FOOD AND POPULATION PROBLEMS IN THE PHILIPPINES

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THE WORLD TODAY IS FACED WITH A MYRIAD OF PROBlems arising from conflicts in color, race and ideologies, as well as by problems inherent in the quest for economic development. One of the most important problems affecting national effort to enhance economic and social development, which has merited global attention, is that which concerns the relation between food and population growth.

Regardless of the stage of development attained, the people in any country have to contend with the food problem, be it in terms of increasing the available food supply to meet the expanding requirements of a rapidly growing population, or in terms of disposing food surpluses in the most efficient and favorable means possible. Indeed, the food problem is an ancient one. A study of the history of the human race will reveal that the food problem has always been associated with the story of mankind itself. It is a fact that the advancement of man's society from its primitive to its modern stage today has largely been based on the adequacy of food to meet, not only the minimal requirements for normal health and activity, but also to permit the emancipation of man from purely food-producing activities to other types of productive endeavor.

Despite recent advances made in science and technology, there are some countries in the world—particularly in Asia and in Latin America—which continue to suffer from recurring food shortages, hunger, starvation and malnutrition. These countries can be considered as Malthusian areas, where the very rapid rate of growth of the population tends to outrun the capacity to produce food. According to the Food and Agriculture Organization of the United Nations, it is estimated that at least half of the world's population is chronically hungry, malnourished or undernourished, and about three-fourths of Asia's almost two billion people do not get three square meals a day, much less a well-balanced diet. A scientist from Ceylon once stated that one of the biggest blunders committed in their country was their effective control of malaria because it resulted in more people thriving in misery. A medical scientist remarked that medical advances in India merely prolonged a life of poverty and discontent. Such a frustrated outlook of life stems from the inability of food production to keep pace with population growth.

In the Philippines, the problem of food-population balance is also a major problem. Estimated at about 31.9 million, the total population of the country is reportedly increasing at the rate of 3.29 per cent a year,[1] equivalent to about one million annual population increase or approximately two

[1] B.T. Oñate, "Population and Food Requirements: Philippines," Family Planning Workshop, College of Agriculture, University of the Philippines, October 29, 1965.

babies born every minute. At this rate of growth, our population is expected to double in 30 years. The Inter-Agency Committee on Demography projected the population of the Philippines to 58.1 million in 1980. This projection is based on a rapidly declining mortality and high fertility rates.[2] Population density was 78 persons per square kilometer in 1957 and 98 persons in 1962; by 1980, this is expected to increase to 194 persons per square kilometer.

On the other hand, an official of the National Economic Council stated that in terms of food supply, the present rate of population increase suggests the need of "a yearly additional requirement of 422,720 metric tons of food distributed as follows: rice, 96,112 metric tons or 1.5 million cavans; corn, 24,028 metric tons or 450,000 cavans; starchy roots and tubers, 25,830 metric tons; sugar and syrups, 11,490 metric tons; vegetables, 54,070 metric tons; meat and poultry, 24,930 metric tons; eggs, 5,900 metric tons; milk and milk products, 59,330 metric tons; fish, 29,270 metric tons; and fats and oils, 10,350 metric tons." [3]

The relationship between net food supply available for consumption and the recommended food allowances for different food groups is shown in Table 1. In these relationships, total available supply is made up of domestic production plus imports minus exports, while net supply for consumption is computed by deducting from the available supply the quantities used for seeds, feed, amount due to extraction rate and others. The figures in Table 1 indicate that the supply for consumption is adequate for energy foods in the Philippines, such as cereals, roots and tubers, but inadequate in the protein foods such as meat products, milk, eggs, fish and fish products. For all foods, the sufficiency ratio of the Philippines is only 78%.

Table 1. Net Food Supply and Recommended Allowance in Grams per Capita per Day by Food Groups, Philippines.

Food Group	Total Net Supply for Consumption (1963)	Recommended Allowance (1961-1965)	Sufficiency Ratio per cent
Total	941.0	1,210.1	78
Cereals	347.2	329.2	105
Roots and tubers	111.1	70.8	157
Sugars and syrups	49.6	31.5	157
Pulses and nuts	43.4	17.1	254
Vegetables	85.0	148.2	57
Fruits	110.1	206.0	53
Meat Products	39.2	68.3	57
Milk and milk products	30.8	162.6	19
Eggs	6.9	16.1	42
Fish and fish products	57.8	80.2	72
Fats and oils	7.5	28.4	26

Source: Burton T. Oñate, "Population and Food Requirements: Philippines," Family Planning Workshop, College of Agriculture, U.P., October 29, 1965.

[2] Oñate, *op. cit.*

[3] Andres M. Mane, "Food Economics," *Philippine Journal of Nutrition*, XVI, No. 2 (April-June, 1963).

Oñate [4] reported in his study that in 1963, the total available supply of foods totalled 11,342 thousand metric tons, about 7 per cent of which was accounted for by imports. In the same year, the available supply of cereals was 4,600 thousand metric tons. Of this quantity, domestic production accounted for about 3,900 thousand metric tons (or 85 per cent) while imports accounted for 700 thousand metric tons (or about 15 per cent). For rice alone, total importations for the 20-month period (from January, 1964 to August, 1965) amounted to 672,693 metric tons valued at ₱310 million.

According to the Director of Animal Industry,[5] the total national requirements of meat and meat products of 24 million consumers in 1962 was 792 million kilograms. Local production provided only 226.5 million kilograms. Including imports, the total available meat supply was 248 million kilograms, or a shortage of about 540 kilos. Per-capita meat consumption is estimated at 10.3 kilos a year, whereas the recommended requirement (according to the Food Balance Sheet [6]) is 33 kilos per person per year. On a per-capita basis, the shortage is equal to 22.7 kilograms a year. Using the ratio of 16.2% beef, 63.4% pork, 14.4% poultry and 6.0% all other meats of the different meat animals slaughtered and consumed in the Philippines, the country's total shortage in meat and meat products may be broken down into 81 million kilograms of beef, 317 million kilos of pork, 72 million kilos of poultry, and 30 million kilos of other meats. In terms of head of animals, this meat shortage would consist of 578 thousand heads of cattle, 7,432 thousand pigs, 36,000 thousand chickens, and an undetermined number of other animals for the 30 million kilograms of all other meats.

The same source indicated that the egg shortage is about 5.94 grams per person a day or 136.6 million grams a day or 50 billion grams per year for the 24 million people. At an average weight of 50 grams per egg, the total shortage for one year is equivalent to about one billion eggs. At present, our per-capita egg consumption is only about one-seventh of an egg a day, or one egg per week.

In the case of milk, local production amounts to 6.8 million kilograms, whereas total consumption is placed at 109.3 million kilos. The average per-capita milk consumption is estimated at 12.45 grams per day or 4.54 kilograms a year. The requirement is 200 grams per person per day or about 73 kilos per person per annum. Our total milk shortage, therefore, would amount to 68.46 kilos per person for one year, or 1,643 million kilos a year for 24 million consumers.

It is evident from the foregoing that the Philippines' domestic food production has been inadequate to meet the requirements of the fast-growing population. The country has had to resort to importations of huge quantities of foodstuffs to augment its food supply. This practice tends to divert the use of valuable foreign exchange to consumption purposes from capital-accumulation uses, and serves further as a disincentive to increasing agricul-

[4] Oñate, *op. cit.*

[5] As reported in N.B. Tablante, "Food Production, Storage and Distribution in the Amelioration of Foods and Nutrition Problems." (Mimeographed, April 3, 1962).

[6] Tablante, *op. cit.*

tural production. While transfers of food from surplus areas of the world (i.e., imports) can help alleviate our food problem, this method does not provide the lasting solution.

The farmers in the Philippines have not been able to increase food production to levels adequate to meet consumption requirements of the large population because of the interplay of several factors.[7] The area of land they farm is small; they follow a mono-culture, one-crop system of farming because they are dependent mostly on rain; their farms are inefficiently organized and labor is not productively employed for many months of the year. Lacking capital to acquire the necessary agricultural inputs, they are generally limited in employing improved technology and modern farm practices. Furthermore, the value systems and attitudes of the farmers [8] as well as political decisions affecting agriculture in general,[9] have tended to serve as barriers to increased food production.

The basic causes of low production and low productivity in agriculture indicate that the Philippines designs her policies such that they will assist, boldly and creatively, in the reorganization of the weak or inefficient segments of her rural economy; that her policy-makers be able to discriminate among the most critical factors involved in increasing food production. All these, viewed in terms of the country's chronic food shortage resulting, not only from a lack of physical potential, but also from a conglomeration of economic, social, technological and institutional factors.

Increasing the food supply (particularly through domestic production) is one of the means to solve the Philippine food-population imbalance and is essential to its rapid economic development. It is hardly possible to expect the country to progress rapidly while facing serious food shortages, augmented largely by importations. In any country—particularly a developing country—an abundant food supply is conducive to high labor productivity and low-cost industrial production. The President of the Philippine Association of Nutrition remarked that hunger has many faces, including undernutrition, decreased labor efficiency, lowered resistance to diseases and to the stresses of day-to-day living, irrational behavior and social degeneration, and recession in physical and mental fitness on the part of the youth who will, in the future, render the decisions in nation-building.[10]

It is, however, unwise to increase the domestic production of the Philippines by borrowing the approach used by well-developed nations as they faced similar problems during earlier stages of their development. True, these nations may have been at the same stage of economic development as the Philippines is today, but conditions then were also different. For one thing, the main approach used by these countries to the problem of increasing food production, was to increase the area of land planted to food crops; since

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[7] See N.B. Tablante, "Problems of Agricultural Productivity in the Philippines." Paper read at the First Session, Philippine Executive Academy, March 15, 1965 (Mimeographed).

[8] *Ibid.*

[9] *Ibid.*

[10] Eufronio O. Carrasco, "The Many Faces of Hunger." *Philippine Journal of Nutrition*, XVI, No. 2 (April-June, 1963).

areas of available lands were extensive. In contrast, there is very limited opportunity for Filipinos to increase their country's land area. However, while the Philippines lacks a fund of large areas of land for cultivation, it has a fund of technological knowledge, accumulated from the research experience of the economically developed countries, to be used to advantage.

Secondly, there is also a difference in rate of population growth. The population of the Philippines is growing much more rapidly than those of the advanced countries today, during a period of economic development comparable to that of contemporary Philippines. Therefore, the greatest hope of the Philippines for increasing domestic food production lies, not so much with expanding the area, but on increasing yields per unit area and increasing the rates of production per animal. According to a staff economist in the United States Department of Agriculture, the yield-raising method of increasing food output is a much more difficult process than the area-expanding method. The former involves a number of preconditions and incentives for successful implementation, such as (1) a reasonably high level of literacy to facilitate the steady flow of new knowledge from research institutions to the farms; (2) capital to acquire yield-raising agricultural inputs; (3) market orientation of the farm output; (4) a strong and adequate non-agricultural supporting cast which provides the agricultural sector with goods and services for farm operations; and (5) favorable prices for farm products.[11]

Even with the use of the present physical area of land devoted to agriculture (or even less), the size of the productive unit for food production can be increased substantially by using more capital in relation to land. The prospects for augmenting productivity in food production become bright when the additional capital used is translated into more efficient techniques and practices. These additional inputs may take the form of more fertilizers, the use of agricultural chemicals to control pests, diseases and weeds, the use of better seeds and stock as well as more efficient tools and equipment and other improved farm practices.

The Filipino farmers have to be encouraged to use more and more of the right kind and amount of fertilizers. Continuous single-cropping, erosion and excessive leaching have depleted much of the country's soils of their fertility. Less than 10 per cent of its 3.3 million hectares of rice lands are fertilized. Consequently, average yields per hectare have remained at low levels. It can generally be said that the Filipino farmers use three kilos of nitrogen, five kilos of phosphorous and three kilos of potassium per hectare, compared to 85, 57, and 62 kilos, respectively, in Japan where rice yields average about 95 cavans per hectare. Low-yielding varieties of crops, and animals with relatively low rates of output, have to be replaced with high producers.

The most sensitive and critical of the inputs, which have to be provided in great number in order to accelerate the increase in food production, are: *irrigation* in the case of food crops, and *feed* in the case of livestock

[11] Lester R. Brown, "Population Growth, Food Needs and Production Problems," World Population and Food Supplies, 1980. American Society of Agronomy Publication No. 6. (February, 1965).

and poultry. Irrigation makes for the diversification of agriculture. In Taiwan, for example, two crops of rice—a vegetable crop and a green manure crop—can be annually grown on the same piece of land because of adequate irrigation and proper management of water resources. The beneficent effects of fertilizers, weed control, plant protection, improved seeds and modern production techniques, as well as farm management practices, become operative when good and dependable irrigation facilities are available all the year round.

With irrigation, the institution of means for achieving greater efficiency in food crop production becomes feasible. If an additional 800,000 hectares of rice lands in the Philippines could be irrigated to make the total irrigated land area equal to 1,000,000 hectares, the country could easily meet the rice requirements of a rapidly growing population. Moreover, the balance of 2.3 million hectares could be released for the production of other food, feed and export crops.

If high-quality feed is made available to Filipino farmers at low cost, the Filipino farm families would be encouraged to raise livestock, pigs and poultry, even on a small scale. It is needless to mention that livestock enterprises help to increase farm incomes, enable the utilization of farm labor that would otherwise be idle, help build up the soil, convert farm wastes and by-products into quality foods, and above all, provide the people with nutritious food and balanced diets.

Adequate price incentives is imperative, if the Filipino farmers are to be encouraged to commercialize farming, and hence move away from a kitchen-oriented type of agriculture. The assurance of a price for agricultural products —high enough to attract the greater efforts of farmers heretofore not applied or exerted—is one of the greatest incentives that can be offered. For the profit motive is still a strong force in man's productive effort.

A remunerative price incentive will give farmers the necessary purchasing power with which they could translate their desires into effective demands for goods and services required for both production and consumption activities. This incentive of a high price for agricultural food commodities should, however, be supported by policies that will promote and protect local producers, and by institutional reforms in credit, marketing, land tenure as well as community organizations promotion. Improvements in storage, processing, packaging, distribution and other marketing services also offer possibilities for ameliorating our food and nutrition problems.

Actually, there are two principal alternative approaches to the food-population problem: to produce more food, or to produce less people. The ideal situation, of course, is to use both, *i.e.,* more food and less mouths to feed. Thus far, increasing the food output has been considered.

On a long-range basis, family planning can be an effective tool in reducing the load of feeding an expanding population. Taiwan, Pakistan and other countries with high population pressures on the land, have started to adopt family planning as a means to arrest population growth rate, and it has so far proved effective. The method chiefly in demand in Taiwan is an intra-uterine device known as the Lippes Loop which can be worn continuously and comfortably. The whole program is related as closely as possible

to mother-and-child health and child-spacing objectives. It is estimated that, allowing for removals, five loops will decrease birth by one per year. Other sound methods of family planning could also be encouraged. All these methods could result in an estimated drop of the annual rate of population increase in Taiwan to 3 per cent or less than 2 per cent by 1970.[12]

Under the concept of family planning, parents—especially newlyweds—could be made to understand the significance of responsible parenthood and to realize the economic and social obligations of having more children than they can afford to support. Guided to plan their family to the level of their capacities, they would be able to provide all their children with adequate necessities, comforts and other amenities of life which make for a high standard of living. Much of the problems of poverty, disease and illiteracy in most countries of Asia, could have been minimized, if parents were taught family planning. Family planning and other preventive checks on population growth, however, have to be instituted and carried out within the context of the social and cultural backgrounds of the people.

It is reasonable to expect that in the Philippines, the demand for more and better foods will continue to rise as a result of increasing population and increasing income levels of the people. Whether or not the Philippines will face the challenge of the population-food balance, so that the Filipino people will enjoy a decent and continuously rising level of living, remains to be seen.

[12] S. C. Hsieh, "Economic Aspect of Population Problems," (Paper read, at the Family Planning Workshop, College of Agriculture, University of the Philippines, October 29, 1965, unpublished).