their absence makes it nearly impossible to check land conversions in the area.

Due to Malolos' characteristics as defined above, the town stands as a perfect laboratory for examining the phenomenon of land use conversion. Changes taking place as a result of conversion are vivid physically and psychologically.

IV. THE LEGAL FRAMEWORK OF LAND USE CONVERSION

The guiding principle on land use conversion is to preserve agricultural lands. Conversion of agricultural lands may be allowed when its purpose coincides with the objectives of the Comprehensive Agrarian Reform Law (CARL) to promote social justice, industrialization, and the optimum use of land as a national resource for public welfare.

Hereunder are the legal issuances and their pertinent provisions that bear on the topic under study:

A. Definition of Terms

1. ***Agricultural Land*** - refers to land devoted to agricultural activity and not classified as mineral, forest, residential, commercial or industrial land (Section 3(c), RA 6657).

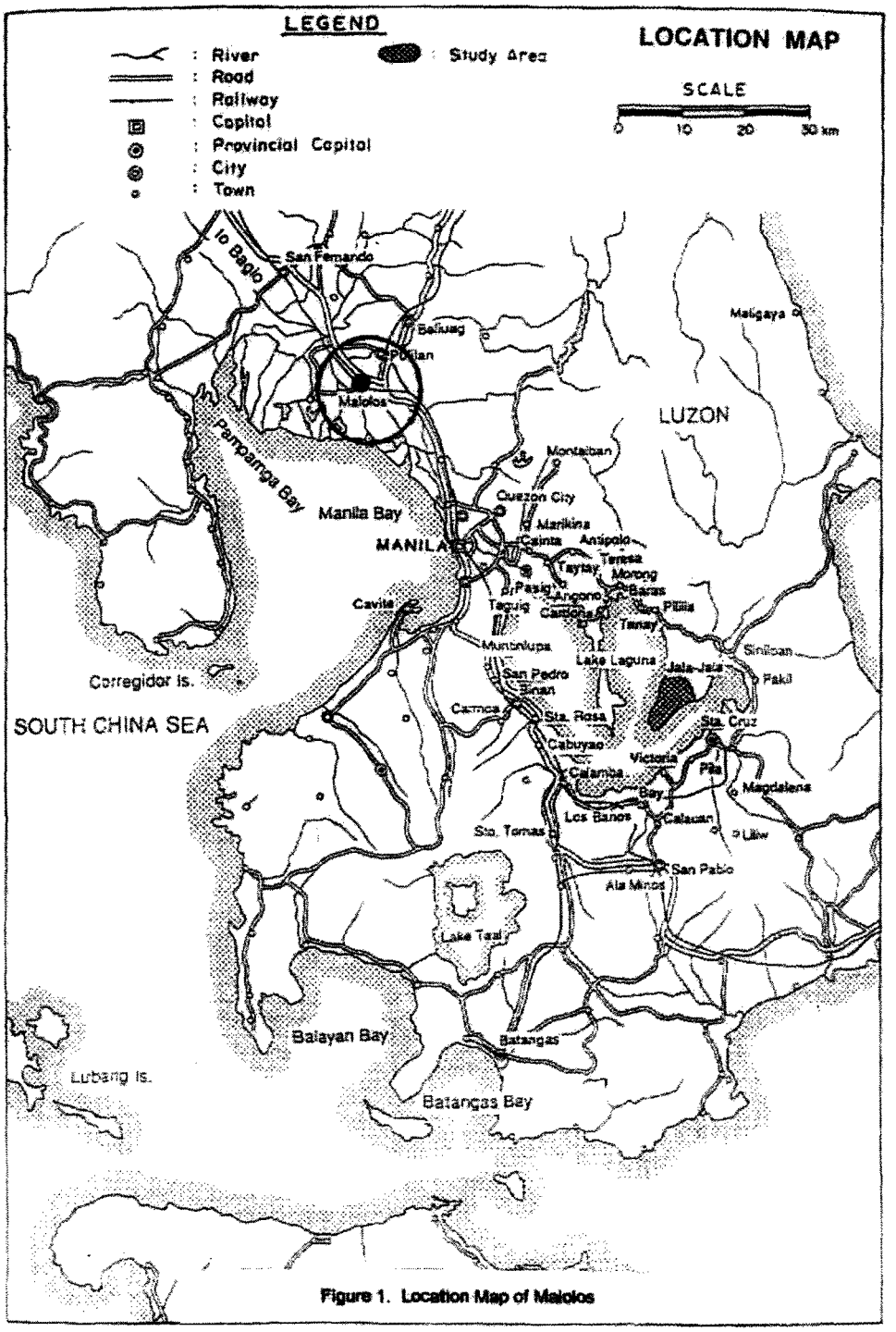


Figure 1. Location Map of Malolos

2. ***Land Use Conversion, Land Conversion or Conversion*** - refer to the act of changing the current use of a piece of agricultural land.

3. ***Reclassification of agricultural lands*** - is the act of specifying how agricultural lands shall be utilized for non-agricultural uses as embodied in the land use plan. It also includes the reversion of non-agricultural lands to agricultural use.

4. ***Comprehensive Development Plan*** - refers to a document embodying specific proposals for guiding, regulating growth and/or development. Its main components are the sectoral plans (i.e., socio-economic, infrastructure, local administration) and the land use plan.

5. ***Comprehensive Land Use Plan*** - refers to a plan which includes a land use map, the factors indicating the socially desired mix of land uses, and a set of policies to guide future development.

6. ***Zoning*** - is the delineation/division of a city/municipality into functional zones where only specific land uses are allowed. It directs and regulates the use of all lands in the community according to an approved or adopted land use plan for the city/municipality. It prescribes setback provisions, minimum lot sizes, building heights and bulk.

7. ***Zoning Ordinance*** - is a local legal measure which embodies regulations affecting land use.

8. ***Private Agricultural Lands*** - are lands devoted to or suitable for agriculture as defined in RA 6657, and owned by natural or juridical persons or by the government in its propriety capacity.

B. Legal Issuances

1. ***Executive Order 129-A, Series of 1987*** states that the Department of Agrarian Reform (DAR) is given exclusive authority to "approve or disapprove applications for conversion, restructuring or readjustment of agricultural lands into non-agricultural uses (Section 4).

2. ***Republic Act (RA) 6657***, otherwise known as the Comprehensive Agrarian Reform Law of 1988, likewise empowers DAR to authorize, under certain conditions, the reclassification or conversion of agricultural lands (Section 65).

3. ***Memorandum Circular No. 54, Series of 1993 of the Office of the President***, provides that "action on applications for land use conversion on individual landholdings shall remain as the responsibility of DAR, which shall utilize as its primary reference documents on the comprehensive land use plans and accompanying ordinances passed upon and approved by the Local Government Units (LGUs) concerned, together with the National Land Use Policy, pursuant to RA 6657 and EO 129-A." (Section 4).

4. ***RA 7160, the Local Government Code of 1991***, provides that a city or municipality may reclassify agricultural lands through an ordinance enacted by the Sanggunian after conducting public hearings for the purpose provided that there exists an approved zoning ordinance implementing its comprehensive land use plan." (Section 20).

5. ***The Department of Justice (DOJ) Opinion No. 44, 1990*** states that "the legal requirement for the DAR clearance in cases of land use conversion from agricultural to non-agricultural uses applies only to conversions made before June 15, 1988, the date of CARL's effectivity."

6. ***DAR Administrative Order No. 12 issued in 1994,*** consolidated and revised all existing implementing guidelines issued by the DAR, taking into consideration other presidential issuances and national policies related to land use conversion and came up with the "Rules and Regulations on Land Use Conversion." Today, it is the principal document that governs land conversion.

C. Conditions Not Allowing Conversion

The legal issuances cited above set out the conditions under which conversions shall not be allowed. These are as follows:

1. Lands in which the DAR has already issued a Notice of Acquisition under the compulsory acquisition (CA) process;

2. Lands with standing Voluntary Offer to Sell (VOS) or an application for stock distribution covering the subject property which has been received by DAR;
3. Lands where there is already a perfected agreement between the landowner and the beneficiaries under the Voluntary Land Transfer (VLT);
4. Irrigated lands with inadequate water supply but fall within the areas scheduled for irrigation facility rehabilitation by the Department of Agriculture (DA) and the National Irrigation Administration (NIA); and,
5. Areas already covered by proposed irrigation projects with firm funding commitments at the time of the application for land conversion or reclassification.

D. Conditions Allowing Conversion

1. When the land ceases to be economically feasible and sound for agricultural purposes.
2. When the land or locality has been highly urbanized and has substantially greater economic value for residential, commercial or industrial purposes.
3. When the land, at the time of application, has already been reclassified as commercial, industrial, and residential in the new or revised town plans;
4. When the proposed use is similar or compatible with the dominant use of the surrounding area.
5. When the land has already been classified or zoned for non-agricultural uses by LGUs and approved by the Housing and Land Use Regulatory Board (HLURB) prior to the effectivity of the CARL.
6. When private agricultural lands or portions thereof have been exclusively, directly and actually used for livestock, poultry and swine raising prior to the effectivity of the CARL.
7. When the five year duration from the reward of the CARP entitlement has already lapsed and the beneficiary has fully paid all financial obligations.
8. When the proposed project is viable and beneficial to the community affected and that the land development phase of the area will be completed within one (1) year from the issuance of the conversion order.

E. Major Documentary Requirements for Conversion

1. For major development projects: certification from the DENR that the proposed conversion is ecologically sound; proof of financial and organizational capability to develop the land; statement of justification on the economic and social benefits of the project and the location plan/vicinity map of the land.
2. Certification from the DA that the land ceases to be economically feasible or sound for agricultural purposes.
3. Certification from HLURB regarding the reclassification of the land.
4. Certification from the LGU regarding reclassification and zoning of the land.
5. Certification from Municipal Agrarian Reform Officer (MARO) that there are no CARP beneficiaries in the land.
6. If land has qualified agrarian beneficiaries, proof of payment of disturbance compensation.
7. For CARP beneficiaries: certification from DAR that the five-year duration has already lapsed; certification from the Land Bank of the Philippines (LBP) that the farmer-awardee has fully paid all financial obligations; certification from Provincial Agrarian Reform Officer (PARO) that farmer-beneficiaries have agreed to conversion.

F. The Legal Land Use Conversion Process

1. Applicant secures certification from concerned government agencies (see preceding section). Along with the title of land being applied for conversion and DAR forms, he files application with the Regional Center for Land Use Policy, Planning and Implementation (RCLUPI).
2. The RCLUPI conducts field investigation regarding the application's adherence to requirements and posts notices of the proposed land conversion.
3. If application passes RCLUPI tests, and

3.1 if subject land is 5 hectares or less in size, the RCLUPI returns the approved application to the Regional Agrarian Reform Officer (RARO). Conversion may then proceed.

3.2 if the subject land is greater than five hectares but less than 50, the application is submitted to the Center for Land Use Policy, Planning and Implementation (CLUPI, national level).

4. Like the RCLUPI, the CLUPI examines the application. If the applications pass and if

4.1 the land involved is less than 50 hectares, the application is forwarded to the Undersecretary for Policy, Planning and Operations who approves the conversion.

4.2 the land is 50 hectares and above in size, the application is forwarded to the Presidential Agrarian Reform Council Land Use Technical Committee (PLUTC).

5. Like the RCLUPI and the CLUPI, the PLUTC examines an application and if it is sound, the application is endorsed to the Agrarian Reform Secretary for approval.

6. In the case of lands above 50 hectares, conversion can proceed only after the process at the national level (see figure 2).

V. THEORETICAL CONSIDERATIONS

This study is grounded on two important theories in regional planning: the growth pole and dependency theories. Both are useful in analyzing the development prospects of Malolos as specifically exhibited by the present character of land use conversion in the town and the entire province of Bulacan.

Briefly, the growth pole model presupposes the presence of a lead industry or center that would generate impulses which would attract allied businesses towards it, and once a critical mass has been achieved, generate development impulses that would trickle down and foster development in adjacent areas.

The dependency theory assumes the existence of a core - the primate city - which dictates the type of development that would occur in its peripheries. Andre Gunder Frank, enunciating one of the many versions of the dependency theory, suggested that the world consists of an international and subnational system or chain of metropolises and satellites, the former holding power over the latter. The system "runs from the world metropolis to the haciendas or rural merchants who are satellites of the local commercial metropolitan center, but who in turn have peasants as their satellites." The term metropolis and satellite refer both to social groups and spatial units.

The power structure, as described, leads to the misuse and misdirection of the resources of the satellites, including expropriation and appropriation by the metropolis, that leads to disparities in the urban-rural relationships and the under-development of the satellites.

The spatial configuration implied in each of the theories applies aptly to the conditions of Malolos and Metro Manila. Malolos has been identified as part of the National Capital Region's "outer core" in the recently formulated Physical Development Framework Plan for Metro Manila, 1996-2016. As part of the outer core, Malolos serves as a major source of agricultural products needed by Metro Manila residents and a recipient of spill-over developments in the primate city. Since NCR can no longer fully provide the settlement needs of the metropolitan population as well as the sites and services required by new investments, it is expected that the outer core will provide the space requirements for these.

It was also indicated that Metro Manila would "continue to strengthen its position as the premier center of decision making particularly in the economic concerns of the nation." The expected development in Malolos could then be viewed merely as a furtherance of the control of Manila over the area. Accordingly, the land use conversion in Malolos may be viewed within this framework (see Figure 3).

VI. METHODOLOGY

A. Data Generation

The study made use of both primary and secondary data sources. In view of the limited time and resources available, the task was divided sectorally into government, non-government organization and farmer groups, and the private sector, particularly the investors and real estate developers in the area.

Figure 2. Major Steps in the Legal Land Conversion Process

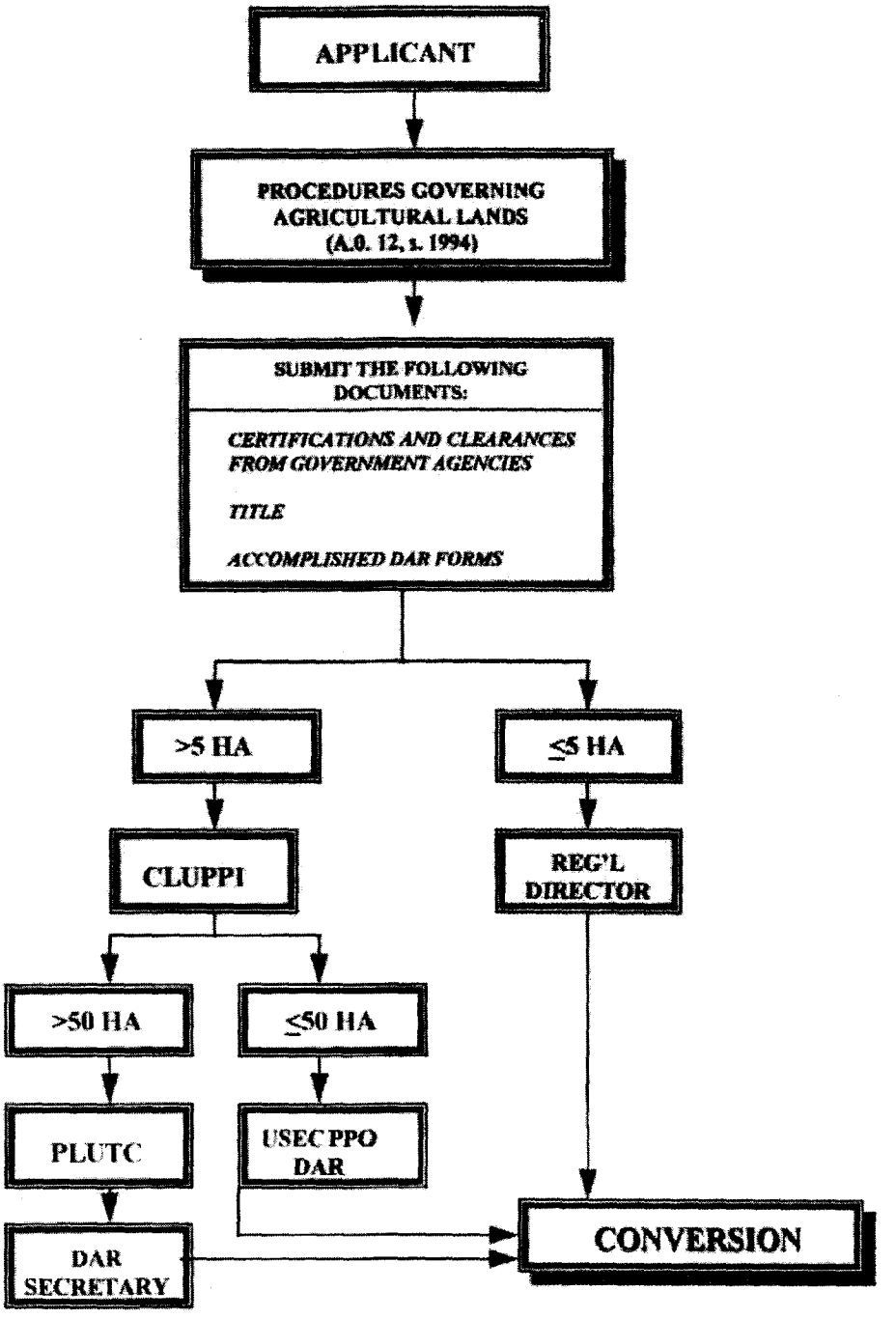
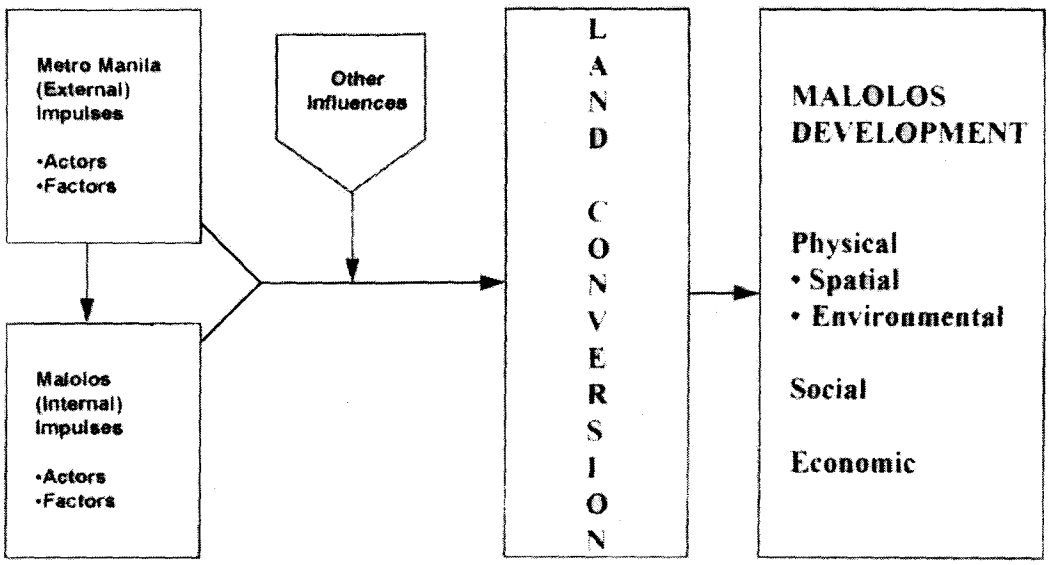


Fig. 3. The Study Framework



Based on this division of labor, research was conducted in the central and field offices of government agencies involved in land use conversion and land development process, namely the DA, DAR, and HLURB. Similar data collection was done at the offices of the Governor of Bulacan and Mayor of Malolos. Related research and reports from the academe and the private sector were likewise studied.

The information gathered was supplemented with interviews with key personalities in Malolos and Bulacan in general. The research team prepared guide questions for the interviews and a questionnaire for the business sector.

On the side of the government, a key officer in each of the relevant agencies was interviewed. The research group also touched base with representatives of private business in Malolos.

Representatives of farmer groups and non-governmental organizations (NGOs) engaged in rural and agricultural development, particularly the local leaders and farmer-members of the Alyansang Magbubukid sa Bulacan were likewise interviewed. The information required from developers was gathered from their counterparts in Metro Manila.

B. Limitations of the Study

The limited time and resources available to the researchers as well as the businesspersons' natural disdain for interviews - especially on controversial subjects such as land conversion - limited data gathering from the private sector. Direct data was also not gathered from the investors and owners of projects with pending applications for land conversions. Also, the study was not able to pursue an investigation of the existing industrial estate of Malolos, especially its impact on the farmers formerly tilling the land on which the estate stands, and on the local economy considering employment generation, tax contribution, and promotion of allied businesses.

VII. RESULTS AND DISCUSSION

A. Status of Land Conversion

1. *The Situation in the Province*

The records gave a more than indicative picture of the land use conversion activities in Malolos town and the province of Bulacan. They include land conversions that have been applied for and those that have started without complying with the legal requirements. The latter has been listed either as "unauthorized" and "alleged illegal."

As of yearend 1996, some 1878.66 hectares of agricultural land in the entire province of Bulacan have either been converted or earmarked for conversion to various non-agricultural uses. Of these, 1,389 hectares were applied for conversion with the DAR and 489 were listed as unauthorized. Of these illegal conversions, San Ildefonso accounted for 134 hectares, Baliwag had 96, Meycauayan 56, and Malolos 53 hectares. These figures do not include actual conversions and on-going land development activities that take place even before their respective applications (for conversion) are acted upon.

Of the total land area planned for conversion, 1,238 hectares were for residential projects, 406 for commercial and 233 hectares for industrial. Of those planned for residential projects, 998 hectares were applied with the DAR while 240 were not; for the commercial, the ratio was 283 to 122; and for industrial, 107 to 126 (see Table 1).

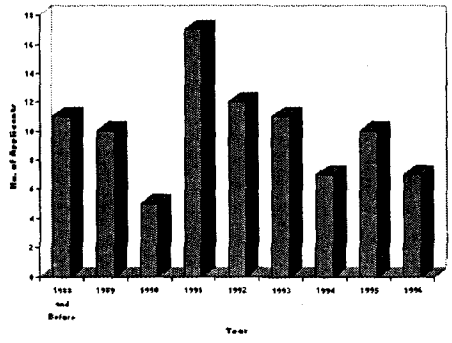
Table 1. Size of Land Use Conversion in Bulacan by classification and purpose (as of 31 Dec. 1996)

	Purpose			
Classification	Industrial	Commercial	Residential	Total
With Application	107.0	283.9	998.0	1389.0
Unauthorized *	126.9	122.6	240.2	489.6
Total	233.9	406.5	1238.2	1878.6

The USAID-assisted Governance for Local Democracy project currently being implemented in Bulacan assessed that eight of the province's municipalities located within a 70-km radius from Metro Manila exhibited land conversion areas ranging from approximately 100-350 hectares each in the last five years. San Jose del Monte and Plaridel lead the pack with 375 and 345 hectares respectively, while Meycauayan and Marilao each have 93 hectares. Malolos, together with San Ildefonso, Hagonoy and Baliwag have conversions of 100-150 hectares each. More recent information (year ending 1996), however, would show that these figures are grossly under-reported. DAR records indicate that San Jose del Monte, for instance, has converted or is in the process of converting 616 hectares; Plaridel 245 hectares; Malolos and Meycauayan each at 126; and Marilao with 112 hectares. These are those with pending/approved applications. If unauthorized conversions are included, these figures increase to: San Jose del Monte, 639; Plaridel, 254; Malolos, 178; and Meycauayan, 183 hectares.

There were a total of 101 applications from 1988 to 1996. The volume of applications varied by year with the largest posted in 1991, one year after the DOJ opinion on conversion was promulgated. This trend is illustrated in Figure 4.

Figure 4. Trend of Conversion Applications in Bulacan



2. *The Malolos Case*

The records for Malolos showed an uncanny resemblance to that of the province. Some 178 hectares have been applied for the comparative period. This is composed of 126 hectares with applications and some 51 hectares unauthorized.

By purpose, the lands are divided into 117 hectares for residential projects, 31 hectares for commercial use and 29 hectares for industrial developments.

Of the lands planned for residential projects, 81.3 hectares were with applications and 35.9 had none. Of those for commercial, 18.2 were with applications and those 13.2 without. For industrial, 26.8 had applications and 2.9 without.

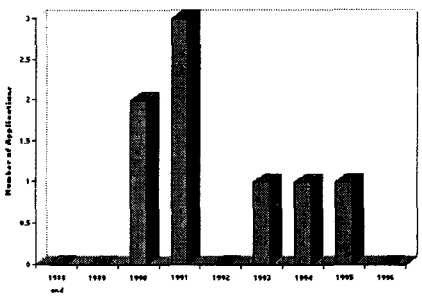
Of the 126 hectares applied for the town, some 97 hectares have been approved for conversion as of end-1996. Of these, 66 hectares were for residential projects, 7 hectares were for commercial ventures and 26 hectares for industrial use (see Table 2).

Table 2. Size of Land Use Conversion in Malolos by classification andpurpose (as of 31 Dec. 1996)

	Purpose			
Classification	Industrial	Commercial	Residential	Total
With Application	26.8	18.2	81.3	126.3
Unauthorized	2.9	13.2	35.9	52.0
Total	29.7	31.4	117.2	178.3

As of the end of 1996, nine applications for conversion in Malolos have been filed. Two were filed in 1991, three in 1992, and one each in 1994, 1995 and1996. The trend in both number of applications and size of land applied for is plotted in Figure 5.

Figure 5. Trend of Conversion Applications in Malolos



3. ***Affected Farmers***

The DAR records did not include the number of farmers affected by the land conversions, except those classified as unauthorized and alleged illegal. The apparent assumption is that the farmers affected by legal conversions were fully compensated according to the law.

Still, the count of affected beneficiaries is at best incomplete. Most of those conversions listed as unauthorized or alleged illegal did not have the related information. But those that have been registered counted among them 75 beneficiaries.

B. Results of Sectoral Interviews

1. ***Business Sector***

a. Selection and Profile of Respondents

To elicit views from the different segments of the business sector, a sample composed of local-based business interests and representatives of external-investors was interviewed.

Included in the sample were those directly involved in land development or conversion and those who depend on the land as a productive input. Representatives from the services and manufacturing industries (of the local economy) were also included to capture the sentiments of people who were not directly involved in the issue of conversion.

For the latter, a total of five land development companies were chosen and after explaining the nature of the study, three sets of questionnaires were provided to each. Only 6 of the 15 questionnaires were accomplished and returned.

b. Summary of Survey Results

The interviews and questionnaires showed that an alleged shortfall in the supply of housing in Metro Manila due to high cost of land has necessitated an outward movement of residential development projects to adjacent and readily accessible provinces. They emphasized the collusion of two important elements: linkage to Metro Manila as a primary employment zone (importance of accessibility considerations and transportation facilities) and relatively low land rent.

The respondents noted, however, that southward developments (i.e., into Laguna-Cavite-Batangas area) presently outpace those in the North. The extensive industrial developments in CALABARZON are large factors for the attractiveness of this area. This may be coupled with the constraint offered by Bulacan's considerable and vast ricelands together with its aquaculture tradition which makes use of extensive areas of real estate.

When asked on the role they perceived the private sector is supposed to play in the overall development process, the respondents were unanimous in saying that they provide both the huge amounts of capital needed as well as the initiative in developing areas. Local government units were seen as merely support mechanisms in the market- dominated development arena. Some respondents even felt that government policies are not coherent, and where explicit guidelines were provided, bureaucratic red tape was considered a burdensome reality.

On the aspect of local development plans and zoning regulations, most assumed that they were absent since the developer's proposals are approved with minor revisions even when these are prepared independent of the town's land use plans. Where projects are temporarily shelved, political considerations rather than technical objections were often seen as the culprit.

On the importance of agriculture in national and local development efforts, majority of the respondents agreed that it plays a vital role. However, it was confusing to note that while the value of agriculture was recognized, some

respondents held the notion that "agricultural areas will eventually have to give way to industrial/commercial and residential development" as the natural course of events. And although a diminishing amount of agricultural areas (on a national scale) was considered a cause of concern, many respondents said that the positive results of conversion, such as industrialized status, increased local government revenues, and enrichment of agricultural land owners, still outweighed the negative implications. They also felt that the areas converted were usually relatively small. Only two respondents perceived that there was a rapid rate of land conversion in Bulacan.

Asked whether there is a realistic alternative scheme to horizontal development to address the demand for urban and/or residential uses, all respondents answered "yes" but clarified that these (e.g., vertical development and other forms of mass housing technology) may not be appropriate in a rural agricultural setting.

Interestingly, the respondents believed that an agriculture-led development strategy (which is necessary if conversions are to be minimized) was not a viable option. Rather, industrial development as exemplified by the CALABARZON project was seen as the necessary development catalyst.

It should be noted that most of the respondents were marketing personnel and, thus, were not very familiar with the legal processes involved in land conversion. Insights into how developers overcome problem areas during the application period for conversion, as perceived by the private sector, could have yielded significant information.

Finally, the respondents noted that while southward development was presently more attractive, the northern section (Bulacan, for example) would eventually experience similar developments. The continued growth (spatial and economic) of the National Capital Region will continue to dictate this process. However, the respondents stressed the need for infrastructure development, like expanded road systems and waterworks, to warrant the attention of investors.

2. ***Farmer Groups***

a. Profile of Respondents

The respondents in the interview and focused group discussion were leaders and farmer-members of the Alyansang Magbubukid sa Bulacan, an organization which (according to its leaders) champions the rights of farmers.

b. Summary of Survey Results

The respondents emphasized that genuine land reform which guarantees that farmers would eventually own the lands they till and benefit from their produce could quell unrest in the ranks of farmer groups. They emphasized, however, that mere distribution of lands does not constitute land reform. Provision of accessible support services, like credit lines, affordable and reliable irrigation services, fertilizers, pesticides, and price support mechanisms are equally important.

The farmer leaders also said that on the streets and among the masses, it has been maintained that genuine land reform will lead to the empowerment of local farmers. They can be the propulsive sector of a developing economy and their first role will be to provide for adequate food production. Farmers were generally not keen on the idea of food importation as a long-term solution to food security.

On the issue of land conversion, farmers were seen as the eventual losers especially as the pressure to sell is strong. The respondents said that even if a farmer initially refuses to sell his piece of land, the circumstances compel him to more difficult situations. Debts owed to a middleman (usurer), conversions of adjacent lots which undermine the productivity of one's farm lot (due to proliferation of rats, destruction of natural irrigation systems, which are among the detrimental effects to the ecosystem) and perceived improvements in the living conditions of those who have agreed to the conversions are pervasive pressures.

Still, some farmers who understand the implications of disengaging themselves from a life of farming hold on to their lands. As they said, "Ang pera ay nauubos, ang lupa hindi (money can run out but land does not)." Besides, they realize that the employment possibilities of farmers outside of the agricultural sector are small considering that most of them are not highly educated/technically trained.

Asked to recall the usual pre-conversion process, the farmers outlined the process as follows: Agents of land developers scout around for suitable areas for their investment requirements. Then, they approach farmers and offer lucrative prices. While farmers in general have close affinity to land, economic considerations cannot be dismissed.

In highly publicized conversion cases, farmer groups were a distinct segment among opposition groups. Mobilizations to such consultations with national and local agencies (Senate, Lower House, DAR, PARO, MARO, etc.) were considered as important for development inputs. But it was generally felt that "the farmers are not included in the development (decision making) process."

The role of the MARO, in this respect, is a vital cog in advancing the interests of the farmers. Yet, according to the farmers, these MAROs do not perform their duties. Unless rallies are held, for instance, no inspection of lands which have conversion applications have been done. Numerous cases where irrigated lands have been endorsed for conversion were documented.

Likewise, the respondents believe that the municipal government should act judiciously in conversion proceedings because they have the power to protect the agricultural lands of the municipality. To date, according to the farmers, no applications for conversion have been denied by the local government. They believe that the creation of a barangay land use committee would be a step in the right direction. This is seen as a reiteration of the people empowerment objective and concrete translation of local autonomy/decentralization since the barangay residents who would be affected by the land conversions have intimate knowledge about local conditions (such as the location and extent of irrigated areas).

3. ***The Government Sector***

a. Selection and Profile of the Respondents

The research team interviewed representatives from the agencies deemed key to the land conversion process. These included the Mayor of Malolos, the head of the Land Conversion Section of the Operations Division of the DAR Provincial Office, and the chief of the Research Section of the Office of the Provincial Agriculturist (OPA). The heads of the provincial offices of DAR and OPA were unavailable.

b. Summary of Results of Interviews

b.1. Results of the Interview with the Mayor

According to the Mayor, the Malolos development plan is currently being revised. As envisioned, the town wants "balanced development," a "complete mix" of three sectors, namely: agricultural, industrial and commercial. Malolos has need for industrial and commercial sites.

Development toward this end is being planned along a 12 kilometer strip of the McArthur Highway that cuts across the town. About 200 meters on both sides of the highway will be transformed into industrial-commercial sites. This area covers existing commercial developments laid out in a sprawl in the Poblacion and will extend to currently productive ricelands. The planned commercial development is aimed at conserving within the town the funds that otherwise would be spent by the citizens of Malolos for consumer goods in Metro Manila. For the industrial sector, light to medium industries shall be promoted.

In addition, negotiations have been initiated by the municipal government with the Philippine National Railways for the possible development of the PNR's right of way through the town. Another road that aims to divert through-traffic away from the town center is being planned. This will pass through existing ricelands and is expected to encourage the development of these areas creating another round of conversions.

The Malolos development plan shall be carried out "not to the detriment of anybody" according to the Mayor. However, no apparent assistance is planned for farmers and landowners whose agricultural lands have been earmarked for conversion.

Current land use policies are said to be "unrealistic." In the face of rising land prices, the Mayor said "it is a big sacrifice on the part of the farmer to have his land identified for non-conversion." Alluding to the policy that irrigated lands are non- negotiable for conversion, he argued that while Malolos farms are irrigated, the service is still seasonal. "For every rule, there is an exception," emphasized the local chief executive. To justify his stance, he cited that the Local Government Code of 1991 provides local government units a leverage against restrictive policies pertaining to land conversion. Applications for conversion with the LGU are approved or disapproved by the Sanggunian Bayan. The trend in the land conversion process, it was observed, is toward approval of applications "within limits." This explains the

fact that three resolutions sanctioning land use conversions in the town have been passed.

It was noted that resistance to land conversion comes from groups composed of non-farmers. Farmers are not excessively opposed to the idea, said the Mayor. Farmers' vehement opposition is directed more toward "pagpatay sa kanilang hanapbuhay (loss of livelihood)."

b.2 Results of Interview with DAR Official

Applications for land use conversion in the province are decreasing, but conversion activities are intensifying. In Malolos, the conversion has been observed to be "rampant." The trend on land conversion appears to be that developers or landowners conduct pre-development activities, like dumping or filling and road development, before the agricultural lands are applied for land conversion. Despite the primacy of the DAR in the land use conversion process, it appears that permits from other agencies, like the endorsement of the Sanggunian Bayan and the permit from the HLURB for residential developments, are taken as authority to proceed with the land conversion process.

Although nine cease-and-desist orders (CDOs) have been issued by the provincial agrarian reform office since 1996, these have largely been ignored and unenforced by DAR. It was only in 1997, when the Task Force on Land Use Conversion was organized under the auspices of the DAR that the object of the CDOs took effect. The task force was supposed to have been organized in 1994 by virtue of DAR Administrative Order 4 issued in 1993, but the Bulacan task force was organized only in 1996.

The informants explained that in 1996, CDOs were simply mailed. In 1997, this practice was dropped and it became a standard procedure that CDOs be personally served by members of the task force or PARO staff deputized by the task force. So far, for the CDOs issued in 1997, there have been no recorded violations.

It is not clear among the member-agencies of the PLUC which agency should file the necessary information with the courts. As such, no agency appears to take the initiative - even DAR with its task force. As a result, no temporary restraining order (TRO) has been released to date. Consequently, no conversion activity has ever been stopped.

One requirement of conversion approval is that farmers, especially the Comprehensive Agrarian Reform Program (CARP) beneficiaries, be paid the due disturbance compensation. According to the interviewees, this has been fully complied with. The farmers who opted to sell their lands have been observed to use the payment they received for the following purposes: a) to build houses; b) to divide the amount among heirs; c) to invest in passenger jeepneys and tricycles to serve as alternative sources of income.

b.3 Results of Interview at the Provincial Agricultural Office

Officials are aware of the extent of land conversion going on in Bulacan and Malolos. They agree that the conversion activities are intensifying particularly in areas near the highway despite the fact that these are currently irrigated and productive ricelands. The change is mostly toward residential development although there are some commercial and industrial undertakings. There are also tourism-oriented projects, notably a planned golf course in San Ildefonso town.

The increased rate of land conversion is seen as a result of external pressures. One such pressure is the economic overspill from Metro Manila resulting in a demand to provide residential units. The direct consequence of the Pinatubo eruption in 1991 that displaced hundreds of families in Pampanga due to the lahar flows has intensified migration into the province which also affects the level of demand for housing.

There is also a recognition that internal factors are contributing to the rate of conversion. According to the respondent, apart from the presence of local investors, the local elective officials are promoting conversion. It is perceived that local officials want to create monuments during their term.

Bulacan's protected areas for agriculture have been delineated by the Bureau of Soils and Water Management. Irrigated and irrigable lands are non-negotiable for conversion as provided in AO 12 but it seems this is not true in Malolos. In spite of the fact that 90% of Malolos is irrigated, there have been, and still are conversions in these protected areas. Most of these conversions are individually owned parcels from 0.5 to 5 hectares. The use of these lands is altered either by the owners themselves or by the new owner-developer.

Most of the towns in Bulacan are still predominantly agricultural, but agriculture officials expect the picture to change with the land conversions. A few years from now, some project that these towns will turn predominantly industrial and commercial. The provincial agriculture office, through the initiative of the Governor's Office, is now preparing for this. They said that they had been tasked to delineate existing agricultural areas that can be given up and identify alternative crops that will be introduced to give farmers higher income. Such a move is directly connected with the statement made by the Provincial Planning and Development Office that Bulacan as a whole will tone down the objective of food security in favor of environmental considerations. What parameters will be adopted towards this end remains to be determined.

The conversion is not left unopposed, however. There is resistance from individual farmers and advocacy groups, like the Alyansang Magbubukid sa Bulacan and the Aniban ng mga Magsasaka sa Agrikultura (AMA). The farmers, however, were divided over the matter. While there are those who oppose, others favor conversion in the hope that they can be employed by the industries that will be established. A significant factor in such a decision is the high price being offered for lots by developers.

Farmers who favored conversion for their land have been known to dump fillings on it or leave it untilled for three or more seasons to give the impression that the land is already unproductive. The informant stressed, however, that it is impossible for farmers to destroy irrigation systems because this would put them in conflict with fellow farmers by obstructing flow of water to the areas of the latter. At any rate, the Sanggunian Panlalawigan has promulgated an ordinance setting penalties for the destruction of irrigation systems, including the cultivation of kangkong in natural and man-made waterways.

Farmers who sell have been observed to buy agricultural lands in areas away from on-going developments. These agricultural lands are mostly in sloping areas which are cheaper. Their new investments, consistent with the character of their newly bought land, consist of livestock and fruit-trees, particularly mangoes. Some have engaged in non- agricultural undertakings, mostly in construction and allied activities. This includes steel fabrication. The alternative livelihood is consistent with the building boom in Bulacan.

Prices for non-irrigated lands have been observed to rise from P 80 per square meter (1994) to the range of P 250-P500 per square meter (1997). There was no figure given for irrigated lands. It was gathered, however, that some lands have been sold at P 10 million per hectare (P 1,000 per square meter). Presumably this involved productive agricultural lands near an urban area.

The provincial agriculture office takes an almost passive role in the conversion process. Its officials merely describe the land subject to conversion. It advises the inter- agency committee in charge of conversion whether or not a parcel is irrigated and part of the protected areas for agriculture for the province. They do not oppose the conversion.

Some effects of conversion have been observed. Flooding has occurred in Malolos and this is attributed to residential developments in former ricelands. The developments have leveled natural floodways.

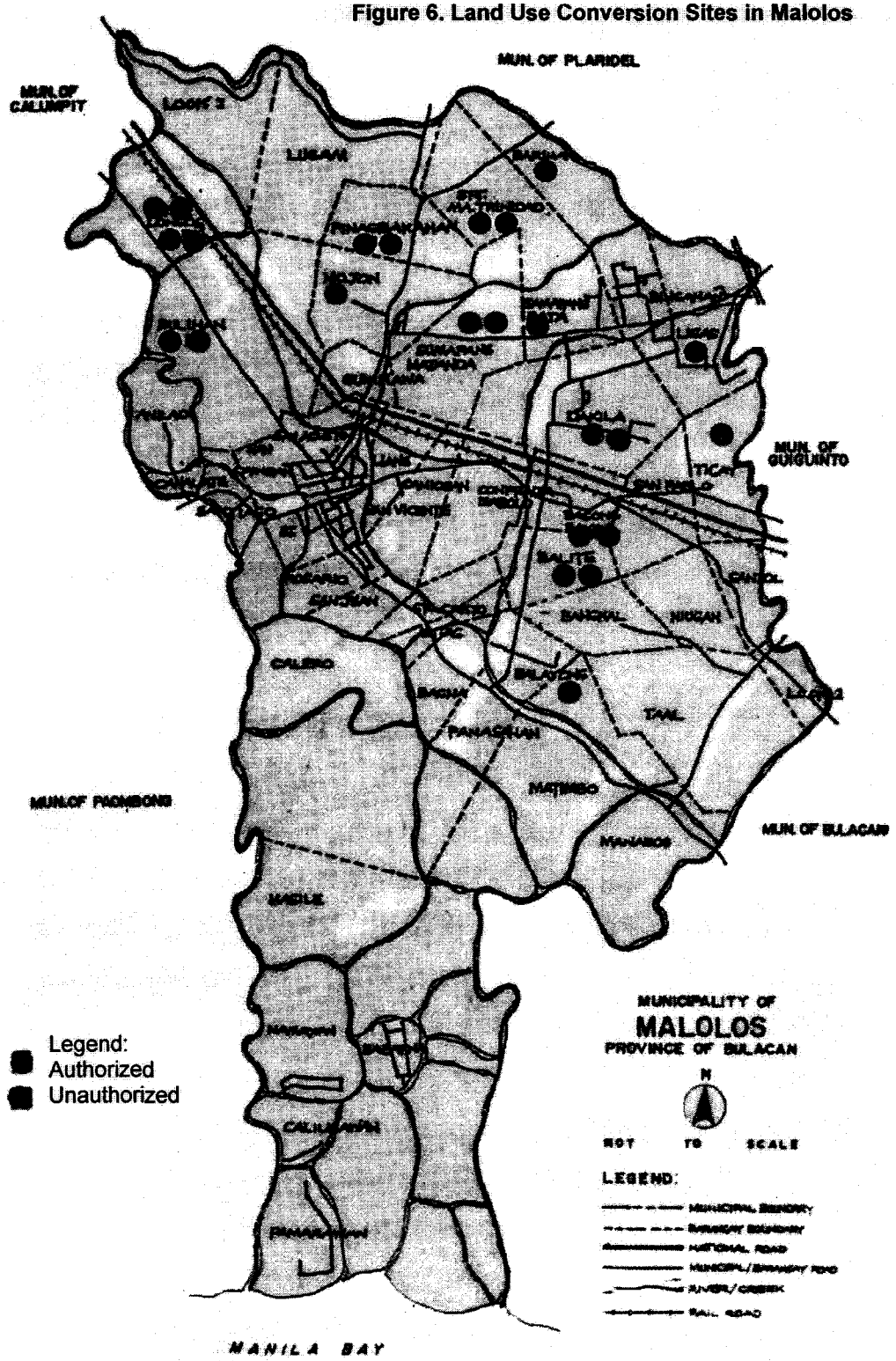
VIII. ANALYSIS AND FINDINGS

A. Status and Trend of Land Conversion

1. The data showed that some 178 hectares of agricultural land in Malolos have been earmarked for conversion. Of these, 126 hectares were with applications and 51 without. Of those with applications, 97 hectares have been given the go-signal to proceed by the DAR.

2. The composition by purpose of the total lands earmarked for conversion are 117 hectares for residential projects, 31 for commercial use, and 29 for industrial developments. The figures do not reflect the desire of the municipality's political leadership to have a "balanced development." The locations of the conversions, both legal and unauthorized, are spread out away from McArthur Highway as desired by the LGU (see Figure 6).

Figure 6. Land Use Conversion Sites in Malolos



3. The Malolos land use conversion picture reflects that of the entire province of Bulacan.

4. Based on the interviews conducted, the figures do not represent the actual land use conversion picture. The real picture appears to be worse. This would explain the moves of the provincial government to organize a Task Force on Land Developments focused on illegal conversions and the DAR to organize and mobilize to provide legal muscle to its Task Force on Illegal Land Conversions.

B. Actors and Factors Governing Land Use Conversion

1. There is an interplay of forces that define the character of land conversion in Malolos. These forces are: the rising land values; demand for housing, commercial and industrial space; investors and developers; government and the responses of the farmers and landowners.

2. The LGU has adopted a *de facto* open policy for conversion to promote economic growth in Malolos. Where this policy coincides with the market demand (private capital from Metro Manila supported by local influence and equity), there is no stopping the land conversion process. In this regard, it may be surmised that in Malolos, the chief decision-makers in the land conversion process are the developer-investors.

3. The farmers, aided by non-governmental organizations engaged in the advocacy of rural development focused on the farmers, have put up an admirable though largely ineffective resistance to the land conversion process. Some farmers have succumbed to the lure of easy money while a slowly diminishing number have continued to resist the assault on their livelihood.

4. The factors encouraging land conversion vary from sector to sector: These are the following:

a. ***Decreasing Profitability of Agricultural Activities***. Agriculture production has ceased to be a profitable venture in small to medium-sized farm lots. The increase in competition brought by larger companies particularly in livestock production saw the demise of backyard operations. The few remaining ventures are those connected with large integrators such as Vitarich. Unfavorable terms of trade arising from the control of the entire production cycle by a few investors (notably the Chinese) resulted in ruinous fluctuation of prices. Very often, owners and tillers of the land are left with very minimal profit (even losses) after the increasing cost of production and other related expenses such as transport and handling are accounted for. As expected, middlemen who are normally the agents of the Chinese investors are the ones benefiting from these arrangements. Most of them are based, however, in Manila.

b. ***Scarcity of Farm Labor.*** A new breed of labor force appears to be emerging in Malolos. The preference of this new group is shifting from agricultural to service and industrial work. It is increasingly difficult to find young people enamored to land and farm work. Most of those remaining as farm labor are beginning to get old and demanding.

c. ***Increasing Land Values.*** Malolos was not spared by the emerging urban sprawl and the related construction boom being felt around the fringes of Metro Manila. With this development, land values have increased as a result of actual physical development and speculative landbanking by investors.

d. ***Conversion of Nearby Areas.*** Conversion of agricultural areas triggers further conversion by destroying the natural harmony of related land uses. In Malolos, this was manifested in the destruction of interrelated irrigation systems after some irrigated agricultural areas have been converted into residential use. In the process, ecological balance is also altered resulting in increasing numbers of pest and rodent populations.

e. ***Migration and Demand for Housing.*** With the increasing pace of urbanization in Manila, the demand for affordable housing becomes more pronounced. Market forces, driven primarily by land availability, land values and housing demand have directed the expansion of housing projects towards nearby provinces such as Bulacan, Laguna and Cavite.

The development of transportation and communications have made areas such as Malolos more accessible. This favors the growth of permanent migrants or those who will choose to reside in Malolos.

f. ***Demand for Commercial and Industrial Areas.*** The development of commercial and industrial areas in Malolos is an inevitable result of urbanization. The services and industries required to support the growing residential areas need to be located at places where the population tends to agglomerate. As such, areas dedicated to commercial and industrial activities begin to increase (although at a relatively slower rate) together with the residential areas.

g. ***Absence of Definitive Physical Framework Plan.*** At the moment, Malolos does not have an approved Comprehensive Municipal Land Use Plan on which it can base its land use allocation. The absence of such an instrument renders the evaluation of applications for conversion rather arbitrary.

h. ***Development Vision of Local Officials.*** The local officials led by the Mayor have adopted an "open door" policy to would-be investors in land development. Although the government envisions development directed at achieving an improved quality of life for all by making optimal use of the available resources such a strategy virtually leaves the development of Malolos to the mercy of market forces.

i. ***Ambiguity of Local Government Code.*** Some legal issuances, perhaps because of their inherent ambiguities, appear to have hastened the rate of conversion. Section 20 of the Local Government Code empower the Local Government Units through the Local Sanggunian to convert, under certain conditions, a maximum of 10% of the agricultural areas into other uses. Under the speculative atmosphere prevailing in Malolos, this provision of the law opens a floodgate for abuse and misuse. The 10% conversion ceiling, in the absence of clear implementing rules and regulations, may be interpreted as an annual ceiling, an absolute limit under a current land use plan, or a ceiling which may be modified at every change in the local bureaucracy.

5. While there were factors that encouraged conversion, certain forces also tended to counter the seemingly pervasive trend. These include:

a. ***Lack of Alternative Livelihood for Farmers.*** Land tillers and owners were deterred from succumbing to the pressure of conversion due to the uncertainty of securing a means of livelihood once farming as a traditional job is abandoned. Since most of the farmers have attained a low level of education, their competitiveness in the job market is understandably low.

b. ***Value of Land as an "Eternal" Capital.*** The farmers regard land as a permanent asset and means of livelihood which can be managed in perpetuity. Most of the traditional farmers have developed deeper attachments to land and found it difficult to part with.

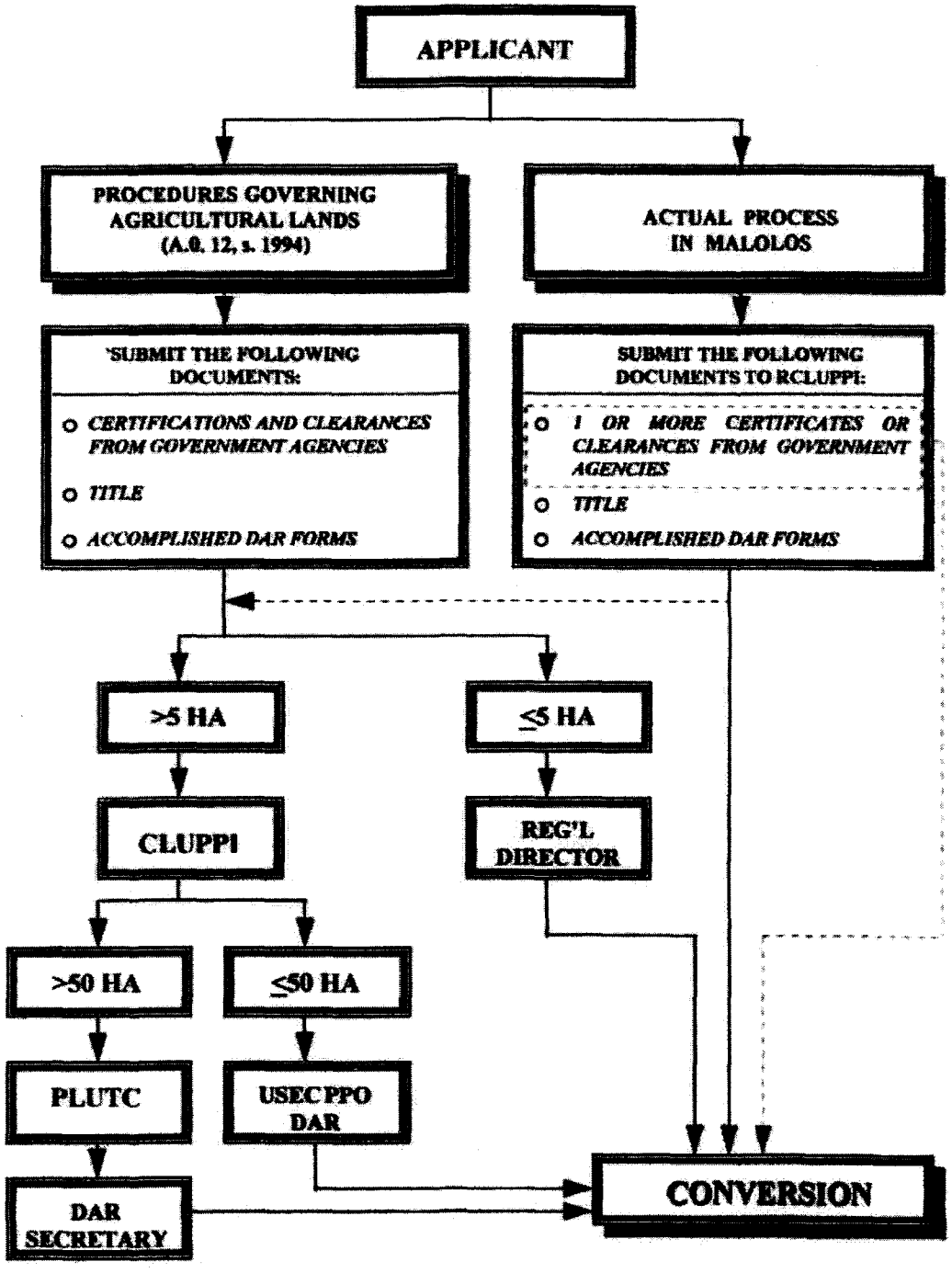
c. ***Government Policy.*** The existence of government policies restricting land use conversion has to some extent slowed down the pace of the phenomenon. Moreover, government neglect or failure to provide services has, in a way, saved some areas from conversion.

d. ***Food Security Concerns.*** The concern for the ability of a locality to feed its own people still remains a factor in slowing down land conversion, particularly in a place which has traditionally been regarded as a part of the rice granary of Luzon.

C. Land Conversion Process in Malolos

The land conversion process in Malolos largely deviates from the legal requirements and processes set by a host of legislation and executive issuances. Even with the expressed condition that a project is subject to DAR approval, a certification from the HLURB approving a housing development is enough to move ground. An LGU endorsement of a project has a similar effect. What is worse, however, is that there are instances when developers start their project before filing the necessary application with DAR. These modalities tend to short-circuit a long process designed precisely to discourage conversion (Figure 7).

Fig. 7. The conversion process in Malolos (right track) deviates from that mandated by law (left track).



D. Implications of Land Conversion to Malolos

1. *Spatial Implications*

The most obvious effect is the expansion of urban areas and the shrinking of agricultural land. In the absence of a definitive municipal Comprehensive Land Use Plan (CLUP), the development will tend to be sporadic. Such development will engender premature urbanization in some areas. Faced with this situation, planners tend to give up such agricultural areas to other uses, usually consistent with that of the neighboring development. The operative principle here is that conversion begets conversion. There is an increasing danger, too, that the unregulated conversions in the area will induce mixed land uses.

It has been observed that land use conversions are dispersed along highways and major roads in the town. The conversions, therefore, are bound to promote linear or ribbon development. The town can expect to face traffic problems in the future if such development remains uncontrolled.

Such unplanned development bodes adverse environmental effects. Already, the informants have experienced uncharacteristic flooding in the town. These have been attributed to the destruction of natural waterways.

There is also the danger of losing the amenities once associated with the town. During the researchers' field visit, for instance, they were still able to observe a flock of egrets in a rice field located between two new housing projects. The prospect of conserving this parcel of land is bleak, and so is the opportunity to continue to observe the nature in it.

As mentioned above, the conversion is now focused along the main arteries which create a pattern of land values that decrease as one goes away from existing development. This situation tends - temporarily - to promote concentration of development. There are two reasons for this: first, investors cannot acquire lands far from existing developments because farmers would hold their land since they will be offered low prices. Second, development costs in these areas tend to be higher than the cost of land in the central business districts due to the lack of infrastructure and flooding problems in the former.

2. *Economic Implications*

The kind of development described above affects social and economic sectors in different ways.

a. Local Government

On the part of the local government, this poses a concern over the cost of delivery of basic services. Concentrated development is more efficient and cheaper to serve in terms of basic services (e.g., transportation), while pocket development, because of its dispersed nature, is more costly.

The most palpable indicator, however, that the local government will incur greater cost is the increasing residential developments. This hardly promises economic development for Malolos. The signs are that Malolos is fast transforming itself into a dormitory town and housing developments have relatively poor income potential.

More subdivisions will require additional responsibility since the local government will be expected to deliver additional basic services to these subdivisions.

Such a prospect is not along the development direction desired by the Malolos LGU leadership. It similarly contradicts the development direction set forth under the Metro Manila framework plan.

b. Business/Private Sector

The commercial sector definitely shall benefit from the current direction that the land use conversion in the town indicates. Greater residential development means a growing consumer market and greater profit.

One immediate implication of land conversion is the rise in land values. In the interview conducted with provincial agriculture officials, they indicated that some farmers were able to sell their properties at competitive prices: sometimes as high as P 10 million per hectare. Such trends promote the attractiveness of a one-time windfall for the farmers and landowners who are expecting lowered profitability in farming.

c. Farm Sector

As mentioned above, land conversion has the immediate effect of shrinking agricultural lands and raising liquidity of farmers and landowners. In effect, therefore, the new rich lose a secure "permanent capital" and are left to the mercy of quirks in the economic system. In other words, the cash-holdings of the farmer may rise or fall in value without him doing anything.

Experience shows that investing in a new livelihood is never a sustainable option for the farmer. Having tilled the land for a good part of his life, he will find the transition difficult. The government does not have a program of institutional support for the farmers. In the absence of assistance for developing alternative livelihood, the farmers may bleed financially. Capability building and identification of alternative livelihood other than agriculture-based should have been conducted and introduced.

The tendency to sell agricultural lands for conversion to other uses poses danger to the long-term food security requirements of the town.

3. ***Social Impacts***

The development pattern ensuing from the land use conversions threatens to transform the age-old social fabric of Malolos. As a result of the new developments, the traditional neighborhood pattern shall become fragmented. Once closely knit communities shall gradually dissolve as neighbors sell off their land to settle elsewhere. New entrants to the town as a result of the residential developments will surely change the traditional way of life. Attitudes and values of the Malolos folk are bound to be changed as interaction takes place with the new town settlers.

The businesses attracted by the emerging market in the town are expected to introduce values - consumerism principally - hitherto foreign to the municipality.

IX. CONCLUSIONS AND RECOMMENDATIONS

The types of development that appear to ensue from the land conversion activities occurring in Malolos appear to be in contrast to the desires of the Malolos LGU as articulated by the Mayor. It also appears to be contradictory to the welfare of its constituents, particularly the farming sector. The development direction Malolos is taking is therefore consistent with the predictions or characterizations of satellite areas embodied in the dependency theory.

The researchers recommend the adoption of a twin development agenda: one internal to Malolos and another external to it and encompassing Metro Manila and its area of influence. This involves the formulation of Malolos' comprehensive land use plan and the possibility of drawing up a metropolitan government for Metro Manila and the areas affected by its internal development dynamics.

To forestall this wrong turn in its development, Malolos has to seriously consider the speedy development, adoption, and willful implementation of a comprehensive land use plan that suits the community's desire. The plan should feature, among others, a program for the farmers affected by the land conversion process. The components of such a program should include entrepreneurship training as an alternative livelihood.

In addition, competent authorities should seriously study the possibility of forming a metropolitan authority that would oversee and guide the development of areas around Metro Manila similarly situated as Malolos. The reason is that the LGUs in Metro Manila's outer core are not equipped to handle the intensity of the development impulses coming from the metropolis. Against this, even the effectiveness of a comprehensive land use plan is in doubt. But this constraint can be overcome if the development plans of these areas are coordinated and harmonized - much like the pieces of a development jigsaw puzzle - by a higher political and administrative power, a metropolitan authority.

BIBLIOGRAPHY

Bryant, C.R., L.H. Russwurm and A.G. McLellan. *The City's Countryside. Land and Its Management in the Rural-Urban Fringes.* New York: Longman, Inc.

Cabrido, Candido Jr. 1992. *Implication of Various Land Use Conversion Scenarios for Food Security and Sustainable Development.* Mimeo.

Glasson, John. 1974. *An Introduction to Regional Planning.* London: Hutchinson and Company.

Gore, Charles. 1984. *Regions in Question: Space, Development Theory and Regional Policy.* New York: Methuen and Company.

Metro Manila Development Authority. 1996. *Towards a Humane World Class Metropolis -- A Physical Development Framework Plan for Metropolitan Manila, 1996-2016.* Makati: MMDA

National Economic and Development Authority. 1993. *Land Use Conversion Study.* A policy study under an AIDAB grant. Manila: NEDA

Philippine Social Science Review. 1992. Manila: UP Press

Silva, P.T. 1991. *Effects on Land Use Conversion in CALABARZON -- Preliminary Findings.* Manila: Food and Agriculture Organization.

THE PROBLEMS AND PROSPECTS OF INDUSTRIAL GROWTH: A CASE STUDY OF THE LUISITA INDUSTRIAL PARK

Emmanuel M. Luna, Santiago R. Aquino, Jr., Aurelia R. Bathan, Angelina M. Noble, Oresentacion A. Ordas, Edgar F. Zotomayor

I. INTRODUCTION

A. Rationale

The Philippines boasts of its high economic growth that is now being recognized by some economic research institutes as the fastest growing in Asia. This development paradigm of the Philippines is anchored on the principles of global competitiveness, liberalization, and participation and empowerment of the various sectors. The private sector and foreign investments are being mobilized to contribute towards this goal.

Regions which used to lag behind in terms of industrialization are being prompted to pursue industrial development. New industrial centers such as export processing zones, industrial estates and parks are being developed and given attractive incentives in pursuit of this goal. Large agricultural estates that used to contribute significantly to agricultural development are being converted to industrial use such as the Canlubang Sugar Estate in Laguna and the Hacienda Luisita in Tarlac.

In pursuing these developments, there are foreseen and unexpected consequences, both advantageous and detrimental, which have to be identified, assessed and addressed to ensure that achieved economic growth leads to social development. How has the establishment of industrial growth centers affected the community and the lives of the people?

This study is an attempt to explore this issue. Taking the Luisita Industrial Park as a case, the study tries to determine the problems and prospects of industrial growth in a specific area affected by the industrial park.

B. Objectives of the Study

This study aims to determine and analyze the problems and issues concomitant with the emergence of a new industrial park. Specifically, the study aims to:

1. Determine and review the policies and plans for industrial development in Tarlac, Tarlac, the site of the Luisita Industrial Park (LIP);
2. Determine the current development trends in the industrial development in LIP, specifically the profiles and direction of growth in terms of: scale and size, types of industry, location and distribution, ownership, backward and forward linkages, and other attributes.
3. Identify and assess the problems and issues confronting these developments.
4. Determine the assessment of the local officials and planners, workers and community residents on the industrial park in terms of the problems and issues, the resources and the impacts.
5. Suggest recommendations towards the resolution of some of the identified problems and issues.

C. Methodology

This is an exploratory and descriptive cross-sectional study using the case study method. The Luisita Industrial Park was taken as a case because, to the knowledge of the researchers, no study has been done yet about this park. Furthermore, in the process of identifying a possible site, the management of the park showed great interest and cooperation compared to the other sites initially considered for the study.

In developing the case, the researchers made use of several methods of data gathering, namely:

1. Survey Among Community Residents

   Two communities adjacent to the park were chosen as the sites for the survey which essentially was concerned with determining the impacts of the industrial park based on what the residents see. A total of 53 residents (either the household head or the spouse) responded to the interview.

2. Interview and Focused Group Discussion with the Management of Two Industries Based in the Park

   Two industrial establishments, Sanyo and Universal Robina Corp. were taken as sample industries from the park. Interviews and discussions were made with the management of the two establishments focusing on the industry's profile, locational choices, labor conditions and the like.

3. Survey of Workers through Self-Administered Questionnaire

   From the two sample industrial establishments, self-administered questionnaires were distributed to the workers, with the assistance of the management. Thirty respondent workers were identified in each establishment but only 44 workers accomplished the questionnaire.

4. Interview with the Local Officials and Staff of the LIP

   The local officials from the Tarlac municipality were interviewed concerning the development of the town. Similarly, the team interviewed the management and the local staff of the Luisita Industrial Park.

5. Review of Secondary Materials

   Among the materials reviewed by the research team were the socio-economic profile and development plan of Tarlac, Tarlac and the information materials on the LIP and Sanyo Corp.

6. Observation and Ocular Survey

   The research team visited and observed the site; the operations outside the establishments, the interior facilities and the operations inside the sampled establishments; the communities and the commercial establishments adjacent to the industrial park.

II. CONCEPTUAL FRAMEWORK: THE SYSTEM APPROACH IN UNDERSTANDING DEVELOPMENT INTERVENTION

An analysis of regional structures and systems provides an essential starting point in the formulation of regional development intervention. Under-utilized resources of a particular region, for instance, provide an impetus for development initiatives and investments. An industrial park is a typical intervention in a region to achieve the desired goals. Its innovation and implementation should take into consideration the prevailing conditions in the area: the resources, the potentials and opportunities, the development needs, the constraints, and most of all, people's conditions.

Taking the region as the context in which the industrial park is inputted, the pursuit of the development goals or outputs undergoes several processes. These include the location of the industry, site development, actual implementation and operations of the industrial park, and other support and complementing processes involving the social, economic, environmental and political factors.

In the study of a development intervention which makes use of the systems approach, the elements composing the system such as the input, the processes, the output and the feedback are all considered. This is illustrated below:

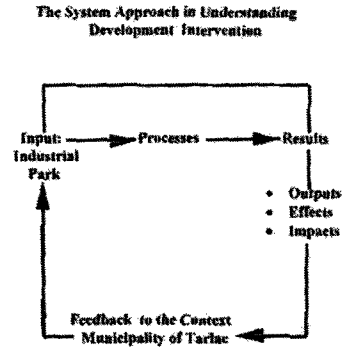


Figure 1

As the diagram shows, the industrial park is the input to the municipality of Tarlac. The development of the park undergoes several processes which result in the outputs, effects and impacts. These then serve as feedback to the context or the prevailing socio-economic, environmental and political conditions in the communities or the municipality. The problems, issues and prospects resulting from the input and processes are the focus of this study.

III. THE CONTEXT OF INDUSTRIAL DEVELOPMENT

A. An Overview of the Socio-Economic Conditions of the Municipality of Tarlac

The town of Tarlac nestles in a plain centrally located in the province of Tarlac. The town is practically equidistant from two major cities, Manila 125 km, and Baguio 127 km. This location has made Tarlac, Tarlac a stop-over of people traveling north to Baguio and south to Manila. The municipality is popularly known as the "Melting Pot" of Central Luzon because its residents speak several dialects such as Tagalog, Pangasinense, Ilocano and Pampango (Figure 2).

The physical terrain of the town is generally flat with hilly to mountainous regions in the western part. The town has a total area of 42,519 hectares. Of this, about 72% are agricultural areas while some 19% are residential and built-up areas. The remaining 9% are divided into commercial land, grazing and pasture land, open space, and the like.

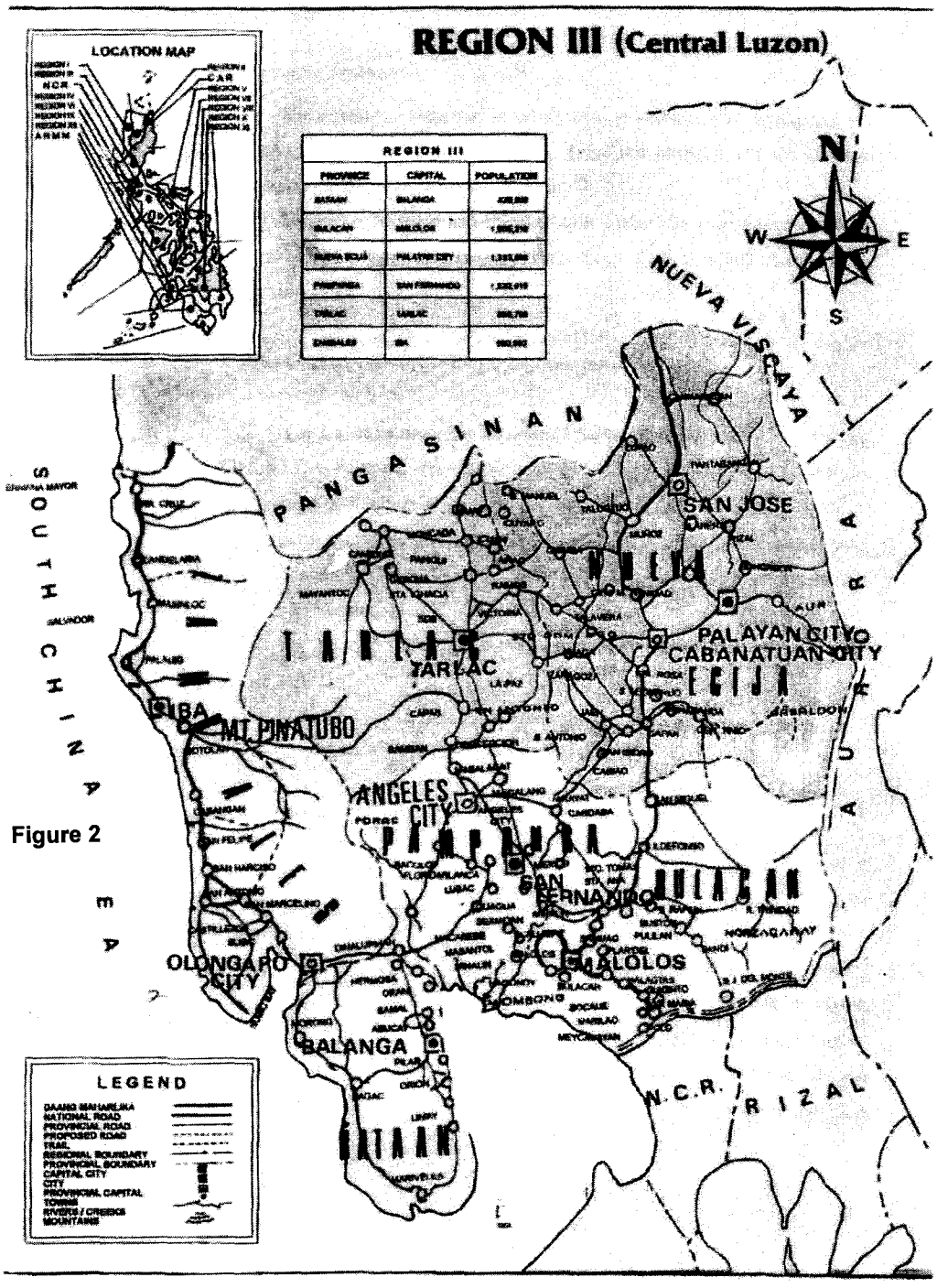

REGION III (Central Luzon)
LOCATION MAP
REGION III
PROVINCE
CAPITAL
POPULATION
N
W
E
S
NUEVA VISCAYA
PANGASINAN
SOUTH CHINA SEA
SAN JOSE
PALAYAN CITY
CABANATUAN CITY
TARLAC
MT PINATUBO
ANGELES CITY
SAN FERNANDO
OLONGAPO CITY
MALOLOS
BALANGA
N.C.R.
RIZAL
LEGEND

Figure 2

The population of the municipality is 236,388 according to data from the National Statistics Office. As of 1995, the growth rate increased by 2.67%. In 1993, a large segment (about 85%) of the population lived in the rural area (SEP, 1996).

B. The Industrial Development Goal

The industrial development goal of the municipality of Tarlac is the promotion and advancement of small and medium scale industries for overall economic growth and stability.

The increase of industrial establishments in Tarlac is high. There is also a proposed site for industrial expansion which is along the national road. The influx of trade and commerce in Tarlac likewise prompted foreign investors to establish industries particularly those which presently operate at the Luisita Industrial Park.

C. The Central Luzon Development Program, 1995-2010

The Central Luzon Development Program aims to achieve a Gross Regional Domestic Product (GRDP) growth rate of 8.2% and employment of 4.095 million (up from 2.4 million in 1992). Likewise, a balanced emphasis on economic growth, environmental quality, as well as in agriculture, industry and services, and improved quality of life shall be targeted (CLDP, 1995-2010).

The plan identifies three National Triad Growth Centers for Central Luzon, as follows:

1. Subic-Dinalupihan metropolitan area
2. Angeles City-Mabalacat, San Fernando area
3. Malolos-Metro Manila conurbation area

The idea is to contain industrialization and high intensity urbanization in these areas so that prime agricultural lands as well as valuable coastal areas are preserved.

An intra-regional artery is proposed in the program to improve the linkages between the growth centers as well as the other provinces in the region. This consists of a new highway leading from the Subic Bay area through Angeles City, La Paz in Tarlac and Cabanatuan City to Palayan in Nueva Ecija. A more direct link between Malolos and Olongapo City and a strengthened link from Malolos through San Fernando to Angeles City is also proposed.

Ultimately, it is envisioned that Central Luzon will be characterized by established reputations in selected fields (CLDP, 1995-2010):

1. World leader in people/community-based development activities;
2. World center for environment education;
3. Showcase of recycled-oriented rural activities and bio-diversity preserving organic agriculture;
4. Industrial heartland of the Philippines with diversified industrial structure;
5. World center for fashion and interior design related industries;
6. International transshipment hub serving Southeast Asian countries and free seaport and airport; and,
7. Communication center between Filipino people and other people of different backgrounds through conference, tourism and related service activities.

IV. THE LUISITA INDUSTRIAL PARK: AN INTERVENTION AND A RESPONSE TO THE DEVELOPMENT CHALLENGE

A. Background

The Luisita Industrial Park is part of the Hacienda Luisita which was acquired by the Cojuangco family in 1958 (Figure 3). The hacienda is a vast land of 6,000 hectares and covering three (3) municipalities in the province of Tarlac: Tarlac, Concepcion, and La Paz. The Hacienda Luisita lies at a crucial corner of the Northern Luzon Growth Triangle (LIP Materials).

B. Basic Features

The Luisita Industrial Park is situated on 120 hectares of land within Hacienda Luisita (Figure 4). It is accessible through a 118-kilometer or two-hour land travel from Metro Manila. It is 35 kilometers or 40 minutes from the Clark Special Economic Zone. Subic Bay Freeport Zone, with its existing international airport and seaport, is just two hours away from the park. The Ninoy Aquino International Airport and the seaports of Manila and Poro Point are also two hours away. The industrial park is 118 kilometers from the Manila International Container Terminal.

The Luisita Industrial Park is supported by various infrastructures and facilities. For its industrial use water supply, the park is tapping an underground water at 100 cubic meters per day per hectare. Meanwhile, each locator of the park has its own waste water and sewerage system in compliance with Philippine law. At present, waste water and sewerage are being treated in each locator's system but as soon as the proposed centralized water treatment facility is established, the waste water and sewerage initially treated by the locators shall be discharged into the centralized system.

The Luisita Industrial Park uses 240KVA per hectare for its power supplied by the National Power Corporation. Adequate telephone lines have been provided for the park including International Direct Dial facilities that could be used for data, voice and video transmission. It also provides the locators nine (9) lines per hectare (LIP Materials).

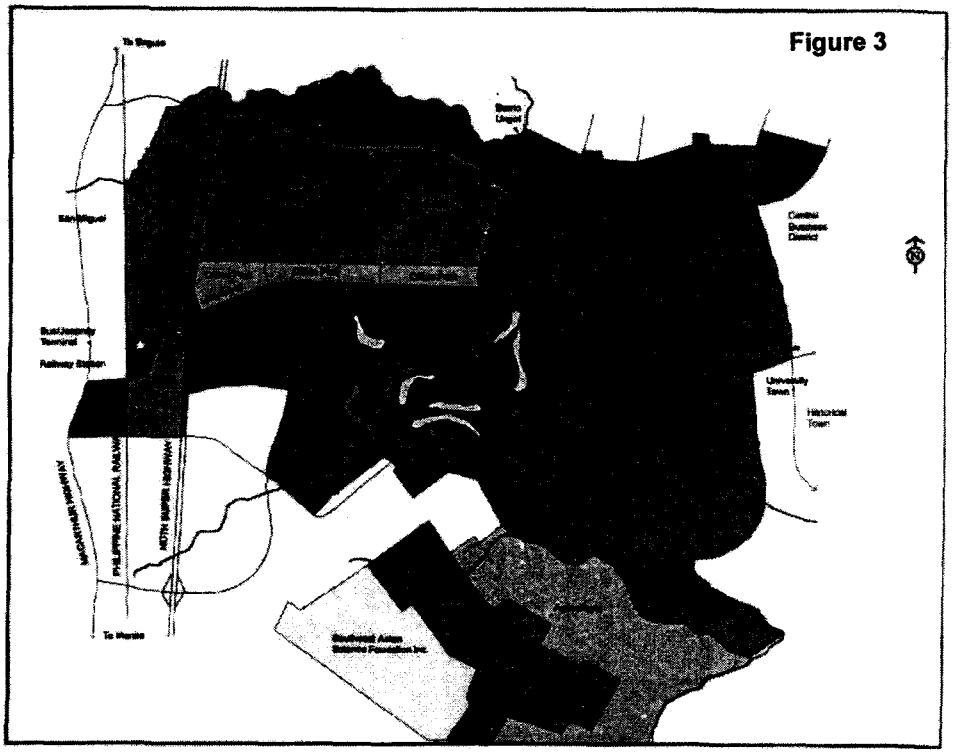


Figure 3

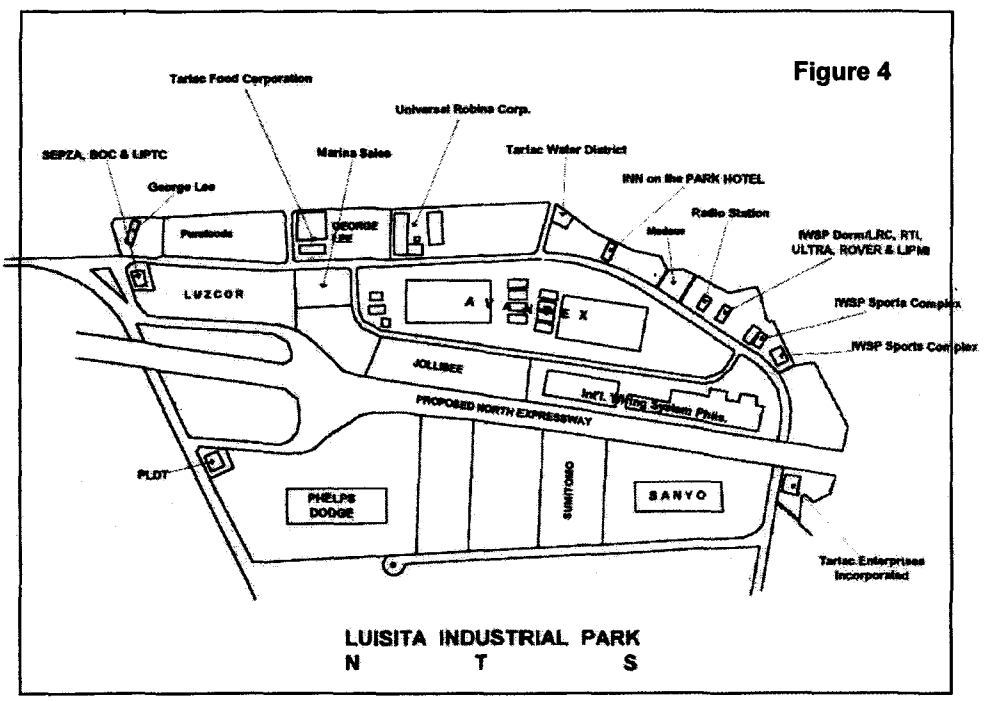


Figure 4
Tarlac Food Corporation
Universal Robina Corp.
SEPZA, BOC & LIPTC
Marina Sales
Tarlac Water District
George Lee
INN on the PARK HOTEL
Radio Station
Medicen
IWSP Dorm/LRC, RTI, ULTRA, ROVER & LIPMI
LUZCOR
IWSP Sports Complex
JOLLIBEE
PROPOSED NORTH EXPRESSWAY
PLDT
PHELPS DODGE
SUMITOMO
SANYO
Tarlac Enterprises Incorporated
LUISITA INDUSTRIAL PARK
N T S

C. The Advantages of Locating in Luisita Industrial Park

The Luisita Industrial Park 2 or the expansion area is considered reasonably priced at P 1,700 per square meter. It has an abundant English-speaking, educated and trainable workforce. Minimum wage in Tarlac is about 10% lower than in Metro Manila. Considering that its topography is flat terrain, no piling is required for typical one to two storey factory structures. Its excellent internal infrastructure and clean and abundant water are also superior points.

Because Tarlac is classified by the Board of Investments (BOI) and the National Economic Development Authority (NEDA) as a less developed area (LDA), companies locating there are entitled to several additional BOI incentives, including the following (Table 1):

- Pioneer status
- 6-year income tax holiday (ITH)
- Tax and duty-free importation of capital equipment
- Additional deduction for labor expenses for 5 years
- Deduction on necessary and major infrastructure works
- Waiver of nationality requirement

Table 1. COMPARISON OF BOI INCENTIVES WITH RESPECT TO INCOME TAX HOLIDAY (ITH) AND TAX AND DUTY FREE IMPORTATION OF CAPITAL EQUIPMENT

	Metro Manila	CALABAR	Tarlac/Luisita
New Investment Priority Plan (IPP) Activity			
Pioneer	No incentives	6 years ITH with tax and duty free importation of capital equipment	6 years ITH with tax and duty free importation of capital equipment
Non-Pioneer Filipino-Owned Companies	No incentives	4 years ITH with tax and duty free importation of capital equipment	6 years ITH with tax and duty free importation of capital equipment
Foreign-Owned Companies	No incentives	No incentives	Subject to BOI approval. 6 years ITH with tax and duty free importation of capital equipment
New Export (Non-IPP) Activity			
Foreign-Owned (exports 70% or more of production)	No incentives	4 years ITH with tax and duty free importation of capital equipment	6 years ITH with tax and duty free importation of capital equipment
Foreign-Owned (exports less than 70%)	No incentives	No incentives	Subject to BOI approval. 6 years ITH with tax and duty free importation of capital equipment, provided exports at least 50%
Filipino-Owned (exports 50% or more of production)	No incentives	4 years ITH with tax and duty free importation of capital equipment	6 years ITH with tax and duty free importation of capital equipment
Filipino-Owned (exports less than 50%)	No incentives	No incentives	No incentives

D. Profile of Industries

The 120-hectare Luisita Industrial Park is already occupied by fourteen (14) businesses and factories engaged in light, non-polluting manufacturing and service industries for domestic and foreign markets. These companies and their nature of business are as follows:

a. Universal Robina Corp. - Terai Industrial Corp. -- manufacture of noodles and snack foods

b. Max's Tarlac, Inc. -- restaurant

c. Armstrong Realty Investment, Inc. -- lease of warehouse buildings

d. Avantex -- manufacture of spun yarn

e. International Wiring System, Philippines Corp. -- manufacture of wires and wiring for automobiles

f. International Electric Wires Philippines, Corp. -- manufacture of low voltage wire, corrugated tubes and wiring harness

g. Jollibee Food Corp. -- food commissary

h. Luzon Apparel Corp. -- manufacture of garments

i. Mandaue Estates, Inc. -- manufacture of hospital equipment

j. Marina Sales, Inc. -- distribution of Del Monte products

k. Asian Telecommunications Products, Inc. -- manufacture of cables

l. Purefoods Corp. -- manufacture of feedmill

m. Sanyo Semiconductor Manufacturing Philippines Corp. -- assembly of LSI chips

n. Universal Food Corp. -- manufacture of catsup, vinegar and other sauces

About 65% of the total number of businesses and industrial locators in Luisita Industrial Park are owned by Filipinos. Avantex and Sanyo are owned by Taiwanese and Japanese respectively. The other businesses and industries are Filipino joint-ventured either with Americans or Japanese.

The establishment that occupies the largest area is the Asian Telecommunication Products with 184,639 square meters. This is followed by Avantex (157,927 sq. m) and Sanyo (80,000 sq. m). All these are 40-100% foreign owned. The one with the smallest area is Max's Restaurant with only 500 square meters.

E. The Workforce

As of November 1996, the various locators of Luisita Industrial Park had a total workforce of 3,900. The biggest workforce, comprising 2,600 employees or about 67% of the total are residents of Tarlac. Five hundred seventy-one (571) employees or 15% are from the hacienda while 729 employees or about 19% come from other places.

Avantex has the biggest workforce coming from Tarlac, while Sanyo has the biggest labor pool from within the hacienda. Note, however, that these are both foreign-owned companies.

F. Plans for Further Development

The Luisita Industrial Park is currently expanding with a development area of 300 hectares. The huge industrial park will be supported by an infrastructure of services including roads, power, water, security, and telecommunications, as well as nearby housing, commercial and recreational facilities.

Its road development plans include the: a)extension of the North Luzon Tollway; b) rehabilitation of Route No. 3 and No. 329; and, c) upgrading of the North Luzon Expressway. A feasibility study is currently being prepared by Itochu Corp. for the extension of the North Luzon Tollway. If determined feasible, extension to Tarlac will be completed by late 1998. Extension from Tarlac to Pangasinan will be completed by the end of year 2000. Meanwhile, a Japanese Government Development Assistance loan amounting to ¥ 69.5 million was granted to rehabilitate Route No. 329 by the end of 1997. Route No. 3, on the other hand, will be completed in 1999. For the North Luzon Expressway, the existing two-lane section between San Fernando and Santa Ines, Pampanga will be upgraded to four-lanes (2 lanes per direction) by the end of 1998.

Side by side with the growth of the industrial park is the Plaza Luisita, a modern business and commercial complex for offices, retail shops, food establishments, and recreational, social, and entertainment facilities. The plaza is geared for business people and entrepreneurs who know their field and potential, ready to seize the opportunities of a huge regional market.

Through its special Ten-Year Development Plan, the Luisita envisions a world of natural wealth gracefully fused with modern-day facilities and conveniences. Hence, this plan includes: low-cost and executive housing, golf and country club, a science institution, and a shopping center.

V. CASE STUDIES ON THE ESTABLISHMENTS

To have a better understanding of the other aspects of the industrial park, two brief case studies were done. One is on a foreign-owned export processing industry while the other one is Filipino-owned with a local market.

A. The Sanyo Semiconductor Manufacturing Philippines Corp.

Background

Sanyo Semiconductor Manufacturing Corp. is a 100% Japanese company. It was established on April 11, 1995 at the Luisita Industrial Complex. Sanyo's initial capital investment amounted to P 804 million for the manufacture of semiconductor parts which are geared for the export market. Production started last September 1996. It is estimated that by the year 2000, sales will reach the P 9 billion mark.

Reasons for Locating in LIP

It is said that the primary reason for investing in Luisita is the fact that the owners of Sanyo were persuaded by former President Corazon C. Aquino to locate in Luisita. The other reasons are the following:

- the presence of industrial peace
- the strategic location
- 24-hour electricity and security
- the availability of sufficient water
- well-paved roads and drainage facilities
- workers' good command of the English language
- the low cost of labor
- the availability of skilled labor

The management laments that when this site was offered to them, there were promises that the transport system would be improved and that the Clark International Airport would become operational. This has yet to be fulfilled.

The Personnel

As of September 1996, the company had 180 workers, majority of who were engineering graduates from various fields and residents of Tarlac. It is worth noting that the company's philosophy is to hire only fresh graduates or first-time workers. The reason for this is that they would like their workers to totally imbibe Sanyo's business ethics and philosophy.

Working Conditions

Sanyo is proud that they take good care of their workers. The work area is clean and environment friendly. The workers are given sufficient time to rest and attend to their personal necessities. People who have visited similar office buildings in Japan are quick to point out that the Sanyo office and its premises and facilities are comparable to those in Japan. Some of the workers are even sent to Japan for training.

The Workers' Problems and their Perceived Changes and Effects of the Industrial Park

Regarding problems relating to work, majority of the workers who responded to the survey pointed out the communication between the Japanese and the Filipinos as the main problem. They also cited the transportation problem in going to and from the Luisita Complex. The park is relatively far from the main road and there is no continuous public transport system within the park.

Majority of the respondents look at job opportunities as the major contribution of the Luisita Industrial Park to the community. Obviously, the presence of the industrial park in Tarlac stimulated business and employment. Residents of Tarlac were hired by companies inside the park. Sanyo decided to give preference to workers living in the area to show their commitment to the people of Tarlac.

On the effects of the industrial park on the family, most of the respondents said that the park has provided financial security for the family.

B. The Universal Robina Corporation (URC)

Background

The URC-Tarlac is one of two satellite plants in the northern Luzon area. Its establishment was part of the company's overall strategy to penetrate as many potential markets as possible. URC also maintains other similar plants in Libis, Quezon City; Canlubang, Laguna; Cebu, Davao and Cagayan de Oro. This strategy of "swamping" the country with URC products has made the company very competitive and there was a time when its Payless chicken and beef noodles were number one in the market.

Instant noodles is just one of URC-Tarlac's product lines. It also produces potato and corn chips. Given the huge market it serves, the plant operates in two work shifts.

The URC-Tarlac plant was established in 1991, followed by the Pampanga plant in 1994. URC-Tarlac market covers the areas of Nueva Ecija, Bulacan, Pangasinan, Isabela and Baguio. The Pampanga plant serves Zambales and Bataan. In addition, two big warehouses are being maintained in Pangasinan and Isabela.

The Personnel

URC-Tarlac has a total manpower complement of 251, with almost half of them holding permanent positions. About sixty-five percent (65%) of the contractual employees have been with the company for about a year, while the rest have been with URC-Tarlac for at least three years. It is a relatively young work force, eighty-five percent (85%) of which are below thirty years old. Sixty-five percent (65%) are receiving an average monthly salary of P 4,000 while the rest earn between P 7,000- P 8,000.

Reasons for Locating Inside the Luisita Industrial Park

While the company's operations were successful prior to URC-Tarlac, the management believed that there was still room for improvement given the huge untapped market in Northern Luzon. Furthermore, putting up a plant in Tarlac would reduce transport costs of major raw materials such as corn and potatoes that come from Baguio and other northern provinces. In addition, the province of Tarlac, as well as the neighboring provinces, could provide URC with a pool of cheap and highly skilled labor. These would be consistent with the objective of maximizing the company's profit.

The LIP provides safety to both URC's physical and human resources. Unlike in one of the production sites in Mindanao which has been receiving requests for protection money, URC-Tarlac provides peace and security essential for the company's smooth operations.

Problems Identified by URC-Tarlac Workers

In a survey conducted among the workers of URC-Tarlac, they complained about the inadequate transportation facilities within the park. The influx of various firms inside the LIP has resulted in an acute shortage of transportation facilities for the workers of all the firms. The working environment inside the plant has insufficient ventilation resulting in high humidity and irritating odor from the stocks of raw materials.

Observed Changes in the Community

The workers were one in saying that the establishment of the various firms inside the LIP has brought more job opportunities for Tarlac and the surrounding provinces. This has considerably reduced the number of idle hands, specifically among high school graduates. Neighboring communities became lodging places for thousands of immigrant workers. Homemakers began putting up variety stores to serve the needs of the increasing number of workers. No doubt, these developments have brought additional income to families and made them more financially stable.

VI. THE OUTCOME: THE PEOPLE'S VIEW ON THE IMPACTS OF THE INDUSTRIAL PARK ON THE COMMUNITY

When an industrial park like the Luisita Industrial park in Tarlac rises adjacent to communities whose economy is primarily driven by agriculture, how does it affect the people and their communities in general? To provide the answer to this question, a survey was conducted in Barangay Malaya and Paraiso, two communities close to the industrial park.

Fifty-three people responded to the survey. The interview focused on three main concerns, namely: 1) the characteristics of the respondents and their family members; 2) the preference for the absence or presence of the park; and 3) the impact of the industrial development on their community.

A. The Respondents

Most of the respondents come from relatively small families, with about 68% of them belonging to families with six members and below. Half of them have been settled in the barangay for more than three decades. About two out of five chose to stay in the community because they were born there - a sign of deep affiliation to one's hometown. On the other hand, 15% are uncertain why they chose to stay.

A quarter of the respondents say that the total monthly income of the family is between P 3,000 to P 6,000. Quite surprisingly, a number of respondents (23%) do not have any idea as to how much their family monthly income is, hinting that it is probably not steady. Majority of the family members belong to the working class, though the number of those who belong to the non-working group is not far behind. Almost all the family members, when asked to describe their occupation, belong to non-professional groups. This could indicate their limitation in educational attainment.

Roughly 82% of the family members say they are young. If we consider age 45 to be the limit of youthfulness, half of them (age 17-45) may be perceived to be behind the economic driving force of the community.

B. The Impacts of the Industrial Park

It is seen that among the working family members of the respondents, about 60% are working outside the industrial park, and the remaining 40% within the park. This is a concrete indication that there is employment opportunity inside. However, close to half of the members who say they work outside cannot determine how much they earn, a clear indication of income instability. For those who claim to be working inside the industrial park, just a little over 50% say they earn below P 50,000 annually. Furthermore, there is barely any difference in the number of respondents who earn more than P 4,000 monthly, whether they work inside or outside; except in the P 8,001-P 10,000 category. This means that while the industrial park has created more employment, it has not affected the wage level among the working class.

As to perceived changes and effects of the industrial park, the respondents cited the following:

Changes and Effects	Frequency	Percentage
1. More employment	36	42
2. Economic improvement	12	14
3. Population increase	10	12
4. More Infrastructure & physical improvement	6	7
5. Improved peace and order	4	5
6. Establishment of malls	3	3
7. More pollution	3	3
8. More apartments built	2	2
9. Improved water service	1	1
10. Increased expenditure due to mall	1	1
11. No changes	8	9

In addition, an overwhelming 89% say that they prefer the industrial park. A majority (62%) prefer to have the industrial development because of the employment.

When asked about the problems encountered in the community, 28% of the respondents say that there is no problem. However, 19% complain of too many people on too little space. When requested to provide solutions to the problems encountered, a disappointing 75% were indifferent to sharing. Some (13%) called for open communication.

VII. THE FEEDBACK: AN INTEGRATED ANALYSIS OF THE PROBLEMS, ISSUES AND PROSPECTS FOR INDUSTRIAL DEVELOPMENT IN TARLAC, TARLAC

This section presents an integrated analysis of the study, focusing on the problems, issues and prospects identified through the various data gathering methodologies.

A. The Industrial Park has Contributed to Employment Generation

There was a consensus among all the sources that the industrial park had contributed to employment generation in the municipality and the province. The industries prioritized hiring the local residents. The community people and the workers themselves attest that the number of by-standers has decreased. High school graduates were given the chance to work.

If the type of employment will be assessed, one can easily see that it is mostly non-professional in nature (e.g., factory workers). At the same time, the salary level within the park is essentially the same as outside. This means that the industrial park has not created an impact on the wage scale structure. The minimum wage as mandated by law is the one enforced. The establishment has prerogatives to give higher wages to the workers, but this was not seen in the study. This shows that the law of labor supply and demand is the prevailing principle operating in the area. In the first place, the industries settled in the park precisely because they see the advantage of skilled cheap labor.

The more established and foreign-owned corporation (Sanyo) is able to provide better amenities, including training in Japan, but these are limited to the professional, technical and management staff.

It can be observed also that the employment generated in the highly technological firm is smaller compared to the local industry.

B. The Industrial Park has Contributed to the Physical Improvement of the Area

There was an overwhelming preference for the industrial park. In addition to the economic benefits, the residents cited the physical improvement as one of the significant outcomes. The residents describe the place as formerly full of sugar cane or grass with snakes suddenly crossing the unpaved dirt roads. Now, the residents appreciate the concrete

roads as well as the mushrooming of commercial establishments, including the mall. The physical improvement has somehow instilled a sense of pride and hope to the residents that they can soon enjoy the comfort of good living without going to other areas.

C. There is an Emerging New Lifestyle Among the Residents

One of the effects cited by the people is the increased expenditure brought about by the emergence of the commercial establishments. They now have Jollibee, Max's Restaurant , and the Luisita mall. In the immediate future, the LIP will make the Luisita Golf Club more popular and open to the public.

The people in the area have the right to all these comforts and services. This will not be a problem to those who have the money and whose pattern of thinking has been urbanized. However, for those who are struggling in securing an income and whose values are still feudal, the new development can be oppressive. The socio-economic gap will widen and will become very visible. It can lead either to continuing frustrations to become "in" or to rebellion and anger because of this increasing socio-economic differentiation.

Thus, consumerism is on in Luisita and Tarlac. For the industrialists and investors, this is an opportunity. For the middle income people, it is a price and a source of hope, comfort and pride. For the poor, it can be agonizing.

D. The Conversion of Agricultural Land is Swiftly Taking Place

There can be land that can be devoted for industrial use only if the agricultural land will be converted. The Luisita Industrial Park was established prior to the passage of the Land Reform Law and other rules concerning land conversion. In this light, there is no legal impediment. In fact, it can even be thought of that the park was planned out to evade the then forthcoming land reform law.

As former sugar land, the conversion is seen as very rational, economically speaking. The price of sugar is very discouraging. Maintaining the land for sugar could mean great losses while selling them for industrial use is a thousand times more rewarding.

E. The Urbanization Brought About by the Industrial Development Brought with it New Social Problems

The population in the area increased. There are many reasons for this which relate to the industrial development. First, although it was a general guideline or policy of the establishment to hire local labor, not all skills can be provided locally. Second, the management group is normally from the mother company and they have to move to Tarlac. Third, even if the new settlers are not working inside Luisita, many people prefer to stay in the place because of the current and speculated developments.

With the increase in population, traffic has become obvious among the residents. Of course, the external factor to this is the fact that the highway became the new route for Baguio since the lahar disaster.

Concomitant with the increase in population are the other problems such as congestion, increase in the price of goods, housing and land, pollution, and the like.

F. The Developments Cause Great Pressure to the Municipality in Responding to the Needs of its Constituents

While it is true that the development is good for the municipality in terms of income, population (the larger the population, the greater the IRA of the local government), popularity, etc., it is also causing a lot of pressure in terms of responding to the various needs of its constituency. Additional social services have to be put in place. More social problems need to be attended to. However, these serve more as challenges rather than constraints to development.

G. The Luisita Industrial Park Contributes to the Achievement of the Goals and Objectives

The LIP is a private venture. However, in the process of developing it, the LIP significantly contributes to the industrial development goals of the municipality. The plan to transform the town into a city is being enhanced by the developments taking place in the park. The municipality's plan to develop an industrial center along the highway is very much in line with the plan of the LIP. Functionally and personally, good relations exist since the owners of the LIP are related to the local officials.

H. The Industrial Development in Tarlac Can Serve as a Countermagnet for Other Regional Centers in Central Luzon

In Central Luzon, the growth centers being developed are the Subic area, Angeles-San Fernando area, and Malolos. The development of the industrial park in Tarlac can boost the municipality's quest to be a regional growth center as well. For the region and for Metro Manila, this will be very advantageous in terms of enhancing inter- and intra-regional balance. Metro Manila will have a countermagnet in Tarlac itself. The mere fact that there was a

significant increment in the population in Tarlac in the past years shows that it is able to maintain its population from getting out, and even receiving immigrants from other places.

I. The Local Industries have Greater Value Added and Linkages than the Export Processing Industries

Based on the two companies studied, the findings indicate that the local industry has greater forward and backward linkages than the export processing industry. The former can contribute more to the local and national economy in terms of employment, taxes, and production. In terms of employment, the local industry, because it is not as highly technological than the foreign based industry, is able to hire more workers. However, they are not given as much tax incentives as the export processing firms. In terms of productivity, the value of production of the export processing industry may be bigger, but the local industry is able to trigger more backward and forward production. It uses local agricultural and manufacturing inputs and market its products locally.

J. Within the Industrial Park, There are Some Needs that Have to be Addressed

The workers were very strong in their sentiment that they need additional transport facilities within the park. There are buses during shift hours like 6:00 AM, 2:00 PM, and 10:00 PM. After these hours, the workers or other residents and guests have to walk going in and out of the park. What they need is a continuous transportation service.

Related to this issue is the need to improve the road network outside the facility as well as the long awaited operation of the international airport in Clark.

The management has to bring up the case of pollution and the sewage of some locators that are being channeled into the sewerage system of the park. The arrangement was that each enterprise shall provide its own sewerage treatment.

VIII. RECOMMENDATIONS

It is recognized that this research, being exploratory in nature, is not enough to provide a very comprehensive situation of the industrial park. However, it generates the following preliminary recommendations that can be subjected to further study and analysis:

1. The plan to hasten the development of the park to the point that it can create an elitist atmosphere within, like devoting much land for the golf club, has to be reviewed. This seems very inappropriate and inequitable since many resources, even if these are privately owned, are being developed for the use of the very few.

2. There have been many industrial estates and industrial parks operating in the country and the LIP does not differ in terms of orientation or purpose. What is needed now is an experiment in attracting local industries which may not be very big, but have the potential for growth and can contribute more to the local economy. It is like helping the needy industries grow. What is happening now is the opposite. The bigger and more stable industries are the ones getting the greater incentives and support.

3. In exchange for the kind of support that can be provided by the park, the industrial locators will be asked to give better working conditions and minimum salary scale for the workers. In this way, the industrial park becomes an instrument for economic development as well as social transformation.

4. The management of the industrial park has to respond to the needs expressed by the workers, particularly the transportation facilities. The sewerage and pollution problems also have to be monitored and given corresponding action.

5. For the local government, the planning of services should take into account the projected population and their demand for services in the coming years. The establishment of the industrial park is a big factor for growth and it is causing a lot of change which the local government should seriously address.

6. The workers should learn to organize themselves because this is their right. The industrial peace is one of the reasons the firms located in the park but it does not mean that the presence of labor unions would lead to the decline of this peace.

BIBLIOGRAPHY

Central Luzon Development Program (1995-2010)

Luisita Industrial Park Information Materials

Sanyo Company Profile

Socio-Economic Profile of Tarlac, 1996

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