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# SOME EVIDENCE ON AGRICULTURALLY-BASED CITIES

by

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## INTRODUCTION

A 1960 assessment of the outlook for industrially spurred growth in Nueva Ecija Province was published by the Industrial Development Center, then a subsidiary unit of the N.E.C.[1] It concluded that, like the other provinces of Central Luzon, Nueva Ecija enjoyed a substantial resource base, including good land, extensive forests, and significant white clay deposits of a quality sufficient for ceramics manufacture. It also noted that the regional economic center, Cabanatuan City (pop. 31,000), was endowed with an aggressive, forward looking group of businessmen, some of whom were then engaged in the incorporation of a local development bank. Thus, the assessment of the role industry might play in development in the coming decade was essentially optimistic and they recommended that public and private efforts focus initially on five areas of possible industrial investments:

1 - A ceramics industry to make tableware for the national market;
2 - Cold storage facilities;
3 - Fruit and vegetable canning;
4 - Edible oil extraction from rice bran;
5 - Meat preservation, esp. poultry;
6 - Cassava starch manufacture.

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*I must apologize to my colleagues at I.E.D.R. for this discussion paper having suffered from the press of time while finishing up my work at U.P. The argument is not as analytically pointed as it deserves to be. In particular, it fails to elucidate fully the process by which during the 1960s the six Local Urban Centers of Nueva Ecija developed economic capabilities formerly available only in Cabanatuan while the latter was at the same time moving to a still higher level of specialization, adding new services and capabilities formerly available only in industrially-based urban areas. This line of analysis will have to be developed in subsequent work.

My deep appreciation to my principal research assistant, Restituto Roxas, and to Elizabeth Bahena and Elizabeth Ong for their conscientious assistance during the three weeks of field work in Cabanatuan City and the subsequent tabulating of data.

By 1971 Cabanatuan had grown to a city of 40,000, municipal revenues generated locally had increased five-fold, a basic stock of business and financial services had been built up (including 8 banks, 18 insurance company offices, 9 modern hotels, motels, and restaurants, a variety of lesser services, and finally three radio stations), and 3 new hospitals had been built, raising the total to six and seeing the introduction of a full range of specialist services. Perhaps most striking to a visitor to the provinces, the enrollment of college students in academic courses of study in Cabanatuan's 8 colleges had risen from 1,500 in 1961, to 9,200 in 1971. Virtually all these students were from Nueva Ecija.

The industrialization story of Cabanatuan City was equally impressive. Not one of the recommended industries had been established. Nor had any other. Indeed, in the words of a 1970 ISSI report -- which paralleled almost exactly the assessment of the development prospects for the province and the recommendations for industrial investment of the IDC report a decade earlier -- "there is not even a single small-scale industry, in the strict sense of the term, [in the province]." This report verified that the primary sources of production and income of the province in 1970 were still limited to palay plus the output of 10 sawmills and a new onion industry in the east and an older poultry industry in the south. The province is not even graced with a significant cottage industry, though bits and piece of such production can be found here and there.

To be more precise about industrialization, a government-initiated cannery opened in 1962, closed in 1964, and has stood empty since. A much maligned Chinese-owned cold storage plant exists in the principal new onion growing area amid widespread but highly dubious charges of monopolistic practices. Three major ceramics manufacturing plants have been established in recent years -- two in Manila and one in Cebu, in evident preference to the perceived opportunities for such an industry in Cabanatuan. (Included among the manufacturers too small to qualify as "small-scale industries" are a recently established ceramics operation and a thresher manufacturer all of whose output is sold to the north of the province.) And of course as befits the rice bowl of Central Luzon, there are a large number of rice mills in the province which mill palay from farther north as well as from their own localities.

In sum, in 1972 one sees in Cabanatuan a regional economic center whose trade area is entirely agricultural and which has singularly failed to seize upon "industry" as a basis for its growth. Yet it has grown impressively. The basis for its growth is the agricultural modernization that has occurred in the sub-regions which compose the province and which the city serves with certain specialized industries. Yet the experts who diagnose and prescribe development remedies for such agricultural market centers and their hinterlands continue to come looking for smokestacks and "new possibilities for cottage industries."

Now that agriculture has so clearly become a leading sector, the time is overdue for economists to enter the field and inform the policy-makers and opinion-makers of the obvious -- that the income multiplier working on higher farm incomes will produce considerable non-agricultural growth and that this growth is not only making rural towns grow but is in the process of building "growth-poles-in-being," the agriculturally-based city.

THE STRUCTURE OF THE ECONOMIC REGION

It is of course inaccurate to refer to a regional center like Cabanatuan City as a "growth-pole" when in fact it is the opposite, its growth being derived from the agricultural growth of its sub-regions. For some purposes it is convenient to overlook this fact since such regional agricultural market centers are attracting a good deal of attention currently as the "intermediate" urban areas which could serve as lower-order growth-poles in strategies for achieving regional balance and rural-urban balance.

Cabanatuan's growth has been a function as much of its role as the economic center for the "Central sub-region" of Nueva Ecija as of its role as the administrative and economic center for the whole region (Nueva Ecija). Our research extended into only those industries and services in Cabanatuan which serve the entire region, since the primary thrust of the research has been to trace the growth pattern of one of the sub-regions over the past decade.[3] As a bonus, however, the Cabanatuan work provided useful perspective on trends in the province as a whole.

THE TIMING OF THE IMPACT OF AGRICULTURAL MODERNIZATION

The results of the Gapan-area work have been reported elsewhere and so will not be repeated here.[4] What is relevant for this discussion is that it was found that a "fertilizer revolution," say, between 1956 and 1966, preceded the "seed-fertilizer revolution" which came with the introduction of the high yielding varieties (HYVs) in 1966/68. This "fertilizer revolution," which raised palay yields per hectare from a plateau around 34 in the 1950s to around 40 in the early 1960s, provided the basis for strong growth in non-agricultural activities during the early and mid-1960s. Even stronger and more broadly-based growth followed after 1967 from the seed-fertilizer revolution. But the significant fact is that it is clear agricultural modernization in the Gapan-area dates from the late 1950s, not the mid-1960s.[5]

A roughly similar pattern of agricultural modernization can be perceived in data for Central Luzon as a whole and for Nueva Ecija in particular. It is with these historic trends in mind that it is interesting to consider Tables 1 and 2 from the point of view of assessing the impact of the HYVs on the towns and cities of the countryside.

What is immediately evident in both tables is that there was substantial growth between 1961 and 1967 that could not have been based on the fruits of the new technology. The HYVs were introduced in 1966 but did not become statistically significant until 1968 -- hence our use of 1967 as a base year. The totals of Establishments Entering by Year in Table 2 show that the rate of entry for the firms covered rose as early as 1964/65 to the level which was essentially sustained for the rest of the decade. The 1961-1967 growth can also be roughly measured in the increase in employment from 320 to 851. Cabanatuan was in fact responding to a substantially "modernized" agriculture during this period -- this despite the fact the degree of modernization was pathetically low measured by the level of either yields or fertilizer usage. But the essential point is that even this very modest change in agricultural productivity had a significant impact on non-agricultural economic activity.

The experience of the Gapan-area suggests substantially stronger impacts are to come. The seed-fertilizer revolution brought higher incomes to a much larger base of farm families than did the fertilizer revolution. The result was an almost explosive demand in the Gapan-area for clothing, furnishing, housing, and tricycle services, all of which contain a large component of local value added. Thus, there was a significant qualitative change in the pattern of demands at the level of the Local Urban Center (Gapan).

It would not be surprising to find a similar qualitatively different impact on the Regional Urban Center (Cabanatuan). Although Table 2 shows at best a slight acceleration of entry between 1967 and 1970, there are qualitative differences. It can be seen in the supporting schedules that it has been the latter 1960s that have brought in a sharp increase in activity in engineering/machine shops, tricycle cab manufacture, thresher manufacture, and dealers of agricultural implements (especially those that are small-farm related like 2-wheeled tractors and water pumps).

Possibly more revealing, though it is not reflected in our data, is the fact that Cabanatuan is getting a truly modern commercial center in 1973. Whereas the two modern hotels built since 1967 are in fact Manila-style motels, the center presently under construction is built around a genuine commercial hotel and associated office space.

Table 1 is intended to present a sense of both quantitative and qualitative changes in the city. It is immediately evident that the increases in municipal revenues, hotels/restaurants, and radio stations support the hypothesis that Cabanatuan grew substantially prior to 1968 on the strength of a pre-HYV modernization of agriculture. The data on medical facilities and college enrollments point in the same direction but require some interpretation and also speak for important qualitative changes.

For example, we saw in the Gapan-area sharp increases in enrollments in secondary education beginning around 1963, which we believe reflect economic causes. College enrollments in Cabanatuan seem similarly to reflect a high income-elasticity of demand for education and to reflect significant increases before 1968. With regard to the medical situation, the key factors are two privately-financed facilities -- one a specialist clinic (1965) and the other a 120 bed Doctors Hospital (1969) -- which strongly suggest that it was back in the mid-1960s that Cabanatuan began to come of age, as it were. It was then that the colleges expanded, private commercial and development banks arrived or were formed, radio stations were established, and private professional groups like doctors committed themselves and their capital to making Cabanatuan their home and their community.

In sum, the conclusions are inescapable that Cabanatuan is entirely a creature of its region's agriculture -- it sells hardly a single non-agricultural service or good outside its region --, that during the 1960s it crossed some kind of threshold into maturity on the strength of the agricultural modernization that occurred well before the HYVs were introduced, and that, if the Gapan-area's experience with the income multiplier at the sub-region level is any criterion, an even stronger impact will be felt by Cabanatuan City in the early 1970s from the second generation of agricultural modernization based on the seed-fertilizer revolution.

## FOOTNOTES

1 *Industrial Survey Report: Nueva Ecija*, Industrial Information Service (National Economic Council, Industrial Development Center, Manila, October, 1960)

2 *Provincial Report: Nueva Ecija*, E. de Leon (Institute for Small Scale Industries, Manila, 1971)

3 Nueva Ecija is composed of four major sub-regions -- South, Central, Northeast, and Northwest -- which have progressed approximately apace. Two lesser sub-regions may be defined to the East and West. The Rural Towns of each sub-region are served by a Local Urban Center, which currently ranges from 10-15,000 in population.

4 Gapan is the Local Urban Center for the South sub-region. A preliminary report on research into its pattern of growth over the past decade is contained in I.E.D.R. Discussion Paper 72-4.

5 The supporting tables for these observations are currently under preparation.

6 Supporting schedules are on file as an attachment to the FileCopy in the Office of the Dean, School of Economics, U.P.

Table 1

## C A B A N A T U A N   C I T Y

### SELECTED INDICES OF GROWTH (1961-1971) IN A REGIONAL URBAN CENTER[6]

| Indices of Growth | Quantities 71 | 67 | 61 | Number of Establishm'ts 71 | 67 | 61 | Establishments Entering by Yr. 71/70 | 69/68 | 67/66 | 65/64 | 63/62 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Urban Population (000 Omitted) | 40 | | 31 | n.a. | n.a. | n.a. | | | | | |
| Poblacion | 29 | | 23 | | | | | | | | |
| Urban Barrios | 11 | | 8 | | | | | | | | |
| Municipal Revenues (Pesos) (000 Omitted) | 1,665 | 1,099 | 332 | n.a. | n.a. | n.a. | | | | | |
| Business Taxes | 218 | 188 | 60 | | | | | | | | |
| Market and S/H Slaughterhouse | 396 | 174 | 163 | | | | | | | | |
| Hospital Beds | 490 | 270 | 210 | 6 | 5 | 4 | (1) | 2 | - | 1 | - |
| General Hospitals | 440 | 200 | 150 | 3 | 1 | 1 | - | 2 | - | - | - |
| Specialist Clinics | 10 | 10 | - | 1 | 1 | - | - | - | - | 1 | - |
| Maternity Hospitals | 20 | 20 | 20 | 1 | 1 | 1 | | - | - | - | - |
| General Clinics | 20 | 40 | 40 | 1 | 2 | 2 | (1) | - | - | - | - |
| College Enrollments (Academic) (000 Omitted) | 9.7 | 6.0 | 1.6 | 8 | 7 | 6 | - | 1 | - | 1 | - |
| Liberal Arts | 9.2 | 5.6 | 1.6 | 7 | 6 | 5 | - | 1 | - | 1 | - |
| Scientific/Technical | .5 | .4 | - | 1 | 1 | 1 | - | - | - | - | - |
| Post-Secondary Trade School Enrollments (000 Omitted) | .4 | .2 | .1 | 2 | 2 | 2 | - | - | - | - | - |
| Hotels, Restaurants, etc. | - | - | - | 15 | 9 | 4 | 3 | 3 | 2 | 1 | 1 |
| Hotels/Motels/Night Clubs | - | - | - | 5 | 3 | - | 2 | - | 2 | 1 | 1 |
| Hotels (Traditional) | - | - | - | 6 | 5 | 4 | - | 1 | 1 | - | - |
| Restaurants (Modern) | - | - | - | 4 | 1 | - | 1 | 2 | - | - | 1 |
| Radio Stations | - | - | - | 3 | 3 | 1 | - | - | 2 | - | - |

[6] Supporting schedules are on file as an attachment to the File Copy in the Office of the Dean, School of Economics, U.P.

Table 2

## C A B A N A T U A N   C I T Y

GROWTH (1961-1971) IN SELECTED INDUSTRIES CHARACTERISTIC OF REGIONAL URBAN CENTERS[6]

| Industries Which Serve the Region | No. of Firms 71 | 67 | 61 | Employment 71 | 67 | 61 | Establishments Entering by 71/70 | 69/68 | 67/66 | 65/64 | 63/ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ag. Implements and Supplies Dealers & Manufactures | 19 | 10 | 4 | 208 | 108 | 31 | 4 | 5 | 2 | 2 | 2 |
| Agricultural Implement Dlrs. | 11 | 6 | 1 | 136 | 78 | 11 | 2 | 3 | 2 | 1 | 2 |
| Agricultural Supplies Dlrs. | 6 | 2 | 2 | 47 | 18 | 10 | 2 | 2 | - | - | - |
| Wooden Ag. Implements Mfr. | 2 | 2 | 1 | 25 | 12 | 10 | - | - | - | 1 | - |
| Business & Financial Services | 47 | 34 | 19 | 812 | 645 | 285 | 6 | 7 | 4 | 8 | 3 |
| Banks - Commercial | 4 | 4 | 1 | 121 | 105 | 50 | - | - | 1 | 1 | 1 |
| - Rural/Dev./Savings | 4 | 3 | 3 | 103 | 72 | 66 | 1 | - | - | - | - |
| Insurance Cos. - Life | 8 | 6 | 3 | 275 | 299 | 123 | 1 | 1 | - | 2 | 1 |
| - Non-life | 10 | 7 | 4 | 185 | 97 | 18 | 1 | 2 | 2 | - | 1 |
| Printing Companies | 7 | 4 | 2 | 60 | 34 | 12 | 1 | 2 | - | 2 | - |
| Other Business Services | 14 | 10 | 6 | 68 | 38 | 16 | 2 | 2 | 1 | 3 | - |
| Hotels and Restaurants, etc. (See also Table 1) | (15) | (9) | (4) | n.a. | n.a. | n.a. | (3) | (3) | (3) | (1) | (1 |
| Metal & Transport Related | 12 | 8 | 1 | 189 | 98 | 4 | 4 | - | 6 | 1 | - |
| Machine Shops (Engineering) | 4 | 4 | - | 60 | 36 | - | - | - | 3 | 1 | - |
| Manufacturers | 3 | 2 | - | 71 | 32 | - | 1 | - | 2 | - | - |
| Bus Company Terminals | 5 | 2 | 1 | 58 | 30 | 4 | 3 | - | 1 | - | - |
| TOTALS (excl. Hotels/Rest.) | 78 | 52 | 24 | 1,209 | 851 | 320 | 14 | 12 | 12 | 11 | 5 |

[6] Supporting schedules are on file as an attachment to the File Copy in the Office of the Dean, School of Economics, U.P.