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THE BASE ECONOMY OF TOLU

By

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This paper is the author's Master's thesis in agricultural economics at the University of Wisconsin. The author was formerly a research assistant with the Land Tenure Center.

All views, interpretations, recommendations and conclusions expressed in this paper are those of the author and not necessarily those of the supporting or cooperating organizations.

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In spite of this help which I have received, I am alone responsible for the content and conclusions of this thesis.

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THE BASE ECONOMY OF TOLU

INTRODUCTION

The aim of this study is to examine the base industries of the municipio of Tolú in order to gain a better understanding of the local economy and its relation to the national economy.

The municipio of Tolú has been selected as the region of analysis to simplify the problem of delimiting an area and to take advantage of governmental statistics which are usually given by municipio or larger unit. Unfortunately, this region is not a clearly defined economic unit. 1/ Several of the hamlets are nearly self-sufficient while Covenas, in some respects, rivals Tolú as the principal town, as we shall see later.

Spreading Economic Development

In order to better understand the relation between Tolú and the Colombian nation let us examine a model of an underdeveloped country similar to Arthur Lewis's two sector model. Lewis's sectors are the capital sector, which is distinguished by the use of reproducible capital, and the subsistence sector which includes the rest of the economy. 2/ We shall depart slightly from the Lewis model and speak of a traditional sector, which is characterized by small, self-sufficient, communities and a commercial sector, which is characterized by specialization and inter-community trade, since this paper is concerned primarily with trade rather than capital. While very few communities have ever been entirely self-sufficient, to simplify our analysis we shall assume

an area with entirely self-sufficient communities.

As this area begins to develop, a few islands of development emerge within the sea of tradition-bound communities. These islands cannot emerge singly, but by definition must appear at least in pairs. The most common of these links are between rural communities, which specialize in food production, and urban ones, which specialize in manufacturing, handicrafts, services and trade.

Gradually, these islands begin to grow and the sea of tradition subsides. As new land is claimed from the sea by means of dikes, commercial links from the established centers expand the effective size of the market by adding new territory to it. The process of reclamation is a slow one. Old traditions are not quickly discarded, nor are new technology and the corresponding human and non-human capital easily acquired. People from the established centers often dominate the new areas since they have accumulated capital and scientific technology and generally sit in control of the inter-regional marketing apparatus.

The two sectors, the traditional and the commercial, can co-exist with little interaction even in the same community. As pools and marshy areas may not all be drained when new land is claimed, traditional sectors remain even in the most commercialized cities in the underdeveloped countries, not to mention the smaller communities. Two of these sectors, mentioned by Lewis, are traditional agriculture and the tertiary or service industries. 3/ Both supply opportunities for excess labor to find some employment, though many people so employed are really contributing very little to the economy. One should not, however, make the mistake of arbitrarily including all agriculture or

service employment in the traditional sector for both are necessary in a commercial economy and indeed, employment in tertiary activity will normally grow as an essential concomitant of development.

Why is inter-community trade so important? It would not be important without greater productivity which gives rise to trade. The more productive modern sector must be built with new capital and new technology which, excluding gifts and immigrants' possessions, must be either produced locally, or brought in through commerce (i.e., investment by outsiders or in exchange for goods and services produced locally). Moreover, specialization, hence potential production and productivity is limited by the size of the market. Only through inter-community trade can an economy approach its potential given the currently available technology in the world today. Therefore, a study of the flow of goods and services from one community may give some insight into the process of expanding the islands of commerce into the sea of tradition.

Base Industries

Let us now return to our study of Tolú. What can Tolú contribute to Colombian national development? It can provide both goods and services for other regions of the country and a market for goods and services produced in other regions. While the market for national products provided by each region is very important, we shall focus our attention in this study on the production of Tolú since this tells us more about the unique characteristics of this region.

According to a technique for studying urban areas in the United States, which has evolved since World War I, an area may be divided

into base and non-base segments. The region studied is treated as a country. Those enterprises, located in the region, which sell goods and services to non-residents ("foreigners") or to residents ("natives") who in turn sell to non-residents for business (as apposed to consumption) purposes are here considered base industries. 4/ Those industries selling only to residents and those consuming their own products (e.g., traditional non-market agriculture), with the exceptions mentioned above, shall be considered non-base industries. The residual industries selling in both markets may be called "mixed" industries. We shall divide this latter group into base and non-base components according to the percentage of their sales in the two markets as defined above. 5/ Since Andrews, Isard and Tiebout have developed base theory in considerable detail, only a brief sketch of those aspects most relevant to Tolú will be presented here. 6/

What is the special significance of base industries as apposed to non-base industries? Base industries reveal the unique characteristics of a region. Most communities in the United States have grocery stores and gasoline stations, but Detroit produces automobiles, Pittsburg produces steel and Holywood produces James Bond movies. This is not to deny that non-base industries, such as retail markets vary considerably from region to region. They obviously do, especially in a country as diverse as Colombia. Yet, both a modern food store in Bogotá and a bazaar in Sincelejo provide food, in spite of the many differences between them.

Moreover, this unique character of each community is more than a

matter of intellectual curiosity. It should help reveal the comparative advantage of a region. Where this advantage has not been utilized the base study should emphasize it.

An area always has a comparative advantage in the production of one or more goods. Even where the cost of producing every good in region A is higher than in region B, it will often pay A to produce, say, shoes to trade with B for cars. Either the relative cost of production may be such that A can produce shoes relatively cheaper (i.e., in terms of cars foregone) than B can, or there may be economies of outlay in the production of shoes and/or cars. 7/ Thus, the potential total production of a nation can be increased by regional specialization. The degree to which these regional advantages are exploited is an index of economic development of a nation.

Two concepts have developed as part of the economic base theory, the base:non-base (B:N) ratio and the base multiplier. The B:N ratio has been calculated in several different ways. One of the more common of these has been to determine the number of non-base workers for every base worker. Thus, a ratio of 1:2 would indicate twice as many non-base workers as base workers. The significance of this ratio is still poorly understood. It is not constant, as was once thought, but varies from community to community, in the same community over time, and in the same community at the same time using different measurements, e.g. employment and value added. There is some evidence that the non-base sector increases with the size of the community which seems logical since a large city has a greater variety of industries within its limits, given the same

level of technology, than a small town. Yet, a more isolated community may be expected to export less than a more cosmopolitan one. 8/

The base multiplier is a concept derived from Keynesian economics. The base industries, along with investment and government expenditures, are the exogenous elements in the local economy. A change in one of them will have repercussions in the local economy, but they are not determined by the local economy. If the oil pipeline at Covenas were to close down, not only would the employees of the company be thrown out of work, but they would have less money to spend and would, therefore, buy less in the local market which in turn would throw other people out of work. The workers would, for example, probably buy fewer groceries from the local store and, perhaps, cut their own hair rather than going to the local barber shop. Thus, a decline in the base employment would result in some decline in the non-base employment as well. 9/ While this concept has been used in various forms, as a predictive model, there are numerous problems involved which would be compounded by the rough nature of the estimates presented in this paper. The most serious weakness of the base multiplier as that of the simple, original Keynesian multiplier, is that it is more or less unstable. For these reasons, we shall not use it in this study, though it still may have some use in certain studies. In spite of some justified critism of the base concept in general, and the B:N ratio in particular, they still appear to be useful tools if carefully applied. 10/

Having examined the theoretical aspects of the base theory, one can then apply it to a specific case. What can a base study contribute

to the economic development of a community such as Tolú? A study of base industries in a region helps pinpoint weaknesses in the economy. Both entrepreneurs and government officials could profit from such information as a basis for making decisions. The study might indicate that a bottleneck, such as a poor road, was holding up the expansion of an important industry. In such a case the government might be wise to invest more in a road building program, provided that the opportunity costs, in terms of other projects that would have to be foregone or postponed in this or other regions, were not greater than the benefits from the road.

Methodology

Thanks to a grant from the Ford Foundation to the University of Wisconsin, money was made available to a group of six students including the author for a two month period of study in Tolú. Under the direction of Professor James Silverberg, each student examined a different aspect of the town. In the group were students from several disciplines. Working individually, but frequently sharing ideas and information, each student was probably able to learn more about Tolú than any one could have learned alone.

The villagers were very open and willing to answer nearly all of our questions. The author frequently, especially at first, had trouble understanding everything that was said, since his Spanish was weak, and a coastal variety of Spanish is spoken in the area, but this was taken into consideration as much as possible in analyzing the data collected.

The research for this paper was carried out in three stages. The first two or three weeks after arriving in Tolú were spent trying to get a general picture of the town -- the economy, the people, and the language -- and trying to identify the base industries. This stage was largely exploratory.

The rest of the time in Tolú was spent learning as much as possible about its major base industries. All the truck drivers living in Tolú who regularly carried local products from Tolú to other communities were questioned to determine what goods and how much of each they carried from Tolú each year. Bankers, customs and other government officials, storekeepers, and others provided additional material both about the economy of Tolú in general and about specific industries. Since the research topic was the base industries, those involved most actively in the export aspect of the industry, usually also the most successful and prosperous, were selected as informants.

Since few written records are kept, the data was collected with as many cross checks as possible. These checks revealed a considerable amount of conflict. Thus, much of the data collected provides only rough estimates of the production of the industries rather than the exact figures.

Finally, library research was carried out in Madison, Wisconsin especially on the Colombian market for each of the base industries.

Footnotes Section I

1/ Richard Andrews Discusses the problem of defining a region for a base study in an article in Land Economics reprinted in Pfouts (1960), pp. 118-138.

2/ W. Arthur Lewis in Agarwala and Singh (1963), pp. 407-409.

3/ Ibid., p. 402.

4/ Andrews traces the historical development of the base concept in Pfouts (1960), pp. 5-17. Hans Blumfeld is critical of the terms base and non-base. He points out that the quality of the non-base industries influences a base industry's decision whether or not to move into a community. He adds that consumer welfare depends on the quality of the non-base industries. See his article reprinted in Pfouts (1960), pp. 230-277. We have used the terms base and non-base partly in deference to its common usage among urban economists and partly because it is felt that Blumfeld's criticisms are outweighed by other factors which are discussed in this section.

We are including "linked" industries in the base sector. For our purposes "linked" industries may be defined as those serving the business needs of an export industry. We do this because there should not be a change in the base ratio when a hotel buys a hacienda to produce its own milk to sell to tourists rather than buying it from the hacendado. For a discussion of this question see Walter Isard (1960), pp. 197-198 and Andrews in Pfouts (1960), pp. 111-113. These writers bring out the difficulty in using this method. Yet, greater errors would probably be made if one excluded these linked industries.

5/ There are limitations to any method of determining what proportion of "mixed" industries are basic. Other than the problem of "mixed-linked" industries which poses similar problems to those mentioned above, the chief problem with this method is in estimating the market for each industry. This problem will come up again later when we discuss each industry separately. For a discussion of this point and a discussion of an alternative method, the location quotient, see Isard (1960), pp. 195-197 and Charles M. Tiebout (1962), pp. 45-55.

Another problem of measurement is what yardstick should be used to quantify the significance of the base and non-base segments of the economy. Sales, income accruing to residents, value added, and employment are discussed as units of measurement by Tiebout (1962), pp. 45-46. This problem is further elaborated in Andrews in Pfouts (1960), pp. 66-80. In this study we shall use only two of these methods, value added and employment.

6/ Perhaps the most useful works on the base theory are the series of articles in Pfouts (1960), especially those by Andrews, and a pamphlet published by the Committee for Economic Development and written by Tiebout (1962). For a general view of regional analysis including such things as Leontief's input-output analysis applied to inter-regional activity see Isard (1960).

7/ Let us assume that there are 100 workers in both regions A and B and also that B can produce either 20,000 pairs of shoes or 20 cars a month. Therefore, a car should sell for 1,000 shoes in region B. Next assume that A can produce 12,000 shoes or 10 cars a month. Thus, a car should sell for 1,200 shoes in region B. In spite of the fact that workers in region B can produce more of either shoes or cars in the same period with the same amount of labor as A, both regions may benefit if B specializes in cars and A in shoes and they trade the two products if costs of trade do not nullify the respective comparative advantages.

Nevertheless, it is not always advisable for an area to produce those goods and services for which it has a short-run comparative advantage. Sometimes a government may be justified in protecting infant industries in an underdeveloped region while they are getting established. For a good discussion of this issue see Lewis (1955), pp. 348-351.

8/ According to Andrews in Pfouts (1960), pp. 9-10, Homer Hoyt, who formulated the general outlines of the economic base theory in 1936, originally assumed that the B:N ratio was a roughly stable employment ratio of 1:1 and therefore hoped to use it as a predictive tool, we are interested in this study primarily in how it changes. Two types of changes in the ratio are discussed by Andrews (1955), pp. 144-155; business cycles and secular trends. We are interested in the latter.

Blumfield in Pfouts (1960), pp. 238-241 mentions two historical trends noted earlier by Forbat (in an article published in Swedish):

> "1. Replacement of local crafts by large-scale industry working for a national and international market; hence greater share of 'basic' employment.
>
> 2. Increase in services; hence greater share of 'non-basic' employment."

He then concludes: "The 'basic-non-basic' ratio is highest in small, new communities, lowest in large and mature ones."

John W. Alexander compares the B:N ratio as measured in several different studies. This leads him to believe that larger cities tended to have a larger proportion of non-base employment than smaller ones. However, his general conclusion is that more research is needed to determine the significance of the B:N ratio, Alexander Pfouts (1960), pp. 186-212.

9/ Douglass North (1961), places considerable emphasis on the role of exports as the prime movers in the early economic development of the United States. He notes the special importance of cotton. These exports, according to North, considerably stimulated the northeastern section of the country.

10/ James Gillies and William Grigsby attack the concept of the B:N ratio which they claim is very crude since it amalgamates different industries with different linkages to local economic activities. They do admit, however, that it may be useful as a crude tool of analysis, in Pfouts (1960), pp. 214-228.

Blumfeld points out that in an economic system such as the feudal system of medieval Europe, landlords living in towns received "unearned" income from their serfs on the surrounding lands. This "unearned" income Blumfeld argues cannot be considered "basic", in Pfouts (1960), pp. 238-240. In Tolú exports to pay the landlords are less than 5% of the total and therefore, even if this point were granted it would make little difference in this study.

Blumfeld also presents an interesting case which illustrates a problem which might arise in using a simple multiplier in an underdeveloped country. He suggests that a new industry might come into an area, produce enough to supply the entire local market and an equal amount for sale outside the community, and make all those who formerly supplied the community with the product unemployed, except for those few who were able to obtain employment in the new factory. If we further assume that the cost of the machines and other materials which were purchased by the new industry from the outside was greater than the revenue which the firm derived from the export sale, then the employment and the regional income might decline regardless of an increase in both base employment and base value-added, in Pfouts (1960), pp. 254-256. While the base multipli would give misleading results in this case and while the community would be worse off, ceteris paribus, the introduction of this new industry might bring about other changes and lead to long run development of the community.

For a detailed analysis of the multiplier see Tiebout (1962), pp. 57-75.

For contrasting views of the value of possibilities of using a multiplier for prediction, see Isard (1960), pp. 204-205 who is skeptical of its value and Tiebout (1962), pp. 77-82 who feel that by modifying the original multiplier slightly it could be a useful tool.

II. SETTING

Before the arrival of the Spanish, Tolú and the region to the south were settled by the Zenú Indians. 1/ At that time the area was largely forested. In 1535 Alonso de Heredia, a Spanish explorer, founded Santiago de Tolú (now Toluviejo). 2/ Tolú must have been founded about the same period since Santiago de Tolú was connected to Cartagena and the outside world by sea.

When the Spanish discovered gold in Zenú cemeteries, there was a brief period of grave robbing and several attempts to find its source. After they gave up the search, little attention was paid to the region for the Spanish were attracted to the Colombian highlands with its more plentiful supply of Indians and cooler temperatures. Renewed interest in the area occurred around 1880 when French and American lumber companies exploited the cedar and mahogany forests. 3/ The area was extensively logged and has not grown back since. The loggers were followed by cattlemen who are still one of the dominate interest in the region today.

The municipio of Tolú is a political subdivision of the department of Bolívar, Colombia. It is located on the Gulf of Morrosquillo which is part of the Caribbean Sea. This unit, roughly equivalent to a large township or a small county in the United States, includes an area of 183 square kilometers. 4/ The principal town and seat of local government is Tolú, but Covenas and several small hamlets also form part of the municipio. The total population of the municipio is 12,859. A little over half of the people (7,626) live in the cabeza (chief town) Tolú. 5/

Most of the land (about 115 square kilometers) is used for permanent pasture. Only 25 square kilometers were reportedly cultivated during the five year period from 1955 to 1960 and only 7 of these were in crops in 1960. 6/

Natural Resources

The region possesses several important natural resources. The sea provides both food - fish and turtles - and recreation. The mangrove swamps provide wood for cooking and construction, and tannins for tanning hides. Furthermore, the flat alluvial plain east of the swamps is partially inundated each year during the rainy or "winter" months from April to November. Since the soil is constantly being enriched with alluvium, crops can be grown longer without fertilizer than would otherwise be the case. Most of the rice grown in the municipio is grown here. Further east, especially in the neighboring municipio of Toluviejo, the land is quite hilly. These hills, though harder to cultivate, contain large amounts of limestone. Some is exploited to produce lime for white-washing walls, but plans had been made to construct a hundred million dollar cement plant later in 1964 in Toluviejo. Finally, natural gas has been discovered in the municipio of Tolú.

The climate of Tolú is humid tropical, but with a distinctive dry period which extends from January to March. 7/ The following statistics were calculated for Cereté, a town about 75 kilometers south of Tolú from meteriological data published by DANE (Departamento Administrativo Nacional de Estadistica). On the basis of a five year average, there were 81.8 days of rain a year for an average total of 1032.5 millimeters

(40.7 inches). Omitting one of these years for which data was unavailable, the average maximum yearly temperature was 35.3°C. (95°F.), the average yearly minimum was 22.9°C. (73°F.), and the average temperature was 28°C. (82.5°F.). Finally, the average relative humidity in 1956 was 78%. 8/ According to Gordon, most of the Sinú valley (25 kilometers west of Tolú) receives from 43 to 60 inches of rain a year. The climate is similar to that at Cereté and in the Sinú valley. 9/

Economic Development

The department of Bolívar is one of the least developed in Colombia. 10/ Although it has about 5.9% of the population, it only contributes about 32% to the aggregate industrial value of Colombia. 11/ Moreover, the department has fewer hectares of land in crops (either cultivated or permanent) per capita than any other department except the small, highly urban, Atlántico and perhaps Chocó for which no figures were available. (No figures were available for the intendencias or the comisarias). While in livestock raising Bolívar does exceed most departments, it must still be one of the poorest departments in Colombia. 12/

Even in agriculture, Bolívar probably contributes less per capita to the nation than most other departments. In spite of a low population density of only 18.8 inhabitants per square kilometer, lower than most departments, and large areas of flat or gently rolling, generally well watered land, Bolívar only has about 3.5% of the field crop and tree crop land of Colombia. 13/

Why is Bolívar, which apparently has good natural resources so underdeveloped? It must be some combination of little available capital equipment and low productivity of labor.

Toludenos appear to be lethargic. Sol Tax had the following to say about villagers in Guatemala which also seems to apply to those in Tolú:

> "In comparison with North American farmers it seems probable that the difference is that here the farmers work longer (and much harder) during some seasons than in Panajachel, but that in general more time is taken with recreation, visiting, school, and study. The Panajachelenos 'waste' time by bits, American farmers in large doses." 14/

Perhaps this sluggishness of people in Tolú is due in part to the monotonously hot humid climate. Most Toludenos take a siesta or sit around and talk for a couple of hours or more in the middle of the day when it is the hottest. The effect of climate is difficult to judge, however. Some people would point out that all the so-called developed nations of the world today are in the temperate zones. 15/ Others would quickly respond that not all nations in the temperate zone are developed and add that ancient civilizations sprang up in the tropics. 16/ Perhaps all one can safely say is that it is more pleasant for many people to work in cooler drier conditions than in hot humid ones.

Health is almost certainly an important factor in limiting labor efficiency. Dysentery, internal parasites, typhoid, and paratyphoid are all fairly common according to a local doctor. He estimated that 90% of the population had amoebic dysentery, 60% had other internal parasites, and about 2% of the population had either typhoid or paratyphoid. If these figures are even very rough approximations of reality, diseases and parasites must seriously lessen the effectiveness of labor. He added that people have to work, even when they are sick, to get enough money to live on.

Perhaps the low productivity is partly due to the personality and ethnic characteristics of its population. Hagen discusses the Antioquenos and their active role in the industrialization of Colombia and concludes that they were probably leaders largely because of their Basque ancestry and "withdraw of status respect." They were reportedly looked down upon by other Colombians, especially those from Bogotá. Consequently, they released their rage through innovative activity, e.g. establishing industries. 17/ In contrast, the coastal areas including Bolívar were settled by numerous groups, including Spaniards, mestizos from the interior of Colombia, and freed slaves. Many of those Spaniards settling on the coast were from Andulucía which is perhaps part of the reason for the distinctive coastal accent of the region. Using Hagen's logic one might reason that costaños were from more easy going ethnic groups, besides, they did not feel the withdraw of status respect experienced by the Antioquenos. The Negroes on the contrary might even have experienced increased status respect when they were freed. As interesting as this may be, this is highly speculative and it is difficult to measure what if any influence such factors may have had.

In order to have economic growth, there generally must be people who want it enough to make sacrifices. There must be the "will to economize" as Lewis calls it. 18/ Several factors may limit the "will to economize." The family organization on the Caribbean coast seems to be one of these factors. According to a recent study made by Virginia Gutierrez de Pineda more than half of the children in the coastal area

around Tolú are illegitimate. 19/ Most of these are born of uniones libres or de facto monogamy, and some of these uniones are very short-lived. Catholic marriages are most common in the upper classes. It is not at all uncommon for a woman to have children by several men. Often the woman is left as the head of the household. According to a regional census in the Chocó, a third of the economic heads of households were women. 20/ This heavy burden on the woman is detrimental to economic growth since she is unable to work as hard as her husband could for she must also take charge of the household. Furthermore, a man with several women knows that he would have to share his income with them and therefore, it would be necessary to earn a great deal of money before he had enough to live well. Thus, he may decide it is not worth the effort.

The drinking pattern on the coast also seems to be a deterrent to economic growth as it increases the sacrifices a man must make. Bolívar paid 7.9% of the total tax on distilled alcohol in Colombia. 21/ Every day in Tolú one can see groups of people sitting around on doorsteps drinking ron popular (a cheap rum).

The land tenure pattern may also be partly responsible for the low productivity of labor. In the department of Bolívar 56% of the land is held in farms or ranches of 200 or more hectares each. In contrast, 53% of the owners of land have plots of 3 hectares or less. Plots of less than a half hectare comprise 19% of the land holdings. 22/ Furthermore, in spite of the fact that there are about 2,000 households in the municipio, there are only 649 farms. 23/ While some of the other

households are employed in other economic activities, many are landless and under-employed or unemployed.

Hence, a significant facet of the labor force in Tolú is the widespread under-employment. Almost everyone has at least one occupation, yet not all people have as much work as they would like, and still much less than they are capable of doing. Although some of the many who complain about the lack of work may like to complain and would rather sit around and work just enough to get along, some are probably sincere.

It is interesting to note that most people have two or more jobs. The alcalde or mayor also has a store and a farm. While there are over 100 shops in Tolú, most of their owners also have a second job -- often the wife takes care of the store while the husband works on a small plot of land or fishes. Often people have no permanent job and no land and are, therefore, forced to accept any job that they can find and spend much of the time doing nothing.

Largely because of this under-employment many people have left Tolú to seek jobs elsewhere. Some even go from Tolú to Venezuela to work as manual laborers. Some go to work six months or even a year or more and then return again with their earnings to live in Tolú. This is in fact an export industry, since the laborers sell their services to outsiders and return to Tolú to spend some of their income. Since large numbers of people are involved each year, it is an important export. (Unfortunately no way was found to measure it). Other people emigrate from Tolú to live in other towns and cities, especially Sincelejo, Cartagena and Barranquilla.

Investment

The value of capital in Bolívar is also relatively low for Colombia. Although Bolívar has 5.9% of the population, its industries contribute only 4.1% to Colombia's net investment in industry and only 4.4% to the total national industrial energy capacity. Likewise, industries in the department only employ 2.3% of the Colombian industrial workers. 24/

Furthermore, Bolívar has fewer houses with a lower average value each than the nation as a whole. It has only 4.3% of Colombia's houses which only accounts for 3.1% of the nation's residential property value. While it does handle a great deal of ocean and river traffic, it only accounts for 4.5% of the nation's motor vehicles, (excluding tractors). It does have more tractors per farm resident (about 2.6/1000) than the national average (1.7/1000). 25/

The investment picture in Bolívar is similar. While the departmental expenditures in 1960 were 6.8%, very close to the national average, those of the municipios in the department were only 3.2%. 26/

Similarly, in Tolú there is little capital. Most of the private wealth in Tolú is tied up in houses, with small amount of furniture and a few appliances; motor vehicles; boats; hotels; oil company property in Covenas; a little farm machinery; land; and cattle.

According to a sample census of the town of Tolú, (cabeza) only 17.9% of the houses were cement. Most of the other houses in the town and in the rest of the municipio, except Covenas, are made of earth and wood with palm leaf roofs. It was estimated that it cost 585.20 Ps (about $60) to build a similar house in a village in the Sierra Nevada foothills to the north. 27/ The cement houses on the other hand cost more.

The owner of one being built in 1964 expected it to cost 20,000 Ps, and the owner remarked that some of the houses around cost as much as 80-100,000 Ps ($10,000). Many of these more expensive houses are built as summer residents for Antioquenos.

Likewise, there is a considerable variation in the number of appliances and the amount of furniture in the various houses. Several of the wealthier homes, many of the hotels, and some of the stores which are usually located in the same building as the storekeeper's home have either gas operated stoves or refrigerators or both. The great majority of the families in Tolú, however, have only very simple furnishings.

There were about 40 motor vehicles in Tolú. These included 10 buses which were owned by Toludenos and ran between Tolú and nearby towns and cities including Cartagena, Sincelejo, Montería, and Covenas. There were also 1 land rover, 10 jeeps, 4 gasoline trucks and, at least 8 other trucks. 28/ Although cars are frequently seen in Tolú, practically all of them are owned by visiting tourists. Most people who can afford them probably consider jeeps and trucks more practical for Tolú's bad roads.

The other principal forms of private wealth: oil company property, hotels, boats, land, farm equipment, and cattle will be discussed in the section on export industries.

Public capital includes transportation facilities, local public services, credit facilities, and schools and public buildings. Tolú is served by road, sea, and air. There are three roads leading into Tolú. One short dirt road connects several summer cottages and small

farms with the cabeza. The other two roads are more important. The oldest and most important connects Tolú with Sincelejo. This 40 kilometer road is in moderate to poor condition except for two very short stretches of good pavement. At Sincelejo it connects with the main Barranquilla-Medellín road. The second road is considerably poorer, especially in the rainy season. It runs along the coast twenty kilometers south to Coveñas, also part of the municipio of Tolú, and has some very large, muddy holes. Frequent repairs are necessary on vehicles using these roads. Some things such as speedometers and windows are frequently left broken while other repairs are made by the owners themselves in order to save money.

Buses and trucks run on both roads. There are about a dozen buses a day which make the nearly two hour trip to Sincelejo and about five that make the one hour trip to Coveñas. Curiously enough, it takes about an hour to go to either town by car though it is twice as far to Sincelejo. The bus, however, takes longer to Sincelejo since it makes more stops on this route. Five of the trucks carry goods regularly from Tolú to neighboring towns as do the oil trucks and jeeps which use the roads daily.

Tolú is also a seaport, but it has declined in importance considerably in recent years since most goods that used to travel by boat from Cartagena and Barranquilla south along the coast now travel south by road. Tolú suffers from the fact that all ships must now be loaded and unloaded by small dugout canoes. Although there used to be as many as 15 ships a day arriving in Tolú, according to a government official, there

is less than one a day arriving now. 29/ Coconuts and plantain are the chief imports, partly for transhipment by truck. There are also large quantities of liquor and cigarettes smuggled in and things such as coffee smuggled out. Most of this contraband trade is apparently with Panama. Coveñas also has a port which is much better as we shall discuss later.

Both Tolú and Coveñas have airports. Tolú already has regular semi-weekly flights to Medellín and a new semi-weekly service is being started to Cartagena and Barranquilla. Neither airport, however, has any radio controls.

The public services still leave much to be desired. Coveñas has electricity all day, but Tolú only has it from 6:30 p.m. to 6:00 a.m. and Sunday afternoon. Therefore, in order to provide themselves with electricity all day, at least five persons in Tolú have bought generators. The cabeza has 2 gasoline generators with combined installed capacity of 150 kilowatts, while Covenas has 3 generators rated at 150 kilowatts each. Both towns also have municipal water systems, but in Tolú it is crude, the pressure is often low, and rainwater is generally used for drinking water, even by those connected to the town water system (not all are), since municipal water has a bad taste. In addition there are 60 telephones, a telegraph office, and a post office in Tolú. 30/ Yet, Tolú still lacks both a sewage system and a fire department. The latter seems particularly important considering that most of the houses have palm roofs.

A few years ago the government established a branch of the Caja Agraria (Agrarian Bank) in Tolú. The bank makes available three types

of loans to farmers and ranchers: short-term, medium-te..., ---- ----. term ones. Short-term loans of less than a year are made mainly to small farmers, especially renters, to help them finance their crops. Rice is the principal crops grown with the help of such loans. Medium-term loans of one to five years are made primarily to poor farmers to permit them to purchase cattle. Someti es such loans are also used to purchase farm equipment. A person may borrow up to 50% of the value of the cattle or 75% of the value of farm machinery. Long-term loans of over five years are made to finance such things as planting fruit trees, house construction or improvement, and irrigation and drainage projects. The Caja lends an average of 2-3,000,000 Ps pesos in Tolú annually. During the three month period ending June, 1964, the Caja made 300 short-term loans totaling over 700,000 Ps (about 1,200 Ps each) and 30 loans (medium-term) worth 420,068.50 Ps (about 14,000 Ps each). At the same time there was a total of 5,160 Ps outstanding on two long-term loans. 31/

There are no banking facilities available for non-agriculturalists in Tolú. While there are at least nine banks in Sincelejo, Toludehos reportedly do not borrow from them very frequently. Occasionally the Caja does make non-agricultural loans, but these are rare in spite of its official name the Caja de Crédito Agrario, Industrial y Minero.

Education, investment in human capital as Schultz has called it, is important in Tolú. Most of the children were getting at least some primary education. Besides the schools in the town, there were 4 or 5 schools in other communities within the municipio including one in Covenas. There are also two secondary schools in Tolú, one parochial and the other public. Still, primary school is only five years and many children in communities without schools as well as some in Tolú do not get any formal education.

Footnotes Section II

1/ Le Roy Gordon (1957), pp. 32-33.

2/ Ibid., p. 31. Tolú was formerly an Indian town called Balsillas ("little rafts" after the Indians who were great raft-builders). Basillas was renamed Tolú by Alonso de Heredia in honor of the friendly Indian chief, Tolú, according to R. B. Cunninghame Graham (1920), pp. 64-65.

3/ James J. Parsons (1952), pp. 67 and 74-75.

4/ Banco de la Republica, Colombia (1959), "Explicaciones al cartógrafo No. 11". See Appendix II.

5/ Unpublished population census data for the official July, 1964 census according to the local census-taker.

6/ We have assumed that the Banco de la Republica (Colombia) figure for the area of the municipio is correct and that the overestimation of the agricultural census carried out by the Colombian Departamento Administrativo Nacional de Estadistica or DANE in 1960 was entirely in the amount of pasture since this accounted for 76% of the area according and since this is probably the residual category. Under the alternative assumption that the overestimation was evenly distributed in all types of land there would be 140 square kilometers of permanent pasture and only 16 square kilometers cultivated within the five year period. DANE (1964), p. 46. See footnote II-4 and Appendices I and II.

7/ According to the Köppen-Trewartha System of classifying climates, Tolú is in the Aw region. Robert R. Nathan Associates, Inc., (1960), Map No. 3 between pp. 16 and 17.

8/ Moreover, the lowest recorded temperature from 1951 to 1956 at Cereté was 16° C. (61° F) and the highest 38.8° C (102°F). Since 1951 complete statistics were only available for the years listed above. DANE (1962), p. 6.

9/ Gordon (1957), pp. 6 and 7. During our stay in Tolú the temperature reading in our hotel was very rarely, if ever, above 35°C (95°F) or below 25°C (77°F). The temperature is nearly the same throughout the year.

10/ The sparsely populated Amazon regions are still less developed but they do not even have the political status of departments.

11/ Calculations were based from table "Investigación Industrial - 1959" in DANE (1962), p. 67 and the 1951 census as published in Hincapie (1959), p. 29.

12/ Based on a summary of the results of the national agrarian census of 1960 presented in DANE (1962), pp. 140-146.

13/ Unfortunately the total area in agricultural production in Colombia was available for 1957 while agricultural census was made in 1960. Since the area in agricultural production does not vary greatly from year to year, this should not greatly alter the data. DANE (1964), p. 46 and Hincapie (1959), p. 156.

14/ Sol Tax (1963), p. 85.

15/ Ellsworth Huntington (1945).

16/ Lewis has a useful discussion of this question (1955), pp. 33-34, 37, and 51.

In contrast to most indices which lead one to believe that Bolívar is one of the least developed departments in Colombia, the average rural labor wage is somewhat higher in Bolívar than in the highlands. The "most frequent daily agricultural wage with food" for Bolívar was 5.80 Ps in 1960 - the same as the national average for the tropical sections of Colombia (defined as above 18° - presumably 18°C. average annual temperature). This was considerably below the national average of 4.95 Ps for the cooler regions of the country. The corresponding temperatures in 1960 were 6.95 Ps for Bolívar, 6.60 Ps for the tropical regions, and 5.70 Ps for the cooler regions, DANE (1962), p. 73. The only explanation that was available was that the coastal workers were somewhat more unionized. However, the author was unable to find any figures on rural unions in Colombia. Moreover, there were no unions in Tolú at the time of this study but the wages approximated the average for the department taking inflation into consideration (7 to 10 Ps in 1964).

17/ Everett E. Hagen (1962), pp. 353-383.

18/ Lewis (1955), pp. 23-55.

19/ Virginia Gutierrez de Pineda (1962), pp. 21-22.

20/ Ibid., p. 27.

21/ Ministro de Fomento (1962), p. 143.

22/ Calculated from Table I, DANE (1964), p. 13. This land concentration in Bolívar is typical of that in much of Colombia. For the nation as a whole 3% of the land is held in plots of over 200 hectares and 55% of the owners own less than 5 hectares (the corresponding figure for the latter is 58% in Bolívar). Hernan Toro Agudelo, "Planteamiento y Soluciones del Problema Agrario", Separata de la Revista Universidad de Medellín, Año I, No. 2, 1957, as quoted in Hincapie (1959), p. 402.

23/ DANE (1964), p. 13 and unpublished 1964 census data according to local official.

24/ DANE (1962), pp. 66-67 (Based on 1959 industrial census).

25/ Ibid., pp. 126 and 146; and Ministro de Fomento (1963), p. 153.

26/ DANE (1962), pp. 120 and 125.

27/ Gerardo and Alicia Reichel-Dolmatoff (1961), p. 234.

28/ These figures are based on an interview which the author had riding in a jeep to Sincelejo as well as personal observations and conversations with many of the owners. The figures should be fairly accurate because the author was able to record the owner of each vehicle. If anything they may have forgotten one or more vehicles. All eight truck drivers were interviewed.

29/ Based on Suzanne Duvall's field notes of an interview with a local government official on July 7, 1964.

30/ Ibid., July 2, 1964.

31/ Based on two interviews with employees in the Caja Agraria on June 13 and 23, 1964.

III BASE INDUSTRIES

We shall examine the major base industries of Tolú under four groupings; agriculture, other extractive industries, manufacturing and processing, and services.

Agriculture

Let us first examine the structure of agriculture in order to understand the significance of the base sector. There are five types of agricultural units found in Tolú: haciendas, commercial cash-crop farms, mixed farms, minifundia, and colonos.

Most of the land in Tolú is owned by hacendados. The hacienda is a ranch primarily for grazing beef cattle, though on the hacienda there may be some people intensively cultivating small plots of land. The hacendados usually hire one or more foremen who are in charge of the workers. Sometimes the hacendados rent land to get their pastures cleared cheaply or give their permanent labor small plots of land to grow crops. If a worker is given a small garden plot he is likely to raise a variety of crops for his own use. Many of the Toludenos, on the other hand, rent about an hectare on which to plant rice as a cash-crop. Thus, in Tolú the hacienda is an extensive agricultural unit primarily devoted to raising beef cattle for market and often characterized by absentee ownership.

A new agricultural unit has recently developed in Tolú, the commercial cash-crop farm. On these farms the owners who are personally involved in their operation raise cash-crops using intensive modern methods. Only four people in Tolú were found to have planted cash-crops on a large scale. One of the hacendados once raised some manioc

(yuca), a common subsistence crop in the area, for sale. Rather than burning it as is traditionally done in Tolú, he plowed the land, fertilized the plants, and brushed them with a powder to protect them from diseases. Consequently he got about three times the average yield in Tolú. However, he lost half the crop. Half of the loss was due to insects, rats, and other animal pests while the other half was stolen. Now he only raises enough yuca to feed his workers. 1/ The other three farmers have been encouraged by their experience so far: One raises rice, one rice and sesame, and the third cotton. Among the four people referred to above, two own large cattle haciendas and a third owns a moderately large farm store in Sincelejo. Thus, at least three of the four innovators are among the wealthiest people in Tolú.

Returning to the traditional agricultural units, we find the mixed farm. This is a medium size farm. Typically this farm unit is managed by the owner with the help of a few workers. He may own a dozen head of cattle, often including some dairy cattle. The cows are milked early in the morning and the milk is carried into the cabeza and sold house to house. Often it is brought in on horseback (or muleback) by children in two large milk cans on each animal. Pigs, chickens, and a variety of other animals may be found on such farms. Such farms are also likely to raise a variety of annual and permanent crops. Corn, yams, manioc, plantain, rice, bananas, mangos, paya, coco palms, other oil producing palms, and a variety of other fruits and vegetables are found on such farms.

Next we come to the very small farms or minifundos. These small plots of land, usually about an hectare or less in size, are cultivated

intensively but using traditional methods. Often these plots are only cultivated for a few years, allowed to grow up into brush for several years, and then cut and burned in order to raise crops again. These plots of land may be used for raising a single cash-crop, such as rice, but often the owner has a variety of fruits and vegetables which he produces for his own consumption with only an occasional surplus to sell or trade with neighbors or at one of the many small shops. A cow, a half a dozen chickens, and a few other animals are common on such farms. Many people in the town of Tolú raise a few fruits and vegetables and may have some chickens and even a pig or two in the patio behind their house. These animals are commonly permitted to wander around the town and frequently enter areas where food is being cooked.

Land reform is an important political issue around Tolú as elsewhere in Colombia. While there have not been any land reform projects in the immediate vicinity of Tolú, INCORA, the Colombian Institute of Agrarian Reform, was carrying out at least one program in the Sinú Valley. The combination of INCORA and the land invasions has made land owners hesitant to rent land for fear that the renters might try to claim it as their own. 2/

Several land invasions have occurred in the region. According to the agrarian census 70 squatters farmed 161.7 hectares. Reportedly an unsuccessful attempt was recently made to expel them. Furthermore, since the census at least one other property is reported to have been invaded within the municipio. 3/

Many of those supporting land reform argue that it will raise agricultural productivity by increasing the intensity of land use. This implies that land on small farms is more intensively utilized than that on large farms. There is strong evidence that this is the case in Bolívar. According to the recent agricultural census, more than 50% of the temporary or field crops were grown on farms of less than 20 hectares while less than 4% of the pasture was on farms of this size. In fact, over 50% of the pasture was on farms of over 200 hectares. Moreover, less than 50% of the arable fallow land was on farms of 40 hectares or less. 4/ This at least suggests that a land reform could lead to more intensive land use, especially since there appears to be an adequate supply of labor.

As Don Kanel points out, the aim of the decision making process on the very small farm without alternative employment available off the farm, and that on large farms which hire labor, leads to a more labor intensive system of production on the former. On the larger farms Kanel remarks that: "Theoretically, it pays to hire additional workers (only) as long as their marginal product exceeds their wage." On very small farms, however, "inadequate family farms" (i.e., without enough land to keep the family members busy), "the basic economic decision is how to obtain the most income (or food production) from the family labor and other family owned resources. Thus, while on large farms labor is supplied only up to the point where its wage equals its marginal product, on small ones it is supplied to the point where marginal product approaches zero. Besides, the hacendados may hire still less since they

often express a great distrust of hired agricultural workers who they fear may cause trouble. In Peru such fears have apparently lead to the premature replacement of man by tractors -- premature in that these workers then become unemployed and are often unable to find new work. 5/

Livestock

Pasture, chiefly for fattening beef cattle, takes up nearly two-thirds of the land area (115 of 183 square kilometers) of the municipio. 6/

Ranching is a very extensive type of land use, monopolized by a few individuals. Four of the largest cattlemen alone own 8,000 hectares of land or more than a third of the total land area in Tolú.

The person who has one of the largest ranches is also one of the more progressive ranchers. He has imported a number of thoroughbred cattle from the United States where he did his university studies. He employs about 45 men permanently and others seasonally. He has several tractors which he uses to plow his land to plant artificial pasture. At present he is in the process of constructing a combined drainage-irrigation system to mitigate flood and drought conditions in "winter" and "summer" respectively. This system includes several reservoirs to hold water to be used in the dry season and dual-purpose drainage-irrigation ditches. He also recently purchased equipment and received training in the techniques of artificial insemination. Due to such careful planning he claimed that he can graze as many as four

head of cattle per hectare of pasture on his best land. Nevertheless, he uses only grass and no grain to fatten cattle.

Even if he were able to graze an average of four cattle per hectare on all of his pasture, this rancher could sell only slightly more than one mature head of cattle a year per hectare since he breeds his own cattle. It takes two or more years for each to reach maturity and the mother also must be pastured. Since beef cattle are worth about 900 Ps when slaughtered, such land can produce about 900 Ps per hectare at best. On the average, however, he only sold about one head for every 2 hectares of pasture or 500 Ps per hectare for the total area in pasture on the ranch as a whole. 7/

According to the accounting data for tax purposes, the total gross income from the hacienda for a recent year was 757,970.60 Ps, the total operating costs were 391,589.17 Ps, leaving a return to capital and management of 366,589.17 Ps. Since this rancher owned 2884 hectares, he has a gross income per hectare of 262 Ps and a net income of 127 Ps. It should be pointed out that only 80% of the land was in pasture. Some of the other land was used to raise crops to feed the workers and to supply the needs of the hacienda in other ways. 8/

On a second hacienda a manager was hired by the owner to run it for him. On this hacienda the manager bought two year old steer, pastured them for a year, and then sold them. The land was much more intensively used on this hacienda. A thousand steer were pastured on only 428 hectares. The net return per hectare was 350 Ps. If the

managers salary which was deduced as a cost by the owner is added back again, the return including management was about 400 Ps per hectare on this hacienda. 9/

What is the influence of the livestock industry on Tolú? Since most of the cattle are sold outside Tolú, cattle raising is primarily basic. In order to obtain a very rough idea of the influence of cattle on Tolú, let us examine the case of three haciendas. First, we shall examine two haciendas to determine the average number of hectares of pasture and average number of cattle for every worker on these two haciendas. If we were to assume that these two haciendas were typical and extrapolated the ratio to the entire municipio, we might conclude that there are about 300 people permanently employed on cattle ranches in the municipio. While there are several reasons why this sample (which does include about a quarter of the cattle in the municipio) is not an accurate indicator of the situation for the entire area it does give a rough idea of the probable figure. (See Table I). 10/ Similarly, calculating the average gross income per head of cattle on three haciendas (the agrarian census does not indicate the number of cattle sold), less the cost of cattle purchased for fattening on hacienda B, and extrapolating for the entire municipio, one could estimate that the gross income from cattle in Tolú is about 5,400,000 Ps. This is subject to the same sorts of limitations as the number of workers. (See Table II). 11/

TABLE I

Pasture, Cattle and Employment in the

Livestock Industry in Tolú

(Estimated)

Area	Pasture*	Cattle	Permanent Employees	Pasture*/ Employees	Cattle/ Permanent Employees
Hacienda A	2,200	3,500	45	49	78
Hacienda B	1,800	1,500	35	51	43
Hacienda A+B	4,000	5,000	80	50	63
Municipio	11,503[c*]	19,827[c]	230[e] 310[e]	50[s]	- 63[s]

*Measured in hectares

e Estimated value

s Sample ratio assumed for municipio

c Agricultural census data

c* Adjusted census data to account for overestimation of area

TABLE 2

Gross Income Livestock Industry in Tolú

(Estimated)

Area	Cattle	Gross Income	Ps/Cattle
Hacienda A	3,500	700,000	200
Hacienda B	1,500	600,000	400
Hacienda C	1,000	350,000[f]	350
Total	6,000	1,650,000	275
Municipio	19,827[c]	5,400,000[e]	275[s]

c - Agricultural census data

e - Estimated value

s - Sample ration assumed for municipio

f - Excludes price of cattle purchased for fattening

If one were then to use data for hacienda A, one might divide the gross income into more useful categories for base analysis as has been done in Table 3. Here we find that 49% of the gross income was net income to the hacendado while the remainder was divided among permanent labor (16%), other local payments (13%), and payments to "foreigners" (22%). Assuming that these estimates were accurate and that this hacienda was representative, one could then extrapolate again as has been done in Table 4. 12/ Finally, assuming that about a fourth of the net income went to non-resident owners, and subtracting their share plus the payments to "foreigners", we are left with a very rough estimate of 3,550,000 Ps value added locally by the livestock industry.

According to one Toludeño there are about two cattle killed a day and sold in Tolú. If his estimate is reliable and assuming about one head of cattle a day or two hundred cattle a year are killed in the rest of the municipio, about a thousand cattle are killed and eaten locally each year in our region. Since each one is worth about 800 Ps, the value of cattle consumed locally is about 800,000 Ps. This is about 15% of the gross income. Thus, 85% of the livestock industry is basic. Applying this percentage to the data we find that the base value added locally is about 3,000,000 Ps, about 250 workers were base workers, and 16,800 of the cattle were connected with the base segment.

Perhaps the above technique is more useful in showing how one could arrive at meaningful estimates of the importance of the livestock industry in a local economy given accurate data than as an estimate itself.

TABLE 3

Distribution of Gross Income of Hacienda A

(Recorded for income tax purposes)

Item	Value in Pesos		% of Total
Total returns to workers	121,000		16%
Salaries		62,000	
Social payments		23,000	
Meals for work force		36,000	
Other local payments	96,000[e]		13%
Total payments to "foreigners"	175,000[e]		22%
Machinery, vehicles & tools		17,000	
Fuel		16,000	
Purchase of cattle		27,000	
Depreciation on equipment		28,000	
Other payments to foreigners		87,000[e]	
Net income (payment to land & management)	367,000		49%
Gross income	759,000		100%

e - estimated - It was decided to arbitrarily split several of the items 50-50 between local and non-local payments.

TABLE 4

Distribution of Gross Income from Livestock

In the Municipio

(Estimated)

Item	% of Gross Income[s]	Value in Ps
Returns to permanent employees and imported labor cost of owners	16	860,000
Other payments to Toludenos	13	700,000
Payments to "foreigners"	22	1,190,000
Returns to land and management	49	2,650,000
Gross income	100	5,400,000[f]
Payments to "foreigners"		1,190,000
Payment to absentee-landlords		660,000[a]
Value added locally		3,550,000
Consumed locally		530,000
Basic value added locally		3,020,000

s - Percentage for hacienda A assumed for the municipio

f - Excludes the price of cattle purchased for fattening

a - Assumed a quarter of the return to land and management

Rice

Rice is the most important single crop and rice production is one of the most important base industries in Tolú. In 1960, 493 hectares were planted in rice. Only one crop, corn, was planted on even half as many hectares (reportedly 414 though this is probably high), and little if any of this was exported. 13/ Since 1960 two commercially oriented farmers have begun raising rice on a large scale. Assuming that otherwise the number of rice farms remained unchanged, there should now be about 92 more hectares or 585 hectares in rice. Except for the two farmers mentioned, rice is grown almost entirely by very small farmers.

Let us begin by analyzing a typical traditional rice grower. If he is a renter, as many of the small rice growers are, he will often contract to rent an hectare of land from a local hacendado for 30 Ps. Besides making this payment, the renter must clear the land which, after year or less, which reverts back to the owner who can then use it for pasture. After obtaining the land the renter must find a way to buy the seed and pay his other expenses. If he does not have enough money himself, which is often the case, he must borrow it. In the past the renters often have been forced to sell their crop, before it is harvested, to a wholesaler for a very low price. Now many rice growers are borrowing money from the Caja Agraria. Most of the 270 short-term loans made this year by the Caja were to rice growers to help them finance their crop.

The renter generally clears the brush by hand and burns it. Then the land is prepared and the rice is sown. As the rice comes up, bare patches are filled in from certain areas which are used as seed-beds. The field is usually weeded a couple of times during the growing season. Excluding the harvest and the threshing which are often done by contract, about 82 journales or man-days are spent raising one hectare of rice. If a worker is hired he is paid about 10 Ps a day. 14/

One rice grower who planted an hectare of land reportedly produced about 3,600 kilograms of rice. (See Appendix III, Rice Grower A). He probably received either 7 or 10 Ps a kilogram depending on whether or not he sold directly to one of the two millers or to a middleman. There is reason to believe that the influence of middlemen is decreasing since the Caja is making more loans. Furthermore, a miller set up a machine in Tolú and is now purchasing directly from the farmers who previously had to sell to middlemen or go to Sincelejo to sell. There were about 15 middlemen in the Tolú area who dealt in rice. In 1964 they may have handled about 10 to 20% of the crop. Those who deal through the middlemen make approximately 600 Ps less a hectare. (This may include interest on loans made to these farmers).

According to one of the officials of the largest rice mill in Sincelejo, a kilogram of shelled rice, plus the leftover husk are worth about 1.24 Ps at harvest time. This money is divided among the farmer, who receives about 0.58 Ps (53%); the middleman who buys it from him gets about 0.20 Ps (18%); the truck driver who ships it to Sincelejo is paid 0.05 Ps (5%); while the miller and the merchant together make 0.27 Ps (24%). 15/

In July, six months after the harvest, the price of rice is approximately double. Consequently, those who store rice six months can make a great deal of money. Therefore, the renter who has no storage facilities support numerous other people including many rice buyers, speculators, dealers, landlords, loan sharks, and hired harvest help.

Last year two farmers planted rice on 70 and 22 hectares of land respectively. They both used some machinery, both plowed their land by tractor. While only one of them fertilized his land this past year, the other may do so next year. Both use weed spray and one of them sprays for insects as well. These were reported to be the only people who grew rice on a large scale. In addition, one gets two harvests on part of the land and grows sesame for its oil on the rest after the rice is harvested. Not only did both start cultivating rice on a large scale recently, but in both cases, the land was previously used for pasture. Both seemed pleased with results so far (see Appendix III Rice Grower B).

Estimates of the payments made locally and to farmers a breakdown of these payments, and gross and net returns for two rice growers are presented in Tables 5 and 6. Grower A is a traditional rice grower and is probably typical of most of the rice farmers in Tolú except the two new commercial ones. Grower B is one of these two commercial farmers.This grower plants 70 hectares and manages to raise two crops a year on half of this land. Although he does not live in the municipio, he lives nearby in Sincelejo and takes an active

interest in the farm. He claims to get a somewhat higher yield on his farm than other rice growers in Tolú by using fertilizer and better techniques in spite of the fact that he raises a lower yielding higher quality variety than that of most other farmers.

In Table 7 the employment provided by rice growing, the area planted, the yield, and the value in pesos are estimated. Since grower A is much more nearly typical, the values for this grower are extrapolated for all the growers in the municipio except grower B whose values are added separately. 16/

Unlike the case of livestock, a considerable amount of rice is consumed in the region. What proportion of the crop was produced for local consumption? The average consumption per person in Tolú is probably higher than the national average (about 27 kilograms/person/year) since it is raised in the area and therefore relatively easier and cheaper for Toludeños to buy than crops not raised in Tolú such as wheat and potatoes. Let us instead use the figure based on a study of another coastal village in Colombia of 116 grams a day per person, or 42.5 kilograms per person each year. 17/ Since there are 12,859 people in the municipio, the total local consumption would be approximately 550,000 kilograms of rice a year if the average individual share were 42.5 kilograms. If 2.3 million kilograms of rice were consumed locally, then 76% of the rice was sold outside Tolú. 18/

Lastly in Table 8 further calculations are made which finally give us an estimated basic value added locally of approximately 1.1 million pesos. First, the data for "A" is extrapolated to the municipio, except "B's" land. Second, these extrapolated figures are added to those for "B's" farm.

TABLE 5

Distribution of Gross Income (in pesos)

to Rice Grower A (One hectare)

	Payments to Toludeños*	Payment to "foreigners"
Day labor	820	
Contract labor	480	
Threshing	120	
Total payments to Toludeños	1,420 (47%)	
Seeds and chemicals		64
Spray pumps		15
Transportation		150
Total payments to "foreigners"		229 (8%)
Gross income	3,000	
Expenditures	1,649 (55%)	
Net income	1,351 (45%)	

*For simplicity it is assumed that all labor payments are to Toludeños while non-labor payments are to "foreigners".

TABLE 6

Distribution of Gross Income (in pesos)

to Rice Grower B (Seventy hectares - half double cropped)

	Payments to Toludeños*	Payments to "foreigners"
Plowing and discing	5,000	20,000
Chemicals & seed	-	46,200
Cutting & thrashing	35,000	-
Miscellaneous	6,000	
Total payments to Toludeños	46,000 (9.2%)	
Total payments to "foreigners"		66,200 (13%)

Gross income	500,000**
Expenditures	112,200 (22%)
Net income	387,800 (78%)

*This division is rather arbitrary but again largely on the basis that labor is local and other payments are to "foreigners."

**This excludes income derived from raising a crop of sesame on half the rice land each year.

TABLE 7

Rice Production in Tolú

A. Area Planted (in hectares)		
Grower B	70	d,i
In rice in 1960	493	c
Other new rice grower	22	i
Total area in rice	585	
B. Employment		
Workers per hectare (except B)	.67	e
Workers for grower B	20.	e
Others employed in growing rice	340	p
Total employed in growing rice	360	
Percentage of employment basic	75	b
Total basic employment	270	p
C. Yields (in kilograms)		
Yield per hectare (except B)	3,500	e
Grower B	500,000	i
Other growers	1,800,000	p
Total rice grown in Tolú	2,300,000	

TABLE 7 (continued)

D. Value (in Pesos)

Average value per kilogram (except B)	0.83 [e]
Grower B	500,000 [i]
Other growers	1,500,000 [p]
Total value of rice	2,000,000

b - Base calculated on percentage of crop sold outside Tolú

c - Agricultural census data DANE

d - Half area double cropped in rice other half rice and sesame - Therefore effective area 1.5 time figure shown

e - Estimate made by author on basis of available data

i - Based on interview with grower

p - Product of estimate and other figure, e.g., estimated work per hectare and area in rice

TABLE 8

Distribution of Gross Income from Rice Production

	Grower A (in Pesos)	%	Municipio (excluding B) (in thous. Ps)	Grower B (in thous. Ps)	Total Municipio (in thous. Ps)	Total Basic (in thous. Ps)
Local labor	1,420	47	705	46	751	564
Payment to "foreigners"	229	8	120	66	186	139
Total expenditures	1,649	55	825	112	937	703
Net income	1,351	45	675	388	1,063	797
Gross income	3,000	100	1,500	500	2,000	1,500
Payment to "foreigners"	229	8	120	66	186	139
Net return to B	-		-	388	388	291
Value added locally	2,771	92	1,380*	46	1,426*	1,070*

*Rent payments to absentee landlords and payments to middlemen are not taken into consideration becasue their combined influence probably would decrease the value added locally less than 1%.

b - Base calculated on percentage of crop sold outside Tolú (roughly 75%)

Now if we compare the net returnsper hectare in rice with that in pasture, we will find that they are over ten times as high in rice growing -- 1,820 compared with 116 Ps. Thus the owner would make much more money, other things being equal, putting his land in rice rather than pasturing it with beef cattle. Moreover, rice growing is more labor intensive and there is a large supply of unemployed or under-employed labor in Tolú. Why do the hacendado who raise cattle behave in an apparently irrational way?

First, one might ask whether the physical conditions would permit one to grow rice on land now used as pasture. If one investigated one would find that the land the two commercial rice farmers grow rice on now was pasture less than five years ago. Much of the land now used for pasture could be used formaising rice on a permanent basis if fertilizer and the proper sprays were used. The best evidence of this is that much of the land has been used to raise rice already on a short term basis. 19/

Perhaps the techniques which are necessary to raise rice on a large scale are not available to the hacendados. This may have been a serious problem for the first person in the area who tried to raise rice on a commercial basis, but now at least one person, rice grower B, is very much interested in encouraging commercial rice production. He has been actively encouraging farmers to use new techniques at his store in Sincelejo. Besides, several of the hacendados are well educated, two have studied in universities in the United States. Therefore, the technical difficulties can only be a minor reason why rice is not more widely grown in the municipio.

Recently, land owners have been more hesitant to rent land to rice growers, fearing that the renters might refuse to get off the land and try to claim it as their own. The government has sometimes been unwilling to remove squatters. Yet, the land owners could farm the land themselves.

One important reason for raising cattle is probably the prestige which they bring the owner. Hacendados are socially respected as they and their vaqueros or cowboys play an important part in fiestas. The hacendados supply the bulls for the local bullfights while the vaqueros race in the local horse races through the town streets. Besides, it is probably somewhat more macho (manly) to raise cattle than crops.

Probably the most important reason why so much potential rice land is in pasture is that it is easier and less risky to raise cattle. A much greater investment in both time and money is necessary to raise rice. Commercial production of rice in Tolú is new enough to the region that it is still not yet a routine venture. Many of the hacendados live in other towns or cities and would prefer not to be bothered by the details such a venture would imply. More money would have to be invested in either labor, which is apparently distrusted, or in expensive machines. In short, many hacendados have a good income already and may not feel it is worth the necessary effort to earn more. Before leaving this problem, we should note that only a short period of time has lapsed since rice was first introduced on a large commercial scale. Adoption of new techniques, especially those requiring radical departures from the past, takes time.

Other Agricultural Products

While they may be important sources of subsistence at present, all other agricultural products are clearly secondary as base industries compared to rice and beef cattle. Nevertheless, we shall examine them briefly. We can distinguish three classes of agricultural products, livestock, field crops, and tree crops.

Clearly less significant than beef cattle, other types of livestock found in Tolú include: dairy cattle, pigs, sheep, horses, mules, donkeys, and chickens. The agricultural census did not distinguish between dairy and beef cattle. There were about 8,000 cows over two years old compared with only about 3,000 bull in the same age category. However, many if not the majority of these cows were primarily breeding stock for beef cattle. Nevertheless, dairy products are undoubtedly an important source of income for many Toludeños, but practically all these products are consumed locally. While some pigs and sheep are raised to export, in most cases they are either of secondary importance on beef cattle ranches or are raised to provide their owners with a source of meat (especially pigs). 20/

A great variety of field crops are raised in Tolú in addition to rice. Although nearly all these other crops are produced for local consumption, cotton, sesame, and perhaps some corn are "exported". Cotton was to be planted for the first time in the municipio in August, 1964. Sesame is grown by rice grower B on about 35 hectares and reported required less labor than rice, but gives good returns,

about a ton an hectare, which is worth about 2,000 Ps. 21/ Corn production just about balances corn consumption. Some corn is sent from Tolú during the harvest period, but some corn is imported during other periods of the year. In fact Tolú may be a net imported of corn. 22/

There are also a variety of tree crops grown in Tolú. While coco may still be the second most important of these, a disease has reduced coconut production, once one of the major industries in Tolú, to one of only minor importance. Although over a hundred loads of coconuts are trucked out of Tolú a year and it is one of the most important products carried by truck drivers, only a very small percentage of these are grown in Tolú. Practically all of them come to Tolú by boat and are then carried out by truck. While about 80 hectares were still planted in coco at the time of the census, which was more than that planted in any other tree crop except platano (plantain), in 1964 some of the trees were dying and others were less productive than it had been previously. Platano is the principal tree crop, but again consumed almost entirely within the municipio. As in the case of coco much platano comes into Tolú and Covenas by ship and is then trucked out to other regions. Mangoes, papayas, and other tropic fruits are grown and trucked out of Tolú in small quantities.

We shall make the simplifying assumption that none of the agricultural commodities produced in 1964 (thus excluding cotton) were base commodities.

Non-agriculture Extractive Industries

Fishing

Although the Caribbean Sea has a variety of commercially valuable fish including tarpon, fishing is a minor export of Tolú. The fishermen in the area do not engage in deep sea fishing, but instead all the fishing is done close to shore. Although most of the people living on the coast do some fishing, there are less than twenty people involved in what could be considered commercial fishing.

There are three methods used to catch fish in Tolú: hand lines, dynamite, and nets. The most common and simplest method is that of using only a hand line, with no pole, and minnows on a single hook, but apparently many fishermen who use this method catch minnows with dynamite early in the morning before fishing. A group of about seven boats forms a circle and a small charge of dynamite is set off in the center. Then each fisherman jumps out of his boat and, swimming under water, scoops up the dying minnows in a small hand net and throws them in his boat. According to an icthyologist from Sweden, Dr. George Dahl, dynamite is also used to catch the larger fish directly. 23/

Dynamiting for fish is a very harmful practice. All plant and animal life within a 15 yard radius is killed and many fish outside this radius are injured. Thus, the fish food is destroyed. Yet, only about 15-20% of the fish killed are recovered. In addition, valuable breeding grounds are destroyed and, though some fish will come back

when dynamiting is halted, if there is too much of it, certain species may not return to the area. It is also dangerous. Several people in Tolú have lost fingers or even hands by using dynamite carelessly.

Dynamite has been used for at least 20 years but it is becoming increasingly common. The problem has become so serious and widespread on the coast that it has come to the attention of a national paper in Bogotá, El Tiempo, which printed an editorial strongly condemning the practice. 24/ Fishing has reportedly declined because of the use of dynamite. It is estimated that about fifty charges of dynamite are set off every day all year long between Covenas and Point San Bernardo. Although it is illegal and there is supposed to be a 1-3 year jail sentence for using dynamite, rarely is anyone caught and penalized.

The third method, the use of nets, involves more exporting. Although there are three crews which use nets, one of them does not fish very often. The most important group works for a man living in Medellín. This six man crew catches fish by wading in shallow water with the nets. It fishes in several different places especially near the mouth of the Sinú River, an area which is particularly rich in animal life. The fish are then brought back to Tolú where most of them are frozen and flown to Medellín to be sold. A few, however, are sold in Tolú. The crew has two boats (at least one of which has a motor), four freezers, and a 10 kilowatt electric generator. In the last seven months about 3,000 pounds of fish have been caught. 25/

A second crew catches fish with nets and sells them to merchants, mostly women who resell them either in Tolú, Toluviejo, or Sincelejo. One day this crew brought back 420 pounds of fish. Part of the catch was to be sold to merchants who were planning to resell it in the streets of Sincelejo, but a large part of it was to be resold in Tolú itself. 26/

Only a small part of the fishing industry can be considered basic. This includes about 20 fishermen who earn about 60,000 Ps a year. (See Table 9). 27/

Turtles, crabs, and to a lesser extent other animals caught in the area are eaten, but few of these are exported except those sold to tourists.

Mangrove

The mangrove tree has the remarkable ability to grow in the salt marshes along the coast where most trees are unable to grow. Its aerial roots and many trunks give it a tangled appearance. The mangrove swamps stretch along the shore parallel to the beach and close to it. A large part of the swamps is reportedly owned by the government, but according to one informant certain areas are privately owned. In any case, people are allowed to cut trees without charge on much of the land.

Collecting mangrove trees is not a new occupation, but it is not a very pleasant one, probably the most unpleasant work in Tolú. One oldtimer reported that he had gathered mangrove for over 40 years and that the industry was still older. Workers must go into the hot humid

TABLE 9

Employment and Income from Fishing

Employment	Total	Basic
Town of Tolú (cabeza)		
Hand lines	75[e]	-
Nets	20[i]	20[a]
Rest of municipio	75[e]	-
Total employment	170	20
Income (in pesos)		
Cabeza		
Hand lines	210,000[b]	
Nets	40,000[e,c]	
Rest of municipio	210,000[b]	
Total income	460,000	
Destination of Product (in pesos)		
Consumed in Tolú	400,000[e]	
Sold in Sincelejo	36,000[e]	36,000
Sold in Medellin	24,000[e]	24,000
	460,000	60,000

a - Those using nets are assumed to representbasic employment since they export most of their fish. While they also sell some fish locally this is balanced by the few hand line fishermen who sell some of their fish in the "export" market.

TABLE 9 c.....

b. There were about 30 boats with roughly 1.5 people in each on several mornings when they were observed. Since there were boats out practically every day including Sunday reportedly all year, there are probably about 21,000 man-days of work devoted to fishing a year. Each person is estimated to have earned about 10 Ps a day. Since there are several small hamlets along the coast in municipio it is assumed that approximately the same number of fishermen lived outside the cabeza.

c. This excludes all payments to outsiders including returns to the owner of equipment in Medellín.

e. Estimated values.

i. Based on information provided by the owners of the equipment or manager of the crew.

swamps in small boats. They then leave them and wade around in the muck with insects buzzing around, find a good tree, chop it up, and carry it back to the boat. These people often spend several days away from home collecting mangrove. One person remarked that the richest people in Tolú are livestock owners and the poorest collect mangrove.

Mangrove has several uses. The three most important uses in Tolú are for tannins, fuel, and construction. The bark of one of the most important species of mangrove, known locally as mangle colorado (Rhizophora mangle L.) contains large quantities of tannic acid which is used in the tanning industries. In order to supply the tanning industries in Medellín, a man from there set up a small shop at Puerto Viejo on the road between Tolú and Covenas. He would give orders to those who gather mangrove to collect a certain amount and bring it to the shop. There the bark was removed, put in a gasoline-powered machine which ground it into a powder which then fell into sacks. These sacks were then shipped to Medellín. 28/

The present machine has been in Tolú at least seven years, but the industry is considerably older. Tolú was supposed to be one of the most important centers for the mangrove bark industry in Colombia.

When the bark is removed the wood can be used for fuel, but often mangrove is collected only for firewood or charcoal. The latter is made by piling up mangrove, covering it with sand and burning it, allowing just enough space for the gasses to escape, but not enough for it to completely burn. Both are sold in large quantities, both within the municipio and to neighboring towns.

Finally, mangrove is sold for construction and fence posts. Natural curves of a specified shape are also used for shipbuilding, while poles of mangrove are used to support the palm roofs which cover most of Tolú's houses. Besides, mangrove and other woods are used as posts to fence in cattle.

There are probably about 30 people employed in collecting mangrove. About 10 of these serve the local economy and the rest, about 20, serve the export market. The value added locally is approximately 100,000 Ps annually, about two-thirds of which is basic. 29/

Since many houses in Tolú and other towns and villages have roofs of palm leaves some people in Tolú supplement their income by cutting palm leaves which are then sold and occasionally even trucked out to nearby communities. This is not a significant export however. 30/

Manufacturing, Processing, and the Handicrafts

Very few people in Tolú are employed in either manufacturing, processing, or the handicrafts and only the latter and a small shipyard serve the export market.

A ship was being built in the patio of a house near the beach in June, 1964 for a man who lived in Bogotá. When there is work to be done such as this, a maestro will come to Tolú for a year or so, build a ship or two, maybe repair an old one, and leave Tolú to resume his work elsewhere. The maestro was employing three workers to build the one ship and repair another. While there are several Toludenos who can repair the fishermen's boats, only outsiders can repair these larger ships.

There are two families which make handicrafts to sell to tourists. One family made shell animals which they painted and sold. The other made charascas (a rattle-like musical instrument used for marking rythm). Although there were also several other small industries in Tolú, none of them employed as many as ten people and none sold regularly to "foreigners" (except the rice mill and the mangrove bark shop already mentioned. These industries included: carpenter shops which produced and repaired furniture, shoe-maker shops, two brick kilns, blacksmith shops, a corn mill, a tile-making shop, and ice-making shop.

Service and Construction

Transportation

Some of those involved in providing transportation facilities should be considered part of the base economy. Those who receive money from "foreigners" are clearly basic workers, but we shall also include the so-called "linked industries". 31/

Since the transportation facilities have already been examined earlier in the discussion of the setting, we shall procede with the base analysis directly. There are about 57 people employed in transportation who live in Tolú. Roughly 30 of these contribute to the base economy. The net return to transportation workers and owners of transportation equipment is approximately 390,000 Ps, of which about 180,000 Ps is their total basic net income. 32/

Oil Transportation

There are two oil companies in the municipio, SAGOC (South American Gulf Oil Company) and ESSO. The larger company, SAGOC, and its affiliate the Colombian Petroleum Company, are both owned by the Texas and Mobil Oil Companies. SAGOC has a fifty year lease on two oil pipelines running to Covenas from the interior of Colombia, and carrying petroleum extracted by its affiliate. SAGOC exports crude oil to the United States by freighter from Covenas. The company uses its half mile long pier which extends to water 26 feet deep to load its tankers. 33/

It employs about a hundred people including about sixty from the municipio at salaries starting at 34 Ps a day. There are both permanent employees and those hired by contract for periods of about two months. They recently reduced the number of workers employed from 115 to 101. No further reductions are planned, but increases or reductions in the number of employees will depend partly onthe production. At present the pipeline carries about 44,000 barrels a day.

Relations between SAGOC and the government are apparently fairly good. When there was a strike at two of the three Colombian Petroleum Company concessions, the government sent troops to protect Covenas from possible sabotage, even though the local SAGOC union, SINTRASAGOC (Sindicato de Trabajadores de South American Gulf Oil Company) did not go on strike.

The other company, ESSO, has several storage tanks for refined gasoline which is apparently shipped to Covenas by tanker. The gasoline is sold by ESSO service stations in towns and cities including Covenas

Tolú, Sincelejo, Sincé, Ovejas, and Corozal. Only eight people are employed at the storage area, however.

Since SAGOC employs about 100 people and pays each of them 34 Ps a day or more, the company pays out over 1,000,000 Ps in salaries alone. In addition, it pays out social benefits which are probably equal to about a third of the salaries. 34/ Although only about 60 workers live in the municipio, these plus the ESSO workers, probably receive about 1,000,000 Ps from the two companies. While much of the money earned by these workers is spent in the local commissary where most of the goods sold originate outside the community, a considerable proportion of the salaries must be spent locally, especially that of those living in the cabeza.

Tourism

While Tolú is not one of the major tourist centers of Colombia comparable to Santa Marta or Cartagena, it does attract thousands of people from the Colombian interior each year. The calm waters of the Gulf of Morrosquillo, the sandy beaches which stretch the length of the municipio, and the warm climate offer a pleasant change for middle class Antioquenos and Cundinamarqués, many of whom come from cool even cold climates in the highlands.

There are three types of tourists who come to Tolú: Sunday tourist from nearby towns a few miles inland (turistas de paso), "summer" vacationists from the highlands (turistas de época), and "summer" residents. 35/

The Sunday tourists come for the day to swim in the ocean, eat, drink, and sit on the beach while listening to the loud rythmic beat of coastal music. Every Sunday several bus loads of people invade Tolú. In the morning of the last Sunday in June, 1964 a rough count revealed that there were 300 to 500 people in the ocean and another 200 on the beach.

The second group of tourists, the turistas de época, spend their "summer" vacation (December to January or early February) in Tolú. These people are primarily from the highlands most notably Antioquia. (See Table 17). These highlanders are primarily of the middle class since the richer ones generally prefer to go to the larger and more luxurious tourist centers in Cartagena and Santa Marta. There are 500 to 1,000 or more of such tourists during la época.

The third group is that of "summer residents". About 75 families own cottages on the ocean, mostly on the Tolú-Covenas road. While this group is less apt to use the hotels and pensiones than the turistas de época, they usually hire permanent caretakers and use other local services.

All three groups contribute significantly to Tolú's economy; nearly everyone in the town is effected. Everyone in Tolú feels the pinch of higher prices when the swarms of tourists arrive. Many people benefit from tourism. Turistas de época generally stay either in hotels, small pensiones, or even in private houses; buy things in the local stores and from vendors on the beach; pay for numerous services such as shoe

repairs and hair cuts; and spend money on many forms of entertainment, boat rides, gambling, and literally the proverbial "wine, women, and song". The summer residents buy similar things plus food, furniture, and other household goods and services, including the service of nightwatchmen and domestic servents.

The total tourist expenditure is well over a million pesos a year. The hotels alone probably earn this much. Although the tax record for 1963 indicated that the eight largest hotels earned only about 340,000 Ps that year, they almost certainly understated their gross income for tax purposes. One hotel owner, clearly not the largest, estimated his gross annual income at 150,000 Ps a year. The four most important hotels employ about 60 people in the busy season excluding children who earn money running various errands. There are at least ten smaller hotels, pensiones, and restaurants which cater primarily to tourists.

Returning to the base analysis, one finds that it is simplified somewhat by the fact that all tourism is by definition basic - a tourist cannot be a resident. Yet the analysis is complicated by the three distinct types of tourism.

First, more than 100 people in one way or another received money directly or indirectly from Sunday tourists. On June 28, 1964 there were about 600 tourists in Tolú. If one assumes the average person spent 3 Ps (which unfortunately is only a rough approximation), one can calculate that about 1,800 Ps must have been spent that Sunday. About

TABLE 10

Employment from Sunday Tourism
Sunday, June 28, 1964*

	Vendors Attending Kioscos or Stands	Mobile Vendors	Entertainment (Boats & Music)	TOTAL
Pastry goods	15	5	-	19
Refreshments	13	-	-	13
Fish (cooked)	12	-	-	12
Fresh fruits	2	6	-	8
Boats for rent	-	-	8	8
Handicrafts	3	1	-	4
Musical bands	-	-	4	4
Bathing suits	3	-	-	3
Coffee	2	-	-	2
Ice cream	-	1	-	1
Patterned cloth**	-	1	-	1
Men	6	**	5	11
Women	16	4	-	20
Children (under 20)	8	9	7	24
Total	30	13	12	55

*Since several of the vendors sell more than one product it is meaningless to add the columns.

**The cloth merchant is excluded from the totals since he was a resident of Sincelejo rather than Tolú.

TABLE 11

Income and Employment Provided by Sunday Tourism

Employment	
Total vendors and entertainers	55[a]
General helper at stands	25[a]
Workers in restaurants and bars	40[a]
Total weekly employment	120
Approximate men-days of employment provided by Sunday tourism	6,000
Estimated days worked per household	300[d]
Hypothetical number of households fully employed in Sunday tourism	20[c]
Income	
Total weekly employment	120
Average wage per day	10[b] Ps
Weekly value added locally	1,200 [c] Ps

a - See table 10

b - Average wage in municipio. While tourist trade is probably more lucrative than most employment in Tolú women and children tend to earn less. The two factors may approximately cancel each other.

c - Calculated from data presented in this table.

d.- A census carried out by Eugene Havens and several Colombian students gave an average income per head of household of approximately 3,000 Ps a year. Unfortunately this estimate may be somewhat low

Table II continued

since it includes only the income earned by the head of the family, however it is the only estimate available. Using the average wage of 10 Ps a day, one may estimate that each household provides 300 man-days of labor. It should, however, be noted that this figure probably underestimates the actual amount of labor supplied.

I - Based on interviews with owners of restaurants and bars as well as direct observation.

ø - Based on observation.

a third of the income is probably spent outside the municipio on such things as beer and soft drinks. If one further assumes that this Sunday was average for the year, the income net non-local expenditures for a year would be about 60,000 Ps. An estimated 120 people were employed that day. Since these people only worked once a week, we shall assume that 20 hypothetical people were fully employed by Sunday tourism.

The economic impact of the turistas de época is somewhat greater on the vendors and restaurants since these tourists are more numerous and they have more money to spend. Probably these tourists spend roughly twice the amount that the Sunday tourists spend (excluding the bill for ledging or food and ledging where they are combined). These tourists also pay a hotel or other bill for lodging or food and lodging, which makes an even greater contribution to the economy.

In Table 12 we have an estimate of the average number of people sleeping in hotels, pensiones, and private homes on an average night during the 60 day época, the number of Toludenos employed serving them, and the income the community derived from these services. One can see from the table that during the tourist season altogether about 700 tourists pay about 30,000 Ps a night and give employment to about 200 Toludenos.

If we then examine Hotel A, we can get an approximate idea of how this gross income is spent. Hotel A is probably fairly representative since it is a medium size one, a second class hotel using the categories in Table 13. Extrapolating the data of Hotel A to the other hotels, one

can obtain the data presented in Table 14 for the entire municipio (all the hotels are in the town of Tolú). The value added locally is approximately 1.2 million pesos annually.

Turning to the summer residents, approximately 140 people are employed directly by or are dependent on tourists through their purchases of goods and services. The expenditures of the summer residents are approximately equal to 270,000 Ps a year (see Table 15).

In summary, one sees in Table 16 that tourism and linked industries provide jobs for about 360 Toludenos and bring in about 1.7 million pesos annually to the community.

Before leaving the subject of tourism one should examine the problem of seasonal fluxuations in the number of tourists coming to Tolú. There are three busy seasons: the most important, la época or "summer" vacation (November or December to February) which we have already discussed; Holy Week in March or April; and from late June to early July during the short "winter" vacation.

Seasonal fluxuations makes tourism less attractive to the tourists because it leads to overcrowding. Often during the tourist season, though some hotels and pensiones put cots in their patios to accommodate more tourists, they still have to turn away many people. Even though some people take tourists into their homes during this period, there is still not enough room for everyone. Thus, people are said to be forced to sleep in their cars and on the beach.

The permanent residents of Tolú also feel the negative effects of the extreme seasonal fluxuations of tourists in the form of high prices

TABLE 12

Hotel Income

	Employment of Tolúdenos	Number of Establishments	Number of Rooms	Number of People	Ps per Person per Night	Revenue Per Night	Gross Annual Income
First Class Hotels	17	1	50	120	80	9,600	575,000
Second Class Hotels	50	5	95	350	40	14,000	840,000
Pensiones*	20	6	45	150	20	3,000	180,000
Private Houses*	40	20	20	100	15	1,500	90,000
	127	32	210	720		28,100	1,685,000

Based on interviews except starred rows

*Rough estimates only

TABLE 13

Gross Income of Hotel A*

(in thousands of pesos)

	Total	Local	Non-local	Percentage
Taxes	10.0			6.7
Property		5		
Other			5.0	
Fuel	3.4			2.3
Charcoal		1.4	2.0	
Gasoline				
Food	50.0			33.3
Local **		25.0		
Non-local			25.0	
Salaries	10.0	10.0		6.7
Maintenance	10.0			6.7
Labor		3.0		
Materials			7.0	
Expenses	83.4	44.4 (30%)	39.0 (26%)	56.7
Net Income	67.6			44.3
Gross Income	151.0			100.

* Based on interview with hotel owner

**Especially fish, meat, and vegetables

TABLE 14

Estimated Distribution of Gross Income from Hotels

	Hotel A %	Municipio (thousands of pesos)
Taxes	6.7	110
Fuel	2.3	40
Food	33.3	560
Salaries	6.7	110
Maintenance	6.7	110
Expenses	55.7	940[r]
Net income	44.3	740
Gross income	100.0	1,680
Local expenses	30.0	500
Profit accruing to	44.3	740
	74	1,240
Value added locally	74.3%	1,240

r - Figures do not add due to rounding

s - Sample ratio assumed for municipio

TABLE 15

Income and Employment from Summer Residents

	People Employed	Income
1. Caretakers for 75 cottages	50	60,000
2. Local purchases of 300 summer residents	16*	36,000
3. Construction of 10 cottages annually	75*	170,000
Non-local purchases of materials	-	120,000**
Total	141	266,000

* Assuming that the average income of this group is the midpoint of the median class (2,250 Ps a year) of population census made by Havens.

**Not added

TABLE 16

Total Employment and Income from Tourism

Employment	Total	Job equivalents*
Sunday tourists	120	20
Summer vacationists		
Lodging	127	64
Linked to lodging[a]		100
Other expenditures	240	60
Summer residents	141	116
Total employment from tourism		360
Value Added Locally (in thousands of Ps)		
Sunday tourists		60
Summer tourists		
Lodging[a]		1,240
Other		120
Summer residents		270
Total		1,690

* See c. Table 11

a - This linked employment would primarily be shopkeeping, vegetable growers, livestock raisers, and fishermen. To avoid doubling counting this linked employment must be subtracted from the number employed in each industry. Since the numbers involved most cases are small and the data used here is very rough, this has not been done explicitly.

TABLE 17

Origin of Tourist Visiting a Hotel in Tolú

	Most frequently mentioned	Number	% of Total
Antioqués	Medellín	781	56%
The Coastal region (Bolívar, Córdoba, Atlántico, Magdalena)		415	30%
Cundinamarca	Bogotá	116	8%
Valle, Caldas, Tolima	Cali, Cartago, Ibaqué	69	5%
Santander			
Cauca	Popayán	4	
Foreigners	Germany, United States, Lebanon, Venezuela	14	1%
Total		1,399	100%

*Guy Ashton obtained these figures from the registrar of one of Tolú's second class hotels.

of many goods during la época. Moreover, water is especially scarce during la época, since this is the summer or dry season. Many people, including some of the local government officials, complained about such things and therefore opposed tourism, as a bad thing for Tolú, ignoring the fact that it gives employment to a large number of Toludenos who might otherwise be unemployed.

Yet, these same Toludenos, those dependent on tourism, are also hurt by the seasonal fluxuations, since they are often unable to find employment during the slack season. An industry which could utilize the superabundant labor in the off season would be very beneficial to Tolú.

Footnotes Section III

1/ This is based on an interview with the owner in his office in Tolú on June 15, 1964.

2/ For a very interesting discussion of the land reform issue in Colombia see Albert Hirshman (1963), pp. 95-158. Hirschman writes that he was told by a worker of FANAL, a Catholic federation of agricultural workers, that 90,000 hectares of Colombian land were invaded between 1958 and 1962. These invasions were mostly in the departments of Magdalena, Atlántico and Bolívar (footnote p. 157).

3/ DANE (1964), Table 4-A p. 42 and James Taylor (1964), pp. 38-39.

4/ DANE (1964), p. 19.

5/ Don Kanel (1965), pp. 6 and 7.

6/ See footnote II-4. This paper draws heavily on the results of the 1960 agricultural census taken by DANE since it provides the only published agricultural data on Tolú. For an analysis of this census and some of its short comings see Appendix II.

7/ Based on data supplied by the hacendado in an interview June 30, 1964.

8/ Taylor (1964), pp. 6-7. For a complete breakdown of the income and expenditures of this hacienda see Appendix III "Hacienda A".

9/ Taylor (1964), pp. 10-11 and 16. See Appendix III "Hacienda C" for a breakdown of income and expenditures.

10/ There are at least two possible sources of error here. First, the large ranches (haciendas) may not be representative. Second, it is important to note that all three sets of data used are subject to errors. The figures for hacienda A were taken from tax records which may be inaccurate since some people reportedly keep two sets of books. The estimates for hacienda B are based on information given from memory by the owner's son who took charge of the property for his father but lived most of the time outside of Tolú. Moreover, the agricultural census data may be somewhat inaccurate, see Appendix II. In the case of employment 300 workers is arbitrarily assumed because the ratio of workers to pasture is probably higher on smaller farms since they tend to be more labor intensive.

11/ To show the probable amount of error in estimates such as those used here the following case is presented. A truck driver who provided much useful information estimated that 10 truck loads of cattle with twelve head of cattle in each were shipped from Tolú each week. Multiplying this figure by 52 and again by 880 Ps, the average value of a mature head of cattle one arrives at the figure 5,500,000 Ps.

12/ In addition to the reservations already mentioned in connection with the other tables, one should add here that 174,000 Ps were arbitrarily divided 50-50 between payments to "foreigners" and payments to Toludenos since it was impossible to assert in which category each should have been placed.

13/ DANE (1964), pp. 47-57. Truck drivers assured me that very little corn was exported. This figure for the amount of corn, added to those of other crops gives a figure greater than the total land cultivated. It is likely that this figure includes at least some of the traditional plots where a half dozen or more crops are grown on the same field.

14/ Based on field notes of Taylor, June 22, 1964. Taylor interviewed a person who collected the material for the agricultural census in Tolú.

15/ This is based on an interview on July 22, 1964 with one of the officials of the largest rice milling company in the region, located in Sincelejo. This official had access to the company's records which he consulted in answering the author's questions about the middlemen.

16/ The values for the other large farm might have been analyzed separately. However, he cultivated only 22 hectares and thus had less influence on the total figure. However, the most important reason for analyzing him separately was that his yields were approximately the same as the other farmers in the area.

The employment was calculated as follows. First, by taking the payment to Toludenos by grower B (46,000 Ps) and dividing it by his average daily wage (12 Ps) and again by the estimated number of days a worker can work on rice a year, limited by the seasonal nature of the work even where there are two crops a year (200). Second, this is added to the estimated number of other rice growers and workers each of whom is assumed to cultivate an average of 1.5 hectares of rice.

17/ This data is for the upper class section of an isolated Indian-mestizo village where rice is not grown, the lower classes consume very little rice. It is likely that the upper class section might approximately reflect the average consumption in Tolú since Indians eat

less rice and more corn, Reichel-Dolmatoff (1961), p. 72. The average Colombian rice consumption of 30 kilograms per person a year is based on an estimated production of 350,000 kilograms, Hincapie (1959), p. 157, a population of Colombia of about 13,000,000 for the same year, and no major rice imports.

18/ An estimated 150 kilograms of rice per hectare, or about 93,000 kilograms, was used for seed in Tolú each year. This is only about 4% of the total rice produced and may even be less since some farmers such as grower B buys all their seed. In addition, a certain amount of rice was undoubtedly lost because of such things as crop failures, insects, rats and petty thieves. This, however, may be balanced by some double cropping which we have ignored except for the two large rice growers.

19/ According to Nathan (1960), p. 373, a preliminary survey of the soils of northern Bolívar has been carried out, but the results have not been published. The final study will be published.

20/ See Appendix I for the census data on livestock and other agricultural products taken from DANE (1964).

21/ Calculated from Table 52 based on 1957 production and prices in Hincapie (1959), p. 157. Sesame was also produced by six farmers on an average of a half an hectare each.

22/ The municipio only has about half the average per capita area in corn compared with the nation as a whole. While Colombia had about .8 million hectares of corn for 13 million people in 1957, Tolú had only .4 thousand hectares for 12 thousand people in 1960, Hincapie (1959), p. 157 and DANE (1964), p. 49 respectively.

23/ Dr. Dahl, director of the Investigaciones Ictologicas y Faunisticos of the Departamento de Economía Agropecuria y Pesquería, very kindly provided me with most of my information on dynamiting for fish in the Tolú area and its effects on sea life.

24/ "A traves del país", El Tiempo, Wednesday, July 17, 1964, p. 8.

25/ At least once during this period this crew was severely handicapped by the difficulty in getting parts. One month several of the motors broke down and it took more than two weeks to get them repaired.

26/ Checking in the market in Sincelejo, I only found two shops which sold fish and neither bought from Tolú. One sold salted fish from the Magdalena River, the other fish from near San Antero. I was told that there were five people who sometimes sold fish on the street but they have no permanent shop or stand.

27/ These estimates are very rough. They are not based on budget analysis. The employment data should be the most reliable of the three. One of the unsolved problems for example was that of weights. Not only were crude scales used, but people often referred to both libras and kilos and it is not certain if the two terms were equivalent since a libra carnicera is equivalent to a kilogram not an English pound.

28/ According to an unconfirmed report, the machine was to be sold at the end of July, 1964. The owner was to build a hotel there instead, starting later this year.

29/ These estimates are based on: 1) The estimates of a person who has cut mangrove for several years, 2) A truck driver who also speculated in mangrove wood as firewood, 3) Income distribution based on a sample census of one-sixth the population of Tolú under the direction of Eugene Havens, 4) To a lesser extent on estimates of mangrove production by other truck drivers.

30/ There was reported to be a natural gas well in Tolú and a pipeline running to Cartagena. The author was unable to confirm or deny this report. It was not listed as a major well in the Nathan study but a natural gas well is located less than 50 kilometers to the south in Chinú, Nathan (1960), p. 132.

31/ See footnote 1-6.

32/ These figures are again derived indirectly. The employment figures are most accurate since the returns are derived from them. First, there are 10 ships which come to Tolú regularly, each of which is reported to have a crew of 4 to 12 men with an average of about six. Here it is assumed that a third of these live in Tolú. In addition, there are several workers who help unload the ships. The author once counted 14 people unloading plantains. Nevertheless, there are not enough ships coming to Tolú to give them permanent employment. Thus, we can estimate that the equivalent of 4 workers gain their livelihood by loading and unloading ships and trucks. Second, there are exactly 5 general truckers living in Tolú. Third, there are 10 buses which have both a driver and a conductor in each. Fourth, the local gasoline station owner has 4 gasoline trucks and presumably employs 3 workers at the station, and he himself derives the majority of his income from the operation.

The returns are estimated in two ways. The gross returns are based on the estimated cost of operating the trucks. The net returns are calculated by taking the income distribution from a one-sixth sample of the population and arbitrarily assigning incomes to the various workers. These are as follows: truck drivers, bus drivers, and ship captains are assumed to be paid about 600 Ps/month (near the 90th percentile in income

distribution); ticket-takers and the ships' crews, except the captain are assumed to receive about 500 Ps/month (near the 80th percentile); the gasoline station attendants and laborers might receive about 250 Ps/month (near the 50th percentile); and the bus owners and gasoline truck owners may receive about 100 Ps/month for each vehicle.

Most of the products which came into Tolú by sea are shipped out so two-thirds of the shippers are considered basic as are all the truckers, and half the gas station attendants. However, since most of those using the bus are local residents only a quarter of those workers are basic.

One could also add here that there is a considerable amount of smuggling of goods in and out of the country through both Tolú and Covenas. The author was not able to collect any information concerning either the number of people involved or the value of the goods sumggled.

33/ This pier and a huge slaughter house were built by a North American Company which planned to kill and export cattle. It was a large scale failure. Several years later SAGOC bought the pier, which they have improved upon, the land and the buildings.

34/ However, one person in Tolú said that they avoided paying social benefits to some of the workers by hiring them for short periods of time.

35/ "Summer" is a literal translation of verano which in Tolú refers to the dry season (January to March). The largest influx of tourists occurs around the time of school vacation about December 20th to February 8th depending on the year. Influxes also occur during Holy Week and from the end of June to the beginning of July. Since tourism in these three periods has very similar characteristics and since the other periods are relatively minor, we shall simply refer to all such tourism as "summer tourism". Similarly, by "Sunday tourism" we mean to include all tourism which is based on visitors who come for a day only, regardless of whether or not this day may be Sunday, a special holiday or even occasionally Saturday.

IV. BASE:NON-BASE RATIO

In this section we shall first examine the remaining non-basic employment, second sketch the outlines of Tolú's economy which will enable us to approximate a base:non-base (B:N) ratio, and third we shall discuss the significance if any which this ratio may have.

There are at least six groups of non-basic workers which we have excluded so far from our analysis: traditional farmers, shopkeepers, carpenters and construction workers, school teachers, government employees, and a group of miscellaneous personal service and professional workers such as doctors, lawyers, and barbers. 1/

There are probably about 200 traditional farmers on small plots of land who sell little, though even these must sell enough to buy salt, matches, sugar, and a few ple items. These farmers own a small plot of land which often resembles a vegetable garden more than a farm in the United States both in its small size and in the great variety of crops raised. These people usually have a great deal of free time, which they are often willing to give up to do a variety of odd jobs in order to earn more money.

There are about 100 shopkeepers, but many of them have other jobs or, as is very common, the wife will run the store while the husband works on the land or fishes. 2/

Little comment is needed concerning the other non-base workers. There are roughly 25 carpenters and construction workers, 60 school teachers, 40 government employees, and 100 personal service and professional workers.

It is now time to try to analyze the economy of the municipio as a whole. In Table 18 there is a summary of the estimates made in this paper of the employment provided and the value added by the major segments of the economy in Tolú. While these estimates have been carefully worked out with the data at this author's disposal, it is worth repeating that they are based on sketchy data whose gaps and conflicts are often resolved only by best guesses.

From this table one can calculate the B:N ratio of 1:0.84. Thus, for every 100 base workers there are only 84 non-base workers. The corresponding ratio of the value added locally of the two segments of the economy is 1:0.44. What significance do these ratios have, assuming that they are accurate?

A comparison of these two ratios shows that there is more base employment than non-base employment, that base workers earn more, and that the average base worker is more productive than a non-base worker. These conclusions seem to point to the dependence of the municipio on the rest of Colombia. Even in agriculture where one might expect to find chiefly traditional farming and therefore the non-base segment to predominate, the majority of the labor and the value added locally may be attributed to the base segment.

In order to see the significance, if any of these B:N ratios, it would be very helpful to be able to compare them with those derived for other communities of similar size in Colombia. Unfortunately, however, no such studies have been made either in Colombia or in any other under-

TABLE 18

Total Employment and Value Added in Tolú

	Employment			Value Added Locally (in millions of pesos)		
Industry	Basic	Non-Basic	Total	Basic	Non-Basic	Total
Livestock	250	50	300	3.0	.5	3.5
Rice	270	90	360	1.1	.3	1.4
Other Agr.	*	200	200	*	.4	.4
Fishing	20	150	170	0.1	.4	0.5
Mangroves	20	10	30	.1	*	.1
Manufacture, etc.	*	20	20	*	.1	.1
Transport	30	30	60	.2	.2	.4
Oil Transport	60	-	60	1.0	-	1.0
Tourism	360	-	360	1.7	-	1.7
Teachers	*	60	60	*	.2	.2
Others	*	240	240	*	1.1	1.1
	101	850	1,860	7.2	3.2	10.4 **

Base Non-Base ratio (employment) 1:0.84[r]

Ratios of Value added 1:0.44[r]

* Less than 10 employed or 50,000 Ps

** This yields an annual average per capita income of $80 (U.S.) compared to about $200 for Colombia as a whole in 1955. Preston James (1959), p. 99. The estimate of $80 for Tolú may be somewhat low.

Table 18 continued

- While one would like to measure the total income of each household, this table probably underestimates the income earned by those not heads of households. Since many of these people would be considered employed in non-base industries (except those working for tourists) there may be a slight bias toward the base segment of the ratio by excluding them. Yet, we have also excluded income earned by those leaving Tolú to work in other parts of Colombia or even Venezuela and then returning to Tolú to spend part of their money. Thus, these two biases may cancel each other.

developed country to this author's knowledge. By manipulating the data presented by Gerardo and Alicia Reichel-Dolmatoff in their study of "Aritama", a village in the Santa Marta Mountains of Colombia, and by making certain assumptions one can roughly estimate a B:N ratio for value added locally. This has been done for the corregimiento (equivalent to a municipio) and the results are presented in Table 19. The ratio is approximately 1:1.1 . Since no estimate of the average income per capita was made in the book on Aritama, it has been arbitrarily assumed to be only 800,000 Ps, 75% of that found in Tolú since it is in a poorer region. 3/ Nevertheless, it is clear that Aritama is much less dependent on the rest of Colombia than Tolú.

In this paper the author has transferred the concepts used by economists in describing the United States and other of the higher income countries. Are such tools relevant to the low income countries as well? Is it ethnocentric to assume the same types of questions are relevant in low income areas as in Europe and the United States, e.g., what to produce, how to produce it, and for whom to produce it? Are these universal problems or ones that arise because we have tried to impose our goals on these societies? Should the same types of data be gathered in both societies? Some anthropologists might say that it is ethnocentric to treat these problems as universal, especially the problem of the individual accumulation of wealth. Although Tolú is not a primitive non-market economy as some

TABLE 19

The Base Non-Base Ratio of "Aritama" *

A. Exports

194,000 Ps	Coffee
150,000 Ps	Sugar cane
36,000 Ps	Straw huts
380,000 Ps	Total

B. Total Value added locally

4,000	Population of Corregimiento
x 200 Ps	Est. annual per capita income in 1953 Ps (U.S. $60)
800,000 Ps	Est. total value added locally*

Base-Non-Base 38:42 or 1:1.1

*Based on data from Reichel-Dolmatoff (1961), pp. 220-221, 224, and 231.

of the areas covered by Phyllis Deane in a recent African study, she has a useful comment on this problem:

> In other words, if it can be assumed that the ends of policy for a primative economy includes an increase in the output of goods and services, and an improvement of their distribution as between persons and overtime, then it can be fairly assumed that the kind of information which is usually collected by economists is relevant to the special case of the primitive economy. 4/

However, she sees what is probably an even more serious problem - money. While money is never a completely satisfactory measuring rod in a so-called "developed country", it is still poorer in primitive cultures, especially due to inadequate sociological data. 5/ Thus, we must avoid implying that we have measured utility.

Footnotes Section IV

1/ Some of these workers have already been included as employees linked to tourism. Some farmers, manual laborers and about 25 shopkeepers fall into this group of people linked to tourism as they sell goods and services to hotels and restaurants which in turn receive the tourists' money. In addition, some of the construction workers and personal service workers receive part of their income from tourism.

2/ Most of the stores are very small and sell goods in ver small quantities. In one shop one person was observed buying 4 cigarettes, another 2 rolls, while another purchased just one coconut. Besides the obvious reason that people have little money to invest in large inventories, the purchases are probably also small because people have poor storage facilities, especially for foods such as meat which quickly spoils in tropical climates, such as that found in Tolú, unless refrigerated. In Tolú few people have refrigerators, there are probably not more than a dozen or two in the entire municipio. The workers in Covenas who rent the company's brick houses have more appliances than most Toludenos. The shopping is often done by children.

3/ This compares with estimated total expenditures for the corregimiento of 650,000 Ps a year. This is a rough figure calculated on the basis of an approximate expenditure per capita for two families which the Reichel-Dolmatoffs wrote were typical of the rich and poor segments of the population respectively. This figure was calculated by multiplying the expenditures per capita per year by the number of people in rich families (about half those in the village proper), and the expenditures per capita per year for the poor families by the numberof the other people in the village and all those living outside the village but within the corregimiento. We have assumed that all those living outside the village are in the poorer group though the Reichel-Dolmatoffs do not state this. Reichel-Dolmatoff (1961), pp. 23, 242, and 244.

4/ Phyllis Deane (1953), p. 119.

5/ Ibid., p. 128.

V. PROSPECTS OF THE BASIC INDUSTRIES

As pointed out in the introduction, any consideration of the future of industries should take into consideration the market forces affecting them. Since no detailed study of the market for the various industries discussed below has been made, the comments in this section are necessarily incomplete and somewhat tentative.

Tourism is one of the most rapidly growing export industries in Tolú. In order to understand it let us first look at the market forces of supply and demand for tourist facilities. On the demand side, there are many people in the highlands, especially Medellín, and Bogotá, who enjoy vacationing on the beach. The rapid industrial growth of Medellín and Colombia as a whole has led to a rise in the wealth and numbers of the middle class. 1/ These people are seeking, in increasingly large numbers, inexpensive tourist facilities on the coast. A study of this class its economic prospects, and how it spends its total and marginal income woul be very useful in planning tourist development in Tolú.

On the supply side, one should consider other tourist areas, especially Cartagena, Santa Marta, and any new areas along the coast near Tolú which show signs of becoming tourist areas. Tolú has an advantage over Cartagena of being 157 kilometers or about four to five hours closer by car, the means of transportation most commonly used by turistas de época, to most of the highland population of Colombia, while Santa Marta is beyond Cartagena. 2/ Nevertheless, such things as the poor roads and the lack

of electricity makes Tolú less desirable than certain other tourist areas on the coast. The town also lacks the more or less modern luxurious appearance of Cartagena and Santa Marta. One town on the coast, Turbo, however, is much closer still and should therefore be watched with particular attention to see whether it develops into a tourist area. It does, however, get more rain than Tolú and is connected with the highlands by a longer stretch of bad road. 3/

Tolú could undoubtedly profit by improving its tourist facilities. A new bank might be feasible to provide loans to individuals, encouraging them to build new hotels, pensiones, restaurants, and entertainment halls to cater to tourists. In addition there is a beautiful sandy beach much of the way between Tolú and Covenas which are now connected by a very bad road. However, there is a good chance that this road may be improved, according to a former local official. A bill was supposed to be introduced into the national legislature to nationalize the road. He predicted that it would pass since not only would the road serve two departments, Bolívar and Córdoba, but Julio Cesar Turbay, one of the directors of the Dirección Nacional Liberal (Liberal Party) has a summer house on the road. If this should happen, several inexpensive hotels, small cheap cottages for rent, and perhaps a motel-restaurant along the beach might be profitable. This would help alleviate the problem of overcrowding in Tolú and on its beaches.

A number of improvements are being planned in addition to paving the road to Covenas which might encourage tourism. In the last few years the government started paving the Tolú-Sincelejo road. A small section was

paved but then work stopped. The equipment used was still lying around so perhaps work will be resumed in the future. In addition, the national congress has voted 2 million pesos to defend Tolú's coast line against the sea but the money still has not been received. Also, the alcalde (mayor) has ordered that all kioscos (stands and shacks for selling goods to tourists) be removed to improve the looks of the beach and thus to encourage tourists. 4/

Fishing also has very good prospects if (1) dynamiting can be stopped, and (2) the fishermen use better methods of catching fish, e.g. learn to fish more with nets and learn to fish in deeper waters. Dr. Dahl is working on both of these problems. 5/ He has ordered various types of nets from Sweden in order to find out which works best in Tolú. After he teaches the fishermen how to use them he then hopes to persuade the government to give credit to these fishermen to buy nets.

The supply of fish in the Caribbean Sea off the coast of Colombia is reported to be good. Hincapie mentions the Gulf of Morrosquillo as one of the principal regions where edible fish congregate, but later complains about the growing number of "subsistence" fishermen. The Nathan Mission speaks of fishing as an important means of augmenting the economic activity of the Atlantic coast of Colombia and similarly cites the lack of commercial fishermen as the primary handicap to the fishing industry there. 6/

Likewise, the market demand for fish looks promising. It would clearly be desirable to increase the consumption of fish in Colombia as this would help bring the protein content in the people's diet up to the recommended

level. The average daily consumption of 44.5 grams (1951-3 average) of protein per person is only 58.2% of the target proposed by the Instituto de Nutrición. 7/ According to a recent study, the price of good fish, which in most countries is very close to the price of meat, is considerably higher than that of meat in Colombia (5 Ps compared with 3-3.5 Ps per kilogram). 8/ Fish is th[illegible] luxury item for most Colombians. Thus, if fish marketing can be made more efficient, bringing down the price of fish, and if people's income rise it is likely that more fish can be sold. It must be kept in mind, however, that tastes are a very important factor in people's food habits. More research is needed on this subject.

As we have seen earlier agriculture is the most important industry in the municipio. The prospects for development are generally good. The greatest potential for increased production seems to be in commercial crops. Two barriers to development will have to be overcome before such crops can be produced. First, it will be necessary to determine what land can be used profitable for raising crops. While this may be done on a trial and error basis, the IBRD study of Colombian agriculture recommended that the land be classified according to its value for raising crops. The Instituto Geografico Agustin Codazzi has already made preliminary soil studies of northern Bolívar. 9/

When the land has been classified, it will be easier to successfully overcome the second barrier to commercial crops, the present land tenure structure. In addition to illegal land invasions, two methods of changing the tenure system have received considerable attention: confiscation

of the large inefficient cattle ranches with or without payment and a revision in land taxation which would force land into production by taxing it according to its potential rather than its present use. Both methods have been tried, but neither has been entirely successful. INCORA, the Colombian Institute of Agrarian Reform, is feared by some of the land holders in Tolú, but so far it has done very little in the department of Bolívar. 10/

Assuming that more land is available for commercial crops, which ones present the greatest opportunities for successful development? Those crops already grown in the municipio deserve a brief analysis. Rice is at present the most important crop.

Rice production has been rising in the nation partly due to the active promotion by the Federación Nacional de Arroceros (Rice Growers Federation). If rice could replace some of the wheat now imported under the PL 480 program, the market for rice might be further expanded. 11/ Rice yields in Tolú are higher than the national average. The prospects for rice production are being further improved by the efforts of one of the two commercial rice growers mentioned earlier who also owns a store in Sincelejo. He was performing the principal function of a county agent -- the introduction of new agricultural techniques to increase production. Five years ago he introduced fumigators; now about 15% of the farmers use them. Moreover, many of the farmers in the area are also using weed killers which he introduced five to six years ago. In addition, he was the only person in the area around Sincelejo using fertilizer, but others may soon follow his lead. 12/

Cotton is potentially an important crop in Tolú, given reservations similar to those already mentioned in our discussion of rice. A considerable amount of land suitable for cotton production reportedly exists in the municipio. 13/ Parsons speaks of cotton as "the modern bonanza crop of the modern Sinú". The combination of high yields, price supports, and active government and semi-governmental support, through the Federación Nacional de Algodoneros (Colombian Cotton Growers Association), and the Instituto de Fomento Algodonero (the Institute for the Development of Cotton Growers) has enabled Colombia to supply her own need which she formerly imported (partly through PL 480). Consequently in 1960 and 1961 Colombia even produced enough cotton to export part of the crop. Much of the cotton has been produced along the Sinú Valley in the neighboring department of Córdoba while Bolívar only grew about a thousand hectares according to the agriculture census. Moreover, good roads, especially feeder roads, are likely to expand commercial cotton production.

Sesame is also a promising crop in Tolú. It is used for a variety of purposes. In the United States and other countries sesame seeds are used to adorn bread, but all of our needs must be imported since it is not grown in the United States. In addition, its seeds are a very important source of salad and cooking oils. This oil is also used in making margarine, shortenings, and soap. Besides, pressed cakes of sesame are reported to be excellent livestock feed. 15/

This brings us to the question of the prospects of the cattle industry in Tolú. As the population and the income per capita rise in Colombia,

the demand for meat is almost certain to rise, but the important question is whether more cattle can be produced. The area of pasture is likely to contract in the face of growing pressure for more cropland. The pace of change will be quicker if a reform breaks up the larger cattle haciendas, but it is likely to occur spontaneously but at a slower pace as ranchers voluntarily switch to the production of commercial crops. 15/

The alternative to decreased livestock production is intensification. Planted pasture, artificial insemination for better breeds of cattle, and dry lot feeding will all contribute to raising the carrying capacity of the land. One cattle rancher, referred to earlier as hacendado A, has already begun to use the first two methods and was contemplating using the third as well. The IBRD mission which studied Colombian agriculture recommended that better feeding methods be adopted especially during periods of drought. The Nathan mission goes further and suggests that perhaps corn, which is reported to be especially productive in certain regions of the coast, could be raised as a feed grain for cattle. 17/

Cattle production on the Colombian coast has been seriously handicapped by the lack of adequate means of transportation to the centers of population in the highlands. When the cattle were driven on foot from the coast to Medellin it took about 3 to 6 weeks and the cattle lost as much as a third of their weight. 18/ Now when they can be transported by truck all the way from Tolú to Medellin the loss has been cut considerably, but partly because of the bad roads, they still loose about a tenth of their weight on the trip.

One solution to this problem may be killing the animals on the coast, processing them, and then shipping the meat to the highlands. There are plans to build a meat packing plant in Planta Rica about a hundred miles south of Tolú. 19/

The Nathan mission further suggested that plans be made to export beef. This is not the first time such a plan has been proposed. In 1918 the International Products Company of Chicago and Paraguay won a bid to construct a packing house on the Colombian coast. In 1924 it was finally completed in Covenas. The three million dollar, five-story structure was a complete failure. In 1939 the idle slaughter house, modern pier, and several other buildings were sold to SAGOC. The IBRD mission, perhaps remembering this unfortunate experience, cautioned against trying to export cattle from Colombia at present. 20/

Little can be said, on the basis of a study of the municipio of Tolú alone, about the future of the oil companies in Covenas. It depends on the market factors, e.g. the rate of new discoveries in Colombia, world prices of oil, and political developments affecting oil production and sales. Since these aspects have not been investigated in this study, little can be said about oil production. 21/ It should be noted at this point, however, that the oil company is not using its pier to capacity. This pier could become more important in the future since it can unload ocean going freighters.

Unfortunately, little can be said about the future of the mangrove industry for similar reasons. There is some question as to whether mangrove bark will continue to be shipped out from Tolú. 22/ A cursory study of the demand for mangrove bark and its extracts for tanning leather revealed two conflicting trends. On the one hand, at least up to 1952, there was reported to be an increase in the production of extracts of mangrove bark in the American tropics for export to the United States. 23/ On the other hand, the use of artificial tannins in the leather tanning industry has increased to the point where tanning with chrome compounds has come to be the most important method of tanning in volume of production though vegetable tanning remains basis for certain kinds of leather. 24/ Light leather especially is being tanned chiefly with mineral tannins. 25/ In addition natural gas, which has been discovered in the municipio, as well as petroleum which is transported through it, will probably eventually replace mangrove as a major source of energy. Already there are a small number of people who used bottled gas either for refrigerators or stoves. The gas is delivered in Tolú regularly by trucks from a neighboring town.

There are two very interesting current developments near Tolú involving cement. First, on July 14, 1964 a shipment of cement from Barranquilla was unloaded at the pier from an ocean frieghter. It was reported to be the first such shipment of cement to Coveñas. It was expected that shipping cement by sea would cut the price of cement by a peso (10 cents U.S.) or more (from about 11 Ps to less than 10 Ps) per 50 kilogram bag. Presently cement is sent to Tolú and Sincelejo by truck

from Cartagena. The cement would not only be sold in Tolú and Coveñas, which have seen a rapid expension in cement construction in the last few years since the arrival of tourists in the area, but also to nearby cities and towns, perhaps even those as far away as Montería.

This event is still more interesting when one considers that the pier at Coveñas is capable of handling ocean freighters, probably several a day, but at present only about three or four oil tankers come to Coveñas a week. There are a number of small crude boats which ply the coast and use the pier, but most of them are small sailing ships without motors, or sometimes with both sails and small motors, and cannot carry large quantities of goods long distances as cheaply as freighters could. The pier might become more important if the roads connecting Coveñas with other nearby cities were improved. Bulky goods such as agricultural products and construction materials may be transported in larger quantities in the future. If so, investors should consider the port at Coveñas.

Second, the Corporación Financiera Colombiana has decided to construct a cement plant in Toluviejo capable of producing 1,000 tons of Portland cement a day. 26/ The plant will use the extensive limestone deposits in the hills around Toluviejo. 27/ The Corporación reports that an extensive study by the Americana Werner Associates found that there was an adequate market for the cement. It expects to sell about 40% of the cement abroad. The plant is projected to cost about 11.7 million dollars, some of which is expected to come from abroad. It will be located 14 kilometers from Tolú. Not only does it plan to use the port of Tolú,

but it also expects to obtain most of its projected 370 workers from the three centers of Tolú, Toluviejo, and Sincelejo. Construction may begin as early as the end of this year. 28/

When the plant goes into operation, if it does, it should have an important impact on the economy in Tolú. The other cement company now shipping cement from Barranquilla would probably have to find new markets or at least share the Tolú market area with a strong competitor. This also raises the interesting question why the port in Coveñas could not be used jointly by SAGOC and the projected cement company. Perhaps it might need to be expanded, but this might be cheaper than building a new port. However, this idea was not mentioned by the Corporación in its report. In either case the road connecting the cement plant with the port used would probably need improvement, certainly if Coveñas were used.

The roads would not be the only facilities which would have to be improved for the cement plant to operate as projected. Electricity and other sources of power, probably petroleum or locally available natural gas, or perhaps both, would be needed by the plant.

One serious question arises in the mind of this author. The workers demanded, according to a local representative, will be mainly skilled and semi-skilled. However, there are few people of this type in Tolú at present. Similarly, Toluviejo and even Sincelejo have few trained workers since both have practically no manufacturing industries. Unless a training program is started before the plant is opened, at least initially, large numbers of people will have to be brought in from outside the area, especially from the highlands where more skilled labor is available.

If workers from the outside were to be brought in to work in the cement factory, a large housing project would be necessary. However, this might be desirable in any case to help ensure a more permanent and dependable labor supply. Men might otherwise come without their families to work for a short period of time to get money and then return to their homes to spend it.

Due to the multiplier effect and the tendency of industries to attract each other to share better facilities and enlarged markets, the creation of a cement plant if successful may encourage other small industries to establish in the area.

Finally, only two people in Tolú make any sort of handicraft to sell to tourists. A handicraft industry making rugs, souvenirs, or other such relatively cheap items designed to sell to middle class people from Medellín might not only provide more employment but, if concentrated in the off-season, might be able to spread the employment throughout the year. Better electric service would help a great deal. If Tolú could become known as a handicraft center, this should also stimulate the tourist business. 29/

Footnotes Section V

1/ The average annual increase in real income per capita in Colombia during the 1957-62 period was 1.8% while real gross national product grew by 4.6% in the 1950-62 period, Council of Economic Advisors (1964), p. 160.

However, one gets a very different picture from calculations made by CIDA. Using data published by the Banco Nacional de la Republica, they estimate national per capita income for the period 1951 to 1960 in constant 1960 prices. According to these estimates real per capita income rose from 1,508 Ps in 1951 to 1,814 Ps in 1954 but then fell to 1,290 Ps in 1958 and only rose again to 1,477 Ps in 1960 (below the figure for 1951). Thus, these figures indicate if anything a decline in real income per capita. CIDA (1964), p. 62.

2/ Guy Ashton (1964), p. 6 (unpublished)

3/ Enrique Perez who visited both Tolú and Turbo concluded that Turbo was very inferior as a potential tourist area. He wrote:

> Situada la población de Tolú en el Golfo de Morrosquillo, que es una inmensa herradura; con su mar de poco fondo, plácido y sin resaca, con sus cocoteros innumerables que llegan hasta la orilla y se inclinan sobre el agua, con un clima templado todo el año, acariciador, con sus arenas menudas y sueves como terciopelo; Tolú podría ser uno de los mejores balnearios de América.

In contrast he wrote the following about Turbo:

> Humedad que impregna el ambiente, agua que se rezuma del suelo a cada pisada, cangrejos que todo lo invaden. Si esto es puerto, está muy cerca de no serlo; si es ciudad se parece bastante a un villorio sin destinado a hacer más breve la vida desus pobladores.

(1964), pp. 24-25. Gordon writes that the rainfall in Turbo is over 80 inches a year compared to about 43 inches to 60 inches in most of the Sinú Valley which runs 25 kilometers west of Tolú (1957), p. 6.

4/ According to Ashton, the reason given by the alcalde (mayor) for ordering that the kioscos be torn down was that the National Tourist Organization wanted the old ugly structures destroyed before they gave Tolú money to beautify its beaches. The alcalde planned to build 8 new palm kioscos which he would own and rent to women to sell beer and soft drinks, (1964), pp. 11-12 and Duvall field notes for June 25, 1964.

5/ Although he was planning to retire soon, his successor, also of Swedish birth, can be expected to continue his work. The latter has even taken up Colombian citizenship.

6/ Hincapie (1959), pp. 216 and 218 and Nathan (1960), p. 173.

7/ Hincapie (1959), p. 55.

8/ These figures apparently apply to the highlands of Colombia since fish are cheaper in and around Tolé. High transportation costs inefficient marketing are at least partly responsible for the price differential, Nathan (1960), p. 84.

9/ IBRD (1956), pp. 4 and 18-19 and Nathan (1960), p. 373.

10/ The original proposal of land taxation, according to Albert Hirschman was made in the 1950 IBRD study of Colombia headed by Lauchlin Currie. In spite of a plea for an effective land tax system by former President Lleras Camargo in 1959 the only successful application was in the Cauca Valley where the Cauca Valley Corporation (CVC) needed the tax money to improve agriculture there, especially through irrigation. In December, 1961 a new land reform law went into effect which created INCORA. While INCORA's prospects were such that Hirschman was led to speak of it optimistically as a "revolution by stealth, so far it has failed to live up to his expectations. Very little land has been distributed to the peasants as a result of INCORA in its early years. See Hirschman (1963), pp. 95-158 (especially 131-58).

Contrary to Hirschman's predictions it may be the land taxation which brings about the "revolution by stealth". In a handout at a lecture on "Taxation and Agricultural Development in Low-income Countries" delivered before a workshop on economic development in September, 1965, John Strasma points out the amazing fact that in one month 12,294 property owners in Colombia voluntarily raised the declared value of their land for tax purposes due to fear of expropriation. For a discussion of the question of taxation as a method of land reform, see Strasma (1965).

There are of course many other problems in developing commercial agriculture in Colombia such as credit, marketing facilities, etc., but perhaps, land tenure reform, land classification and better roads are three of the most programs which the government can carry out at present. Then these will certainly have to be supplemented with a broader plan for agriculture. The author is thus suggesting that Colombia should concentrate on Phase I "the development of agricultural preconditions" to use Bruce Johnston and John Mellor's terminology, (1961), pp. 582-3.

11/ Nevertheless, imported wheat may have caused people to prefer bread and therefore it may be difficult to change their tastes. Instituto Latinoamericano de Mercadeo Agrícola (1964), pp. 5-9. An annual average of about 95,000 metric tons of wheat was imported by Colombia under the PL 480 program in the 1955-61 period, Lawrence Witt and Carl Eicher (1964), p. 20.

12/ Interestingly enough, like many entrepreneurs in Tolú, he himself is not from the coast but from Boyacá. Since it was felt that he might have further ideas on the improvement of agriculture, the author asked him what the government should do to stimulate rice production. He suggested that the government should: (1) irrigate more land; (2) facilitate the use of farm machinery, perhaps by renting it; (3) encourage the use of better seed; (4) carry out a land reform to break up the large holdings and give the land to farmers; (5) make credit available to small farmers since it is hard for them to get it now; (6) establish a program of crop insurance like that in the United States to prevent a farmer from losing all his investment in a bad year.

13/ Taylor (1964), p. 20.

14/ Parsons (1952), pp. 82-3, Witt and Eicher (1964), p. 20, and DANE (1964), p. 23.

15/ Other uses include the production of: candy, a drink called horchata, certain pharmaceutical items, perfumes, an illuminant, and a substance which cures diarrhea and dysentry, Dale Farringer (1946), p. 160.

16/ The best prospects for commercial crops may be on the medium size farms similar to the two rice farms mentioned. The large haciendas typically use land inefficiently while very small farms often have little surplus to sell and often use excessive amounts of labor. The principle advantages of large farms according to Don Kanel are:

"1. Efficient use of indivisible forms of capital: draft power, wells, buildings, etc.
2. Direct utilization in control of production decisions of the superior managerial know-how of large farmers, landlords or farm managers."

(1965), p. 16. Yet, the managerial skills of large farmers might be better used in the form of extension work. One could add that large-scale farms hiring labor not only suffer the disadvantages of few incentives to workers and difficulties in labor mentioned by Kanel (p. 16), but also may lead to a less stable political climate.

17/ Three main aspects of cattle improvement listed in the IBRD study are:

"1. Better pasture management designed both to provide more nutritious grazing and to increase stock-carrying capacity;
2. Better feeding practices through the provision of supplementary feeds, such as hay and silage, during periods of drought; and
3. The effective control of animal pests and diseases and the care of calves."

IBRD (1956), p. 109, and Nathan (1960), pp. 56-7.

18/ See USAID (1961).

19/ John Hopkins (1946), pp. 63-6 and 75-6 and Culbertson (1946), pp. 155-9 for a discussion of the problems of transportation of agricultural products, especially livestock, in Colombia.

20/ Nathan (1960), pp. 59-60, Parsons (1952), pp. 76-7 and 80, and IBRD (1956), pp. 111-2.

21/ Petroleum exports which were valued at about US $10,000,000 in 1958 fell slightly from 1954 to 1958, but rose again in 1958. While production has increased throughout the period domestic consumption has also increased, Nathan (1960), p. 119. For a further discussion read chapter 9 "Petroleo y gas natural" pp. 113-144 in the same study. (Figures given refer to the nation as a whole).

22/ See footnote III-28.

23/ Frank Howes (1953), p. 63. This book has a good general discussion of tannins and the role of vegetable tannins including a chapter on mangrove trees. He has two other interesting remarks. First, the United States is the major importer of natural tannins. Second, he adds that "mangroves constitute in fact the only commercial tanning material of natural growth that seems inexhaustible", though he elsewhere says that it is not one of the three major sources of tannins at present. (They are quebracho, mimosa, and chestnut), pp. 23 and 62. See also Acostia-Solis (1959) for a discussion of the mangrove industry in Ecuador.

24/ Encyclopedia Britannica (1965), Vol. 13, p. 869.

25/ Howes (1953), pp. 12-3.

26/ Corporación Financiera Colombiana, (1964).

27/ According to the same pamphlet there is an estimated 150 million tons of calcium carbonate, enough to produce a thousand tons of cement a day for more than a century.

28/ The Nathan mission points out, however, that cement is one of the few industries in which Colombia has an exportable surplus. Construction of a cement factory at Planeta Rica was held up several years when a study revealed that the demand for cement was insufficient. Nevertheless, the mission also pointed out that the domestic market for cement was growing rapidly (1960), pp. 169-70.

29/ There was apparently little awareness of the market for local handicrafts to sell to visiting tourists. Once noticing an attractive case a young carpenter had made for his portable radio, I asked him why he did not make more cases like that one and sell them to tourists. He replied that he only made things on the orders of his customers. Here there seems to be a real need for entrepreneurs who are willing to buy such products and sell them to tourists. It is hard to imagine that one could not find some simple products which the relatively wealthy tourists would be unwilling to buy. Tourists are notorious souvenir collectors in the United States, perhaps Colombian tourists would not be so very different in this respect if they were offered imaginative handicrafts made in Tolú.

VI. CONCLUSION

This study has examined the most important base industries of Tolú and briefly discussed their prospects for the future. At present the greatest potential for development lies in tourism. In spite of its sandy beaches, calm water, and warm climate, Tolú is clearly a second class tourist center. Some hotels have already been established, but more could be added. Commercial crops, especially rice, cotton, and sesame, offer very bright prospects for the future. Livestock is also promising, but its total economic contribution to the area may be reduced as it is gradually replaced by crops unless more intensive methods are adopted. The success of the fishing industry will depend on outlawing the use of dynamite and on improving the technique used, especially by encouraging the use of more nets. Mangrove products are not likely to remain as important as they have been in the past. Artificial tannins have been replacing natural tannins, such as mangrove bark, in certain types of tanning, e.g., light leather. Besides, fossil fuels, such as natural gas and petroleum, are likely to replace charcoal and firewood as sources of heat and energy. Two new industries may alsooffer significant prospects for the future of Tolú. First, there are plans to build a cement plant in the nearby community of Toluviejo. If this plan goes through there may be more jobs available for Toludeños and there may be other beneficial side effects of the factory such as small industries to supply the cement plant and better houses due to cheaper cement. Second, handicrafts could be made to sell to tourists from Medellín. If such handicrafts could be made in the

off-season for tourists, this could help occupy people throughout the year and bring additional revenue to Tolú.

There are several weaknesses of the area which limit the above opportunities. First, the roads leading to Tolú are very bad. This severely limits all trade and commerce except the small portion dependent on air or sea. Second, the public services are very poor. Although Tolú does have electricity, it is only available at night and on Sundays. Third, the land tenure structure perpetuates the uneconomically extensive cattle ranching at the expense of commercial crops which both provide higher returns to the owner per hectare and give greater opportunities for employment to the community. Fourth, the use of dynamite instead of nets has rendered fishing, a potentially important industry, largely a subsistence one and has even threatened to destroy this. Fifth, the labor is largely unskilled and either uneducated or only poorly educated.

Having examined some of the more specific problems confronting Tolú's base industries, one may wonder what significance this, another study of a small community, could possibly have for an underdeveloped country with many pressing problems and a very restricted budget. Colombia has neither the personnel or the money to make such a study for each community to decide what projects each one needs most. Unless such studies provide information about the country as a whole they will be practically useless. What does the process of economic development in Tolú reveal of national interest?

During the colonial period when Colombia was being settled by Europeans, the coastal areas of the country (with the exception of the

ports of Cartagena, Santa Marta, and Barranquilla) were largely bypassed as settlers moved to the interior. However, since the turn of the century the Atlantic coastal region including Tolú is gradually being rediscovered by highlanders, especially the Antioqueños. A brief look at the base industries of Tolú shows how significant highland influence has been. Tourism has received its impetus largely from highlanders, especially middle class residents of Medellín (Antioquia). Several of the hotels in Tolú were built by Antioqueños. One of three groups of commercial fishermen was organized by a man who lives in Medellín to capitalize on the rich market in that city by flying in frozen fish from Tolú. Moreover, most of the cattle raised in Tolú are shipped to the highlands especially Medellín. Mangrove bark is shipped to Medellín where it is used for tanning. Besides, the most important commercial farmer, who is also the only agent for many agricultural supplies in the area, was born in Boyacá, also part of the interior.

This brief sketch illustrates the significance of trade, often controlled by outsiders, in the process of regional development. The importance of trade in the process of economic development has been discussed in considerable detail by the classical economists, such as Adam Smith. Trade permits a division of labor which permits specialization which in turn permits greater productivity than would otherwise be possible.

However, as some writers have pointed out, trade has not always led to economic development. Although India traded much more with

Europe than did Japan, India has made much less progress toward economic development than Japan. 1/ Furthermore, even an active promoter of the economic base concept Tiebout admits that:

> "Nothing here suggests that it is impossible for a community to grow without an expansion of exports. The world as a whole does not, as yet, export. Nevertheless, incomes have risen substantially. Increases in productivity and technological change are hallmarks of economic life....A base study after all cannot examine everything." 2/

Thus, while trade may permit development it is not a sufficient condition for it.

In fact there is even uncertainty about what the term economic development should mean. Some economists equate economic development with economic growth. This they would then precede to measure in terms of changes in income per capita in constant prices. While this is potentially a very useful tool, perhaps the single most useful index of economic development, it has two serious limitations. It is very difficult to measure. CIDA and AID using different information leave the reader with opposite impressions as to whether the income per capita is rising or not (see footnote V-1). In addition, some economists are not willing to consider a country developing simply because large amounts of foreign exchange earned inflate the size of the gross national product, e.g., oil rich Saudi Arabia may not be developing according to these economists even if income per capita is rising. The author would agree with these latter economists who feel that economic development should refer to more than just economic growth.

it seems more useful to restrict the term to those cases where there are also changes in the institutions and in the distribution of wealth and power. Ideally, an index of economic development should measure the strength of these changes on the national economy.

Often economic growth in the early stages of economic development is concentrated in a few large cities where it typically benefits only the upper and middle classes. One notable exception is the wide distribution of medicine to eliminate contagious diseases. As important as the elimination of these disease may be, unless other programs are carried out simultaneously the Malthusian demon may even depress the standard of living in the area.

One of the greatest problems for a representative government in underdeveloped countries today is how to increase the proportion of the population actively involved in the process of economic development in order to overcome inertia and to maintain popular support. It is difficult to see how any nation can rapidly increase this proportion without national economic integration.

Extending the effective size of the national market would breath new life into the national economy. It would mobilize both human and non-human resources and thus the potential supply of goods and services. Likewise, itwould open new sources of demand for industrial products. Thus, an index of the rate of expansion of the national market might be an important index of economic development.

Could then some aggregate of B:N ratios provide such an index?

If two communities of similar size in an underdeveloped country were compared or if one such community was compared with itself at different periods in time as it developed, the non-basic segment of the ratio will probably be smaller in the more developed one at least up to a certain point. 3/ As population increases after this point, the non-basic segment may rise as a larger community is able to produce things which it formerly had to import. More empirical studies are needed before these hypotheses about the behavior of the B:N ratios can be accepted. This study is concerned primarily with the period in which the base sector of the B:N ratio is increasing.

Perhaps B:N ratios could be calculated for a small number of representative towns of approximately the same population in different parts of an underdeveloped country. If these ratios were calculated periodically, say every five years, one could observe their behavior. They might then be used to help judge the effectiveness ofregional development projects in promoting national economic integration. How would the ratios in regions where a group such as the Cauca Valley Corporation, INCORA, or Acción Comunal were active compare with those where such groups had not been very active? One would expect that the base sector would increase most rapidly where the programs had been most successful. Such a plan would depend on finding a cheap but accurate way of measuring the B:N ratio.

Acción Comunal, the community development program in Colombia would be wise to re-examine its policy. Is it promoting national economic integration? As Foster has pointed out, such programs have

often treated each village as an independent unit, ignoring the very important ties it has with other villages, towns, and cities.[4] Moreover, new ideas are spread from towns where people come together, bringing these ideas with them. Strengthening the ties of villages with the rest of the country should be one of the most important goals of a community development program.

There are many questions still unanswered about the B:N ratio and about the process of national economic integration. This appears to be a rich area for future research.

Footnotes Section VI

1/ Hagen (1962), pp. 24-5.

2/ Tiebout (1962), p. 75.

3/ Blumfeld has a brief discussion of the B:N ratio and how it changes with economic development in Pfouts (1960), pp. 231 and 238-41.

Don Kanel suggested two useful subdivisions of the non-base sector which helps explain why this sector declines relative to the base sector as a community becomes more integrated into a nation. These are the non-base sector derived from the base sector and dependent on it and the non-market sector independent of the base sector. The elimination of the non-market sector with integration into the nation is the primary reason for a relative decline in the entire non-base sector.

4/ George Foster (1962), p. 31.

APPENDIX I

1960 Agrarian Census DANE

	Number of Units	Area in Hectares	Source
Tenure			Table 1
Total farm units	649	28,726.5	
Producer-operated	633	22,161.6	
Managed by an administrator	16	6,564.9	
Number of separate parcels	682	-	
Farm Type			Table 2
Crop farm	465	2,300.2	
Cattle ranch	104	25,732.2	
Poultry farm	59	10.6	
Mixed farm	21	683.5	
Total	649	28,726.5	
Ownership			Table 3
Single persons	643	25,488.8	
Legal persons	6	3,237.7	
Government and Others	0	-	
Total	649	28,726.5	

	Number of Units	Area in Hectares	Source
Form of tenancy			Table 4-A
Owner-operated	365	25,671.7	
Rented	142	203.6	
Occupied without title	70	161.7	
Other forms	20	1,750.1	
More than one form	52	939.4	
Total	649	28,726.5	
Form of rent payment			Table 5-A
Fixed quantity of crop	7	22.5	
Fixed quantity of money	90	125.6	
Sharecropper	27	33.4	
Payment in labor	6	.8	
Other arrangements	12	21.3	
Total rented	142	203.6	
Land tenure by area in hectares			Table 6-A
Owner-operated		26,122.4	
Rented		652.8	
Occupied without title		167.7	
Other form of tenure		1,783.6	
Total		28,726.5	

	Area in Hectares	Source
Rented land by type of payment		Table 7-A
Fixed payment in land	407.7	
Fixed payment in cash	183.8	
Sharecropper	33.4	
Payment in labor	.8	
Other arrangements	27.1	
Total	652.8	
Land use by area		Table 8-A
Arable land		
Temporary crops	711.2	
Fallow	1,774.2	
Permanent crops	342.4	
Permanent pasture and meadow	21,929.2	
Woods and brush	3,280.7	
Other classes	688.8	
Total	28,726.5	

	Number of Units	Area in Hectares	Source
Crops on arable land			Table 9-A
Sesame	6	3.1	
Cotton	-	-	
Rice	334	493.5	
Sugar cane	16	18.1	
Beans	2	0.5	
Corn	299	414.4	
Manioc	161	109.5	
Sorghum and millet	-	-	
Tobacco	1	0.2	
Tomato	-	-	
Yucca (cassava)	283	242.5	

(figures do not add up to temporary cropland)

	Area in Hectares	Number of Dispersed plants	Source
Permanent crops			Table 11-A
Banana	34.1	-	
Cacao	-	7	
Coffee	-	31	
Coco (coconut palm)	78.6	1,524	
Orange	6.9	1,252	
Pineapple	1.5		
Plantain	198.3	162	

	Number of Units	Number of Animals	Source
Livestock			Table 15-A
Cattle less than 2 years - male		4,172	
Cattle less than 2 years - female		4,191	
Cattle more than 2 years - male		3,268	
Cattle more than 2 years - female		8,196	
Total cattle	115	19,827	
Sheep less than 1 year		113	
Sheep more than 1 year		445	
Total sheep	12	558	
Pigs less than 6 months		1,136	
Pigs more than 6 months		764	
Total pigs	330	1,900	
Horses	127	783	
Mules	127	389	
Donkeys	291	592	
Goats	4	17	
Poultry - chicken	447	9,574	
Poultry - other		2,488	
Beehives	10	26	

	Owned	Rented	Source
Machines used in 1960			Table 19-A
Internal combustion - fixed	4	-	
Electric - fixed	1	1	
Tractors	11	5	
Threshing machines	1	-	
Mills	-	-	
Combines	-	-	

Irrigated land		Table 20-A
	None	

	Number of Informants	Source
Fertilizer		Table 21-A
Organic	3	
Inorganic	-	
Both	-	

Farm houses and population on them		Table 22-A
Farm units with houses	544	
Farm units without houses	105	
Total number of farm houses	636	
Population living in farm houses	3,349	

Concentration of Cattle by Units

Number of farms classified by number of cattle on each									Source
Total	2-4	5-9	10-19	20-49	50-99	100-199	200-499	500+	Table 16-A
115	8	14	13	28	16	11	13	12	

	Number of Informants	Number of Machines	Source
Type of Energy Used			Table 17-A
Mechanical Power	17		
Animal Power	4		
Animal & Mechanical Power	-		
Only human power	628		
Total	649		
Machines held by producers			Table 18-A
Internal combustion engines - fixed	4	5	
Electrical motors - fixed	2	2	
Tractors	15	24	
Threshing machines	1	1	
Mills	-	-	
Combines	-	-	

APPENDIX II

Comments on the Agrarian Census of 1960

The Agrarian Census of 1960 was the first complete census of Colombian agriculture to be carried out (except for the Department of Chocó and the national territories). In January 1960 the census was begun in Cundinamarca. After the census of Cundinamarca was completed, the rest of the departments were enumerated in groups of five or six departments at a time. A visitador theoretically came to each municipio and gave a five day, eight hour a day, course to the enumeradores (the actual census takers).

James Taylor talked with one of the enumeradores in Tolú. The enumerador, about thirty years old, was the son of a hotel owner. He was able to explain all the terms used in census, seemed to know the local agriculture well, and seemed fairly intelligent.

Nevertheless, there is considerable reason for doubting the accuracy of at least some of the data presented in the census. First, the area of the municipio as given in the census was 287 square kilometers which contrasts with 183 square kilometers, the figure given by the Bank of the Republic in the Economic Atlas of Colombia. According to Eugene Havens the study made by the Bank of the Republic was made with great care and is therefore probably much more accurate. Besides, the figure given by the Bank corresponds closely with an estimate made by this author on the basis of an aerial photograph of the municipio.

An additional problem with the census data for Tolú is that the area reportedly planted in rice and corn alone exceed the amount of land reportedly planted in crops that year. While this might be due to a combination of double cropping and planting two or more crops simultaneously in the same field, one would then expect the figures for the department to show a similar discrepancy. This, however, is not the case. The total land in each of the various crops taken separately and the total land in crops for the department of Bolívar were the same. In future censuses it would be very useful if the census would explicitly state how much land is double cropped and how it treats the problem of those fields planted in two or more crops simultaneously.

Finally, aerial photography is becoming an important tool for determining land use. It may be possible in the future to improve agricultural census data by sampling techniques with aerial photographs.

APPENDIX III

Costs & Returns of Certain Farm Units in Tolú

Cost and Returns — Hacienda A (2,884 hectares)

Income Source of Income	Pesos (10 pesos = 1 dollar)
Livestock*	703,478.50
Oranges	3,638.30
Platanos	493.35
Eggs	559.50
Cheese	4,830.95
Yuca	6.00
Sundries	299.00
Charged to Personnel**	12,365.00
Small livestock (pigs)	2,700.00
Twenty-nine mules	29,600.00
Total	757,970.60

*Livestock sales consisted of the following types of livestock:

Commercial Steers	439
Selected Santa Gertrudes Bulls	18
Selected Zebu Bulls	47
Commercial Females	243
Selected Santa Gertrudes Heifers	20
Zebu Heifers, Pedigree	30
Total	797

** Includes meals charged to personnel. I don't recall what other items were charged to personnel. (Quoted from James Taylor)

Costs	
Administrative	284,999.84
Prestaciones Sociales***	22,579.63
Cattle exclusively	26,819.53
General	19,681.02
Property tax	9,711.05
Depreciation	27,798.00
Total	391,589.07

***Prestaciones Sociales include medicine, a prima (bounty) equal to two weeks pay every six months, a months pay when a salaried worker leaves his job, and a yearly vacation. Only the fixed work force receivesprestaciones sociales.

A further breakdown of costs:

Administrative costs

Alimentación (meals for work force)	35,886.80
Salaries	62,493.05
Machinery	10,604.93
Combustibles	15,980.25
Cleaning Meadow	61,843.45
Sow meadow	12,517.50
Some agricultural works (platano, yuca)	13,074.38
Tools	870.20
Roads and Pools (to water livestock)	30,000.00
Corrals	10,000.00
Construct fences	21,298.13
Clean fences	5,339.00
Vehicles	5,092.25
Total	284,999.94

Total Income	757,970.60
-Total Operating Costs	391,589.17
Return to Capital and Management	366,589.17

Source Taylor (1964), pp. 6-7

Costs and Returns to

Hacienda C

Income	
1,000 steers at 950 Ps/each	950,000
Costs	
Purchase of 1,000 steers 600 Ps/each	600,000
Pasture for 1,000 steers 180 Ps/each (15Ps/month for 12 months)	180,000
Other costs 20 Ps per animal	20,000
Total Costs	800,000
Net returns	150,000
Net returns per hectare (excluding management)	350
Return to management*	50
Net returns per hectare (including management)	400

*This is based on the assumption that the manager of this 428 hectare hacienda earns about 20,000 Ps a year.

Source Taylor (1964), p. 10.

Costs and Returns to

Rice Grower A

Income (per hectare)		Pesos
Task or Purchase	Days of Labor	
1. Trocha en el monte (make a path in the field)	1	10
2. Hacer la Pica (cut the growth with a machete)	8	80
3. Guardafuego (clear path around field to keep fire from spreading)	1	10
4. Hachear el monte (cut trees in field)	4	40
5. El montón - partir y quemar las ramas (cut and burn the branches)	12	120
6. Atender la candela (attend the fire)	1	10
7. Limpiar terreno antes de sembrar (clean field before planting)	16	160
8. Recoger basura y quemarla (collect and burn the waste)	3	30
9. La siembra (planting)	8	80
10. Limpiar cuando el arroz es pequeño (weed when rice is small)	16	160
11. Trasplantar - poner mata donde hay falta (transplant where seeding is poor)	3	30
12. Guachepeo (weed when rice is high)	4	40

Task or Purchase Continued	Days of Labor	Pesos
13. Cortar arroz (cut rice - done by contract)	-	480
14. Recoger el arroz y apilarlo (collect and stack rice)	2	20
15. Demenuzarlo (thresh)	-	120
16. Transporte o acarreo (transportation)	-	150
17. Matamaleza con liquido (kill weeds with liquid)	3	30
18. Semilla (seed)	-	18
19. Aldrin (used to keep birds from eating rice)	-	1
20. Fumigación (fumigation)	-	45
21. La bomba para fumigar (rent of a pump to fumigate)	-	15
Total Operating Costs	82	1,649
Net Return		1,351

Source Taylor (1964), pp. 11 and 12.

APPENDIX IV

MISCELLANEOUS

Concentration by Ownership in Tolú

Size Class (hectares)	Number of Properties	Number of Owners	Total Hectares
Less than 1	8	8	2.75
1-10	96	93	373.0
10-30	83	75	1,265.5
30-50	25	17	639.5
50-100	50	39	2,561.5
100-300	33	23	4,571.5
300-500	16	12	4,687.0
500-1,000	11	8	6,175.0
Greater than 1,000	9	8	13,387.0
Total	331	283	33,662.75

Source Taylor (1964), p. 24.

The 1964 Population Census

	Houses	Population
Tolú (center	1,208	7,626
Tolú municipio	2,013	12,859

Source Land census office

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