

**THE PRESENT SITUATION AND OUTLOOK OF THE RICE
MARKETING FACILITIES WITH EMPHASIS ON THEIR
IMPLICATIONS ON THE PRESENT RICE PROBLEM
OF THE COUNTRY¹**

by

E. U. QUINTANA, B. D. PEREDO and E. P. MARIANO²

Introduction

The Philippine Rice Industry has been confronted with problems of low production and inefficiency of the marketing system. On the production side, the problem is how to produce enough rice to meet the demands of our rapidly increasing population, of the expanding livestock industry, and of the industries that utilize rice as a raw material. In marketing, the problem relates to the seasonal distribution of the available supply throughout the year.

The problem of marketing and distribution of palay and rice would be easier to solve if the production or supply is known in various rice producing areas in the country from month to month during the year. And better still if we know how much palay or rice we have in surplus areas which is available for distribution to deficit areas and the type of marketing facilities for moving the produce. An improved and efficient rice marketing system would mean a smooth flow of the products to consumption centers at lower costs perhaps with minimized price fluctuation.

¹ Paper presented at the *Seminar on Rice and Related Statistics* — The Present Situation and Outlook. March 30 to April 1, 1965, NSDB Science Pavilion Hall, Manila.

² Associate Professor and Department Chairman and Research Instructors. Department of Agricultural Economics, College of Agriculture, University of the Philippines.

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The minimization of the intra-seasonal flow of palay and fluctuation of prices could rationally be achieved through effective storage, transportation and milling. However, there is a general consensus that storage, transportation, and milling facilities are lacking in the Philippines. It is considered that this condition limits the attainment of the rational distribution of palay and the smooth fluctuation of prices.

This paper will attempt to assess the present situation of the rice marketing facilities specifically the warehouses, trucks, and mills. They are considered to be the most necessary marketing facilities in the distribution of palay or rice.

Due to the inadequacies of some data on the subject, realistic assumptions have to be made to be able to present an appraisal of the situation. It is hoped that analysis and implications drawn may provide guidelines in approaching problems on rice marketing and serve as a basis for further investigations. Data used in this paper are mostly published materials from the U. P. College of Agriculture, Agricultural Credit Administration, Rice and Corn Administration and the National Economic Council.

The Institutional and Seasonal Movement of Palay and Rice

An analysis of the institutional and seasonal movement of palay and rice would give an insight of the general organization of the rice market structure. It would help us understand the relative importance of the various marketing channels from the point of view of their arrangement and their role in the marketing system.

According to the report of the Stanford Research Institute to the Philippine National Economic Council,³ 56 per cent of the total palay produced in the Philippines is held and/or marketed locally and 44 per cent is sold definitely to rice dealers. A more detailed marketing study conducted in Nueva Ecija⁴ shows that of the 75 cavans share of a farmer, 44 per cent is sold. And of the 592 cavans received by a landlord, 53 per cent is disposed in the market.

The palay of the farmers and landlords is marketed in a pattern indicated in figures 1 to 4. The major bulk of the "marketable surplus" of the farmers and landlords is handled by the local non-millers and millers before they reach the transient non-millers/millers and retailers. The figures also indicate some unnecessary movement of palay and/or rice, i.e., from one middleman to another whose marketing functions are basically similar. This means that in some parts of the marketing system the marketing costs are duplicated, thus a higher price to the consumers.

³Stanford Research Institute. "An Economic Analysis of Philippine Domestic Transportation." Vol. 2, 1956. A report prepared for the Philippine National Economic Council.

⁴Peredo, B. D. and T. V. Mina. "Cost of Marketing Palay and Rice in Nueva Ecija, 1961-62." Department of Agricultural Economics, College of Agriculture, University of the Philippines.

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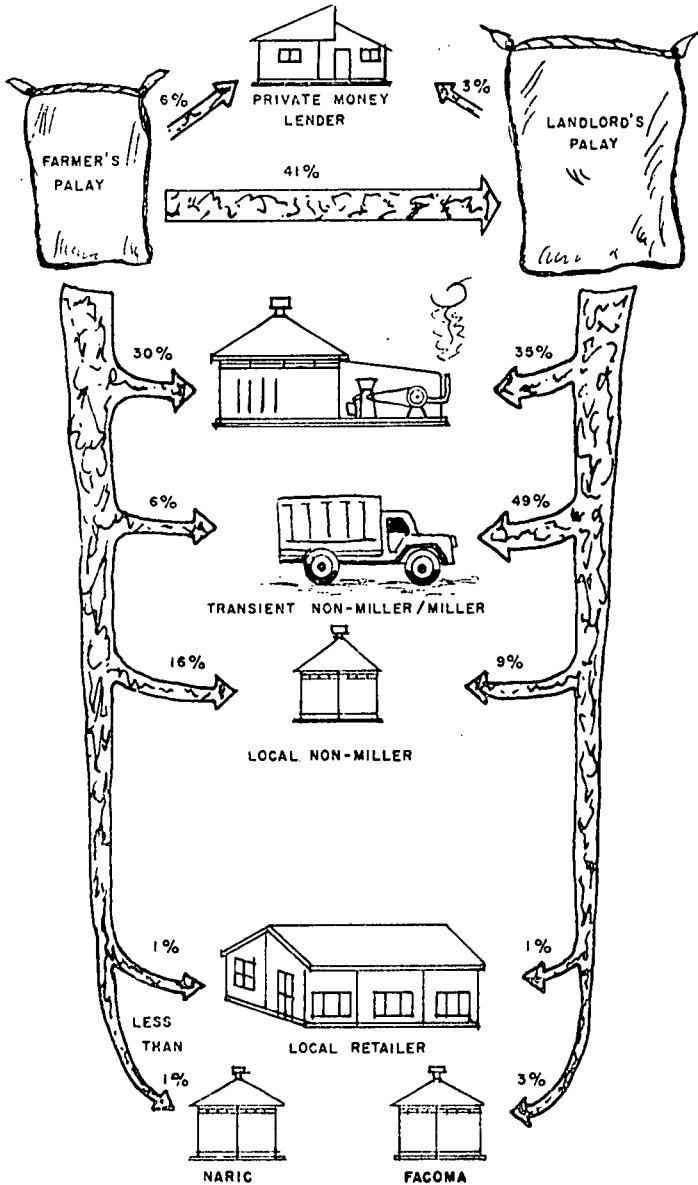


FIG. 1. OUTLETS OF PALAY, 160 FARMERS AND 79 NON-FARMING LANDLORDS, NUEVA ECIJA, 1959-60.

SOURCE: PEREDO, B. D. AND T. V. MINA. "COST OF MARKETING PALAY AND RICE IN NUEVA ECIJA, 1961-62." DEPARTMENT OF AGRICULTURAL ECONOMICS, COLLEGE OF AGRICULTURE, UNIVERSITY OF THE PHILIPPINES.

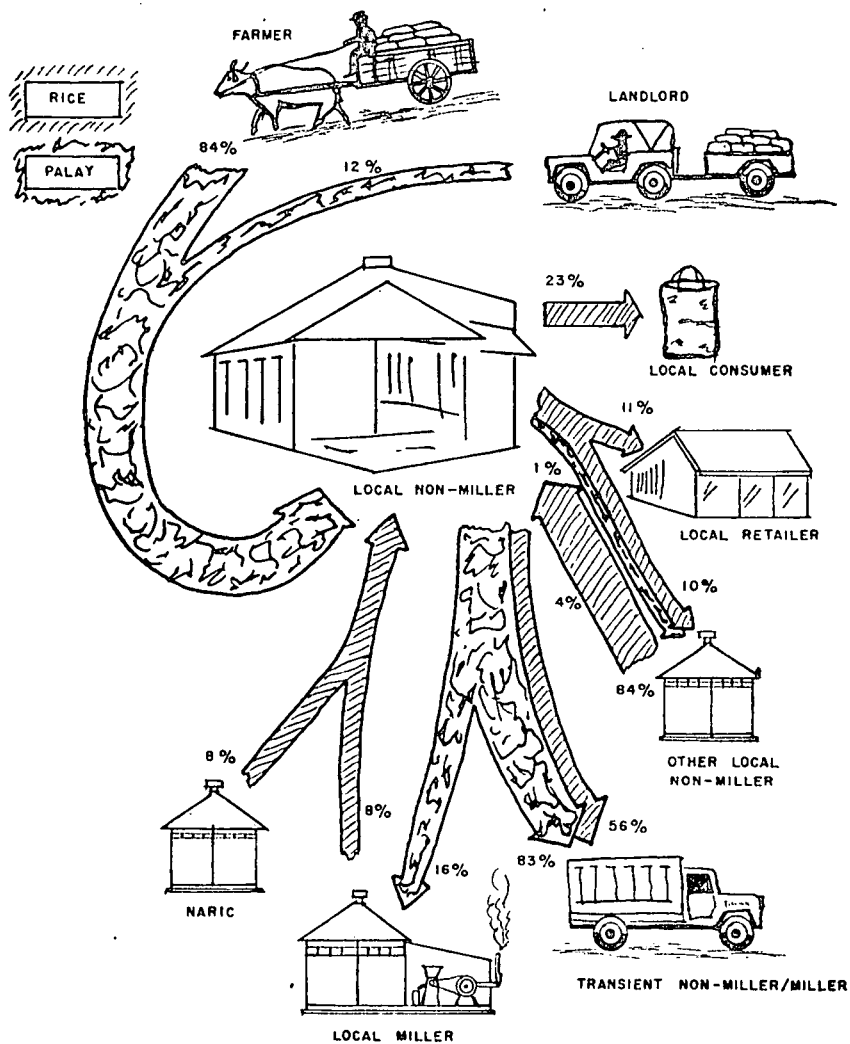


FIG. 2. SOURCES AND OUTLETS OF STOCK, 55 NON-MILLERS, NUEVA ECIIJA, 1959-60.

SOURCE: PEREDO, B. D. AND T. V. MINA. "COST OF MARKETING PALAY AND RICE IN NUEVA ECIIJA, 1961-62." DEPARTMENT OF AGRICULTURAL ECONOMICS, COLLEGE OF AGRICULTURE, UNIVERSITY OF THE PHILIPPINES.

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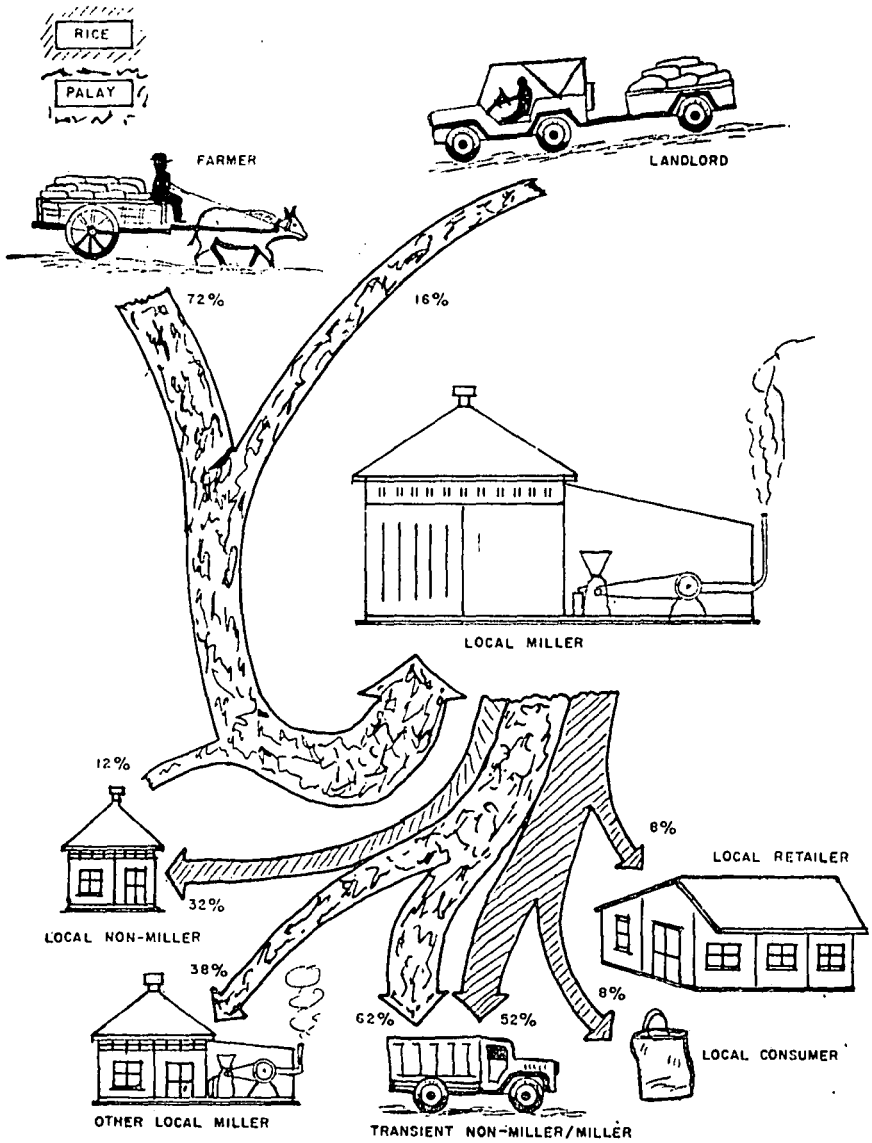


FIG. 3. SOURCES AND OUTLETS OF STOCK, 21 MILLERS, NUEVA ECIJA, 1959-60.

SOURCE: PEREDO, B. D. AND T. V. MINA. "COST OF MARKETING PALAY AND RICE IN NUEVA ECIJA, 1961-62." DEPARTMENT OF AGRICULTURAL ECONOMICS, COLLEGE OF AGRICULTURE, UNIVERSITY OF THE PHILIPPINES.

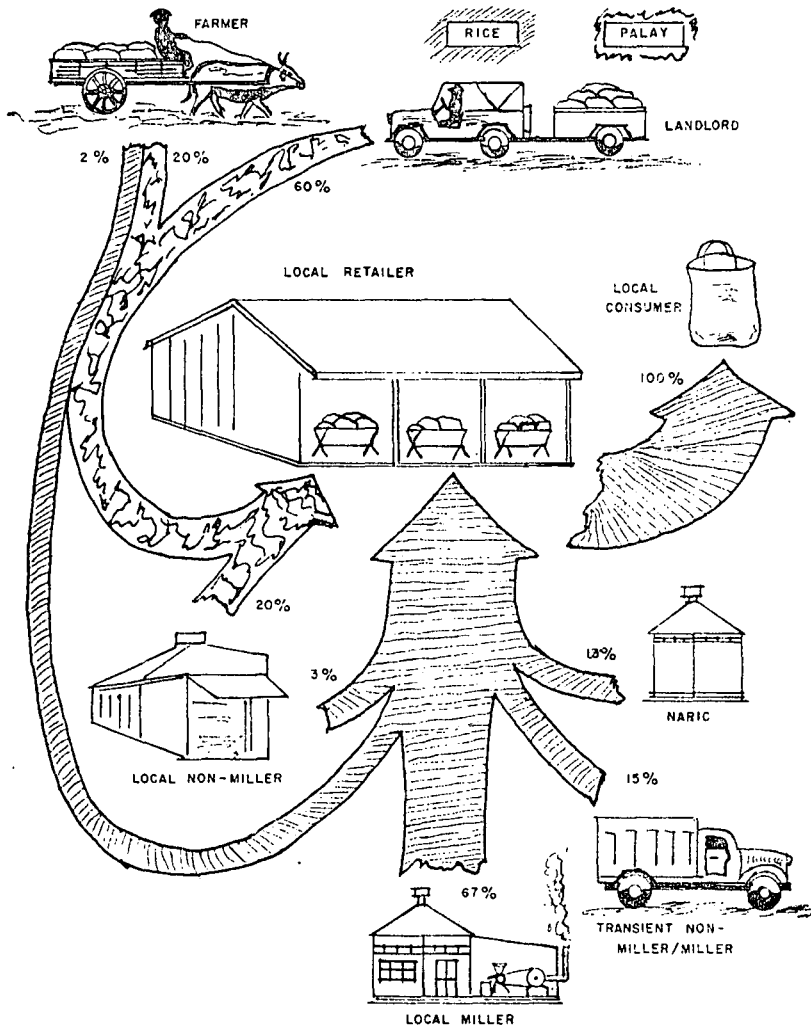


FIG. 4. SOURCES OF AND OUTLETS OF STOCK, 60 RETAILERS, NUEVA ECIJA, 1959-60.

SOURCE: PEREDO, B. D. AND T. V. MINA. "COST OF MARKETING PALAY AND RICE IN NUEVA ECIJA, 1961-62." DEPARTMENT OF AGRICULTURAL ECONOMICS, COLLEGE OF AGRICULTURE, UNIVERSITY OF THE PHILIPPINES.

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Figures 5a to 5j indicate the seasonal patterns of palay farm price and distribution of harvests. During months of low distribution of palay harvests, prices are high and vice-versa during months of high distribution. This relationship which more or less indicates the supply-demand situation seems not to vary much seasonally and regionally.

In Nueva Ecija, the volume of sales and prices remarkably fluctuate from peak to low supply months. This is shown in figure 6. Under our present state of production which apparently does not yield sufficient supply for consumption,⁵ the heavy seasonal fluctuation of palay marketed gives at least two undesirable outcomes.

First, the markets are clogged and the prices are depressed during the harvest or peak supply months. The clogging of the markets appears to occur in a relatively short period, about 3 to 4 months. When volume of sales tend to get low, prices start to go up. Figure 6 indicates that the clogging of the markets appears to be due to the selling pattern of the farmers. Although in all levels of marketing the volume of sales tend to go down, it would be noted that the trend for the farmers is relatively more abrupt than those of the other levels of marketing. The intra-seasonal flow of palay could be minimized if the farmer can regulate the flow of palay particularly during the peak months.

⁵Philippine National Economic Council. "Production and Consumption of Palay (Rough Rice) for the Crop Years Ending June 30, 1950 to 1965, Philippines." Monograph.

SEASONAL PATTERNS OF PALAY FARM PRICE AND HARVEST COMPARED

FIG. 5A. PHILIPPINES

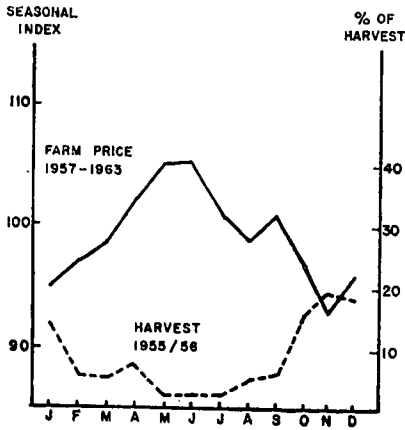


FIG. 5B. ILOCOS

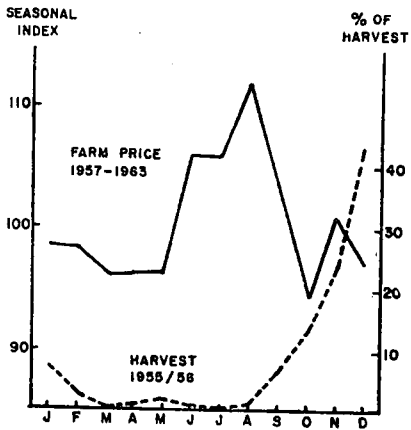


FIG. 5C. CAGAYAN

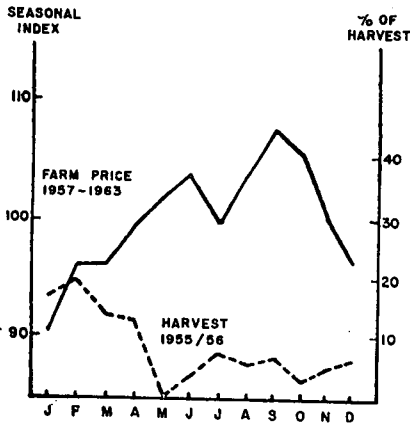
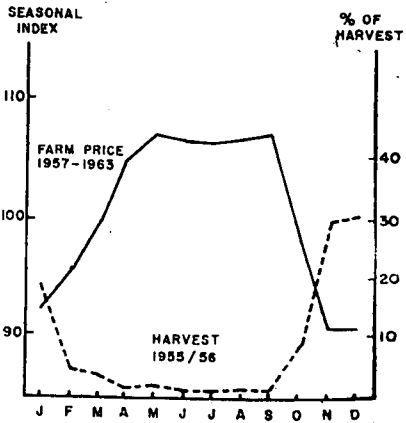


FIG. 5D. CENTRAL LUZON



SOURCE: M. MANGAHAS, "THE RESPONSE OF PHILIPPINE RICE FARMERS TO PRICE," INTERNATIONAL RICE RESEARCH INSTITUTE (PRELIMINARY DATA).

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FIG. 5E. S. TAGALOG

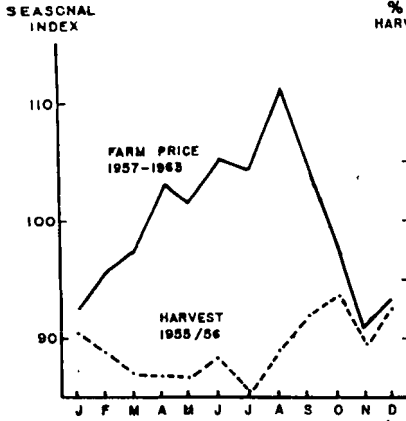


FIG. 5F. BICOL

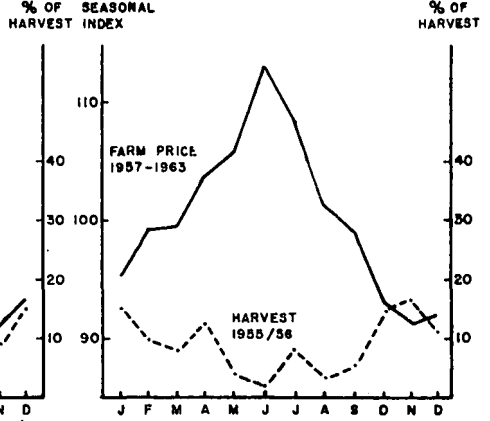


FIG. 5G. E. VISAYAS

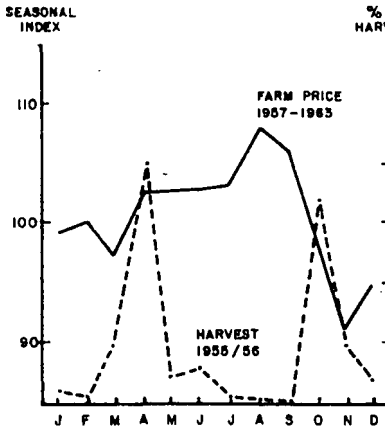
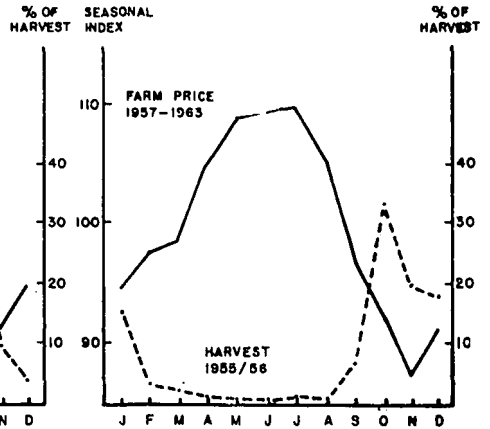


FIG. 5H. W. VISAYAS



SOURCE: M. MANGANAS, "THE RESPONSE OF PHILIPPINE RICE FARMERS TO PRICE." INTERNATIONAL RICE RESEARCH INSTITUTE (PRELIMINARY DATA).

FIG. 5I. N & E MINDANAO

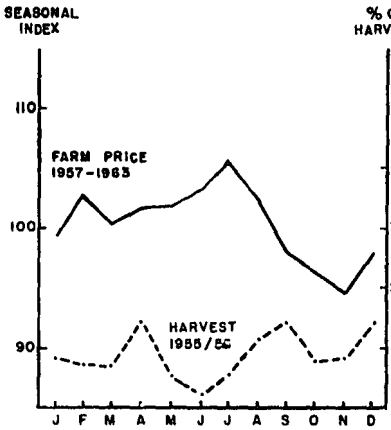
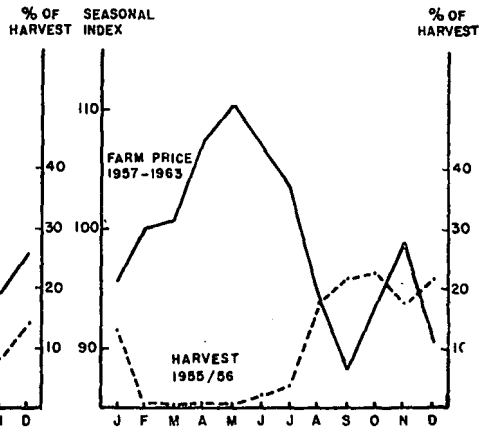


FIG 5J. S & N MINDANAO



SOURCE: M. MANGAHAS, "THE RESPONSE OF PHILIPPINE RICE FARMERS TO PRICE," INTERNATIONAL RICE RESEARCH INSTITUTE (PRELIMINARY DATA).

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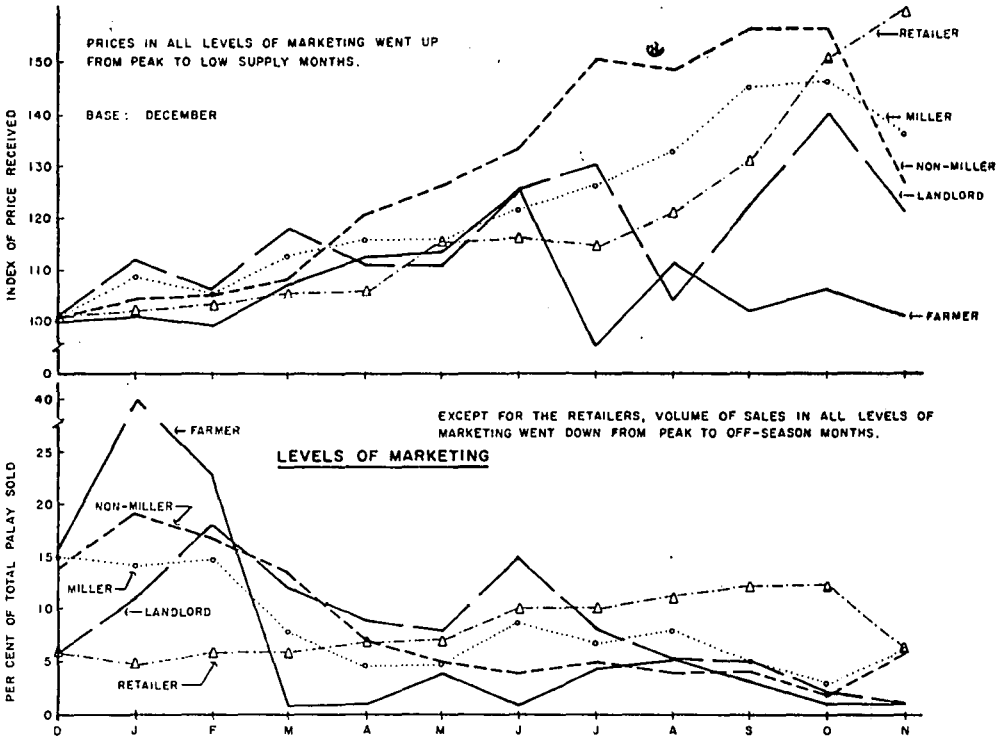


FIG. 6. SEASONAL BEHAVIOR OF THE MARKET FLOW AND MOVEMENT OF PRICES FOR PALAY IN ALL LEVELS OF MARKETING, NUEVA ECIJA, 1959-60.

SOURCE: PEREDO, B. D. AND T. V. MINA. "COST OF MARKETING PALAY AND RICE IN NUEVA ECIJA, 1961-62." DEPARTMENT OF AGRICULTURAL ECONOMICS, COLLEGE OF AGRICULTURE, UNIVERSITY OF THE PHILIPPINES.

Since almost annually there is a seemingly shortage of palay supply, chances are that during off-season months, prices will rise to relatively high levels. During this time, the major bulk of palay are already in the hands of the middlemen. The National Economic Council indicates that with 4.031 million cavans of rice as the consumption requirements per month of the total rice-eating population, the surplus months would fall in October, November, December and January. The others are deficit months.⁶

The second undesirable outcome of the heavy seasonal flow of palay under our present state of production is the duplication of marketing services or costs. The duplication of marketing functions are apparently indicated in figures 1 to 4. During peak months of high supply, numerous middlemen enter the rice industry. Since prices generally increase from peak to low supply months, they are more or less assured of profit. As a result of these entries, the marketing system tends to be disorganized and the farm-retail price spread widens.

Why do farmers appear irrational in the seasonal disposal of their palay? Is it because of the lack of marketing facilities?

Marketing Facilities at the Farm Level

In an economy like ours, where the market is partially developed, farmers are limited in marketing facilities. For example, in Nueva Ecija,⁷ Cagayan, Iloilo, Leyte and other pro-

⁶Philippine National Economic Council. "Comparative Study of the Monthly Production and Consumption of Rice in the Philippines for the Fiscal Year Ending June 30, 1964". Monograph.

⁷*Op. cit.*

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vinces,^{8,9} the only marketing facilities owned by farmers are the animal-drawn carts for transporting palay; the farmhouse, "bodega", shed, and bamboo baskets for storing the produce, and gunny sacks for containers. On the other hand, few landlords own weighing scales and motor vehicles in addition to the above-mentioned facilities. In general, farmers are more dependent than landlords on the marketing facilities of the middlemen such as those involving transportation, storage, milling, packing and even financing and market information. In fact, since landlords have better marketing facilities than farmers they can hold their produce and sell it to better outlets at more opportune times.

The irrationality in the seasonal disposal of palay by farmers seems not to evolve from the lack of storage or transportation facilities. In fact, it seems that they are not in need of expensive storage and transportation facilities because of the following reasons: (1) they sell palay in relatively small units and (2) they generally dispose of their produce one to four months after harvesting or even before the crop is harvested. The irrationality in the seasonal disposal of crop by farmers lies in the pressures of debt repayment or in the need for cash. For example, it was reported that in Nueva Ecija, 84 per cent of the farmers as compared with 24 per cent of the landlords committed their palay to merchant-creditors even before harvest time. Under these circumstances, farmers are "forced" to release their palay during months of low prices only to fall back again in debt in the near future. This means that part of the palay that has been sold during peak months

⁸Baguilat, T. B. "Palay Marketing in the Farm Level in Nueva Ecija, Cagayan and Iloilo, 1955-56." *The Philippine Agriculturist*, Vol. 42 (1), 1958. College of Agriculture and Central Experiment Station, University of the Philippines.

⁹Tiongson, F. A. 1964. "Improved Merchandising of Selected Farm Products in the Philippines." Community Development Research Council, University of the Philippines.

are channelled back to them at higher prices in the form of credit, cash or in kind. The marketing of palay being tied up to credit make it difficult for farmers to achieve more rational seasonal disposal of the produce. Perhaps by pooling their palay, farmers may be able to spread the financial, storage, transportation and other marketing risks. As possible outcomes, they may receive more realistic prices and through this incentive may improve their production and competitive position in the rice industry.

Marketing Facilities at the Wholesale Level

Since farmers sell the majority of their palay immediately after harvesting, the marketing of this product is almost totally assumed by the middlemen such as the private merchants, Rice and Corn Administration, and the Farmers' Cooperative Marketing Association. There is an indication that of the total palay sold by the farmers and landlords approximately only one to three per cent are bought by the RCA and/or the FaCoMas.¹⁰

The marketing facilities of private middlemen are the buildings, machineries, trucks, jute bags, weighing scales, office equipment and other measuring devices. These facilities are larger and more complex and are valued higher than the marketing facilities at the farm level. Marketing facilities of the private middlemen and those of the RCA and FaCoMas are essentially the same except that the latter have palay driers.

The Warehousing Facilities

The warehouse is an important marketing facility that middlemen need in order to be able to handle larger quanti-

¹⁰*Op. cit.*

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ties of palay at longer periods. According to the Bureau of Commerce there were 209 private warehouses in the Philippines in 1959. However, this record was admitted to be incomplete.¹¹ More than one-half of these warehouses were located in Central Luzon. A study of 58 rice dealers in Manila, Cabanatuan and Bulacan shows that 98 per cent have warehouse facilities.¹²

From 1952 to 1962, 210 FaCoMa warehouses with an average capacity of 22,771 cavans of palay were built. The FaCoMas also use ricemill buildings for storage purposes. From 1954 to 1959, there were 135 FaCoMa ricemill buildings with average capacity of 175 cavans.¹³ The distribution of FaCoMa storage buildings as well as the sizes or capacities appeared to be related to production (table 1). There is an indication that for the Philippines as a whole, the number and sizes of FaCoMa warehouses added each year have tended to go down. In 1955, the number and sizes went up abruptly but also sharply declined after this year. In 1955, 92 warehouses were constructed with an average capacity of 23,784 cavans of palay. The trends in number and sizes of FaCoMa warehouses constructed apparently are related to the areas of palay production.

In 1964, there were 245 RCA warehouses (table 2). Of this, 82 per cent were rented by RCA from private persons. The average capacity per warehouse for the Philippines was 35,437 cavans of palay. Like the FaCoMa warehouses, majority of the RCA storage buildings are located in regions of high palay production.

¹¹The Committee on Commodity Storage System. RICOB. "Economic Aspects of Grain Storage in the Philippines." 1961.

¹²Darrah, L. B. 1959. "Marketing Firm Products in the Philippines." College of Agriculture and Central Experiment Station, University of the Philippines.

¹³Agricultural Credit Administration. 1965.

In the absence of complete records of the number of warehouses and of palay stock handled by private middlemen, the degree of utilization of this marketing facility is extremely difficult to determine. However, it was found that in Nueva Ecija the warehouses of private middlemen are not fully utilized during the year. Peredo and Mina¹⁴ found that only 32 per cent of the designed capacity of the warehouse of the non-millers was utilized and that of the ricemillers, 43 per cent. The seasonal utilization of the warehouse are shown in figures 7 to 10. These warehouses have been utilized more fully only during harvest or peak months of supply. Utilization is based on full-capacity utilization each month.

FaCoMa warehouses also appear not to be fully utilized. For example, in 1958 only 4 per cent of the designed capacity of the FaCoMa warehouses were utilized (table 3). All warehouses constructed and purchased since 1952 were assumed to have been used. FaCoMa warehouses, like the private warehouses, are more intensively utilized during peak months of supply (figure 11). The annual and seasonal palay deposits in the FaCoMas are shown in figures 12 and 13, respectively. From 1955 to 1961, annual deposits of the FaCoMas tended to decrease.

RCA warehouses are also not utilized effectively. In 1964, the average designed capacity per warehouse was 35,437 cavans of palay and the average actual palay deposited was 31,911. Only 8 per cent of the designed capacity was utilized. This was computed on the assumption of the full-capacity utilization each month. The actual deposits included locally procured and imported rice. Seasonal utilization depends upon the seasonal deposits (figure 14). Based on locally procured palay, RCA warehouses had been used more intensively from September to January. Data on monthly deposits of imported rice were not available and total seasonal utilization was not determined.

¹⁴*Op. cit.*

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TABLE 1

NUMBER AND CAPACITY OF FACOMA BUILDINGS USED
FOR STORAGE PURPOSES,
PHILIPPINES

| AREA ^a | PRODUCTION ^b | WAREHOUSE ^c | | RICEMILL BUILDINGS | |
|-------------------|-------------------------|------------------------|--------------------------------|--------------------|--------------------------------|
| | | Number | Average Capacity Per Warehouse | Number | Average Capacity Per Warehouse |
| | <u>cavans palay (M)</u> | | <u>cavan palay</u> | | <u>cavans palay</u> |
| I | 12.878 | 40 | 31,125 | 28 | 198 |
| II | 38.235 | 110 | 22,515 | 74 | 181 |
| III | 18.343 | 37 | 19,065 | 19 | 165 |
| IV | 17.376 | 23 | 15,426 | 14 | 105 |
| PHILIPPINES | 86.832 | 210 | 22,771 | 135 | 175 |

a Area I: Ilocos and Cagayan Valley.

Area II: Central Luzon, Southern Tagalog and Bicol.

Area III: Eastern Visayas and Western Visayas.

b Average from 1960 to 1964. (Source: Philippine National Economic Council Monographed).

c Cumulative number of constructed and purchased warehouses from 1952-1962.

d Cumulative number of cono and satake buildings from 1954 to 1959.

TABLE 2

NUMBER AND CAPACITY OF RCA WAREHOUSES,
PHILIPPINES, 1964

| AREA | PRODUCTION | NUMBER | AVERAGE DESIGNED CAPACITY |
|--------------------|-------------------------|------------|------------------------------|
| | <u>cavans palay (M)</u> | | <u>cavans palay</u> |
| I | 12.878 | 84 | 43,672 |
| II | 38.235 | 98 | 31,724 |
| III | 18.343 | 20 | 34,600 |
| IV | 17.376 | 43 | 28,204 |
| PHILIPPINES | 86.832 | 245 | 35,437 |

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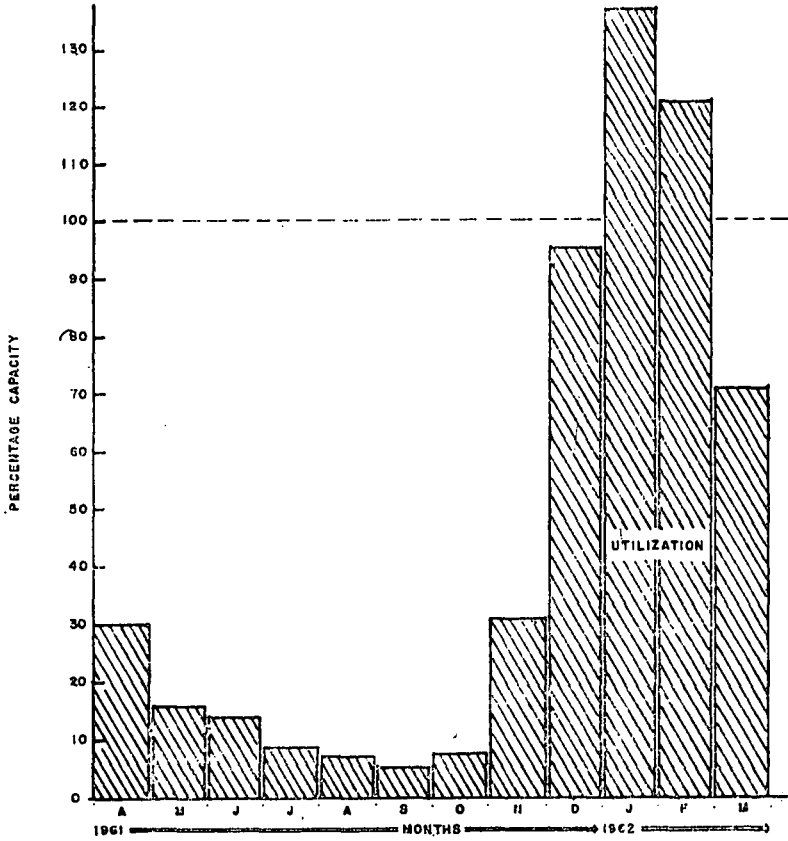


FIG. 7. UTILIZATION OF WAREHOUSE BY MONTHS, SMALL NON-MILLERS, NUEVA ECILJA, 1961-62

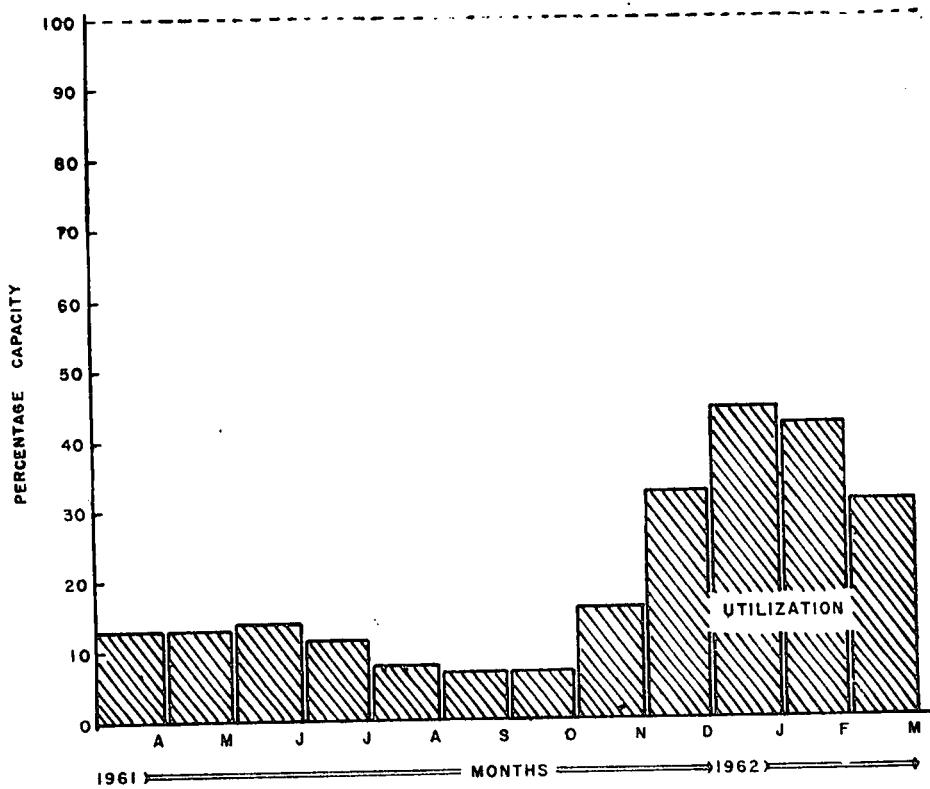


FIG. 8. UTILIZATION OF WAREHOUSE BY MONTHS, 12 LARGE NON-MILLERS, NUEVA ECIIJA, 1961-62.

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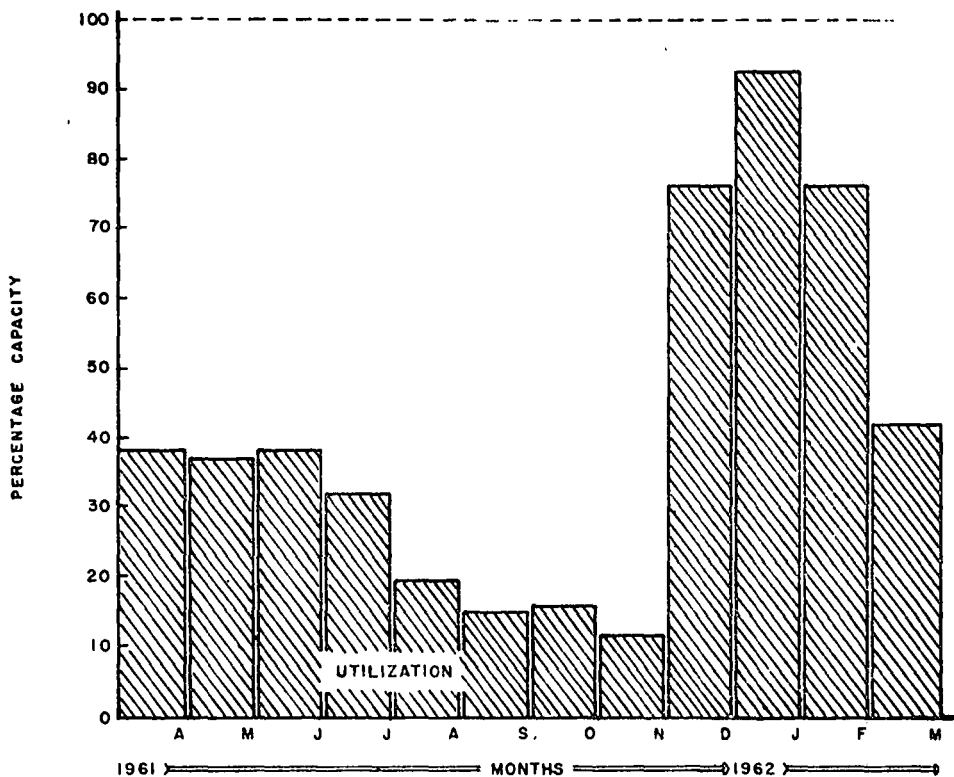


FIG 3 UTILIZATION OF WAREHOUSE BY MONTHS, 10 SMALL MILLERS, NUEVA ECIIJA, 1961-62

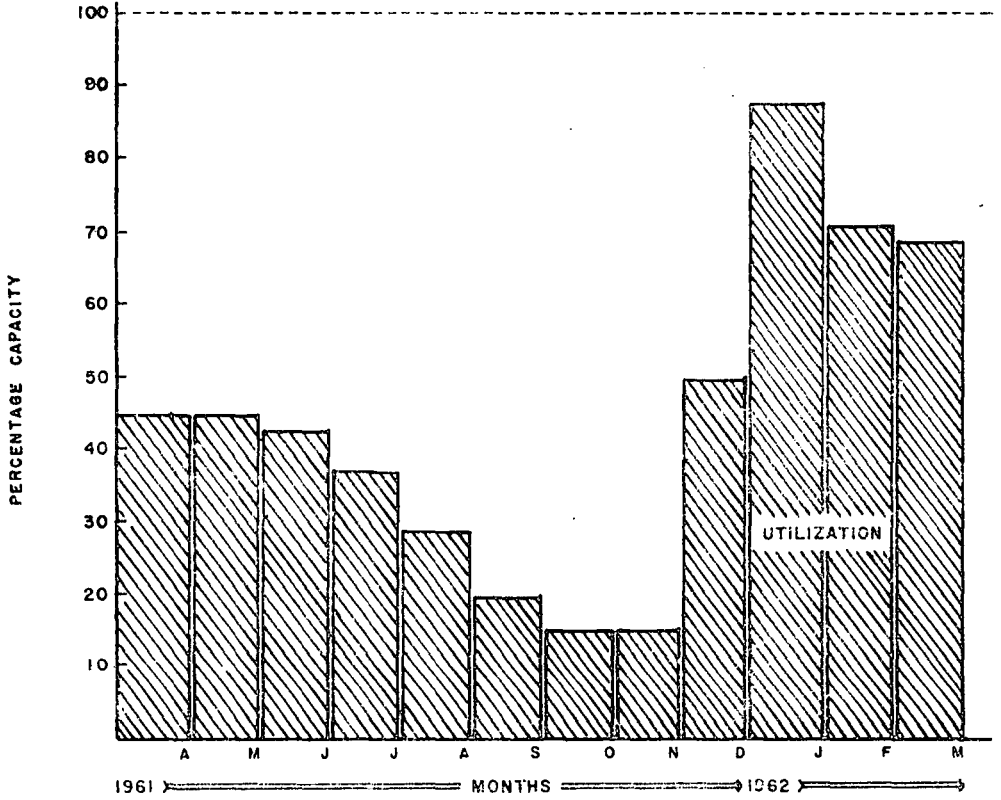


FIG 10 UTILIZATION OF WARFHOUSE BY MONTHS, 8 LARGE MILLERS, NUEVA ECIJA, 1961-62.

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TABLE 3

UTILIZATION OF FACOMA STORAGE BUILDINGS BY
AREA, PHILIPPINES^a

| AREA | Number of Storage Buildings ^b | Average Designed Capacity | Average Actual Palay Stored Per Year Per Warehouse | Per cent Utilization | Per cent Under- Utilization |
|-------|--|---------------------------------|---|-------------------------|-----------------------------------|
| | | | <u>C A V A N S</u> | | |
| | | | <u>P A L A Y</u> | | |
| I | 40 | 28,495 | 17,608 | 5 | 95 |
| II | 119 | 20,545 | 8,293 | 8 | 92 |
| III | 33 | 19,515 | 7,617 | 3 | 97 |
| IV | 23 | 15,559 | 2,846 | 2 | 98 |
| PHIL. | 215 | 21,146 | 10,446 | 4 | 96 |

a Average annual volume deposited from 1955 to 1958 was used.

b Includes only warehouses constructed and purchased, 1954 to 1958.

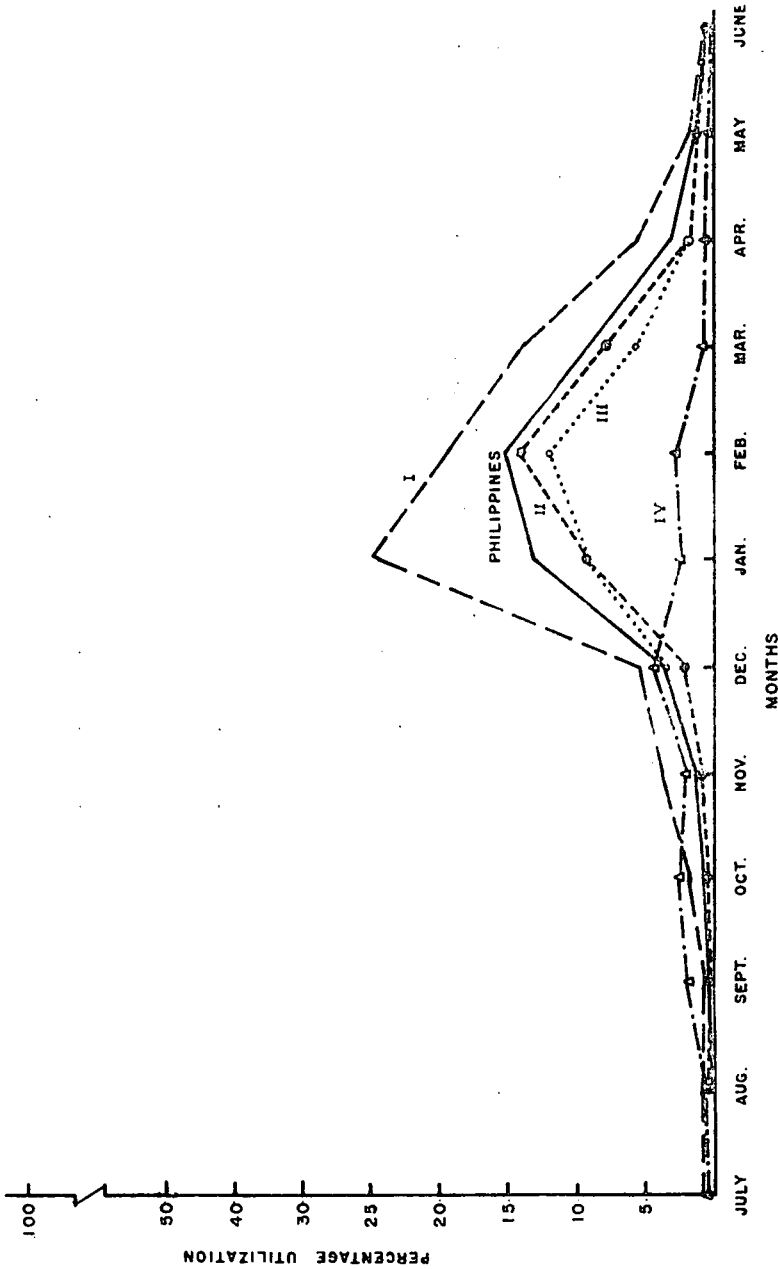


FIG. II. SEASONAL UTILIZATION OF FACOMA WAREHOUSES BY AREA, PHILIPPINES, 1955-58.

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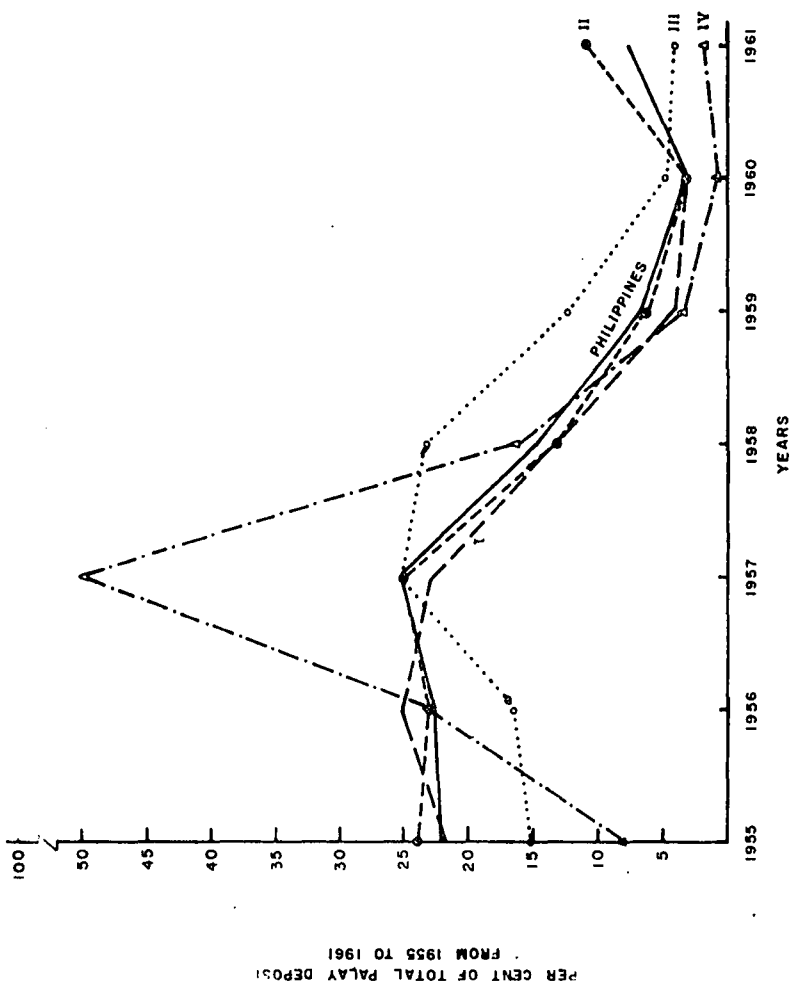


FIG 12. AVERAGE YEARLY PALAY DEPOSITS IN FACOMA WAREHOUSES, PHILIPPINES, 1955-61

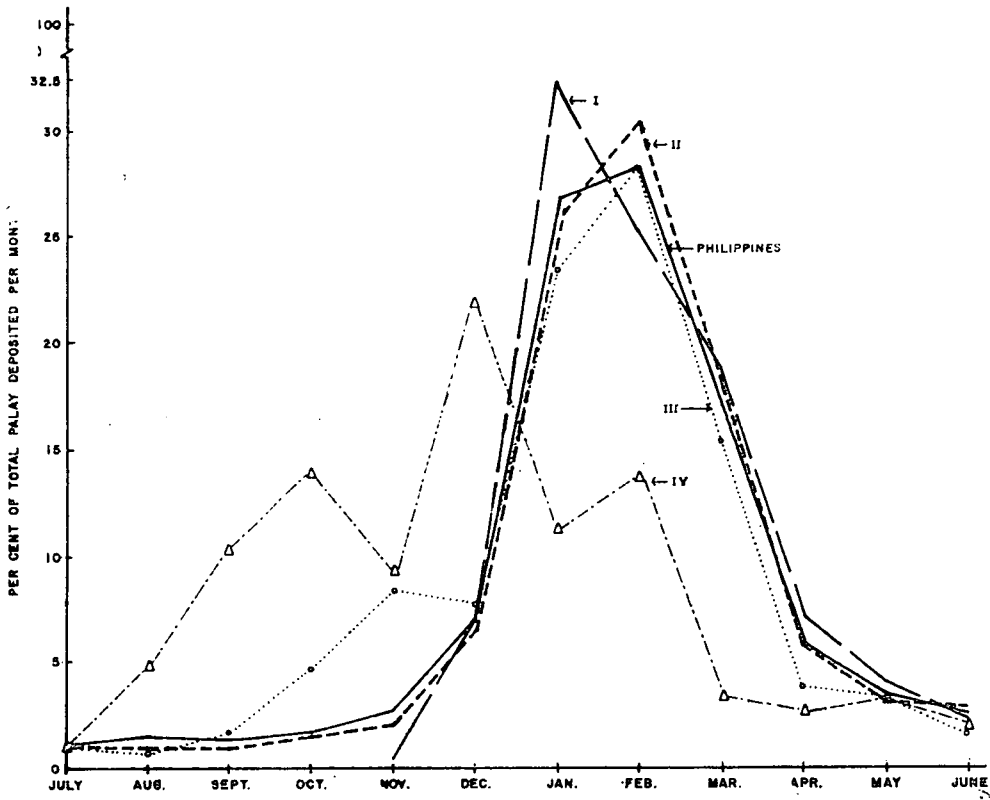


FIG. 13. SEASONAL PALAY DEPOSITS IN FACOMA WAREHOUSES IN A 7-YEAR PERIOD, 1955-1961.

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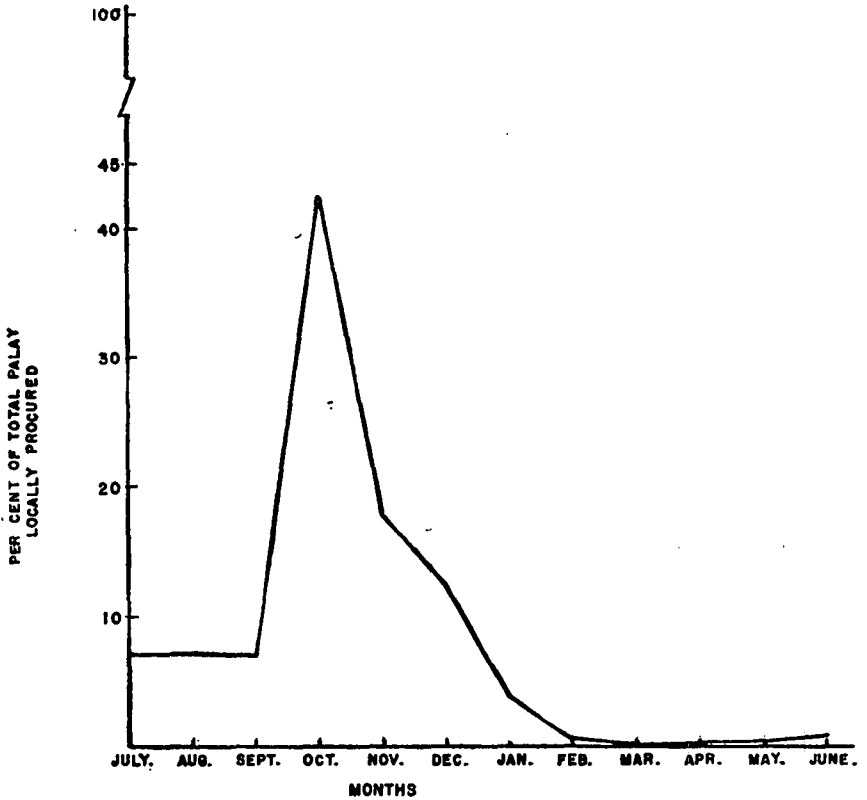


FIG. 14. RCA SEASONAL PROCUREMENT OF PALAY, 1964.

The following summarizes the situation of the storage facilities in the Philippines:

- (1) The lack of storage facilities at the farm level is not the reason for the irrational seasonal disposal of palay by the farmers. Farmers are "forced" to dispose of their produce immediately after harvesting because of financial pressures. Farmers' irrational seasonal disposal of palay and the seemingly lack of supply are apparently the major factors for the severe fluctuation of prices in the Philippines. As long as farmers remain financially handicapped, they will continue to practice the immediate disposal of palay. Therefore, improvement of storage facilities at the farm level with the aim of achieving a smooth flow of the product would seem not desirable yet (unless palay is pooled).
- (2) The warehouses of the private middlemen, RCA and the FaCoMas seem strategically located in relation to the sources of palay. However, the number and sizes appear more than what is actually needed.

The Milling Facilities

There are two types of ricemills in the Philippines. From the point of view of marketing, the conos are more important than the kiskisans because most of the rice channelled into the markets are milled in this type of mill.

In 1952, there were 1,947 ricemills in the Philippines.¹⁵ Eighty-one per cent of these mills were located in Luzon and only 19 per cent in the Visayas and Mindanao areas. Central Luzon accounted for about 32 per cent. These ricemills were

¹⁵Tablante, N. B. "An Appraisal of Agricultural Problems and Policies in the Philippines, 1956," Ph.D. Thesis. Source of data: Markets Division, Bureau of Commerce.

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TABLE 4

UTILIZATION OF THE 104 FACOMA RICEMILLS,
PHILIPPINES, 1962

| AREA | Number of Ricemills ^a | Average Capacity Per 12 Hours | Volume of Palay Milled Per Year Per Ricemill ^b | Percentage Utilization | Percentage Under- Utilization |
|-----------------|-------------------------------------|-------------------------------------|---|---------------------------|-------------------------------------|
| | | <u>cavans palay</u> | <u>cavans palay</u> | | <u>Per cent</u> |
| I | 44 | 295 | 17,608 | 21 | 79 |
| II | 39 | 183 | 8,293 | 16 | 84 |
| III | 16 | 211 | 7,619 | 13 | 87 |
| IV | 5 | 172 | 2,846 | 6 | 94 |
| PHILIPPINES 104 | | 234 | 10,446 | 16 | 84 |

a Eighty-two installed and 22 purchased.

b Annual average from 1952 to 1962.

PHILIPPINE STATISTICIAN — MARCH, 1965

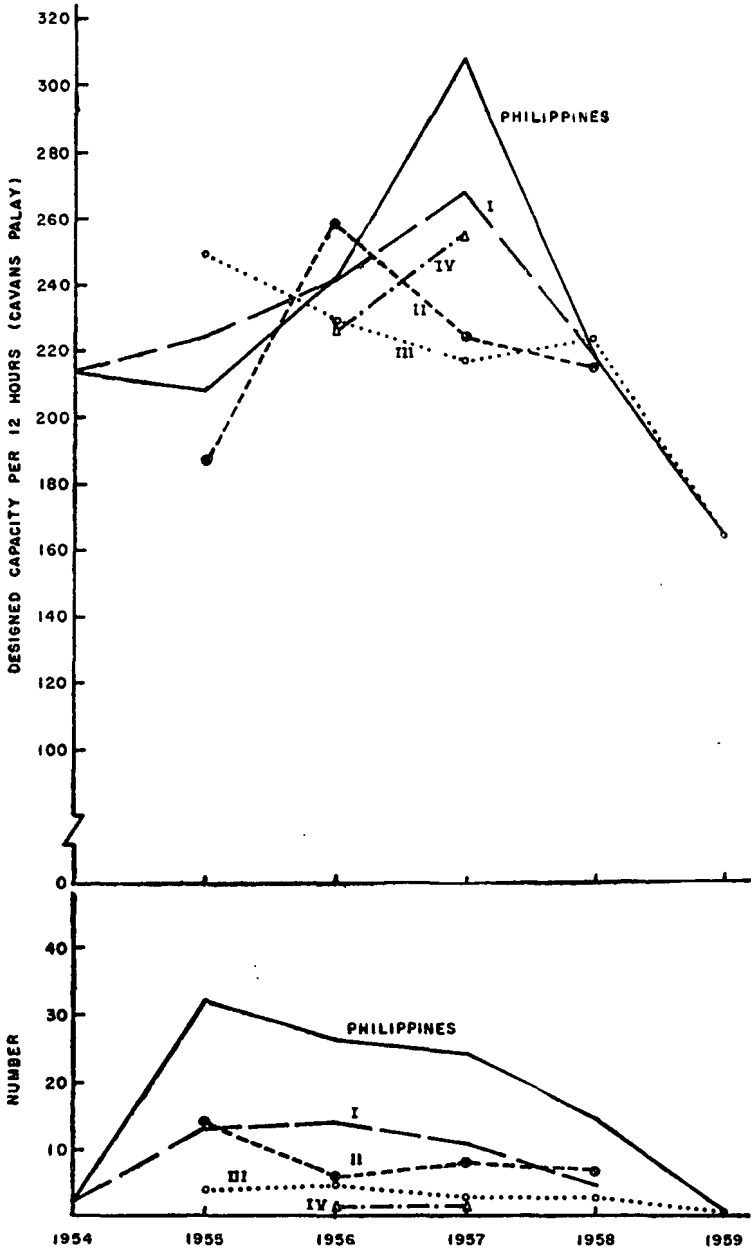


FIG. 15 NUMBER AND CAPACITY OF CONO RICE MILLS CONSTRUCTED AND PURCHASED, 1954-59.

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distributed according to areas of palay production. The average milling capacity was 50 bags per 12-hour operation. It is assumed that both kiskisan and cono mills were included in the report.

In 1962, the FaCoMa ricemills numbered 104 (table 4). The average capacity per 12-hour operation was 234 cavans of palay. There were more ricemills in Luzon than in the Visayas and Mindanao areas where palay production is usually lower. A FaCoMa ricemill processed 10,446 cavans palay per year. On the average, a FaCoMa ricemill was able to utilize only 16 per cent of the total milling time.

There seems to be a decreasing trend in the number of FaCoMa ricemills in the Philippines added each year (figure 15). From 1955 to 1956, as fewer ricemills were constructed and purchased, the sizes or milling capacities became larger. However, it was observed after 1956 that as the number of ricemills installed and purchased continued to decrease, the sizes also decreased. The observation from 1955 to 1957 may imply some marketing policies and objectives of the ACCFA-FaCoMa management. The variation by areas in periods of intensive ricemill construction may indicate the relative importance of the areas as palay-producing regions. **Satake** ricemills were introduced by the FaCoMa in 1956 and within a four-year period, 48 mills of this kind were installed. Thirty-three were constructed in 1957. **Satake** ricemills were also distributed according to areas of palay production. The average milling capacity of the **satake** ricemills was 90 cavans of palay per 12-hour operation.

In 1964, RCA operated 159 ricemills 84 per cent of which were rented. Eighty per cent of the ricemills were located in Luzon and 20 per cent in the Visayas and Mindanao areas. The RCA ricemills in Luzon were smaller than those in the southern provinces. In Luzon, the milling capacity per mill ranged from 170 to 185 cavans palay per 12-hour operation; whereas, in the Visayas and Mindanao, 232 to 255. For the

Philippines as a whole, the average milling capacity was 188 cavans palay. In 1964, 29 per cent of the designed milling capacity was utilized with 15,420 cavans milled per ricemill. The palay milled was procured locally.

The utilization of the ricemills, like the warehouses, is largely influenced by the seasonal availability of palay stock. For example, in Nueva Ecija¹⁶ where the small private cono ricemills are utilized to 48 per cent of designed capacity and the large conos to 60 per cent, intensive utilization is observed from December to March (figures 16 and 17). Among the FaCoMa ricemills, intensive utilization is approximately from December to April (figure 18) and for the RCA-operated mills, from September to January (figure 19). The periods of intensive utilization vary among regions because of the variation in the availability of palay stock.

Milling is a marketing function that can largely influence the quantity of rice consumers will eat. For example, kiskisan mills give a milling recovery by weight of 59 per cent; whereas the conos, 67 per cent.¹⁷ It has been claimed from reports of the defunct NARIC and ACCFA that a 5 to 10 per cent increase in milling recovery would be sufficient to cover the annual rice shortage. Stanford Research Institute reported that of the 56 per cent of the total palay production held and/or marketed by the farmers, 38 per cent was hand-pounded, 9 per cent milled in conos and 53 per cent in kiskisan mills. The remaining 44 per cent which was definitely channelled into the markets was invariably milled in cono mills.¹⁸

¹⁶*Op. cit.*

¹⁷Peredo, B. D. *et al.* "Rice Mills and Cost of Milling Palay in Nueva Ecija". *The Philippine Agriculturist*. Vol. 41 (1 and 2), 1957. College of Agriculture and Central Experiment Station, University of the Philippines.

¹⁸*Op. cit.*

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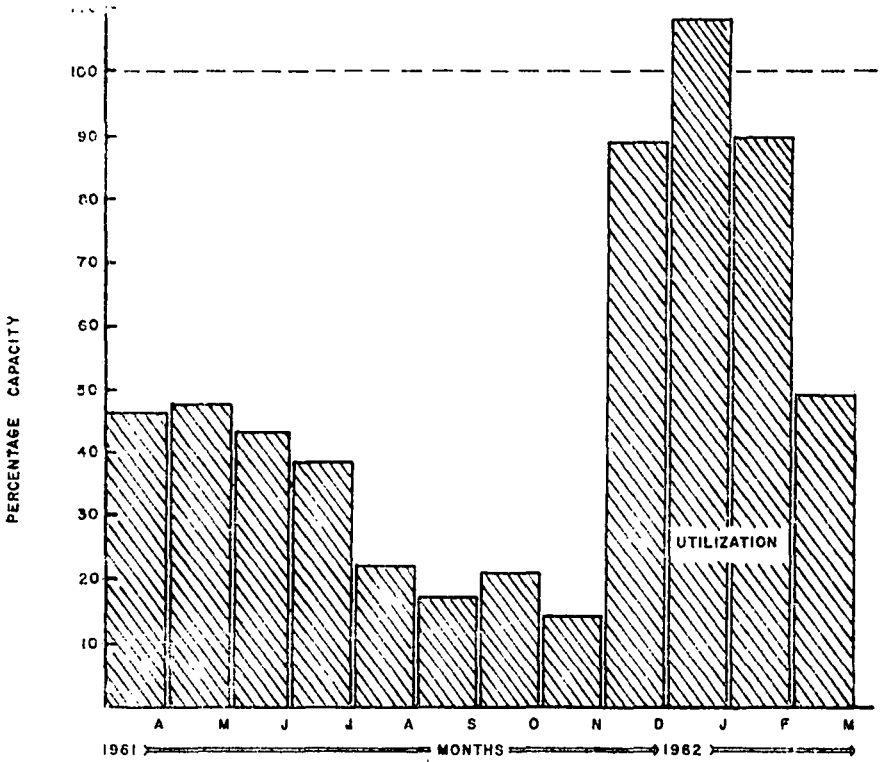


FIG. 16. UTILIZATION OF RICE MILLS BY MONTHS, 10 SMALL MILLERS, NUEVA ECIIJA, 1961-62.

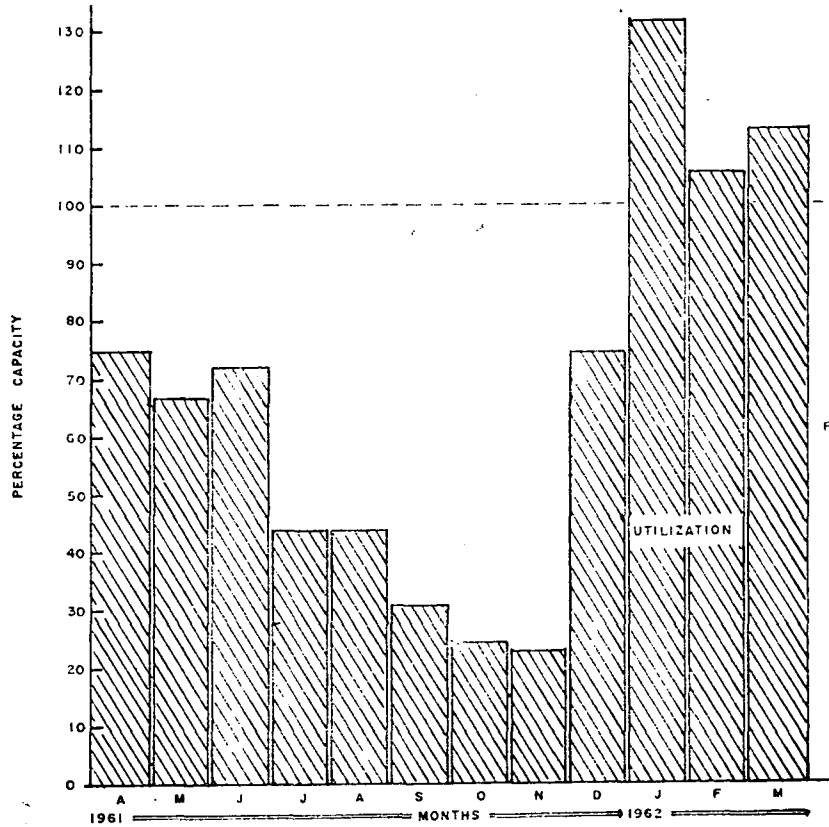


FIG. 17. UTILIZATION OF RICEMILLS BY MONTHS, 8 LARGE MILLERS, NUEVA ECIJA, 1961-62.

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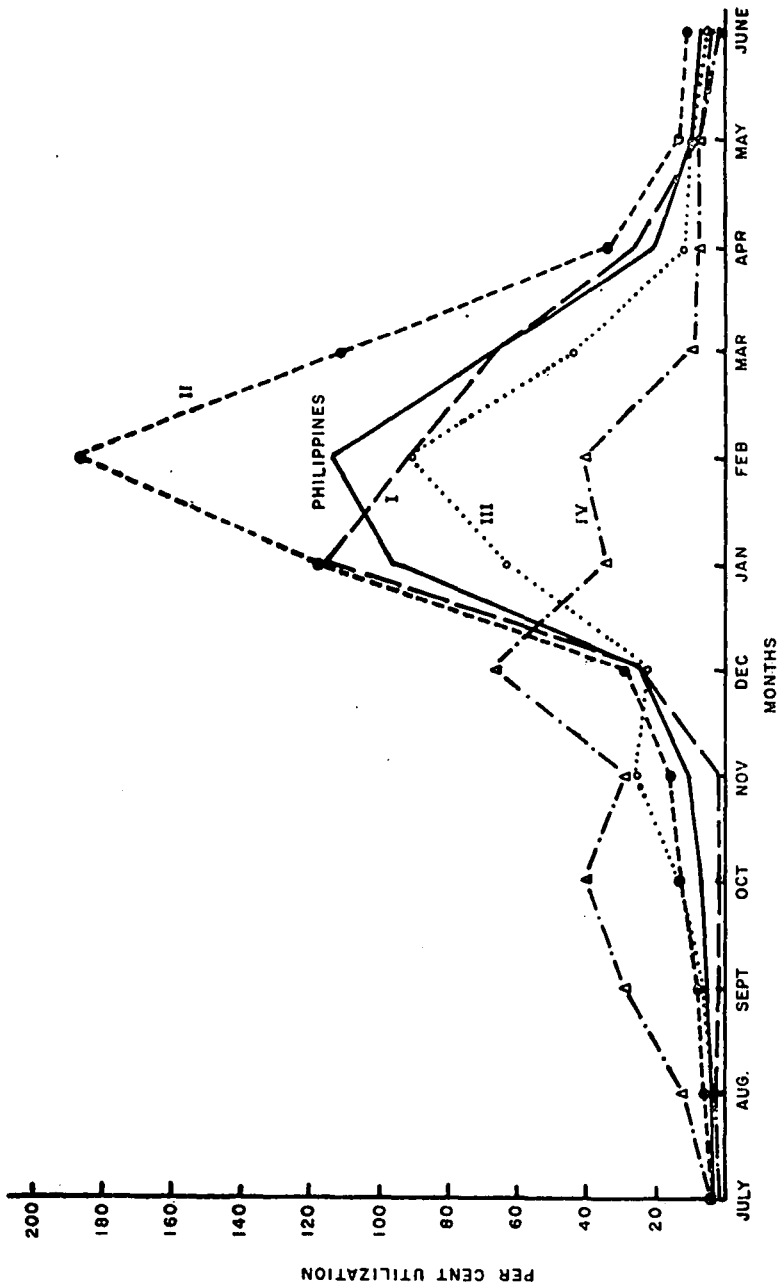


FIG 18. SEASONAL UTILIZATION OF FACOMA CONSTRUCTED AND PURCHASED CONC RICEMILLS, PHILIPPINES, 1954-59

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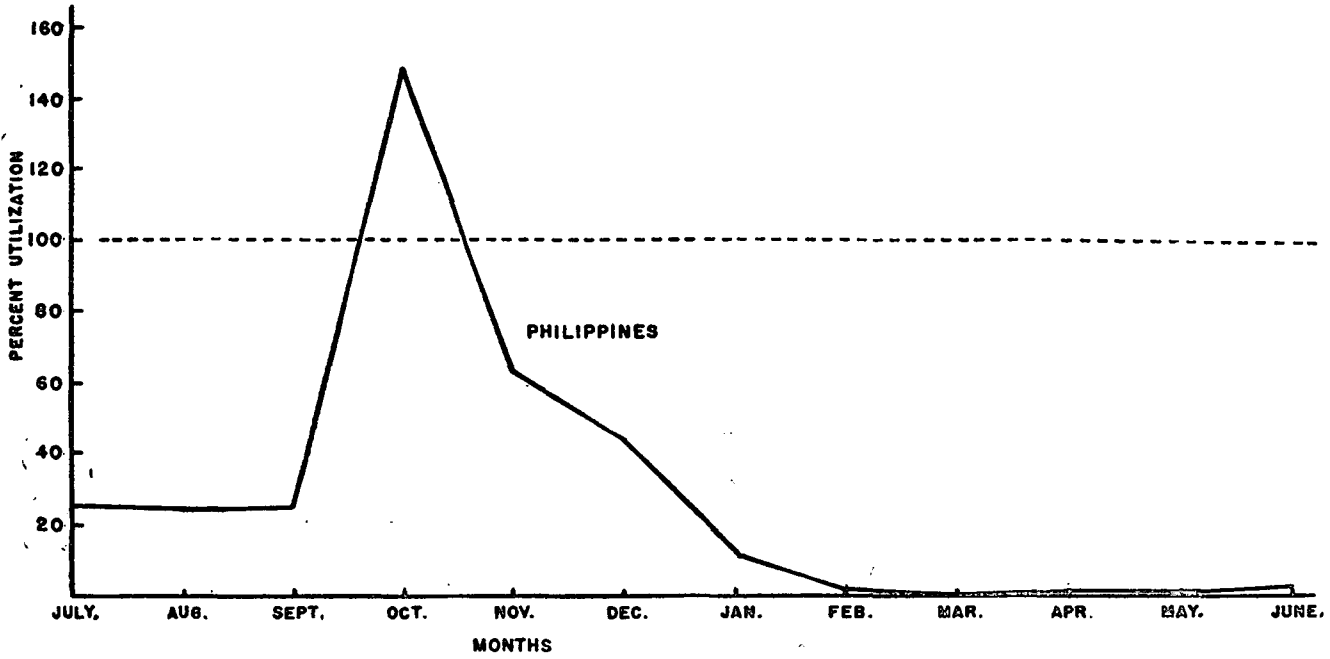


FIG. 19. SEASONAL UTILIZATION OF RCA - OWNED AND RENTED RICE MILLS, PHILIPPINES, 1964.

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Two important implications may be stated in connection with rice milling. First, the total rice supply may be tremendously affected by the substantial proportion of palay that are hand-pounded and milled in kiskisans. Second, rice-millers are not technically and economically operating. Peredo and Mina¹⁹ reported that rice wholesalers in Nueva Ecija were not utilizing fully their fixed marketing resources such as the warehouses and ricemills. The ricemills were not fully used because of lack of palay. However, in spite of under-utilization of their resources, these rice merchants obtained relatively high returns. This condition was brought about by the relatively high price received for the rice milled.

The Trucking Facilities

Distance and time gaps in the movement of palay can be minimized by an efficient transportation system. There are reports of too much cross-haulings of palay in many parts of the country and that areas of rice shortages receive the rice shipments only after the crises had subsided.

Palay and rice in the Philippines are moved into the markets by motor vehicles, inter-island vessels and railways. Trucks are commonly used in Luzon and Mindanao and steamships in the Visayan areas.

A truck is a marketing facility which it seems, not all middlemen can afford to own. For example, Tiongson²⁰ indicated that of the 58 rice wholesalers interviewed in Manila, Cabanatuan and Bulacan only half of them used trucks in transporting palay. Peredo and Mina²¹ reported that of the 79 non-millers interviewed in Nueva Ecija 11 owned trucks and of the 18 millers, 15 operated their own trucks. The

¹⁹*Op. cit.*

²⁰*Op. cit.*

²¹*Op. cit.*

capacity-load of the trucks of the non-millers was 118 sacks and that of the millers', 144 sacks. Trucks were used more intensively in procuring than in disposing palay or rice.

According to the report of the Stanford Research Institute,²² there were 54,003 motor vehicles in the Philippines in 1955. Fifty-five per cent of those vehicles were classified T (cargo), 5 per cent TH (for hire) and 40 per cent TPU (public utility). It was reported that there were 31,266 kilometers of roads all over the country. Excluding the Manila metropolitan area, there seems to be a slight correlation between the number of kilometers of roads and the number of motor vehicles. However, these two variables are not related to location of palay production because other factors such as urbanization and industrialization may have more influence on road construction. The FaCoMas from 1952 to 1962 were able to acquire 85 trucks. They were distributed according to region of palay production with 44 of the trucks located in Ilocos and Cagayan Valley. The Rice and Corn Administration reported that from May 6 to December 20, 1964, 489 trucks were used in the provincial shipments of rice and 173 in city deliveries. Of the total number of trucks used, 77 per cent were private-owned; 15 per cent, army-owned; and 8 per cent, RCA-owned. The capacity per truck ranged from 8 to 9 tons. About 1.5 million bags were shipped by RCA in trucks in 1964.

In figures 1 to 4, it was noted that the movement of palay was generally from the farm to the local wholesalers located within the community or province and then to transient rice merchants. Palay from the farm is either transported by the farmers themselves or by the buyers. In Nueva Ecija²³ 87 per cent of the total stock bought by the non-millers was brought in by the farmers and 13 per cent sought. On the other hand, the stock brought in by the farmers and those sought by the

²²*Op. cit.*

²³Peredo, B.D. and T.V. Mina. *Op. cit.*

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millers were almost equally important. During peak months of supply, rice dealers go around the barrios with their trucks and collect palay in small quantities. The movement of palay from the farm to the point of first sale is important to the local rice dealers because of the relatively large aggregate volume of palay available. Because of the apparent lack of supply of palay, competition for volume among the middlemen is keen. Therefore, middlemen need fast-moving transportation facilities to take advantage of the availability of palay during the peak months. The inter-provincial and the inter-regional movements of palay also generate demand for transportation facilities. Greater distance and time gaps are more involved at this stage of palay movement than that from the farm to the point of first sale. Since the use of trucks is influenced by the availability of palay, it may be assumed that intensive utilization of the facilities occurs during the high supply months. However, during the high supply months the demand for rice by the final consumers is low. Therefore, it is assumed that the middlemen's demand for palay at a given place during the high supply months is the factor that generate the greater demand for transportation facilities. In this connection, demand for transportation facilities could be assumed as seasonal. For example, in Nueva Ecija it was observed that during the peak months of supply many shipments of palay are made to wholesalers in Cabanatuan or to trading centers in other provinces.

The inter provincial and inter-regional movements of palay and rice in the Philippines are indicated in figure 20 and in tables 5 and 6.

Some of the major conclusions provided in the study of the Stanford Research Institute are as follows:

"(1) The greater bulk of palay and rice movements between provinces was from surplus to deficit producing provinces.

(2) The total tonnage shipped because of the difference in harvesting and planting seasons was small relative to the total inter-provincial movement of palay and rice in the Philippines. (Table 7 indicates that there is little variation in months of high supply and low price or vice-versa in the various regions in the Philippines).

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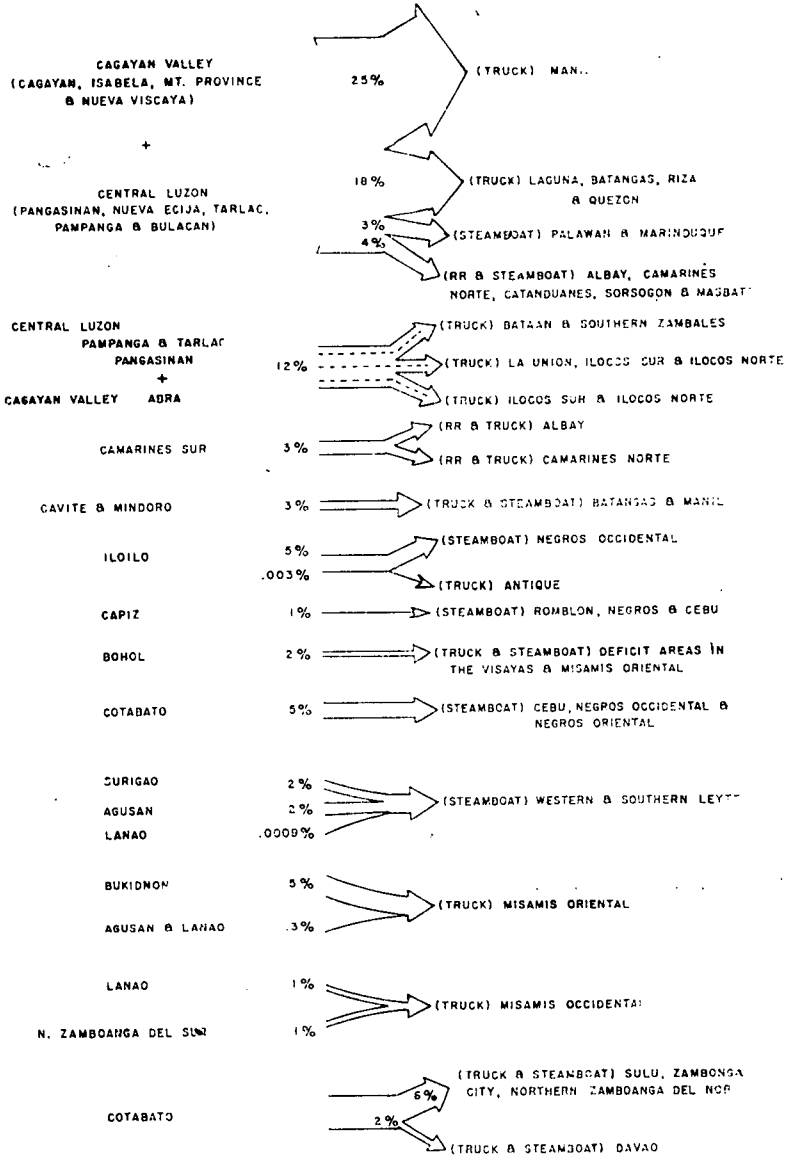


FIG. 20. APPROXIMATE DISTRIBUTION OF TOTAL PALAY AND RICE MOVED BY ORIGIN AND DESTINATION, PHILIPPINES, 1954-1955 ^{A/}.

^{A/} SOURCE: STANFORD RESEARCH INSTITUTE. "AN ECONOMIC ANALYSIS OF PHILIPPINE DOMESTIC TRANSPORTATION," VOL. II, 1955. A REPORT PREPARED FOR THE NATIONAL ECONOMIC COUNCIL.

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(3) Very little cross-hauling was discovered. Cross-hauling was not a major aspect of the movement of palay and rice in the Philippines.

(4) Palay movements in the Island of Luzon comprised about two-thirds of all inter-provincial shipments of palay and rice.

(5) The movements of palay and rice within the Visayas and between Mindanao and the Visayas comprised about one-third of all inter-provincial shipments".

In connection with the movements of palay and rice in the Philippines, it is interesting to note the RCA operation relative to the time and place of disposal of this product. This would more or less indicate when and where the RCA marketing facilities are mostly used. In 1964, 73 per cent of the imported rice was unloaded in Manila and 12 per cent in Cebu (table 8). The balance was unloaded in other ports. These places are considered as distributing centers and therefore it does not necessarily mean that the rice unloaded in these ports was consumed in these areas. In table 9, it was indicated that most of the procurement of the locally produced palay was done from October to December, whereas, most of the rice sales were from July to November. For the same FY ending June 30, 1964, the National Economic Council reported that the surplus months were October to November and the deficit months, July to September and February to June. The place of rice sales of the RCA in 1964 is shown in table 10. The important places were Manila, Central Luzon and Southern and Western Mindanao. These three areas received about 64 per cent of the total rice sold.

TABLE 5

INWARD AND OUTWARD SHIPMENTS OF RICE, MANILA,
1955 (METRIC TONS)^a

| PLACE | TO MANILA | FROM MANILA |
|-----------------------------|------------------|------------------|
| Northern Luzon | 4,655 | 43 |
| Cagayan | 4,655 (surplus) | — |
| Bacanes | — | 43 |
| Southern Tagalog | 249 | 2,653 |
| Marinduque | 25 | 424 |
| Mindoro Occidental | 24 | 116 |
| Mindoro Oriental | 107 | 149 |
| Palawan | 93 | 1,964 (deficit) |
| Bicol | 170 | 15,933 (deficit) |
| Albay | 12 | 8,181 |
| Camarines Norte | — | 648 |
| Camarines Sur | 9 | 184 |
| Catanduanes | 28 | 2,380 |
| Sorsogon | 25 | 2,816 |
| Masbate | 96 | 1,724 |
| Eastern Visayas | 956 | 3,137 (deficit) |
| Cebu | 399 | 2,520 |
| Bohol | 3 | 4 |
| Leyte | 71 | 366 |
| Samar | 183 | 247 |
| Western Visayas | 770 | 2,112 |
| Capiz | 413 | 57 |
| Iloilo | 233 | 256 |
| Negros Occidental | 109 | 1,066 (deficit) |
| Negros Oriental | 3 | 24 |
| Romblon | 12 | 709 (deficit) |
| Northern & Eastern Mindanao | 5,092 | 820 |
| Agusan | 7 | 148 |
| Surigao | 45 | 254 |
| Misamis Oriental | 191 | 367 |
| Misamis Occidental | 3,950 | 36 |
| Lanao | 899 | 15 |
| Southern & Western Mindanao | 19,651 | 981 |
| Zamboanga del Norte | 4 | 20 |
| Zamboanga del Sur | 69 | 41 |
| Sulu | 29 | 652 |
| Cotabato | 11,233 (surplus) | 97 |
| Davao | 8,316 | 171 |
| GRAND TOTAL | 31,243 | 25,679 |

^a Source: Stanford Research Institute. "An Economic Analysis of Philippine Domestic Transportation". Volume II. A report prepared for the Philippine National Economic Council, 1955.

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TABLE 6

SHIPMENTS OF RICE TO CEBU BY PROVINCE AND PORT.
1955 (METRIC TONS)^a

| REGION, PROVINCE AND PORT | QUANTITY OF SHIPMENTS |
|------------------------------|--------------------------|
| Visayas | <u>7,610</u> |
| Bohol | 103 |
| Leyte | 3,865 |
| Samar | 51 |
| Negros Oriental | 90 |
| Iloilo | 2,890 |
| Capiz | 611 |
| Luzon | <u>6,795</u> |
| Manila | 6,744 |
| Albay | 51 |
| Mindanao | <u>22,352</u> |
| Cotabato | 10,604 |
| Davao | 2,993 |
| Agusan | 27 |
| Lanao | 5,508 |
| Misamis Oriental | 201 |
| Misamis Occidental | 1,178 |
| Surigao | 34 |
| Sulu | 17 |
| Zamboanga del Sur | 1,068 |
| Zamboanga del Norte | 722 |
| GRAND TOTAL | <u>36,757</u> |

^a Source: Stanford Research Institute. "An Economic Analysis of Philippine Domestic Transportation". Volume II. A report prepared for the Philippine National Economic Council.

TABLE 7

APPROXIMATE MONTHS OF HIGH SUPPLY AND LOW PRICE AND VICE-VERSA BY REGIONS, PHILIPPINES^a

| REGION | HIGH SUPPLY LOW PRICE | LOW SUPPLY HIGH PRICE |
|------------------|---|---|
| | Months | |
| Philippines | October to January (4) | February to September (8) |
| Ilocos | September to January (5) | February to August (7) |
| Cagayan Valley | January to April (4) | May to December (8) |
| Central Luzon | October to January (4) | February to September (8) |
| Southern Tagalog | August to January (6) | February to July (6) |
| Bicol | October to January (4) | February to September (8) |
| Eastern Visayas | September to November (5) March to April | December to February (7) May to August |
| Western Visayas | September to January (5) | February to August (7) |
| N & E Mindanao | August to November (4) | December to July (8) |
| S & W Mindanao | August to January (6) | February to July (6) |

^a Based from figures 5a to 5j.

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TABLE 8

RCA RICE IMPORTATION BY PORT OF DISCHARGE,
PHILIPPINES, FY ENDING JUNE 30, 1964^a

| PORT OF DISCHARGE OF IMPORTED RICE | QUANTITY b (cavan of 56 kgm.) | PER CENT DISTRIBUTION |
|---------------------------------------|----------------------------------|--------------------------|
| Manila | 3,944,105 | 73 |
| Cebu | 641,884 | 12 |
| Iloilo | 257,258 | 5 |
| Zamboanga | 204,812 | 4 |
| Davao | 78,862 | 2 |
| La Union | 48,223 | 1 |
| Albay | 183,835 | 3 |
| T O T A L | 5,358,979 | 100 |

a Source: Rice and Corn Administration. 1965.

b Originally in kilograms, converted into cavans (56 kgm.).

TABLE 9

RCA PALAY PROCUREMENT AND SALES, PHILIPPINES,
FY ENDING JUNE 30, 1964

| M O N T H | PALAY PRO- DUCED LOCALLY | | R I C E S A L E S | |
|-----------|-----------------------------|-----------|---------------------------------|----------------|
| | Cavans (45 kg.) | Local | Imported (cavans of 56 kgm.) | Total Sales |
| TOTAL | 2,451,745 | 2,319,059 | 4,206,156 | 6,525,215 |
| | | | p e r c e n t | |
| July | 7.25 | 18.50 | 6.60 | 10.84 |
| August | 7.23 | 21.15 | 14.80 | 17.06 |
| September | 7.05 | 13.66 | 13.76 | 13.73 |
| October | 42.50 | 16.82 | 16.86 | 16.85 |
| November | 18.15 | 14.95 | 19.55 | 17.91 |
| December | 12.78 | 5.51 | 9.03 | 7.78 |
| January | 3.73 | 4.26 | 9.32 | 7.46 |
| February | .33 | 3.30 | 6.96 | 5.66 |
| March | .14 | .99 | .72 | .82 |
| April | .19 | .70 | .34 | .47 |
| May | .12 | .20 | .32 | .28 |
| June | .53 | .06 | 1.74 | 1.14 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Rice and Corn Administration, 1965.

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TABLE 10

PLACE OF RCA RICE SALES, FY ENDING JUNE 30, 1964
PHILIPPINES^a

| REGION AND PROVINCE | IMPORTED ^b | LOCAL ^b | TOTAL ^b |
|------------------------------|-----------------------|--------------------|--------------------|
| TOTAL (cavans rice, 56 kgm.) | <u>4,136,519</u> | <u>2,384,312</u> | <u>6,520,831</u> |
| | p e r c e n t | | |
| Manila | 47.61 | 6.48 | 32.57 |
| Ilocos | <u>1.62</u> | .02 | 1.03 |
| Cagayan Valley | <u>4.87</u> | <u>9.88</u> | <u>6.70</u> |
| Cagayan | — | 2.49 | .91 |
| Isabela | .05 | 5.09 | 1.89 |
| Mt. Province | 4.77 | 1.58 | 3.60 |
| Nueva Viscaya | .05 | .72 | .30 |
| Central Luzon | 13.98 | 30.10 | 19.89 |
| North & South Bulacan | .24 | 4.25 | 1.73 |
| Nueva Ecija | .74 | 11.18 | 4.55 |
| Pampanga | 4.07 | 5.27 | 4.51 |
| Pangasinan | 7.30 | 2.73 | 5.63 |
| Tarlac | 1.63 | 6.67 | 3.47 |
| Southern Tagalog | <u>6.37</u> | <u>3.07</u> | 5.17 |
| Batangas | — | — | — |
| Palawan | 2.23 | 2.33 | 2.27 |
| Mindoro | — | — | — |
| Laguna | 4.14 | .74 | 2.90 |
| Bicol | <u>2.80</u> | <u>13.05</u> | <u>6.53</u> |
| Albay | 2.25 | 7.71 | 4.24 |
| Camarines | .55 | 5.34 | 2.29 |
| Eastern Visayas | <u>7.88</u> | <u>6.87</u> | 7.51 |
| Cebu | 2.83 | .84 | 2.10 |
| Leyte | 5.05 | 6.03 | 5.41 |
| Samar | — | — | — |
| Western Visayas | <u>5.89</u> | <u>6.72</u> | <u>6.19</u> |
| Capiz | 1.54 | 1.69 | 1.59 |
| Iloilo | 2.75 | 3.79 | 3.13 |
| Negros | 1.60 | 1.24 | 1.47 |
| North & East Mindanao | <u>1.73</u> | <u>5.16</u> | 2.99 |
| Lanao | .64 | 4.10 | 1.91 |
| Surigao | 1.09 | 1.06 | 1.08 |
| South & West Mindanao | <u>7.25</u> | <u>18.65</u> | 11.42 |
| Davao | .84 | 3.02 | 1.64 |
| North Cotabato | .29 | 10.61 | 4.06 |
| South Cotabato | — | — | — |
| Zamboanga | 6.12 | 5.02 | 5.72 |
| PHILIPPINES | <u>100</u> | <u>100</u> | <u>100</u> |

a Source: Rice and Corn Administration, 1965.

b Discrepancies from Table 9 were not accounted.

Marketing Facilities at the Retail Level

The common marketing facilities of the rice retailers are the store building, rice bins and other type of containers volume-measuring devices, gunny sacks and weighing scales. Of these, the major ones are the rice bins and volume-measuring devices. They are all relatively simple. The reason for this is that the marketing functions performed by the retailers are relatively simpler than those done by the wholesalers. In other words, they perform less storing, transporting, milling, packing, etc. of palay than the wholesalers. In fact, the procurement and disposal of stocks are done in a relatively very short period. They procure palay and/or rice only as they run out of stock. Obviously, the volume handled are relatively small per unit of time.

Peredo and Mina²⁴ reported that although retailers performed less complicated marketing services, they received 9 per cent of the total farm-retail spread of ₱3.62 in retailing a cavan of palay. The millers received 10 per cent and the non-millers, 6 per cent. Characteristically, more retailing of rice is done during the off-season months than during the peak months.

Future Changes in Rice Marketing Facilities

Many findings in this report need further investigation. To determine the outlook of the rice marketing facilities in the Philippines, the situation discussed previously should be used as a basis for predicting expected changes in palay production, in supply and demand and in the nature of the marketing facilities.

The three most important facilities in marketing palay and/or rice at all levels are the warehouses, mills and trucks.

²⁴*Op. cit.*

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Length of road constructed and number of trucks are not always related to areas of palay production. This may imply that more trucks from the deficit areas rather than the surplus areas are used in moving palay and rice. Findings of studies also indicate that the existing ricemills and warehouses are not fully utilized throughout the year, although they are located in the areas of palay production. The assertion that the lack of warehouses and mills influence the flow of palay and the movement of price is not consistent with the evidence. Rather, the uneven distribution of palay and the remarkable fluctuation of prices are largely attributed to farmers' irrational seasonal disposal of palay. However, the underutilization of the warehouses and ricemills apparently contributes to increased cost of marketing and subsequently to price paid by the consumers.

Changes in the kind and number of marketing facilities and in the marketing activities as a whole depend upon changes in nature of production and consumption. For the Philippines as a whole, chances are that there will be only minor changes of this kind in the future because of the relatively slow rate of increase in palay production, only about 2.33 per cent.²⁵ However, in some palay-producing regions some marked changes may be expected to occur if the present pattern in production will continue to prevail in the future. For example, in Southern and Western Mindanao, probably in Cotabato, more demand for storage, milling and transportation facilities might be felt if production will continue to increase (figure 21). Similarly, the same thing may happen in Bicol, most probably in Camarines Sur, if production will also con-

²⁵Central Bank of the Philippines, Annual Report, 1955-1961.
Manila, Philippines

tinue to rise. On the other hand, if production in Western Visayas, particularly in Iloilo, and in the Cagayan Valley will continue to decline, the marketing activities may slacken and less marketing facilities will be demanded. Central Luzon seems to be maintaining its level of production and therefore, changes in marketing facilities will be less expected.

Table 11 shows the distribution of the rice-eating population in the Philippines. If there would be no changes in this pattern, then the ports and trading centers in Central Luzon, Southern Tagalog, Western and Eastern Visayas would continue to be the areas of active marketing of palay and/or rice. For purposes of illustration, figure 22 indicates the approximate level of self-sufficiency in rice in the various regions of the Philippines. The implications of this figure are almost similar to those of figure 21. Such is the case because the self-sufficiency ratio was computed on the assumption that the rate of change (3.29 per cent annually) in population and the proportion and distribution of rice-eating people are constant. Only palay production was allowed to vary. The changes in production and in self-sufficiency levels may not necessarily alter the pattern of rice distribution from surplus to deficit areas as shown in figure 20, although there might be substantial decreases in rice shipments.

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TABLE 11

DISTRIBUTION OF RICE-EATING POPULATION,
PHILIPPINES, 1954^a

| REGION | PER CENT DISTRIBUTION | |
|-------------------------------|-----------------------|-------|
| Population, 1954 | 21,440,200 | |
| Philippines | 15,582,720 | 100.0 |
| Manila | | 6.2 |
| Ilocos | | 5.3 |
| Cagayan Valley | | 14.3 |
| Southern Tagalog | | 16.2 |
| Central Luzon | | 18.2 |
| Bicol | | 8.4 |
| Eastern Visayas | | 10.8 |
| Western Visayas | | 15.2 |
| Northern and Eastern Mindanao | | 7.7 |
| Southern and Western Mindanao | | 7.7 |

a Source: Philippine Agricultural Statistics. Bureau of Agricultural Economics (formerly DAE), DANR. Vol. 2. 1954.

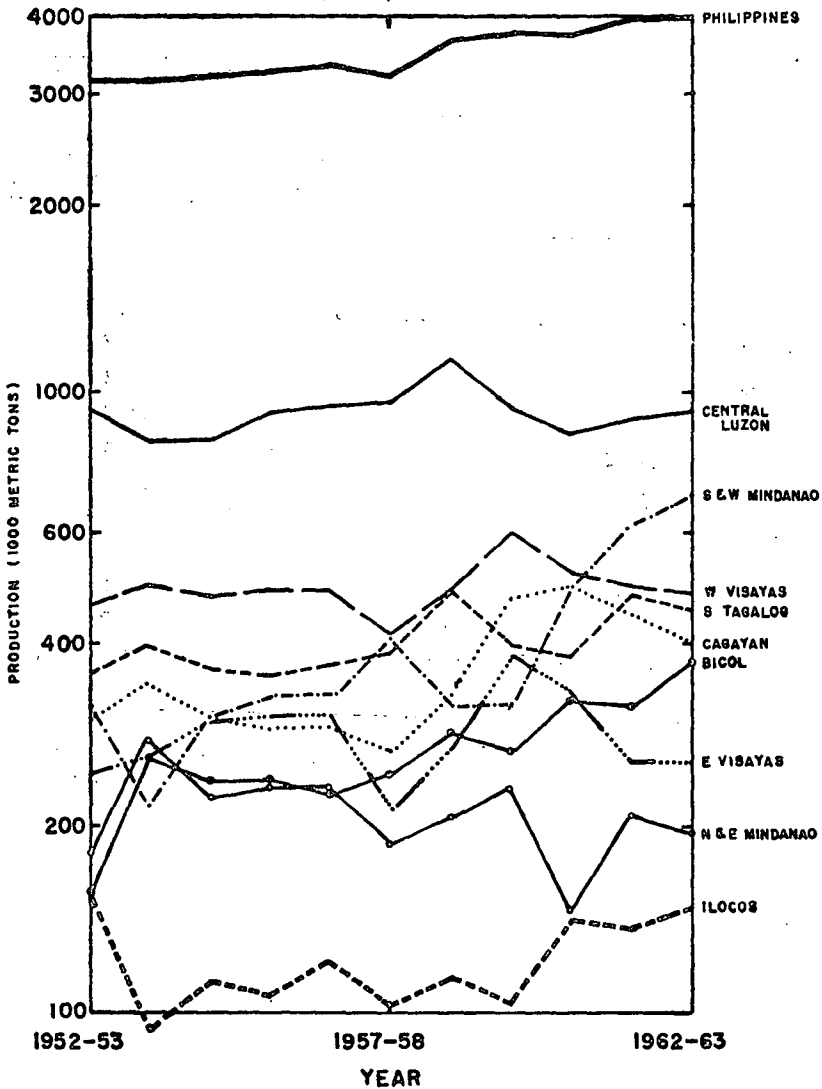


FIG. 21. RICE PRODUCTION IN VARIOUS REGIONS, 1952-53 TO 1962-63 (PHILIPPINES)

SOURCE: RUTTAN, V. W. AND E. C. VENEGAS, "RICE PRODUCTION, AREA AND YIELD IN THE PHILIPPINES. INTERNATIONAL RICE RESEARCH INSTITUTE, 1964

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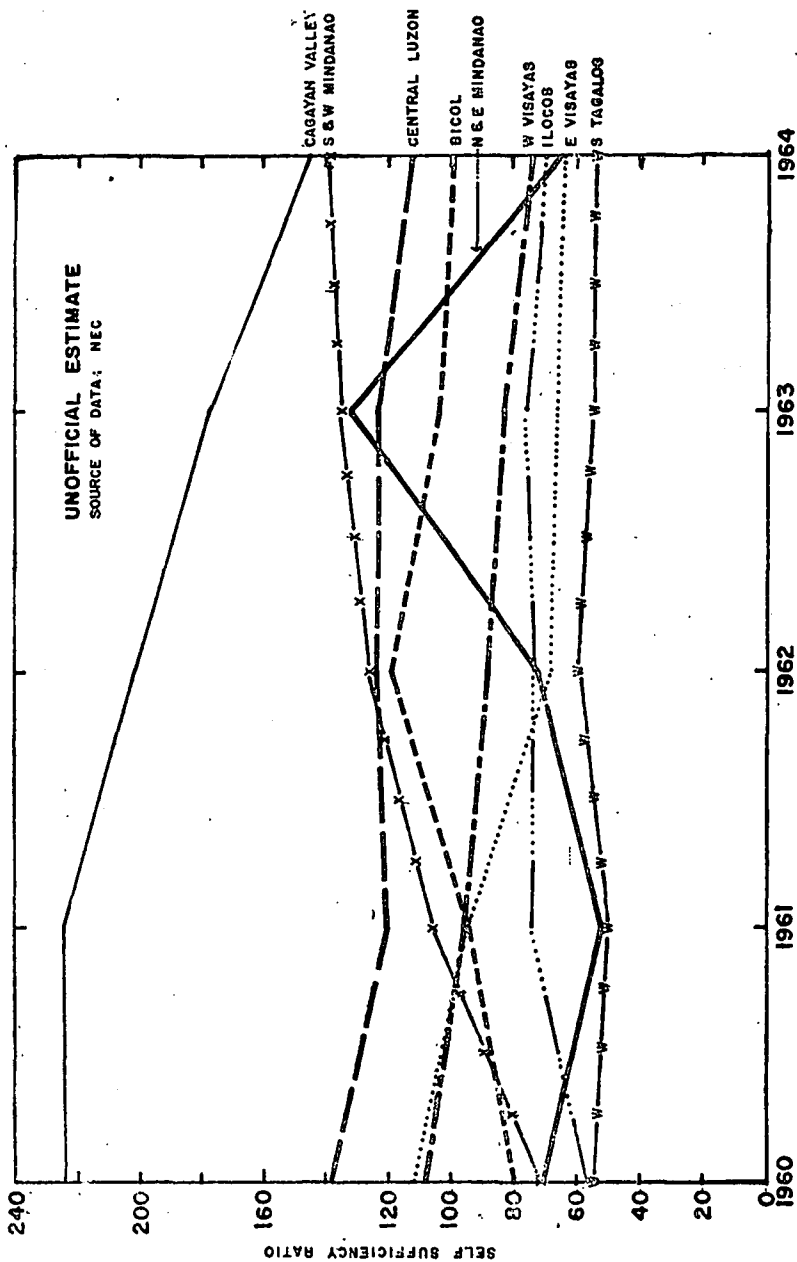


FIG. 22. SELF-SUFFICIENCY RATIO BY REGION AND BY YEAR, PHILIPPINES, 1960 - 1964.