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A REVIEW OF LAND SETTLEMENTS IN THE PHILIPPINES
1900-1975

by

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Abstract

The history of land settlement programs in the Philippines from 1900 to 1975 is reviewed from secondary sources, including three case studies. A few similarities are noticed among all of the resettlement movements: (a) the small number of families that are directly resettled by government programs, and (b) the large proportion of spontaneous migrants that are attracted by the government stimulus. One conclusion is that while land settlement increased total production of the country as a whole, it had unintended side effects such as increased cultural conflicts. Neither land settlement can be expected to permanently solve agrarian problems although the presence of frontier land can temporarily delay acute conditions.

A Review of Land Settlements in the Philippines, 1900-1975

by Cayetano Paderanga, Jr.*

The Philippines has already had quite a substantial period of land settlement. Since the pacification of the Muslim south, streams of migration have been observed heading southward. At the same time another stream was observable going in the opposite direction, towards the sparsely populated regions of Isabela, Cagayan Valley and the neighboring provinces. This process proceeded with government toleration and at times explicit encouragement even during the earliest American colonial period.¹ Two types of resettlement can be distinguished. The first is official, government sponsored, formal public settlement programs. These were undertaken in response to perceived conditions at one time or another. Sometimes this was an overcrowding in areas experiencing agrarian unrest, at times it was a need to fill up an empty frontier. The second type is spontaneous private movements in response to various government policy changes including the government's own resettlement programs. In most cases, spontaneous resettlement followed earlier (and at times initially "unsuccessful") government programs.

I. Purposes and Classification of Land Settlement Schemes.

To alleviate population pressure in already settled areas and to increase food and agricultural raw material needs of the country, the government went into new land development. Proponents of new land development have pointed to apparent land reserves, to the increasing population

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pressure and to the burgeoning numbers of landless rural families as evidence of the need for government-assisted, or at least government-guided resettlement. Among the various objectives of government-assisted resettlement programs are the increase in agricultural production and the acceleration of both national and regional development by improving the quality of life of the poor through programs of rural development. This involves the distribution of public agricultural land to landless families. Resettlement has also been used by the government to encourage migration to sparsely populated regions and to develop the hinterlands through the building of new communities where the level of living of settler families may be upgraded.²

Types of Land Settlement Schemes

The Philippine resettlement program has evolved from various separate, and sometimes unrelated responses to various problems that have cropped up over the years. In this paper, we take a unified view of the present programs within the context of a national response to population distribution problems even if these were not consciously thought out in these terms at the time the separate parts were implemented. Population distribution problems are varied. One type is that of rural overpopulation relative to the resource base given the technology in use in that area. Conversely, there may be a problem of rural areas with too few people resulting in perceived development lags due to a labor force size insufficient to attain appropriate economic scales. Land settlement programs in these cases can be seen as a policy effort to alter the resource combinations in certain places instead of changing the technology to better fit the existing resource ratios.

In another setting, some countries have cities or metropolitan places that have more people than can be supported by the employment, housing, infrastructure, and services. In some cases, the problem is that "urban places may be too lightly populated or too short of skilled population to attract and sustain economic activities." (Demko and Fuchs, 1979). This is frequently true of small or intermediate sized cities, leading to a lag in the growth of regional urban center which are unable to provide services to their hinterlands. The resulting urban network is unable to service the lower hierarchy hinterlands which then lag while the primate city continues to attract an inordinate share of population and resources.

The Philippine settlement program is a combination of the responses to the different types of population distribution problems listed above and to other types of problems. During the earlier part of the period under review, the land settlement scheme was typically rural in character. Settlers were moved from areas where high man/land ratios and strained landlord - tenant relationships resulted in widespread agrarian problems to areas that the government perceived to be sparsely populated (at least by standards of settled farming that was predominant in the pacified Christian areas). A good example of this program were the resettlement of landless farmers from troubled Central Luzon to the large unfarmed areas of Central and Southern Mindanao. In the latter part of the period, a second type of settlement program appeared. This was the resettlement of landless families from the (perceived) overcrowded areas of Metropolitan Manila to outlying towns and provinces or to other parts of the country. This chronological process is summarized below. The specifics of some of the programs are discussed later.

A condensation of specific land settlement objectives throughout the period under review provides the following taxonomy of goals for the settlement program:

1. Economic - an increase in agricultural production
 - a. by an absolute increase in cultivated area, and
 - b. by a transfer of agricultural workers from overpopulated regions to regions where the man-land ratio was very low.
2. Social - the alleviation of social problems, especially agrarian unrest, by the transfer of population from overpopulated areas and regions where the tenancy ratio was high to the frontier; and
3. Political - the dual objective of pacification and integration of tribal groups living at the frontier by the introduction of settlers in their midst.

Objectives of the Study:

This study seeks to determine the extent to which the aims of the settlement program were met, as well as the possible reasons for success or failure, and to check for unintended incidental effects of the program and how these side effects affected the ultimate attainment of the goals. Finally, we assess the ultimate economic, social and political impact of the program on national development with a view to distilling lessons for the design of similar programs in the future. The broad macroeconomic effects of the program are first deduced by reviewing the economic policies and developments during the period. The evolution of the settlement program is also traced and the relationships are pointed out. More micro considerations are then examined by reviewing three previous studies.

II. ECONOMIC POLICIES AND LAND SETTLEMENT POLICY, 1900-1975

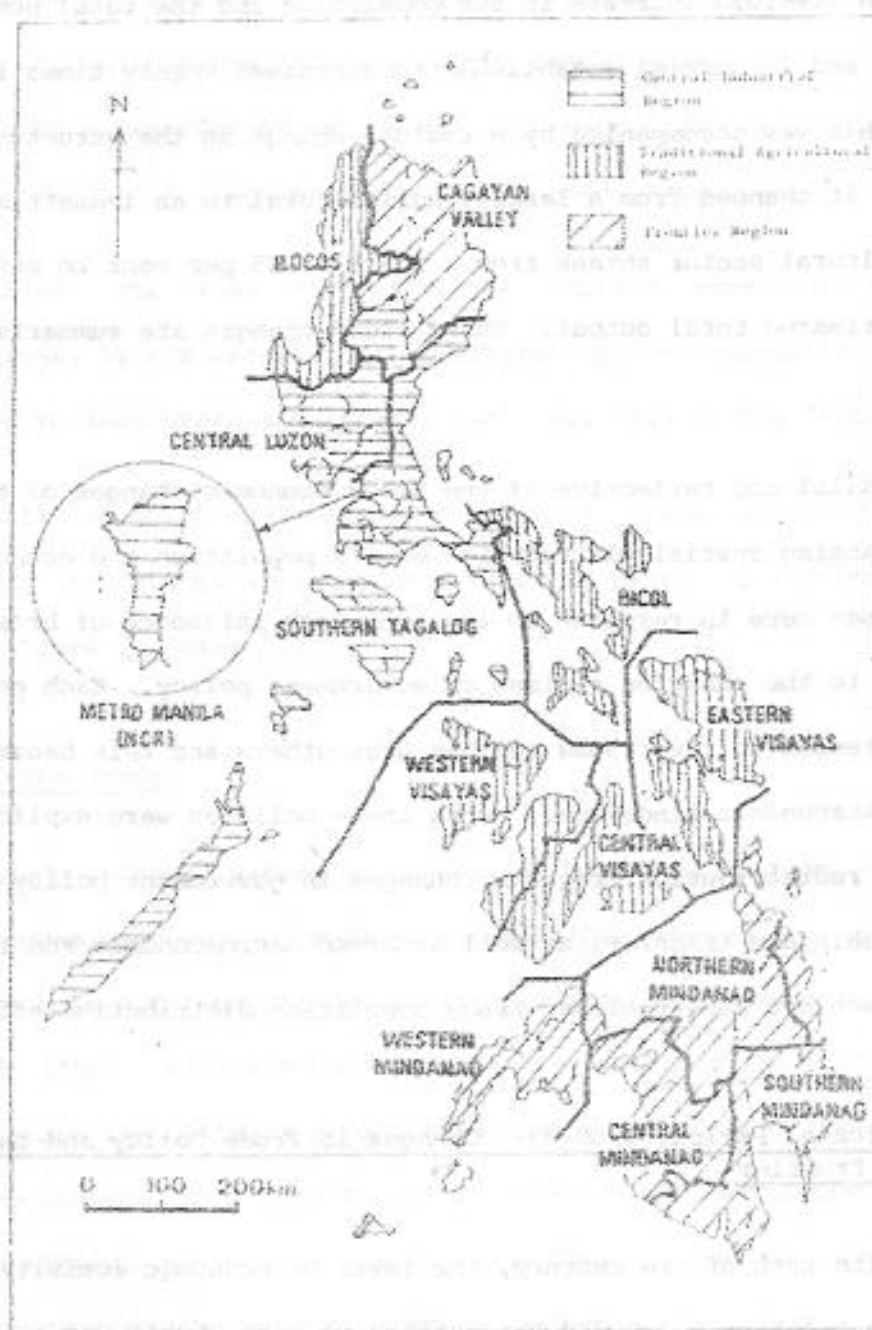
The first three quarters of the century was characterized by profound changes in the Philippine economy. Over the period 1900-75 the country saw a more than fivefold increase in its population and the total number of commercial and industrial establishments increased twenty times its original number. This was accompanied by a radical change in the structure of the economy as it changed from a largely agricultural to an industrializing one. The agricultural sector shrank from a share of 55 per cent to merely 27 per cent of estimated total output. These broad changes are summarized in Table 1.

Parallel and reflective of the broad economic changes of the economy was the changing spatial distribution of its population and economic activity. These changes were in response to the long-term influence of broad historical forces and to the changing regimes of government policy. Each policy regime or period tended to favor some regions over others and this became imprinted on the socioeconomic landscape. Among these policies were explicit government population redistribution programs, changes in government policy regarding land ownership and transfer, as well as broad macroeconomic and trade policies with indirect but nevertheless strong population distribution effects.

A. The Colonial Period, 1900-39: Changes in Trade Policy and the Opening of the Frontier

At the turn of the century, the level of economic activity in the country was relatively low and the pattern of settlements was generally dispersed. The island of Mindanao was virtually unexplored and four hundred years of Spanish rule had left a traditional agricultural economy oriented

Figure 1. Philippines: Broad Economic Regions — NCR, CIR, TAR, and FR.



From: Paderanga and Pernia (1983).

towards the production of export crops. This was the setting of the special trade relationship between the Philippines and the United States.

Three thrusts of American policymakers at that time are of particular interest. First, they wanted to effect an integration of the Philippine colony into the American market. This was done by systematically lowering the barriers to trade between the two countries. A series of tariff laws starting in 1902 and substantially completed by 1913 with the Underwood-Simmons Act implemented this objective. Although minor changes were continually introduced throughout the colonial period, the ultimate result of these policy changes was to allow the unrestricted flow of Philippine and American goods. Because of historical antecedents and by virtue of the Philippine economy's comparative advantage, the end result was a very strong encouragement for the production of primary products. The Philippine Independence Act 1934 continued this trend, at least for the ten-year transition period before independence would be granted.

The second thrust of the American colonial government was the attempt at rationalization of land ownership. During the Spanish era the communal ownership of land during pre-Hispanic times slowly evolved towards formal private ownership, aided by the initial introduction of the encomienda system introduced from the New World where large tracts of land were entrusted to favored individuals (encomenderos) by the royal government for the exaction of tribute in the form of labor, goods and cash. Over time, private individuals gained more formal control over the parcels of land. However, the process of acquiring land was not well defined outside of outright grants from the crown or purchase from other individuals. The mixture of the remnants of Spanish system with that of a different method of land management

TABLE 1: Percentage Distribution of Output, Industrial Employment, and Population by Broad Regional Grouping.

	Output	
	1903	1975
Broad Economic Sector		
Primary	55.0	26.6
Secondary	13.4	33.2
Tertiary	31.6	40.2

	1903		1975	
	Industrial Employment	Pop.	Industrial Employment	Pop.
Broad Region*				
National Capital**	6.5	4.9	47.4	21.8
Metropolitan Periphery	23.1	22.2	16.2	21.8
Traditional Agricultural	67.1	59.6	22.2	39.5
Frontier	3.3	13.3	14.2	26.3

Sources: For 1903 output, see R. Hooley, "Long-Term Economic Growth in the Philippines, 1902-61" in Conference on Growth of Output in the Philippines (Los Baños: International Rice Research Institute, 1966); for 1975 output, see NEDA, The National Income Accounts, CY 1946-75 (Manila, 1978); for 1903 industrial employment and population, see the 1903 Population and Economic Censuses; for 1975 industrial employment, see 1975 Census of Establishments; for 1975 population, see 1975 Population Census.

*Note: The broad regions are (see Figure 1):

- 1) Metropolitan Manila - National Capital Region (NCR)
- 2) Metropolitan Periphery (MP): Central Luzon and Southern Tagalog.
- 3) Traditional Agricultural Region (TAR): Ilocos, Bicol, Eastern Visayas, Western Visayas, and Central Visayas
- 4) Frontier Region: Cagayan Valley, Northern Mindanao, Western Mindanao, Central Mindanao and Southern Mindanao

**Includes the rest of Rizal Province.

and registration under the Americans, led to friction between landowners and tenants and conflicting claims to ownership of parcels of land.

Under the Americans new laws regulating the possession and ownership of land were passed. These laws provided for the disposition of public land and introduced the homestead concept to the Philippines. The possession and registration of private land was also affected. The Philippine Bill of 1902 gave more specific conditions on the disposition of public lands. This opened up huge areas that had previously been closed to private exploitation for various reasons under the Spanish regime. The land opening was aided by the introduction of systematic registration of land titles under the Torrens system under the Land Registration Act of 1902. And the Public Land Act of 1903 introduced the homestead concept to the Philippines. The latter laid down the conditions for the sale or lease of public lands (which the United States had inherited from the Spanish crown in the Treaty of Paris) and provided for the confirmation of titles and the granting for free patents to tenants who had cultivated the land for a period of time. This series of land laws culminated with the Cadastral Act of 1913 which specified procedures for the surveying and delineation of parcels of land. It facilitated the possession and transfer of land. It made the promise given to landless farmers under the Torrens system effective by providing for public funding for the expensive cadastral surveys which had to be borne by applicants prior to this time. The net result of all of these laws were to facilitate the opening up of new land the ownership of which was also guaranteed. This feature would stimulate land hungry families to set out for the frontier and claim their own portion.

The third important plank of American colonial policy was the pacification and amalgamation of the non-Christian portions of the population especially the Muslims in the South. A major strategy used to pursue this objective was to encourage people from the north and middle portions of the country to settle at the frontier, close to and among the Muslims and other tribal groups.

The initial picture at the turn of the century as well as the profound changes in the economy is summarized by Table 1. The 1903 census reveals the economy at that time to be dominated by the agricultural sector. By region, this reflected in the share of the traditional agricultural region (TAR). On the other hand, the initial underdevelopment of the Frontier region is indicated by the low share the region had of total industrial employment and population. Table 2 also shows the population density of the Frontier regions relative to other regions. This glaring imbalance in population densities led to a series of projects to resettle people to the underpopulated areas.

TABLE 2: Population and Density by Region, 1903

Region	Population	Population	Density*
National Capital	370,851	190.67	
Metropolitan Periphery	1,697,432	26.59	
T Traditional Agricultural	4,552,911	47.52	
Frontier	1,014,232	7.33	

*Number of persons per square kilometer

Source of data: Census of the Philippines, 1903

The Initial Opening and Settlement of the Frontier, 1903-1917.

There were hardly any Christian Filipinos in Mindanao at the turn of the century, except in a narrow strip of Visayan settlements on the northern coast of Misamis Oriental and Misamis Occidental. Mindanao's population consisted primarily of various Muslim groups and of pagan mountain tribes such as the Bagobos, Manobos, Bilaans and Bukidnons. During the earlier part of the century, the land settlement policy of the government was one of encouragement rather than of direct participation. The initial response of the Filipinos to the new land policy, however, was disappointing to the new rulers. Applications were relatively few during the early years. In 1912, the Cablenews-American commented editorially on this:

"The framers of the homestead law . . . ignored the very patent fact that the Philippine farmer does not live on the land he tills and cannot be persuaded to do so. The folly of this assumption has been abundantly proved . . . by the very few entries that have been made under it."³

Aside from the legal changes introduced by the new laws, the government, therefore set up the Interisland Migration Division of the Bureau of Labor to assist and guide settler families. This office operated from 1918 to 1939. Although the assessments of the record of this office are mixed, it manifested the government's encouragement of frontier settlements. And after 1912, the number of homestead applicants grew slowly but steadily, no doubt affected by the other land policy changes mentioned above. From 1912 to 1925, applications increased annually from 5,000 to 10,000 averaging 12,000 per year between 1926 and 1930 before declining to 7,000 per year in 1934, the year before the establishment of the Commonwealth government.

Direct Government Resettlement Programs

Direct government land settlement programs started when the Insular government adopted a policy of active encouragement of migration in 1913. It established agricultural colonies which offered free transportation, financial assistance, town sites and surveyed properties. From 1913 to 1917, nine such colonies were founded: seven in Mindanao and one each in the Visayas (Bohol) and Cagayan Valley (Table 3).

This policy arose because the young government was afraid of an influx of large scale American investment in the frontier areas and at the same time sought to direct homesteaders from congested areas of the Visayas into the interior and southern parts of Mindanao. It also hoped that this would lead to the amalgamation and Filipinization of the Muslims and pagans in these areas (Pelzer, 1945). However, these colonies by and large were unsuccessful. Lack of funds, ill-chosen sites and unwise selection of settlers combined to make the total number of migrants small. By 1917, the government, discouraged by the high costs and lack of success retreated from its policy of sponsored colonies. The program was replaced by one that merely encouraged the movement of migrants who could pay for themselves for at least six months at the frontier. This was carried out by the Interisland Migration Division of the Bureau of Labor. It offered free transportation to those settlers who could support themselves for at least a year in the resettlement area. Aside from transportation and guidance regarding the final destination, no other support was offered.

The quantitative impact of these early programs were negligible. Up to 1935, only 30,000 to 35,000 persons had been relocated by the government-sponsored programs. The main reasons given for the failure were the lack of

TABLE 3:

Agricultural Colonies Established by the Insular Government

1913 - 1917

Colony	Year Established	Area (Hectares)
Pikit, Cotabato	1913	2,720
Silik, Cotabato	1913	2,708
Peidu-Pulangi, Cotabato	1913	1,380
Pagalungan, Cotabato	1913	4,475
Glan, Cotabato	1913	1,272
Momungan, Lanao	1914	2,344
Abulug, Cagayan	1914	2,677
Carmen, Bohol	1915	2,464
Talitay, Cotabato	1917	1,720

Source: Sitchon, Land Settlement Policies.

(Reprinted from Pelzer (1945)).

infrastructure in the island of Mindanao, especially the absence of a road network. Wernstedt and Simkins (1971) argue that they had no noticeable effect on the crowded condition in Luzon and Visayas which they were designed to relieve. However, the raw numbers understate the final effect by the volume of those who migrated on their own. The colonies also demonstrated the availability of huge unexploited areas and the feasibility of migrating to the frontier (Pelzer, 1945).

The Commonwealth Period: 1935-1946

The Commonwealth Government maintained the policy of encouraging settlement in sparsely populated areas. Conscious of past mistakes, it concentrated on building up the infrastructure support of towns in Mindanao and other frontier regions. Funds originally allotted for direct expenditure on agricultural colonies were diverted to road construction and public-land surveying. (Pelzer, 1945 (page 135)). As a result of various studies, the government passed Commonwealth Act No. 441, which set up the National Land Settlement Administration (NLSA).

The objectives of the National Land Settlement Administration were:

- (a) To facilitate the acquisition, settlement and cultivation of lands whether acquired from the government or from private parties;
- (b) To afford opportunity to own farms to tenant farmers and small farmers from congested areas, and to trainees who have completed the prescribed military training;
- (c) To encourage migration to sparsely populated regions, and facilitate the amalgamation of the people in different sections of the Philippines;

(d) To develop new money crops to take the place of the present export crops, which may suffer from the loss of preferences which they enjoy in the American market.

The next step was the establishment of the National Land Settlement Administration (NLSA) in 1939. Among its functions were the acquisition of private lands and settlement and cultivation of virgin, public but disposable and alienable lands. Its purpose was to provide displaced and landless farmers with their own land and to encourage migration from congested areas to sparsely populated regions. NLSA opened three major settlement projects: Koronadal Valley and Allah Valley in Cotabato and the Mallig Plains in Cagayan Valley. Eight thousand three hundred families (8,300) were directly resettled by this office at the cost of eleven million pesos until it was replaced by another government agency in 1950.

Specific requirements for settler selection were laid down. They must be (a) Filipino or American of legal age, preferably under 40, married and with children; (b) "fit for a pioneering life" with some agricultural experience; (c) good character and reputation; and (d) be qualified to apply for public lands under the Public Lands Act. However, when news of the NLSA spread, many families moved to the settlement districts at their own expense. Faced with actual presence of families, the administration found it difficult to turn back any settler.

Perhaps the greatest success of these official programs came through these external effects on the surrounding areas of both the source and destination. The new roads connected the important towns of Northern Mindanao and with Davao and Cotabato where the main settlement areas were

and the information that flowed back to the former homes of the settlers induced a long-term voluntary stream southward from the Visayas and helped to fill up Mindanao. Pelzer (1945) documents the rapid growth in the population of Koronadal Valley, Cotabato during this period (Table 4).

B. Immediate Post-Independence, 1946-1960.

Independence dictated a different set of priorities. Whereas colonial policy dictated close integration between the Philippines and the United States, political autonomy now decreed that the economy stand on its own as much as possible. The era of free trade between the two countries was also drawing to a close although "special relations" would persist for a while longer. For the Philippines, this implied that a larger portion of the industrial products it consumed would have to be generated from within. The unifying aim was industrialization with import-substitution as the main method to be followed.

The main policies used to implement this new policy were exchange and import controls. Rather than adjust the overvalued peso, policymakers saw it as an instrument to direct capital funds to preferred industries at subsidized rates. To maintain the official rate, the use of foreign exchange had to be controlled and a system of priorities instituted. Import substituting industries like textiles and appliance manufacturing were favored.

Tax incentives and a comprehensive restructuring of the tariff structure were also used to support the overall objective. Industries classified as "new and necessary" were typically exempted from taxes for limited periods of time. The classification of new and necessary industries followed that used for the import substitution strategy. Tariffs were structured to discriminate between types of commodities. They were essentially biased towards the production of

TABLE 4.

Population Growth in the Koronadal Valley Project

February 1939 - February 1941

	Employees and <u>Dependents</u>	Settlers and <u>Dependents</u>	<u>Total</u>	<u>Increase</u>
1939:				
March	14	73	87	
June	56	298	354	306.90
September	65	446	511	44.35
December	68	865	933	82.58
1940:				
March	98	2041	2139	129.26
June	148	4861	5009	134.17
September	221	8376	8597	71.63
December	282	9641	9923	15.42
1941:				
February	340	10676	11016	11.01
% Annual Increase	392.81	1109.32	1025.26	

Source of Basic Data: Pelzer (1945).

non-essential items and the importation of so-called essential ones⁴ and reflected the priorities of the exchange and import controls and the tax incentives. A host of other policies supported the major policy instruments of the period. Selective credit instruments including long-term financing institutions set up by the government also discriminated in favor of "new and necessary" industries. Still other instruments, although unintentional, were measures to keep the price of consumption goods down. The final policy of the period was the raising of the minimum wage in response to agitation in the urban areas where standards of living and skill levels were higher. Its unintended result was to discourage labor-intensive industries and further bias investment toward the capital-intensive, import-substituting industries.

Hidden among all of these policies was a very strong disincentive to the agricultural sector. The overvalued peso together with the bias of foreign exchange controls toward import-substituting firms effectively taxed the export-oriented agricultural cash crops on which the growth of the agricultural sector before independence was based. Agricultural food products were also discouraged by policies intended to keep food prices to the vocal urban sector low. Thus, the ability of the sector to shift forcefully towards the production of food for the domestic market was effectively choked off by the bias against the sector in the selective credit instruments and the official policy of subsidized importation of "essential" commodities which included food products to keep their price low (especially rice during biannual election years).

Partly as a result of the unintended biases against the agriculture, techniques of production hardly changed in that sector. There was relatively little change in technology and total factor productivity (Crisostomo and Barker, 1972). Until 1960 almost all agricultural growth came from increases

in the physical area of land under cultivation. And this was possible only because of the intensification of the settlement of the frontier region, especially that of Mindanao. Table 5 shows the relative growth rates of agricultural output, per hectare yield and cultivated area for different periods.

The second world war interrupted the settlement activities of the government but it resumed soon after. In the Mindanao frontier areas, applications accelerated sharply right after liberation as newly arrived migrants squatted on former Japanese plantations claiming possession of these parcels all throughout the war years (Simkins and Wernstedt, 1971). In 1950, the Agricultural Machinery and Equipment Corporation whose function was to supply farmers with agricultural machinery and equipment at cost and on installment was merged with the Rice and Corn Production Administration (RCPA) to form the Land Settlement Development Corporation (LASEDECO). This new institution became the implementing agency of the resettlement program of the government. By the end of its existence, it had resettled 1,500 families at the cost of 3.5 million pesos.

The resurgence of agrarian problems manifested by the communist-oriented Hukbo ng Bayan Laban sa Hapon (National Army against the Japanese), later known as the Hukbalahap or Huks, necessitated some more reshuffling of government agencies. In 1954, the National Resettlement and Rehabilitation Administration (NARRA) replaced the LASEDECO. Within a period of nine years this agency resettled 20,500 families at the cost of 44.5 million pesos. The government also formed the Economic Development Corps (EDCOR) which promised homestead lands to Huks who surrendered. This program spent several million pesos and resettled 950 families under the NARRA umbrella. Many of these families,

TABLE 5.

Some Indicators of Agricultural Growth

	1950	1960	1965	1970
Net Value Added (total)	3629	5870	7131	8918
(% annual increase)		4.9	3.9	4.6
Per hectare cultivated, 1978	978	1051	1197	1408
(% annual increase)		0.7	2.6	3.6
Cultivated area* (000 hectares)	3711	5580	5958	6335
(% annual increase)		3.4	1.4	1.2

Source: ILO (1974).

*Physical area refers to the maximum area which can be cultivated

at any one time as distinguished from cropped or planted area which

incorporates the number of times a crop is planted in one year (or

the "cropping intensity").

however, were not from Central Luzon where the Huks were active. Less than 250 of them were in the Huk movement. Thus, the program had no noticeable effect on the number of tenant farmers in Central Luzon. The intent was to steal from the Hukbalahap which had become the Hukbong Magpapalaya ng Bayan (National Liberation Army or HMB) the idea of "land for the landless" (Kerkvliet, 1977, page 239).

The Closing of the Frontier, 1962 and beyond.

The second major impetus to the government resettlement program was the alleviation of the agrarian problems in the more densely populated areas of Central Luzon and the Visayas which also had a high tenancy rate. Even when frontier development predominated the settlement program, laws governing agrarian relations were continually being promulgated in response to the increasing strain between landlords and tenants. During the colonial and commonwealth periods the most important laws in the area were the Rice Share Tenancy Act (1933) and the Tenancy Act (1934) which laid down the rights of tenants and landlords and Commonwealth Acts 461 (1939) and 604 (1940) which set up arbitration and litigation procedures to implement the previous laws. The Court of Agrarian Relations was set up in 1955 and on August 8, 1963 all existing laws related to agrarian relations were codified under the Agrarian Land Reform Code. This was further amended in 1971. Aside from outlawing share tenancy and regulating land ownership and agrarian relations, this law created the Land Authority. One of the authority's functions was to administer the land resettlement program as part of the general program of land reform. In 1967, four EDCOR farms were turned over to the Land Authority which would resettle 2,400 families from 1963 to 1971. By 1983, the Bureau of Resettlement of the Ministry of Agrarian Reform would be able to report a total of 52,728 resettled families (Table 7). This

last figure, however, included the number of settlers inherited from previous agencies. The number of settler families in settlements opened after 1963 amounted to a more modest 20,225 families by 1983 --- still a very respectable number.

The change in machinery introduced in 1963 manifested the narrowing of the thrust of government resettlement programs to that of partially alleviating agrarian programs. It implied the increasing perception of the closing or exhaustion of the frontier which had been a major impetus of resettlement since the turn of the century. The decreasing rate of expansion of the cultivated area leading to a deceleration in the growth of agricultural output supported this impression (Table 6)⁵. However, an international study mission in 1974 was skeptical of the facile acceptance of this ideas. An inventory of Philippine land use drawn at the request of the mission indicated an additional 8.6 million hectares still available for agricultural use.

The implication, therefore, is that appropriately designed projects can still be of use both for increasing agricultural output and for alleviating agrarian problems.

C. The Regional Awareness Period, 1970s.

Towards the end of the 1960s, enunciated policy shifted from import substitution to export promotion. At this time, the government displayed a conspicuous awareness of the spatial dimension of development. The indirect effect of the shift in policy was the renewed encouragement of the traditional exports which are based in the traditional agricultural region. Explicit consideration of the regional aspects of policies were also incorporated into investment priority and loan granting formulas.

TABLE 6.

Land Use, 1974

	<u>Million Hectares</u>
Total Area	30.0
Forest	13.7
Suitable for agriculture*	20.8
Existing agricultural area*	12.2
Unused gross potential of agricultural land	8.6

* Includes some land use now in agricultural use but unsuitable for agricultural purposes for various reasons.

From International Labor Organization.

Table 3: Land Settlements, 1983

Land Settlements Administered by the
Ministry of Agrarian Reform
January 1983

Name	Year Opened	Area (hectares)	No. of Families
1. Isabelia Settlement Project	1953	8920	1396
2. Guirino-Nueva Vizcaya Project	1976	40000	735
3. Tarlac Settlement Project	1956	1112	196
4. Tarlac Settlement Project #2	1974	11039	1200
5. Nueva Ecija Settlement Project #1	1972	9019	1653
6. Nueva Ecija #2	1975	351	96
7. Maria Sinukuan (Pampanga)	1970	756	139
8. Rizal Settlement Project	1952	25475	1676
9. Quezon Settlement Project #1	1967	1700	427
10. Quezon Project #2	1976	760	209
11. Laguna-Quezon Settlement Project	1979	4440	300
12. Central Palawan Settlement Project	1950	25381	4505
13. Camarines Sur Settlement Project	1955	8500	1217
14. Masbate Settlement Project	1955	8800	581
15. Capiz Settlement Project	1955	25000	1723
16. Antique Settlement Project	1975	400	90
17. Negros Occidental Project	1955	21500	1333
18. Negros Oriental Project	1958	5010	1302
19. Leyte Settlement Project	1976	1300	208
20. Southern Leyte Project	1975	12673	1101
21. Zamboanga del Norte Project	1972	35000	2591
22. Basilan Settlement Project	1976	15000	667
23. Sulu Settlement Project	1976	7146	269
24. Tawi-Tawi Settlement Project	1955	15340	763
25. Agusan del Sur Project	1968	16440	1204
26. Bukidnon Settlement Project	1955	38400	3748
27. South Cotabato Project	1970	22700	659
28. Davao del Norte Project No. 1	1955	11278	2784
29. Davao del Norte Project No. 2	1971	8221	3748

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TABLE 7 (Cont.)

Region	Name	Year Opened	Area (hectares)	No. Families
XII.	30. Lanao del Norte Project No. 1	1962	13943	158
	31. Lanao del Norte Project No. 2	1953	2737	13
	32. Lanao del Norte Project No. 3	1975	19674	33
	33. Lanao del Sur Project No. 1	1955	18000	435
	34. Lanao del Sur Project No. 2	1974	6939	97
	35. Lanao del Sur Project No. 3	1976	18197	149
	36. North Cotabato Project No. 1	1961	100000	262
	37. North Cotabato Project No. 2	1953	28386	89
	38. Maguindanao Project No. 1	1953	5464	29
	39. Maguindanao Project No. 2	1967	33000	37
	40. Maguindanao Project No. 3	1976	4268	40
	41. Sultan Kudarat Project No. 1	1955	52469	237
	42. Sultan Kudarat Project No. 2	1974	52237	95
TOTAL			736969	5272

Source: Data and Statistics Division
Bureau of Resettlement
Ministry of Agrarian Reforms

(1) Major indications of the change in emphasis were the various investment and export incentive acts of the late 1960s and early 1970s, especially the Investment Incentives Act of 1967 which also created the Board of Investment (BOI). This board explicitly included regional dispersal as one of the criteria for the granting of incentives and loan priorities. Other criteria included export promotion and employment creation, both of which have strong effects on regional development. Included was the revision of the tariff structure to remove the bias for import substitution. The government also undertook a massive national infrastructure program which is expected to have strong positive effects on regions ways from the Central Industrial Region (CIR). Finally, the government has forcefully encouraged agriculture in order to attain self-sufficiency in food. Among other things, a reassessment of policies which penalized the agriculture sector was made.

The government's land policy during this last period may be characterized as one of consolidation. The strengthening and the institutionalization of the changes in land policy have been the emphasis. In a reorganization, the Department of Agrarian Reforms was upgraded to a ministry. In the case of land settlements, farms were turned over to the Ministry of Agrarian Reforms. The Barira and Genio farms in Cotabato province (in Mindanao), for example, were turned over in 1972. Since 1972, sixteen new land settlement areas have been opened for a total of 238,443 hectares. 13,285 new families are being administered to be the ministry's Bureau of Resettlement.

III. Case Studies

In order to highlight the processes, the interactions and the problems of land settlement, three resettlement areas are studied in more detail: (1) The Digos-Padada Valley in Davao Province, (2) Central Palawan Resettlement Project, and (3) Nueva Ecija Resettlement Project No. 1. These analyses are based on separate studies done by other authors on different settlement areas. This closer analysis of settlements is expected to provide a different set of insights which round off the lessons gained from a broader historical discussion of the phenomenon. Because these case studies are of different places, of settlements started at different times, and done by different authors, no direct comparisons are implied. The particular emphasis of this exercise are the characteristics of settlers, the processes of migration and the development of farms.

A. The Settlement of the Digos-Padada Valley, Davao Province⁶

The settlement of the Digos-Padada Valley, Davao province was studied by Simkins and Wernstedt (1971). In their study, the authors wanted to determine

- (i) the reasons for the migration,
- (ii) the history of the migration,
- (iii) the origin of the migrants,
- (iv) the financing of the migration, and
- (v) the socioeconomic impact of the immigration

movement on the Digos-Padada region.

The Digos-Padada Valley consists of a relatively large alluvial plain and piedmont area along the western shores of Davao Gulf (Figure 2). The lowland begins approximately 30 miles along the shores of the gulf. At the

beginning of the 20th century the Davao-Padanga Valley and surrounding mountain foothills were occupied by four major tribal groups, Davao and Samal, two of whom in the valley had been sites of small settlements. The attraction for migration into Davao province started at the beginning of the 19th century which became more and more concentrated. In addition to several coconut plantations owned by Americans, large areas devoted to sugar, corn, and rice were

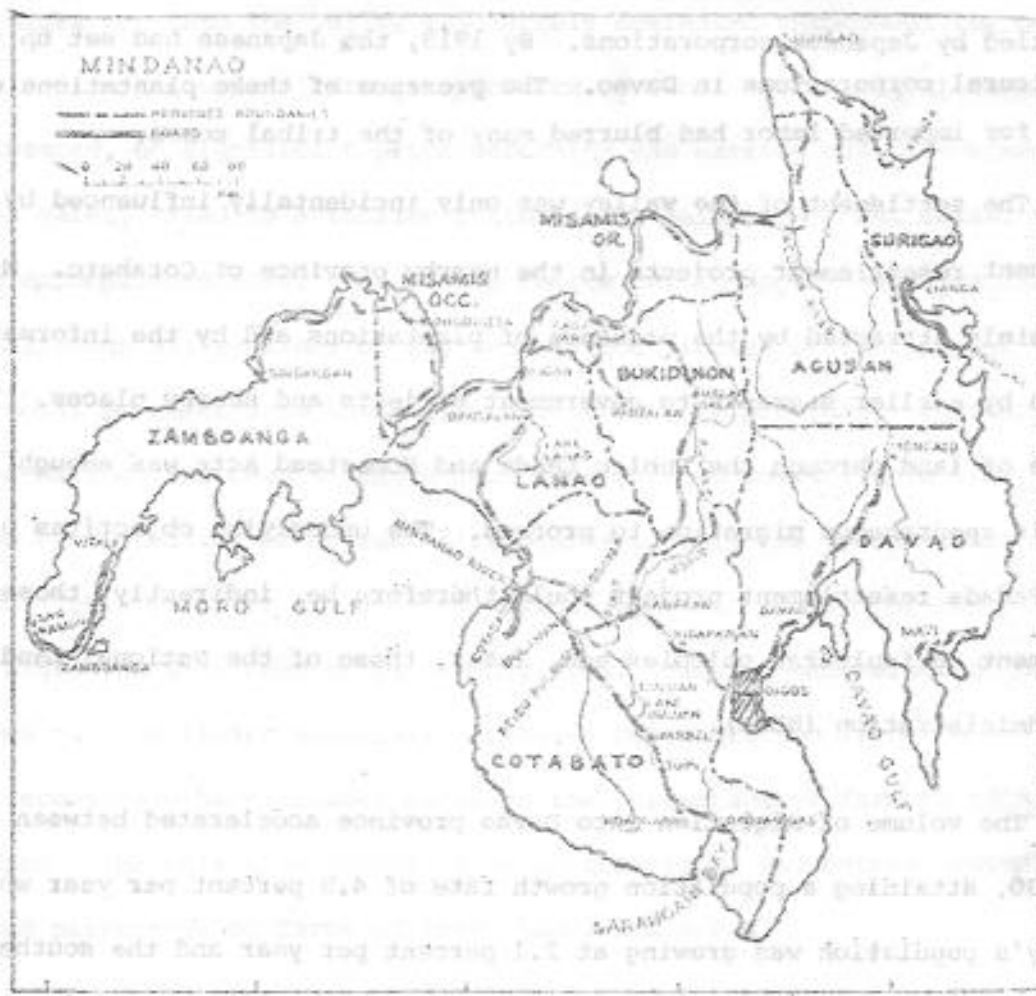


Figure 2. Roads of Mindanao, 1945.

Source: Pelzer (1945).

beginning of the 20th century the Digos-Padada Valley and surrounding mountain foothills were occupied by four major tribal groups. Digos and Bansalan, two towns in the valley had been sites of small settlements. The stimulus for migration into Davao province started at the beginning of the 20th century which became more and more concentrated. In addition to several coconut plantations owned by Americans, large areas devoted to abaca, coconuts and ramie were controlled by Japanese corporations. By 1918, the Japanese had set up sixty agricultural corporations in Davao. The presence of these plantations and their demand for imported labor had blurred many of the tribal zones.

The settlement of the valley was only incidentally influenced by the government resettlement projects in the nearby province of Cotabato. Migrants were mainly attracted by the presence of plantations and by the information relayed by earlier migrants to government projects and nearby places. The promise of land through the Public Lands and Homestead Acts was enough incentive for this spontaneous migration to proceed. The underlying objectives of the Digos-Padada resettlement project would therefore be, indirectly, those of the government agricultural colonies and, later, those of the National Land Settlement Administration (NLSA).

The volume of migration into Davao province accelerated between 1918 and 1930, attaining a population growth rate of 4.9 percent per year while the country's population was growing at 2.1 percent per year and the southern part of Mindanao had an annual growth rate of 3.8 percent. The pattern of new settlements repeated the one set earlier, expanding in belts around the old established towns. Migration into the area continued to be very heavy from 1948 to 1960 after a brief hiatus during the second world war (1941-1945). Over the years, though, the expanding belts started spilling into less and less desirable land and homesteads became difficult to come by. Large in-

migration virtually ceased after 1960 when crude population density reached 650 persons per square mile although there was still considerable shifting within the valley.

Origins and Characteristics of Migrants

Migration into the valley was largely dominated throughout the period by people from the central Visayan province of Cebu. Since migration was largely self-financed, no significant prior screening was carried out. Government agencies vainly tried to establish criteria for selection. But often, faced with an accomplished move, they had no choice but to approve applications for land. Although all sections of the country contributed settlers, over 60 percent of the total movement into the valley came from this province. Furthermore, more than one-half of the Cebu migrants came from only 16 towns (Table 8). There is a strong concentration of migrant birthplaces to only few towns within the province (Table 9). Yet there is no obvious economic reason for the patterns of out-migration from Cebu to be as they were. Simkins and Wernstedt noted that there was no significant association between out-migration from the towns and either excessively high tenancy rates or the percentage of farm to total population. The only significant relation they found was between out-migration rates and percentage of farms of less than 2-1/2 acres.

Another trend noted by the authors was some indication of the influence upon prospective migrants of the presence of relatives or friends already in the Digos-Padada Valley. Nearly 90 percent of migrants reported acquaintances already present in the valley at the time of their arrival (Table 10). Besides the information links between migration source areas and destinations, previous arrivals also assisted new settlers with financial and real assistance. Table 11

TABLE 8.

Migrant Origins in Digos-Padada Valley

Origins of Migrants to Digos-Padada Valley

A. Birthplaces of Migrants by Island:

Island of Birth	Source of Data	
	Interview	Gov't Files*
Cebu	60.8	64.8
Bohol	12.3	8.4
Leyte-Samar	4.7	5.3
Negros	5.2	4.5
Panay	4.9	4.3
Luzon	6.4	8
Mindanao	5.5	4.5

*From Land Applications filed by settlers.

Source: Simkins and Wernstedt (1971).

shows that hill migrants spent a median length of six months with relatives and friends before striking out independently. Migrants to valley locations spent a considerably longer t

The new settlers in the valley were mostly young upon arrival. Their median age at the time of departure from their homes was 23 years (Table 12). Other data led the authors to conjecture that a substantial portion of migrants consisted of families. The age pyramid of the migrants and their descendants (by 1960) was already similar to the Philippine age distribution except for the base and the apex. The valley has a higher proportion of persons 15 years and below and a lower proportion of persons 55 years and older. This is probably an artifact of the relative recentness of the settlement and the selectivity of the migration process for young adults and their families. The migrants also appear to be better educated than the average Filipino. The difference is even larger when the comparison group is the source province of Cebu. The median number of school years completed for migrants into the Digos-Padada Valley was higher than the Philippines or Cebu and the proportion of illiterates much lower (Table 13).

The Migration Process

The settlement of the Digos-Padada Valley was spontaneous and unofficial rather than sponsored. Migrants financed their own transfer with some help from relatives. Money for the trip itself did not seem to be a big problem. A large number of interisland ships plied between Luzon, Visayas and Davao City and passage was relatively cheap. In fact, the mother tongue of the migrants drawn to Davao as against those drawn to Cotabato correspond highly to the established

TABLE 9. Origins of Settlers by Municipality
Percent of Migrants

Town	Province	Pre-1942	1942/later	Total
Argao	Cebu	18.2	15.1	15.8
Sibonga	Cebu	11.8	10.6	10.9
Carcar	Cebu	3.3	4.5	4.2
Tuburan	Cebu	3.3	3.6	3.6
Moalboal	Cebu	2.0	2.3	2.2
Tudela	Cebu	4.0	1.5	2.1
Barili	Cebu	1.1	2.4	2.1
Toledo	Cebu	1.2	2.1	1.9
Minglanilla	Cebu	1.0	1.9	1.7
Cebu City	Cebu	1.9	1.5	1.6
Sogod	Cebu	0.7	1.6	1.4
Danao	Cebu	1.5	1.3	1.3
Naga	Cebu	1.0	1.4	1.3
Catmon	Cebu	1.7	1.0	1.2
Dumangas	Iloilo	1.2	0.9	1.0
Ormoc	Leyte	0.7	1.1	1.0
Total		54.6	52.8	53.3

Source: Simkins and Wernstedt (1971).

TABLE 10: Encouragement by Friends and Relatives

Already in the Valley

Area of Origin	Relatives/Friends Present Prior to Migration			Total Number Migrants

	Encouraged	Did Not	No	
	Migration	Encourage	Acquaintances	
			%	
Cebu	69.2%	18.8%	12.0%	617
Bohol	83.6%	9.8%	6.6%	122
Leyte-Samar	76.6%	12.8%	10.6%	47
Negros	75.9%	11.1%	13.0%	54
Panay	68.1%	25.5%	6.4%	47
Ilocos	71.5%	14.3%	14.3%	21
Other Luzon	73.7%	13.2%	13.2%	38
Mindanao	66.0%	18.0%	16.0%	50
All Areas	71.7%	17.0%	11.3%	996

Source: Simkins and Wernstedt (1971).
(Migrant Interviews).

TABLE 11: Length of Stay with Relatives/Friends upon Arrival
in the Digos-Padada Valley

Months of stay	Hill migrants	Valley migrants
1	7	1
2	4	5
3	3	2
4	1	1
5	-	-
6	1	1
7	-	-
8	3	1
9	-	-
10	-	-
11	-	-
12	7	6
24	2	3
36	3	-
48 and over	1	6
TOTAL MIGRANTS	32	26
MEDIAN LENGTH OF STAY	6 months	1 year
LIVED one year or more	40.6%	57.7%

From: Simkins and Wernstedt (1971).

TABLE 12: Age of Migrants to Digos-Padada Valley

At First Move and Arrival

Percent Distribution

Age	At First Move	On Arrival
0-4	1.9%	1.5%
5-9	4.9%	3.0%
10-14	8.8%	6.3%
15-19	16.9%	12.2%
20-24	22.7%	18.8%
25-29	18.2%	21.2%
30-34	14.0%	16.3%
35-39	5.5%	9.2%
40-44	3.5%	6.1%
45-49	2.2%	2.6%
50-54	.6%	1.4%
55-59	.2%	.7%
60-64	.2%	.4%
65 plus	.1%	.3%
Unknown	.5%	
Total	100.2%	100.0%

Sample = 1,000

Source: Simkins and Wernstedt (1971).

1964-65 Migrant Sample.

shipping routes serving the large towns in Mindanao (Simkins and Wernstedt, 1971). The cost of transportation itself was, therefore, relatively unimportant. The most common means of financing the transfer was through the sale of land, livestock, or crops and financial assistance from family members. Borrowing and sponsorship by prospective employers was of minor importance (Simkins and Wernstedt, 1971).

According to Simkins and Wernstedt, the selection of specific destination within the Digos-Padada valley was mainly influenced by: 1) the availability of land, 2) the accessibility to market roads, 3) the presence of water, and 4) the location of relatives and friends who had previously settled in the valley. Availability of land was of little concern at the start but with the valley filling up, it progressively became more crucial to the locational choice.

The occupation of the Digos-Padada Valley has been dominated by agriculturalists. After the initial sparse settlement by the indigenous tribes came the large American and Japanese corporations which blocked out large tracts of land for plantation development. The plantations started the migration by providing temporary employment bases - and often the cost of moving whole families - for migrants. Settlers would work with the plantations and, in later periods, with earlier settlers until they were able to purchase or homestead their own land. In spite of the initial push of large plantations, historical developments (the expulsion of the Japanese after World War II and the various limitations of ownership of large tracts of land) have led to the pattern of small subsistence farms which now characterize the valley.

TABLE 13. Educational Attainment
Persons 20 Years Or Older

Grade	Philippines	Cebu Province	Digos-Padada Valley
None	29.9	36.5	9.0
1	2.4	2.4	2.7
2	6.1	7.2	8.5
3	7.7	8.4	11.1
4	13.5	13.3	19.6
5	7.7	6.4	10.1
6	12.1	7.6	16.4
7-10	14.8	11.1	17.1
11 or more	6.9	6.8	5.4

Source: Simkins and Wernstedt (1971).

(1964-65 Migrant Survey).

The main crops of the valley are corn, coconuts, rice and others which are often cultivated in combination with corn. The predominance of corn reflects the origin of most migrants in the valley as well as the character of the crops themselves and absence of infrastructure at the start of the settlement. The gestation period for coconuts is a minimum of six years and rarely did a settler arrive with funds for more than six months or one year. Former rice farmers who arrived were also forced to shift by the absence of irrigation necessary for that crop. It was therefore natural for the settlers to fall back on the commodity that was most familiar to the majority of them.

The migration of Digos-Padada valley was described by Simkins and Wernstedt (1971, page 95) as among the more successful migrations as measured in economic terms. For example, while the quality of housing of migrants is essentially the same as it was in the home province, ownership has now risen to 93 percent. Occupational changes have also been beneficial. Almost agricultural laborers interviewed finally had access to land and of unskilled laborers, three fourths are now farmers and the rest were distributed among other occupational categories. And, perhaps, a very important yardstick because this was the most important reason given for migration was the size of farms. The average migrant cultivated a farm of 6.4 acres prior to migration. The average holding has now increased to 10.4 acres since migration (Table 14).

Specifically, the study concludes that:

(1) The migrant has achieved a relatively high degree of success.

a) He has gained access to a substantially larger farm unit

(Table 15).

- b) land ownership has become more widespread
- c) the average migrant family has a much more improved diet
- d) has experienced higher output and entered into some phases of commercial agriculture.

(2) However, mistakes have been made.

(3) Migration cannot be viewed as a panacea for all Philippine economic ills - only as a postponement or temporary relief.

B. Settlements in Palawan Province.⁷

The second case study centers on relatively more recent settlements in Palawan province. The Central Palawan Resettlement area studied by James (1978) was opened in 1950 by the Land Settlement Development Corporation (LASEDECO) and continued by the National Resettlement and Rehabilitation Administration (NARRA) which took over the functions of LASEDECO in 1954. These settlements are located close to the provincial capital, Puerto Princesa, which was still a relatively underdeveloped urban centre in that period. The area was chosen because self-financed and government-sponsored settlers lived in close proximity. Interviews of 100 settlers, evenly divided between self-financed and government-sponsored, supplemented by meetings with key informants (community leaders, public land surveyors, local extension workers, etc.) was the main data gathering technique used. Available secondary data on the area provided by various government agencies were also used.

TABLE 14.

Occupation of Heads of Household (in Percent)

Digos-Padada Settlers

Occupation	Prior to Migration	Present
Agriculture	57.5	77.5
Professional and Administrative	5.5	4.3
Crafts	8.8	7.2
Sales	7.8	4.5
Clerical	0.8	0.6
Unskilled	13.0	2.0
Fishing	5.1	3.6
Others	1.5	0.1

Source: Simkins and Wernstedt (1971).

TABLE 15.

Total Number of Hectares Farmed per Farm Family

Digos-Padada Settlers

Hectares	Prior to Migration		After Migration	
	Number	Percent	Number	Percent
< 1	13	3.1	15	2.0
1.0-1.9	104	24.8	100	13.6
2.0-2.9	168	40.1	186	25.2
3.0-3.9	73	17.4	138	18.7
4.0-4.9	27	6.4	78	10.6
5.0-7.5	21	5.0	133	18.0
> 7.5	13	3.1	87	11.8

From: Simkins and Wernstedt (1971).

In the study, James (1978)

- (a) explores how profitable opportunities for land settlement may be best exploited.
- (b) seeks to classify the mechanisms by which land settlement occurs and the factors that determine success and failure in such ventures, and
- (c) compares two main approaches to public land settlement and development:
 - (i) self-financed settlement through the homesteading system, and,
 - (ii) government-assisted settlement.

Palawan is the least densely populated province in the Philippines. It covers 5,751 square miles or almost 1.5 million hectares. As of 1976, less than one quarter of the area released for agriculture was occupied and substantial room for future expansion existed. A major government resettlement project covered 25,000 hectares and four more large settlement areas were under consideration. The main objectives of this resettlement project were those being pursued by LASEDECO, i.e. (a) the resettlement of settlers from "overcrowded" areas; (b) the settlement of frontier areas, and (c) an increase in agricultural output.

Origins of Settlers and Reasons for Migrating.

The majority of the settlers (83%) are Ilocanos (a regional grouping occupying the northern part of Luzon, the biggest island which also contains Metro Manila). The next major grouping comes from other Luzon provinces while Visayan settlers are only about one fifth of the total migrants (Table 16). This breakdown is interesting because Palawan is closer in linear distance to

the Visayas than to the Ilocano speaking provinces. It would have been interesting to examine what role government financing played in this phenomenon. However, the study does not provide further cross classification of the settlers.

The migrants came from predominantly overcrowded regions characterized by high population density, high rent-wage ratio, minuscule farm sizes, high tenant to land ratios and low agricultural incomes. In contrast, Palawan has low population density low rent-wage ratio, abundant public land and relative scarcity of labor. For example, James (1978) found that on the average rice harvesters in Palawan earned 50 percent more than workers doing similar work in his comparison area in Pangasinan (a province of the Ilocos region, which is almost identical with Northern Luzon region). He also found that landowners earned on average 42 percent in the source areas compared to 36 percent in Palawan. Thus, the ratio of wages to land rent highlights the different returns to functional resources in the origin and destination. He also found significant changes in land ownership in terms of average sizes (Table 17) and land tenure (Table 18). Prior to migration, almost three fourths owned no land those who owned land had an average size only 2-1/2 hectares. Following migration to Palawan, almost all owned land (or possessed it) with an average size of 8.8 hectares.

The main attraction to Palawan was, therefore, the availability of land. Fifty-nine percent cited landlessness as the major reason for migrating, and three fourths mentioned land availability as the reason for selecting Palawan. Financing for the move differed between the two groups delineated by the author. Forty-six of the 50 government-assisted settlers were moved at government expense and only 10 reported receiving aid from relatives or

TABLE 16:

Settlers in Palawan Field Surby by

Geographic Origin

Province	Number Originating*	Percent
From		
Pangasinan (Luzon)	50	25
Zambales (Luzon)	30	15
Palawan (Cuyo Island)	22	11
Other Luzon Provinces	61	30.5
Visayan provinces	37	18.5

Source: Field survey data, Palawan, 1978.

*Includes settler respondents and spouses.

TABLE 17.

Average Area Owned by Settlers, Palawan

Before and After Migration

Type of Settler	Before Migration		After Migration	
	# of Owners*	Average Area	# of Owners*	Average Area
Government Assisted	11	2.64	49	8.01
Self-financed	17	2.53	44	9.34
All types	28	2.57	93	8.64

*Out of sample of 100.

Source: James (1978)

(Field Survey, Palawan).

TABLE 18

Land Tenure Changes

Central Palawan Resettlement Project

Before and After Migration

Tenure Class		Before		After	
		Migration		Migration	
Landless		28		9	
Tenants		43		6	
Owners		24		64	
Others*		5		21	

*Includes squatters, mixed arrangements and
land borrowers (in Palawan).

Note: Refers to effective land tenure arrangements, since some
settlers who had land could not afford to develop it right
away. Legal owners numbered 93.

Source: James (1978)

Field Survey, Palawan.

friends. Twenty-seven of those claimed that they would never have moved without government assistance. In contrast, 38 of the self-financed settlers mentioned assistance from relative or friends.

The Settlement Process.

Very few of the settlers arrived in Palawan with enough resources to transform virgin forest into cultivable farms on their own. Given the circumstances, the result of an initial crop failure would have been catastrophic for the individual settler family. The process of "recontracting", therefore, arose (James, 1978). Under this arrangement settlers contract to work on other lots or to have others assist them in developing their own. This effectively shortens the development period for those farms currently being work on and lessening the chances of an unfinished cropping season. The author also details the steps in farm development and provides an estimate of their costs (Table 19).

This case study also contains valuable information on the comparative costs of establishing a 5 hectare rice farm in the Palawan area between government-assisted and self-financed settlers (50 samples for each group). Table 20 shows the cost estimates by the alternative systems. The author finds the cost of government settlement to be "discouragingly high." He also notes that this does not include administrative or infrastructure costs. Further, only one percent of the total of interest-free, long-term assistance loans had been repaid by 1978. As a result of this, infrastructure in the resettlement area was extremely poor.

TABLE 19. Estimated Cost per Hectare of Development of
Lowland Rice Paddy, Palawan (1978 pesos)

OPERATION	COST	METHOD
1. Land clearing	500	Manual labor
2. Removing tree stumps	1450	Hired labor with carabao
3. Rice paddy formation	1455	Hired labor with carabao
4. Digging irrigation canal	200	Manual labor
Total cost	3605	

Source: James (1978). Field survey data, Palawan, 1978.

Among James' (1978) major conclusions were the following: (a) planned (government-assisted) settlement has involved much higher costs than spontaneous settlement through the homesteading system. Yet, its accomplishments are much smaller in terms of settlers' incomes and farm development, and (b) the difference in results is mainly due to the higher level of skills possessed and the greater facility with which self-financed settlers adopt institutionally to the new environment and the negative incentive features inherent in the doles offered to settlers in the government-sponsored efforts. Unfortunately, not enough detail is furnished on the socioeconomic and demographic differences between self-financed and government-assisted settlers prior to migration. It would have indicated the role that self-selection played in the choice of each type of settler.

The main recommendation advanced by James (1978) is the reallocation of public funds from continuing government assistance (after an initial resettlement area set-up) towards infrastructure provision and depending on the information links between in and out-migration areas to furnish a steady stream of settlers. Other recommendations advanced are:

- 1) recognition and formalizing of the informal market that currently allocated public land so that at least some revenue accrued to the government;
- 2) coordination of lumber and logging operations and settlers in commercially valuable timber land as a means of generating income for settlers and/or facilitating land clearing;
- 3) matching rural development programs to actual conditions in the targeted settlement areas (recognizing for example, that some of the government

TABLE 20. Estimated Costs of Establishing a 5 hectare rice through government-assisted and self-financed settlement.

I t e m	Estimated Peso Cost (1978 Prices)		
	World Bank	Bureau of Resettlement	Self financed Settlers
1. Land survey	370	425	600
2. Land clearing	9,421	1,225	4,836
3. Direct assistance:	12,811	25,170	
a. housing	4,710	10,000	864
b. work animal	1,130	2,000	1,433
c. a year's subsistence rations	5,652	6,000	2,568
d. medical assistance	565	1,200	572
e. seeds and seedlings	377	1,500	86
f. chemicals and fertilizers	377	3,000	415
g. farm implements/handtools	none	900	222
h. land preparation	none	1,500	(by settler)
i. moving and transportation	none	500	711
4. Costs without infrastructure	22,602	27,720	12,307
5. Infrastructure			
(no irrigation)	18,842	4,900	18,842
6. Total cost	41,444	32,620	31,149

Sources: IBRD (1973), ILO (1974), Mimeo, Settlers' Affairs Division, Bureau of Resettlement, Ministry of Agrarian Reform, August 24, 1977, and field survey data, Palawan, 1978.

credit programs in the 1970's are unsuited to areas which lack basic infrastructure);

- 4) recognition that development of family farms appears to be at least as viable as attempts to establish large-scale, mechanized farms in areas such as Palawan;
- 5) realization that attempts to use organized land settlement to achieve income distribution objectives are exceedingly costly and, even then, are likely to backfire.

C. Nueva Ecija Settlement Project No. 1.⁸

The most recent settlement area analyzed as a case is the first Nueva Ecija resettlement project, also known as the Pantabangan project. The case study is also interesting because the resettlement had been brought about by a massive government infrastructure project. The details given in the study are scanty and are interspersed with data on two older settlement projects, one in Bicol and another in Western Visayas. However, because the project is relatively new and because of the special conditions of its inception, it is of interest.

The resettlement project became necessary when a massive hydroelectric project in the mountains of Northern Luzon - the Pantabangan dam complex - was about to flood some villages.

In contrast to the two other resettlement areas studied here, the objective of this one was quite simple and immediate: the necessary resettlement of families who were going to be displaced by a government project. Incidental aims were to carry this out with minimum dislocation and unhappiness.

Several settlement sites in three towns of Nueva Ecija province (at the border of the plains of Central Luzon and the mountainous Northern Luzon regions) were prepared. The size of the transfer can be gleaned from the report of the Ministry of Agrarian Reform (MAR) that 1,653 families had been resettled in the area by January 1981. All in all, the project comprises an area of 5,400 hectares divided as follows:

<u>Location*</u>	<u>Size</u>
Tanauan	1,696 hectares
Lob-lob	2,604 "
Bongabon stock farm	<u>1,100 "</u>
Total	<u>5,400 hectares</u>

*Location refers to the administrative division to which the area belonged.

All of the sites are in the same general area of the province of Nueva Ecija. Tanauan is predominantly hilly but with sizable undulating and rolling terrain. Lob-lob is predominantly mountainous but approximately 70 to 80 percent of the area has undulating to rolling terrain. Bongabon is nearly level and drainage is not a problem. Of the three, Bongabon is the best suited for rice, vegetables and sugar cane. The other two are less fertile and would need some soil supplements for good harvests. The infrastructure supplied by the government are listed below. Unfortunately, construction costs are not included.

1) Survey and Subdivision.	<u>Number</u>	<u>Area (ha.)</u>
Agricultural (farm) lots	70	184
Residential (home) lots	1,659	350
Public lots (Tanauan)	6	2.9

2) Infrastructure:

1. Roads constructed 61 km.

2. Bridges constructed 5

3. Public buildings:

Administrative Office 1

Warehouse/employees' quarters 2

Settlers' houses (temporary) 359

Settlers' houses (permanent) 1,300

Barrio Hall 1

Police Outpost 1

School buildings 4

Public Market 1

Food Terminal Warehouse 1

Municipal Hall 1

Museum 1

High School 1

4. Waterworks:

Deepwells 10

Characteristics of the Settlers

Forty-three respondents from the Pantabangan project were interviewed by the authors. While not a very large sample, it gives some indication of the types of people that were transferred by the project. Compared to other resettlement projects, the present population of settlers are older, with a median age of 40-44 (Table 21). This is probably a result of the wholesale transfer of villages. The self-selection mechanism that makes younger

migrants predominate migrations and which we have come to expect did not to operate. The level of schooling was low (although this finding is uncontrolled for the ages of the respondents, (Table 22) and the major portion of the settlers were tenants, landless agricultural workers and rural nonagricultural workers prior to resettlement (Table 23). However, contrary to expectations and in contrast to the two other projects studied by Reinoso and Briones, farmers constitute a very small proportion of the migrants in the Pantabangan project. The family pattern was predominantly nuclear (72%) and the average household size was seven.

Decision to migrate and changes after resettlement.

The unique character of the Pantabangan project is indicated by the responses on whether it was the household's decision to migrate (Table 24). The overwhelming answer given was "no". When pressed further, the main reason given for their inducement to move was pressure from government agencies (Table 24). In spite of their unwillingness to move, some improvements in their occupation status is seen. Table 23 shows that a substantial portion of the migrants were tenants prior to resettlement. After the move, the number of tenants was drastically reduced. The surprising finding is that nobody became a landowner. Most of the migrants became landless agricultural and nonagricultural workers. However, this may be due to the fact that these towns are close to a major public works project and jobs at the project site were used as an inducement to move. Since labor market work does not entail any investment (land improvement, soil preparation, etc.) on the settlers' part, this was an easier change to make.

TABLE 21: Pantabangan Settler's Age Distribution

Age of Household Head

Pantabangan Resettlement Project

Age	Number	%
25-29	3	6.98%
30-34	8	18.60%
35-39	6	13.95%
40-44	6	13.95%
45-49	4	9.30%
50-54	5	11.63%
55-59	4	9.30%
60-64	5	11.63%
65 & over	2	4.65%
Total	43	100.00%

Source: Reinoso and Briones (1978)

(Field Survey).

TABLE 22.

Educational Attainment, Pantabangan

Educational Attainment of Household Head

Pantabangan Resettlement Project

Educational Level	Number	Percent
None	5	11.63%
Grade 1 - 6	12	27.91%
Elementary Graduate	10	23.26%
1st-4th yr. High School	3	6.98%
High School Graduate	6	13.95%
Vocational Graduate	1	2.33%
College Student	3	6.98%
College Graduate	3	6.98%
Total	43	100.00%

Source: Reinoso and Briones (1978).

(Field Survey).

TABLE 23.

Land Tenure Status, Pantabangan

Land Tenure Status, Pantabangan Settlers

Before and After Migration

Status	<u>Before Migration</u>		<u>After Migration</u>	
	Number	Percent	Number	Percent
Landless Agricultural				
Worker	1	2.33%	13	30.23%
Rural NonAgricultural				
Worker	15	34.88%	22	51.16%
Urban Laborer	2	4.65%	3	6.98%
Tenant	19	44.19%	2	4.65%
Landowner	4	9.30%	0	.00%
Owner-cultivator	0	.00%	0	.00%
Other	2	4.65%	3	6.98%
Total	43	100.00%	43	100.00%

Source: Reinoso and Briones (1978).

(Field Survey).

TABLE 24:

Decision to Migrate, Pantabangan

Migration Decision by Settlers

Pantabangan Resettlement Project

Decision to Migrate

Reasons for Move	Own	Induced	Total	%
Pressure from Gov't		40	40	93.02%
No Better Alternative		2	2	4.65%
Not Applicable	1		1	2.33%
Total	1	42	43	100.00%
%	2.33%	97.67%	100.00%	

Source: Reinoso and Briones (1978)

Field Survey.

In their conclusion, the authors note that there was an absence of unsponsored settlers or spontaneous migration in the areas studied and indicate surprise at this result. They attribute this finding to the type of resettlement in the areas being studied (force or "controlled" migration) and to the choice of sample area. We may venture to add here that the recentness of the opening of the resettlement area is one partial reason. A second and, perhaps, more important additional reason is the potential of the resettlement area for farming. From the scanty evidence available, the site does not possess the qualities for agriculture. The location of the area, at the periphery of the most settled region of the country, provides indicative corroboration of this point. Had the site had potential it would have been settled long before.

III. Assessment of Program Achievements

It may be useful to try to discern an ultimate coherence out of the disparate settlement projects carried out in the first three quarters of this century. The historical perspective provides the theme with which to view the overall effect on national social and economic development even though these projects are varying responses to different problems over the years that may only be indirectly related.

Quite frequently, individual projects had multiple purposes (like the EDCOR projects which had both economic and political objectives) or a project's main emphasis would gradually change as it progressed. It would be difficult to reconstruct all of these changes even for individual projects. It would be even much harder to replicate the modifications being introduced in all of the projects at every juncture. What this exercise provides is an underlying framework for assessing the effect of these projects on national, social and economic development and at the same time lend some balance to hindsight as it is brought to bear on the phenomenon. A distillation of aims found in various documents, studies, and project plans, provides the following objectives:

- 1) settling and development of the land frontier (which was especially important at the early part of the program),
- 2) growth of agricultural output,
- 3) pacification and assimilation of minority groups,
- 4) alleviation of the agrarian problem in overcrowded agricultural regions,
- 5) decongestion of overcrowded cities, especially Metro Manila (which became more dominant in the later period).

This list provides a convenient framework for assessing the program's effect on national development.

A. Population Redistribution and Agricultural Growth

The earliest resettlement projects had the colonization of the frontier as the major objective. There was a feeling that the unexplored areas of Mindanao, Palawan and Cagayan Valley represented resources that were being ignored. This was also coupled with the hope that the influx of Christian settlers into these regions would lead to the assimilation of cultural minorities in these areas or at least blunt the immediate threat of raids or warfare on other regions. This was an important aim in the early settlement of the Mindanao regions. The initial projects, therefore, sought to cause a transfer of enough population to change the economic and political character of the frontier area. In this consideration, the settlement program was very successful. Table 25 shows some of the crude estimates of the volume and percentage of net in-migration into the different regions of the country.⁹ Throughout most of the period 1900-1975, the frontier regions of Mindanao show a steady acceleration in population growth that can only be explained by massive rates of immigration. The record for Cagayan Valley is mixed during the same period.

Within Mindanao itself variations in the timing of the tempo of population growth indicate some of the reasons for the successes and failures of land settlement schemes. During the earlier periods of this century, provinces in Northern Mindanao (Misamis, Surigao and Agusan) were the fastest growing areas in the country. Census figures from 1903 to 1948 show a slight edge for these provinces over the rest of Mindanao. From 1948 until 1970,

Table 25: Estimated Net Migration by Region
1903 - 1975

Region	Population		Net	Population		Net	Population		Net	Population	
	Actual 1903	Estimate 1918		Actual 1918	Estimate 1939		Actual 1939	Estimate 1948		Actual 1948	Estimate 1960
Central Industrial Region	2068283	2793939	-62824	2731115	4236703	139356	4325059	5259318	231196	5490514	7732344
2			-3			4			5		
National Capital Region	370851	500964	14593	515562	799777	268520	1068297	1284214	372752	1656966	2333521
1			3			34			27		
Central Luzon	623467	1112380	-64466	1047974	1625693	-43981	1581712	1901398	-47269	1854189	2611272
1			-7			-3			-3		
Southern Luzon	873965	1180595	-13016	1167579	1811233	-86193	1725058	2073706	-94347	1979359	2797550
1			-1			-6			-5		
Traditional Agricultural R	4552911	6150297	-123247	6027050	9349595	-694455	8665140	10416483	-391181	10025302	14118730
2			-2			-9			-4		
Ilocos	1045933	1412898	-36602	1376296	2135010	-406594	1728416	2077752	-133504	1944248	2738103
2			-3			-26			-7		
Sisal	643901	869813	-29809	840004	1303075	-43545	1346620	1618790	47669	1666459	2346890
1			-4			4			3		
Western Visayas	1083474	1463610	-116361	1347249	2089950	83629	2173579	2612889	-82372	2530517	3563752
2			-10			5			-4		
Central Visayas	1124444	1518954	-32978	1485976	2305153	-350787	1954366	2349370	-220395	2119975	2985581
2			-3			-20			-11		
Eastern Visayas	655159	885021	92504	977525	1516407	-54248	1462159	1757681	6422	1754103	2484403
1			11			-4			0		
Frontier Region	1014232	1370075	186070	1556145	2414005	546099	2960104	3558381	159985	3718366	5236611
2			14			24			5		
Cagayan Valley	343399	463880	-13994	449986	698051	17632	715683	860332	-85290	775042	1091499
2			-4			3			-11		
Western Mindanao	188675	254871	65238	320109	496576	166525	603101	724996	37771	762767	1074212
2			26			23			6		
Northern Mindanao	226530	306008	52962	358970	556860	149507	706367	849133	73034	822167	1298607
2			18			28			9		
Southern Mindanao	138583	187205	19225	206430	320229	130576	450805	543919	35744	577663	813528
2			11			40			7		
Central Mindanao	117045	158110	62540	220630	342288	141860	484148	582001	98726	680727	958674
2			37								
PHILIPPINES	7633426	10314310		10314310	16000363		16000303	19234182		19234182	27987685

Sources: Population Census (1903, 1918, 1939, 1948, 1960, 1970 and 1975)

1970	1975	1970	1975
Actual Density	Actual Density	Actual Density	Actual Density
12035149	151.01	14393985	218.80
4175477	2146.77	5233593	2640.79
3713952	203.73	4360741	239.21
4149770	90.98	4799651	105.22
14985896	156.45	16596504	173.22
2990561	172.44	3269391	151.57
2964881	168.29	3193721	181.14
3618326	176.93	4146390	205.04
3032719	202.84	3387274	226.56
2381409	111.12	2599728	121.31
9653391	69.78	11090171	60.08
1691459	46.45	1933177	53.08
1869614	100.05	2047882	109.42
1952735	68.96	2314205	81.73
2206726	69.40	2714558	85.60
1941457	87.00	2070349	92.77
36684486	122.27	42070660	140.23

however, Western, Southern and Central Mindanao started to outstrip the Northern portions of the island with figures even indicating net out-migration for Misamis. During the period 1948-1960, Southern Mindanao which is made up of Davao and portions of Cotabato was growing at 10% annually, twice the rate of growth for Mindanao which in turn was growing twice as fast as the whole country. Vandermeer and Agaloos (1962) ascribe the later boom in the southern areas of Mindanao to an initial absence of a good transport network in these areas. They further point to the rapid settlement of the provinces there, especially Davao and Cotabato, after two major highways were built connecting the important settlements of Davao City and Cotabato City to each other and to Cagayan de Oro in Northern Mindanao. These findings are corroborated by Pelzer (1945, p. 235) and Simkins and Wernstedt (1965, p. 115) with the latter also suggesting a substantial role to the flow of information between the origin and the source areas of migration.

The ultimate effect of these changes was to change totally the demographic profile of the Philippines. This is manifested most in the increasing proportion of the population living in the island of Mindanao (and in the Metro Manila area) and the relative changes in population density. From about one seventh of the population density of the traditional agricultural region at the beginning of the century, Mindanao's density rose to just one-half by 1975. This change is reflected in Table 26. This implied that the notion of Mindanao as a safety valve for overcrowding in other parts was rapidly eroding. But it also implied that a larger proportion of the labor force now resides in the "frontier" regions.

The change in the distribution of population and labor force had consequences in the distribution of output. The frontier regions started to account for a larger and larger portion of total output. This is reflected in the

Table 26c Regional Population and Population Density
Selected Years

	1903		1918		1939		1948		1960	
	Actual	Density	Actual	Density	Actual	Density	Actual	Density	Actual	Density
Central Industrial Region:	2068283	31.44	2731115	41.52	4375059	66.51	5490514	83.46	8069094	122.66
National Capital Region	370851	190.67	515582	265.07	1068297	549.25	1656966	851.91	2594973	1334.18
Central Luzon	823467	45.17	1047974	57.49	1581712	86.76	1854189	101.71	2566852	140.80
Southern Tagalog	873965	19.16	1167579	25.60	1725050	37.82	1979359	43.39	2907269	63.74
Traditional Agricultural	4552911	47.52	6027050	62.91	8665140	90.44	10025302	104.64	12432361	129.76
Ilocos	1045933	48.49	1376296	63.81	1728416	80.13	1944248	90.14	2427581	112.54
Palawan	643901	36.52	840904	47.64	1346620	76.38	1666459	94.52	2362707	134.01
Western Visayas	1083474	53.58	1347249	66.62	2173579	107.49	2530517	125.14	3078305	152.23
Central Visayas	1124444	75.21	1485976	99.39	1954366	130.72	2119975	141.79	2522802	168.74
Eastern Visayas	655159	30.57	977525	45.61	1462159	68.23	1764103	82.32	2040966	95.23
Frontier Region:	1014232	7.33	1556145	11.25	2960104	21.39	3718366	26.87	6586230	47.60
Cagayan Valley	343399	9.43	449986	12.36	715683	19.65	775042	21.28	1202066	33.01
Western Mindanao	188675	10.10	320109	17.14	603101	32.28	762767	40.83	1350731	72.31
Northern Mindanao	226530	8.00	358970	12.68	706367	24.95	922167	32.57	1297345	45.82
Southern Mindanao	138583	4.37	206430	6.51	450805	14.22	577663	18.22	1352798	42.66
Central Mindanao	117045	5.24	220650	9.89	484148	21.70	680727	30.50	1383290	61.99
PHILIPPINES	7635426	25.45	10314310	34.38	16006303	53.33	19234182	64.11	27087685	90.29

Sources: Population Census (1903, 1918, 1939, 1948, 1960, 1970, 1975).

Net Migration	Population Actual 1960	Population Estimate 1970	Net Migration	Population Actual 1970	Population Estimate 1975	Net Migration	Population
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Actual 1960	Estimate 1970	Actual 1970	Estimate 1975	Actual 1975	Estimate 1980
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Actual 1960	Estimate 1970	Actual 1970	Estimate 1975	Actual 1975	Estimate 1980
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336750	3069094	10927865	1111334	12039199	13806846	587139	14393985
5			11			4	

261452	2594973	3514337	661140	4175477	4788538	445035	5233593
12			20			9	

-44426	2566852	3476253	237699	3713952	4259250	101491	4360741
-2			8			3	

119719	2907269	3937275	212495	4149770	4759057	40594	4799451
5			6			1	

-1686369	12432361	16836979	-1847083	14989896	17190777	-594273	16596504
-15			-13			-4	

-310522	2427581	3287640	-297029	2990561	3429648	-160257	3269391
-14			-11			-5	

15812	2362707	3199782	-232901	2966881	3402491	-208770	3193721
1			-9			-7	

-485447	3078305	4168907	-350581	3618326	4149584	-3194	4146390
-17			-16			0	

-462779	2522602	3416597	-383878	3032719	3477996	-90722	3387274
-20			-14			-3	

-443437	2040966	2764053	-382644	2381409	2731058	-131330	2599728
-23			-17			-5	

1349619	6586230	8919642	735749	9655391	11073037	7134	11080171
26			9			0	

110567	1202066	1627942	63517	1691459	1939806	-6629	1933177
11			4			0	

276519	1359731	1829277	39737	1869614	2143431	-95549	2047882
26			2			-5	

-1352	1297345	1756977	195758	1952735	2239444	74761	2314205
0			12			4	

339270	1352799	1832676	368650	2209726	2523346	190712	2714558
56			21			8	

424616	1383290	1873371	68086	1941457	2226510	-156161	2070349

27087685	36684486	42070660	26684486	42070660	42670660		
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27087685	36684486	42070660	26684486	42070660	42670660		
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27087685	36684486	42070660	26684486	42070660	42670660		
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27087685	36684486	42070660	26684486	42070660	42670660		
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27087685	36684486	42070660	26684486	42070660	42670660		
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27087685	36684486	42070660	26684486	42070660	42670660		
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27087685	36684486	42070660	26684486	42070660	42670660		
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Table 27: Regional Share of Employment and Establishments
1903, 1948, 1971/72

Region	Employment			Establishments		
	1903	1948	1971/72	1903	1948	1971/72
Central Industrial	32.09%	23.46%	23.75%	25.06%	22.64%	22.97%
NCR	6.75%	6.18%	5.91%	1.60%	2.33%	3.54%
Central Luzon	12.19%	7.91%	8.79%	10.11%	8.74%	7.98%
Southern Tagalog	13.15%	9.57%	9.05%	13.35%	11.57%	11.45%
Traditional Agricultural	60.21%	54.67%	43.56%	66.37%	56.84%	43.50%
Ilocos	12.84%	10.94%	9.42%	23.61%	13.08%	8.96%
Bicol	8.50%	8.43%	9.37%	7.76%	8.77%	9.07%
Western Visayas	15.88%	13.10%	9.71%	9.83%	10.97%	8.15%
Central Visayas	13.81%	12.70%	6.83%	17.56%	14.10%	9.28%
Eastern Visayas	9.18%	9.50%	8.23%	7.61%	9.92%	8.04%
Frontier	7.70%	21.67%	32.69%	8.57%	20.52%	33.53%
Cagayan Valley	3.91%	4.31%	8.53%	3.88%	5.09%	6.50%
Western Mindanao	.50%	3.87%	4.90%	.49%	3.15%	6.15%
Northern Mindanao	2.99%	5.74%	5.22%	4.04%	5.67%	6.70%
Southern Mindanao	.26%	2.60%	6.84%	.16%	2.17%	7.13%
Central Mindanao	.04%	5.15%	7.20%	.00%	4.44%	7.05%
PHILIPPINES	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

increasing share of frontier regions in total employment and the number of establishments (see Table 27). The most profound changes, however, were in the distribution of agricultural output. This was, perhaps, a natural consequence because the settlement program and its corresponding migration stream was for the most part of the period predominantly agricultural in character. The distribution of agricultural output reflects the growing importance of the newly opened regions to the agricultural production of the Philippines. Table 28 shows the distribution of the value of production in 1939 and 1960/61 economic censuses. This tabulation even undertakes the tremendous spurt of agricultural output of the frontier region by using 1939 as the initial year when the base was already much larger than that in 1903. (Data is incomplete for earlier years).

The increase in agricultural output is the second major benefit of the frontier migration. The settlement program induced and encouraged this movement, as we shall show later. While providing land for a huge outflow of population from overcrowded regions, the frontier also supplied the additional food supply for a rapidly growing population. The ILO report in 1974, for example, point to the expansion of the cultivated area as a leading factor in the growth of the agricultural sector (page 453). This finding can be regressed backward as far back as the colonial period in order to fully appreciate the effect of land settlement on agricultural output. When land expansion decelerated between 1960 and 1965, growth in agricultural output also slowed down. The impact is magnified once it is taken in the context of the country's economic structure. For most of the colonial period, the Philippines enjoyed rapid export-led economic expansion under the aegis of free trade with the United States. This growth was largely based on primary

TABLE 28. Regional Distribution of Agricultural Output

	1939 ^{a,c}	1960 ^a	1971 ^b
Central Industrial	29.2	24.9	22.3
NCR	6.9	0.6	0.5
Central Luzon	12.1	11.7	11.6
Southern Tagalog	10.1	12.6	10.3
Traditional Agricultural	50.0	43.8	40.3
Ilocos	9.1	10.6	9.3
Bicol	16.8	8.3	7.0
Western Visayas	19.2	11.9	12.0
Central Visayas	2.5	6.6	5.7
Eastern Visayas	2.5	6.3	6.3
Frontier	20.7	31.3	37.4
Cagayan Valley	1.8	6.0	6.4
Western Mindanao	7.2	4.3	4.8
Northern Mindanao	4.6	7.9	7.1
Southern Mindanao	1.9	4.6	8.4
Central Mindanao	5.2	8.5	10.6
PHILIPPINES	100.0	100.0	100.0

a/ Value of Production.

b/ Census Value Added.

c/ Excludes forestry, logging and fishing.

Source: Economic and Agricultural Censuses (1939, 1960, 1971).

product exports to the American market (Paderanga and Pernia, 1983). While the traditional agricultural region supplied most of the exports during the early period, the frontier areas also produced an increasing portion of this increase (for example, abaca from Davao) at the same time that its production of staple commodities released land for cash crops in other places.

B. Effect on Overcrowded Areas and Minority Groups.

The effect of the land settlement program on the alleviation of agrarian problems in overcrowded or highly tenanted areas and the pacification of minority groups was mixed, at best. The effect on overcrowded areas may be two-pronged, economic (agrarian) and political. On the political aspect, the government's land settlement program enjoyed a brief period of success as Ramon Magsaysay, first as the secretary of national defense and later as president, promised "land for the landless" to undercut the appeal of the dissident Huks in the middle of the nineteen fifties (Kerkvliet, 1977). On the whole, however, the impact of the government's settlement program on agrarian unrest has been negligible and just a decade later, in the 1960s, agrarian problems again feature prominently in the New People's Army's (NPA) appeal to the people. The NPA is a Maoist-oriented group which has supplanted the Huks in Central Luzon and has spread to other areas.

On the economic aspect, the settlement program had no perceptible effect on the proportion of land cultivated by tenants. The ILO (1974) study, for example, reports that the percentage of farms cultivated by tenants was 73% for all types of crops (75% for palay, page 462). This was even a deterioration when compared to figures given in the 1939 census for the same area (Table 29). Even more discouraging is the perceived reversion of the

pattern of land ownership in the frontier to that prevailing in the regions of origin. Krinks (1974, p. 11) provides data which tend to show the rise of tenancy in the town of Mawab, Davao province (which was settled about the same period as the Digos-Padada Valley). One, of course, cannot conclude that resettlement was absolutely useless in solving the agrarian problems in the origin areas of migration. For one thing, present tenancy ratios in these areas could conceivably have been much higher without the out-migration that they experienced in the previous decades. The ultimate reasons for the persistent high tenant-farm ratios may be found in the high population growth rates of the country and the absence of technological and structural changes which failed to (a) free labor from the farms and (b) create employment opportunities outside the farms. In spite of this qualification, the inference is quite strong that land settlement programs cannot be expected to solve agrarian problems by itself. At best, these are palliatives that buy them so that correct policies can operate fully.

The pacification of minority, especially in Muslim areas met with seeming success at the start. For three or four decades after the start of the settlement program in 1913, these areas rapidly became "Christianized" or "civilized," to use terms that were common use in those days. As a result, together with increases in economic output, these areas became more easily governable first by the American colonizers and later on by indigenous officials. As the frontier rapidly filled up, however, conflicts between the original tribal inhabitants and the settlers started to appear. Early friction was present back then (Vreeland et al, 1976) due to both cultural differences and land conflict. But the early problems were few. These conflicts became acute as land available for homesteads became scarcer. At the same time, the building

TABLE 29:

Percentage of Total Farm Area of all Cultivated

Land Operated by Tenants

Selected, Provinces, 1939

Operated by Tenants

Province	% Total Farm Areas	% Cultivated Land
Bulacan	60.5	66.5
Nueva Ecija	57.3	67.8
Pampanga	52.9	67.0
Cavite	54.7	58.5
Tarlac	45.3	52.4
Laguna	41.3	44.3

Source: Census of the Philippines, 1939.

of roads into the deep hinterlands to accompany the much expanded logging operations in the 1950s and 1960s brought new settlers into competition with indigenous groups using different farming techniques (traditionally slash and burn as contrasted with the more settled farms of the new arrivals). (See for example, Nance, 1976). Land disputes was an important part of the accumulation of problems which culminated in the violent uprising led by Muslim separatists in the early 1970s. Thus, in the end the goal of pacification of cultural minorities was not attained after all.

It can, perhaps, be conjectured that the goal of pacification was a victim of its own success. As settlers poured in and as the cultural minorities became smaller proportions of the population in the frontier areas, the frontier was also filling up. And as the frontier became crowded, conflicts were bound to arise. This however, ignores some details of the later conflicts which could have been avoided from the start. While land disputes were an important immediate cause of the break and the land settlement process (both sponsored and spontaneous) underlies the whole situation, cultural differences were also a substantial part of the minority grievances (Vreeland et al, 1976: Chapter 4). And while the population density in the southern parts of Mindanao were much higher than what had prevailed at the turn of the century, these had not even approached those of the rest of the country (ILO, 1974: Table 95). The land problem itself was not purely the result of overcrowding. Rather, it arose out of overlapping spheres of competing techniques of cultivation intertwined with cultural differences. It now seems that with proper delineation of areas and with planning to ensure the observance of cultural differences, the settling of the frontier could have been carried out more smoothly.

IV. CONCLUSIONS AND POLICY IMPLICATIONS

The Philippines' experience in land settlements provides a valuable opportunity to define the proper role of land colonization within the matrix of available policies for future programs and for other countries considering similar approaches. The Philippine experience is somewhat unique and other goals and functions may apply in other countries, not to mention different circumstances. On the other hand, as a developing country, it is reasonable to expect that the Philippines shares common characteristics with other developing countries.

The main conclusion that can be distilled from the Philippine experience is the inability of the land settlement program to solve social and economic tasks by itself. As a result of the complexity of the aims that have been given to the different projects or during certain phases, the program failed most where it was depended upon most. In the preceding chapter we saw how land settlement brought about changes. Yet if compared with the stated aims, the program typically fell short, except perhaps in the literal interpretation of population redistribution. Even here, it can be argued that a deeper meaning of redistribution is what is meaningful. Still, the changes that are traceable to land settlement indicates that in conjunction with other policies, it can be a significant tool available to countries still blessed with this option. The appropriate role of the land settlement program is discussed with the total package of which it can be part of is attempted a little bit later.

One of the functions in which land colonization can still have an important role is the increase in agricultural output. The ILO mission report of 1974 shows that even with conservative estimates a substantial portion of

unused agricultural land still remains to be exploited. Given the deceleration in the growth of agricultural output in the late seventies and early eighties (NEDA National Income Account, various years), land settlement can provide a major portion of the increase in the medium term even if this means reverting back to the old pattern where the country increased agricultural output mainly by bringing more land under cultivation. But land settlement cannot be seen as the only option. To raise agricultural outputs, other instruments must be considered. There is for example intensified cultivation which would entail investments in rural infrastructure (irrigation, rural roads, etc.). The optimal mix will depend on prevailing prices and conditions. Table 30 shows the benefit-cost ratios estimated by both the World Bank and the Bureau of Resettlement, Ministry of Agrarian Reforms. The benefit-cost ratios for irrigation of rice land are higher than those for land resettlement although the latter still has a ratio greater than one if MAR's estimates are used. These are average computations. Final project decisions will depend on more specific assumptions. In general as the land area gets filled up, resettlement costs start to increase rapidly. The prospects for the medium term, given the availability of unexploited land, would point to a moderate pursuit of land colonization in combination with infrastructure additions in settled areas.

The continued use of land settlement as an instrument for increased agricultural production will also automatically fulfill the goal of population redistribution. But instead of emphasizing the numbers, this goal should be embedded in a more general analysis of regional development. Population transfer could, of course, be tied to the balancing of densities between the remaining frontier and the high man/land ratio, low-productivity areas which

TABLE 30: Estimates of Relative Costs of Land Settlement
and Irrigation

	Cost in pesos in 1970 prices				Benefit-cost ratio	
	Per	Per man-day		Per metric ton		Palay rice
	hectare	Palay rice	Maize	Palay rice	Maize	
Land settlement:						
World Bank estimates	3,500	109	55	4,300	3,200	0.76 1.12
Bureau of Land Resettle- ment estimate	2,500	78	39	3,100	2,300	1.08 1.56
Irrigation (NIA systems)	1,200	.	.	.	.	.
Traditional - 0 N	.	52	.	1,800	.	1.61 .
Traditional - 15 N	.	48	.	1,600	.	1.69 .
HYV - 30 N	.	34	.	850	.	3.23 .
HYV - 60 N	.	31	.	790	.	3.33 .

From: ILO (1974): 448.

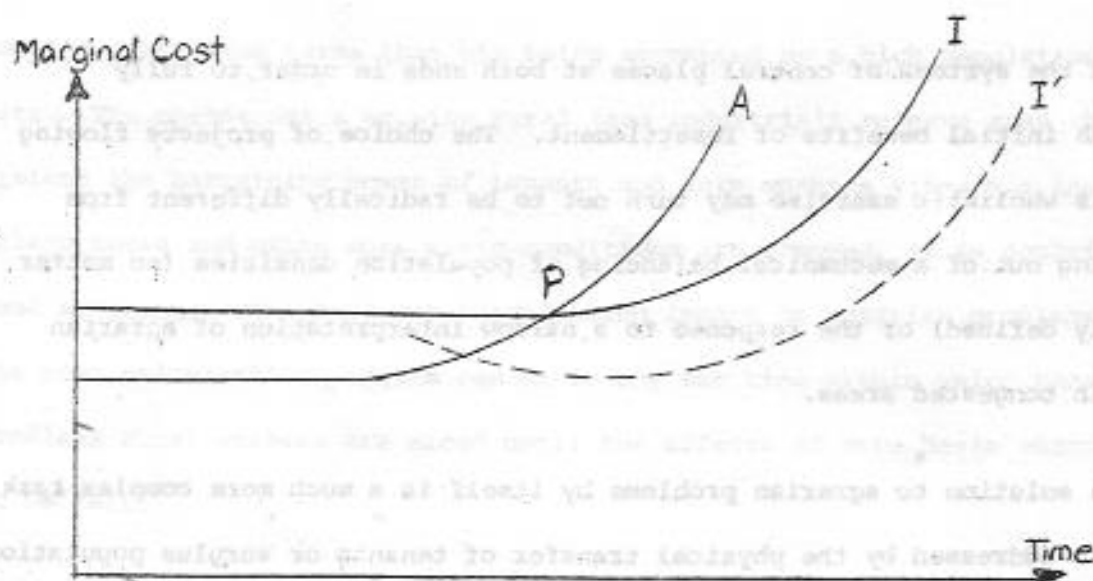


Figure 3 - Comparative costs of increasing agricultural output by opening up new land and by increasing irrigation. (Adapted from ILO 1974).

characterize the lagging regions (Pernia, et al, 1983). But this balancing should be pursued in conjunction with the overall goals of regional development if the original problems are not to be repeated in the new areas. The delineation of target destinations should, therefore, consider the potential for area development which in turn will entail looking at available (or potential) physical infrastructure like roads and irrigation, as well as intangible structures like credit, marketing and health facilities. The case studies (e.g. Digos-Padada) show that a minimum of these infrastructure facilities are required and information about them should filter back to the areas of origin before public settlement project can induce the spontaneous movements which have been much more numerically significant. Considerations of interregional development may also require investing in infrastructure in the origin areas. This type of planning also requires a more careful exam-

ination of the systems of central places at both ends in order to fully exploit the initial benefits of resettlement. The choice of projects flowing out of this wholistic exercise may turn out to be radically different from those coming out of a mechanical balancing of population densities (no matter how broadly defined) or the response to a narrow interpretation of agrarian problems in congested areas.

The solution to agrarian problems by itself is a much more complex task than can be addressed by the physical transfer of tenants or surplus population. The plethora of other agrarian programs and laws undertaken by the government over the same three quarters of a century of land settlement attest to this. Recent studies also show that land tenancy is the result of a complex combination of environmental and institutional factors such as property rights, inheritance laws, and other aspects of the prevailing socioeconomic structure. Among others, the phenomenon of tenancy may be the response of tenants and landlords to these factors (see for example, Scott, 1976, Bardhan, 1977 and Braverman and Stiglitz, 1983). The haphazard introduction of land settlement projects is bound to make no lasting impression on the tenancy problem and may even have unintended effects.

The poverty and maldistribution of income often identified with tenancy may also be substantially influenced by broad macro-economic policies that penalize the agricultural sector as it encourages import-substituting industrialization as what happened in the Philippine case (Power and Sicat, 1971). With the economic atmosphere that prevailed after World War II, agriculture was unable to invest in infrastructure that would have raised labor productivity within the sector. At the same time, dependence on a slow growing, protected domestic market prevented the industrial sector from absorbing the

surplus labor from farms that was being augmented by a high population growth rate. The upshot was a growing rural (and industrial) reserve army that greatly limited the bargaining power of tenants and farm workers vis-a-vis landlords. Unless these and other more basic conditions are removed, it is doubtful that land settlement will have any long-lasting impact on agrarian problems. What the land colonization program can do is buy the time within which tenants and landless rural workers are aided until the effects of more basic changes begin to be felt.

One of the first reasons for the settlement program and one that was apparently fulfilled at first - the pacification of the cultural minorities - now looks to be one of the more palpable failures of the program. The rectification of the grievances on all sides which led to the Muslim uprising and other related problems in the early 1980s is now out of the pale of the program. What is still under the control of program administrators is the design and implementation of present and future projects. The recognition of the complexity of the situation that a settlement program is asked to address should lead to the avoidance of "single-issue" projects (which treat only decongestion of overcrowded areas, for example). Embodied within a broader scheme of regional development, agricultural growth and other goals, land resettlement should automatically consider the effects of all projects in the receiving areas. This includes the possible effects of the projects on indigenous populations. The proper delineation of reserved areas for minorities and procedures for cooperation should be mandated in resettlement plans.

Finally, the most important lesson from this analysis may only be indirectly related to land settlement schemes. Throughout the historical review and the summary of the country's experiences, an underlying theme

remained in the background. A significant cause of the problems that land settlements are called to address are the broad macroeconomic and trade policies which have had a tremendous impact on the spatial configuration of the Philippines. These same policies also tend to negate the long-term benefits that could be expected from the various settlement projects. Unless these more fundamental policy changes are carried out, the ultimate benefits from land settlements will be negligible.

Policy Recommendations

In summary, land settlements should be embodied within a national settlements policy which encompass and coordinate all major policies including macro-economic, trade and agricultural and industrialization policies. Within this policy, goals relating to regional development and the national urban system should be spelled out. Infrastructure development in the regional centers and even smaller central places should be included. Once the broad policies are corrected to reflect the true resource endowments of the country, land settlement projects may then be more easily designed to augment the natural growth processes in those areas where these have inadequate strength. More specifically, the agenda for land settlements may include the following:

- A) The greater coordination and integration of a total national settlements policy which includes all the regional plans and infrastructure programs and which considers the influence and design of broad (and seemingly unrelated) macroeconomic policies.
- B) The systematic inventory of land and other resources as part of regional policy determination in all regions. This will mean that land resettlement would be subsumed under a more general scheme of regional development

- C) The examination of physical and intangible infrastructure investments in resettlement projects as part of the regional development program in order to fully exploit the potential of the projects for
 - i. increasing output, and
 - ii. alleviating poverty and the maldistribution of income.
- D) The mandatory consideration of cultural and other differences in planned resettlement areas in the design of projects.
- E) The systematic examination of macroeconomic and trade policies for unintended effects on the objectives which land resettlement is often called to alleviate. For example, the by-product of a nationwide program to raise productivity may have much more benefit on agrarian problems than the piecemeal palliatives offered by resettlement projects. Other policies, by increasing industrial employment may also raise the opportunity cost of agricultural labor and contribute most to solving the agrarian problem. The removal of policies which work in the opposite direction may be even more promising.

The examination of the institutional framework of agrarian relations should also be continued.

- F) The continuing review of the national urban system. This ties in with the national integration of regional programs. But this would look more towards the strengthening of small and medium-sized cities so that they will act as alternative magnets for migration while supporting the growth of their regional hinterlands.

- G) The final and summarizing lesson from this survey is the call for a coordination of policies. Even a program as apparently unrelated as land colonization is influenced by and affects the other policies. This integration can perhaps be best achieved by using the national settlement policy a necessary part of the planning process. This examination of the resettlement program emphasizes the interrelatedness of the different aspects of the economic structure.

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Footnotes

1. Pelzer (1945).
2. Ministry of Agrarian Reforms (1979).
3. Cablenews-American, May 9, 1912, quoted in Pelzer (1945).
4. Power and Sicat (1971).
5. The growth of output slowed down between 1960 and 1965.
6. Based on Simkins and Wernstedt (1965).
7. Based on James (1978).
8. Based on Reinoso and Briones (1978).
9. These estimates assume uniform birth and death rates throughout the country and a closed economy.

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