TRABAJOS GENERALES

The political economy of malnutrition: generalizations from two central american case studies

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SUMMARY

The major health problem in Latin America stems from a deficiency of high quality protein in early childhood, resulting in many deaths from the malnutrition-infection interaction. This problems is not fundamentally caused by an overabundance of people relative to the potential food supply nor by the dietary education of malnourished families. Rather, malnutrition in Latin America is rooted in two politico-economic facts. First, the countries underproduce food because of the nature of the land tenure and food export systems. And secondly the masses of malnourished people can not afford to buy sufficient protein because they have no land and no money.

The nutrition problem cannot be solved by U.S. food aid programs or local private investment. The solution lies in land reform, redistribution of wealth, and high-priority governmental action to develop low-cost-high-protein food industries, for domestic consumption.

Malnutrition is the most serious health problem in the underdeveloped world. Of all people dying in the poor nations, more than 40% are children under 5 years of age. And most of these childhood deaths are caused by the interaction of malnutrition and infection (1, 2).

The malnutrition-infection complex begins with the weaning of the child from the breast. At that time, the child often fails to receive sufficient quantities of the high quality proteins which were available to him in breast milk (3). This

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nutritional deficiency makes the child more susceptible to severe infections, particulary of the gastrointestinal tract (4). The infection, in turn, increases the child's protein and calorie requirements and produces a deterioration of the nutritional state. This downward spiral of malnutrition and infection all too often ends in death.

In Latin America, the principal health problem can be formulated in an identical manner. 40% of deaths are in preschool children, largely caused by the malnutrition-infection complex. In two Central American countries, Costa Rica and Guatemala, children under 5 make up 50% of total deaths (5). According to surveys conducted by the Institute of Nutrition of Central America and Panama (INCAP), 48% of Costa Rican children under 5 are malnourished, as measured by retardation in weight gain (6). In Guatemala this figure climbs to 75% (7). The chief nutritional deficiency is protein, particularly high-quality protein with an adequate content of essential amino acids. Other nutritional problems in these two countries include caloric deficiency, vitamin A lack, and anemia due to insufficient iron and folate. At the age of 2 years, the average child in these countries has reached the weight of a normal one-year old North American. The average 5-year old weighs the equivalent of a normal child of 2 years.

The principal health problem of the underdeveloped world, then, can be solved in only one way: the production and distribution of adequate amounts of high-quality protein food. Yet many government and public health people in the United States and the poor nations have an entirely faulty conception of the food problem. Some prevailing beliefs about this problem are summarized in the following four postulates.

1. There is an imminent, inevitable collision between the world's capacity to produce food and the growing population (8, 9).

2. The United States is helping, at least in the short run, to solve the feeding problem of poor countries (10).

3. For a permanent solution to the food shortage, large amounts of private capital must be invested in the production of food within poor countries (9, 11).

4. What the poor people of underdeveloped countries most need is education, so that they will learn which types of food are healthy (12, 13).

In this paper we will seriously question these four beliefs, at least for the case of Latin America. In doing so we will examine a single commodity in two countries: milk in Costa Rica and Guatemala. After presenting the facts of this limited case study, we will discuss the four postulates in light of these facts, also making generalizations about Latin American as a whole.

Milk in Costa Rica

Costa Rica has a relatively well-developed milk industry with a per capita consumption of 0.85 pounds per day (14). Milk is Costa Rica's fourth largest agricultural industry, following the export commodities of coffee, bananas and beef cattle. In 1948, many milk producers joined together in the Dos Pinos cooperative, which built a modern processing plant, and now supplies pasteurized milk to the entire country. Dos Pinos also produces non-fat dry milk, which is sold to the Costa Rican government for distribution to children in schools and nutrition centers.

While Dos Pinos was developing its powdered milk processing plant, it pressured the Costa Rican government into stopping the donation of powdered milk from the United States through the organization Care. However, in 1963 a volcanic eruption temporarily destroyed part of the milk producing area of the country, causing an acute milk shortage. Care was then asked to bring in non-fat dry milk, which it has done up to the present. (Care is a U. S. voluntary agency which receives foods from the American government under Public Law 480, and arranges the transport and distribution of these foods in recipient nations). Milk bought by the Costa Rican government from Dos Pinos and Care reaches 90% of school children and 20% of preschoolers (15).

The main opposition to Care has been from the Costa Rican milk industry, especially Dos Pinos. In 1968, when milk was in excess in Costa Rica, the milk producers again forced Care to stop its milk shipments; the national industry felt that Care's competition was harmful. Care in Costa Rica is thus switching from milk to CSM, a high protein mixture of corn, soya and milk.

However, in the past year the Costa Rican milk industry has undergone a crisis. Milk production is dropping and far-

mers are leaving the dairy business. The reason: dairymen are switching from milk to beef cattle to take advantage of the lucrative beef export trade to the United States. Profits on such exports are far higher than returns from producing milk. Under strong pressure from the milk industry, the government raised milk prices by 10%. But many doubt that this measure will induce farmers to remain in the dairy field; already the population of dairy cattle in Costa Rica has decreased by an astonishing 65% (16).

To summarize, then, Costa Rica developed a strong dairy industry partly due to the denial of cheap competitive milk imports by Care. But because of the recent U. S. policy to import beef from Central America, Costa Rican milk farmers are leaving the dairy industry in order to raise more profitable beef cattle. Thus Costa Rica's milk production is dropping, and the future of the industry is in doubt.

Milk and Incaparina in Guatemala

In Guatemala we do not find a strong national milk industry going sour; rather, the industry has always been poorly developed. Consumption of milk is half of Costa Rica's average (14). There is no leader in the dairy business comparable to Dos Pinos; 6-8 companies serve only Guatemala City (with just 15% of the country's people). All milk in the countryside is raw, and is usually distributed directly from the owner of the cows to local consumers. Government-fixed milk prices have not changed for 18 years, despite rising costs of milk's raw materials, especially cattle feed. With resultant declining profits, milk production in Guatemala —as in Costa Rica— has started to go down (17). Other enterprises, such as exportation of beef, are more lucrative. Two large dairy farmers separately stated "It I could find some one to buy my milk cattle, I would go out of milk production tomorrow".

The Guatemalan government buys almost no local milk for nutrition programs. Care, on the other hand, has a large program, costing the Guatemalan government over $300.000. Yet 75% of Care products go to school children, who are past the nutrition crisis of the first 5 years; only 10% of pre-school children receive Care milk. The government set up a non-fat dry milk plant in the country, but Care milk was never shut off —as in Costa Rica— in order to allow this plant to grow.

Thus the government plant has been a failure, producing very little milk. The availability of cheap Care milk has taken the presure off the government to produce its own milk and develop a national industry.

Yet milk is not the only product adversely affected by the Care program. Incaparina, a high quality protein mixture based completely on vegetable sources, is appearing as a milk substitute. Developed by INCAP, Incaparina is made from corn and cottonseed flour which are easily prepared within Central America. By mixing the essential amino acids of various plants, Incaparina has attained a biological value equal to that of milk, glass for glass. And its cost per glass is one-sixth the cost of whole milk.

However, in its ten years of existence Incaparina has had a negligible impact on the Central American nutrition problem. In several countries, attempts to market Incaparina have failed completely. In Guatemala, where it is produced by a local company, Incaparina is a going concern, but a small one. Whereas over 20 million pounds per year would be required to feed all children under 5, Incaparina sales in Guatemala are under 3 million pounds per year. And the greatest use of the product is among middle class families rather than the poor (18). The company is pushing the Guatemalan government to buy the product and distribute it to children in nutrition centers and schools. But the U. S. Agency for International Development pressured the government to continue the Care program rather than to buy Incaparina (19).

In Guatemala, then, the malnutrition problem is enormous, and no solutions can be seen on the horizon. Care milk reaches very few pre-school children, yet Care's program prevents the distribution of the cheaper, locally produced Incaparina. The milk industry is small, and declining because export crops are more profitable.

We have tried to give a brief picture of the forces which affect one sector of the economy of two small countries. This sector —the production of milk and a milk substitute (Incaparina)— is critical for solving the nutrition problem of these countries. But in both countries, it is failing because of considerations unrelated to feeding people. As we return now to the four postulates listed at the beginning of the paper, we will broaden the discussion and look at Latin America in general, referring back to the case studies where appropriate.

The Four Nutrition Postulates

1. The food-population collision. There is no demographic-geographic reason why people must be hungry or malnourished in Costa Rica, Guatemala, or in Latin America as a whole. Latin America, with 16% of the world's habitable land, has only 6% the population. The population density is a sparse 8 people per square kilometer (20). In contrast to Asia, Latin America is underpopulated in relation to the land available (21). Of the continent's 500 million hectares of arable land, only 30% are presently being cultivated. And many of the one billion hectares of forests could be converted into farmland (22).

Yet even the proper use of land now under cultivation would vastly increase food for internal consumption. First, large areas of land are underutilized because the absentee owners of the large plantations have no incentive for high productivity. In Guatemala 2.1% of the farms contain 62% of the arable land (23). These large holdings produce only one-quarter the yield per hectare of a small Guatemalan farm. Similar and more extreme patterns are found in many Latin American countries; in Peru, for example, 1% of the farms cover 80% of the arable land, and in Chile, large farms produce only 5% as much per hectare as small holdings (24). The Inter-American Development Bank lists this land tenure system as the number one obstacle to agricultural development in Latin America (22). To remove this obstacle would require a complete reform of the land tenure system, taking away the huge holdings from their owners.

Secondly, the most fertile areas of arable land are not used to feed the Latin American population, but are planted in crops for export to the developed world, especially the United States. In Costa Rica, more land is used to grow the three main crop exports (coffee, bananas, and cocoa) than to produce the three main foods for internal consumption (corn, rice and beans) (25). In Guatemala, the entire luxurious Pacific coast lands are taken up in export commodities (cotton, coffee and beef cattle, and the country must import corn and beans to feed its people. For Latin America as a whole, the amount of land used for export crops is enormous. By converting plantations of coffee, cotton, sugar and bananas, Latin America could raise corn production by 50%, double its wheat produc-

tion, or increase rice by 2½ times (25). Yet many Latin nations are now importing basic food items such as wheat, corn and beans.

Thus massive stretches of arable land are not cultivated at all, are underutilized, or are planted with export crops. It is this pattern of land use, rather than a population-food collision, which is the cause of inadequate food production in Latin America.

2. U. S. food policy. The United States is widely believed to aid Latin America by sending food supplies under Public Law 480 (Food for Peace). Exactly the opposite is true. Looking at the total agricultural sector, Latin America is actually aiding the United States. In the first place, much land in Latin America is used to export food to the United States, thus enabling the U. S. to procure food (as coffee and bananas) not grown in temperate zones. Secondly, the shipment of food under P. L. 480 primarily benefits American farmers, who need an outlet for overproduced commodities as wheat, corn and milk.

Costa Rica and Guatemala are excellent examples of this international food system which is so beneficial to the United States. The richest land is developed by a few large landowners to produce commodities needed by the U. S. When the U. S. cut off the Cuban sugar quota, Costa Rica started to produce and export sugar. When too many bananas were being produced, plantations were switched to new export needs as cotton and cocoa. Now, the U. S. needs beef, and both Costa Rica and Guatemala are turning their lands toward this end. Since the United States can pay higher prices for these products than Latin Americans can pay for basic foods, landowners choose the export crops over grains for domestic consumptions. In both Costa Rica and Guatemala, the recent emergence of a lucrative beef export market is the principal reason for the drastic decline in milk production. Thus agriculture in Central America, and to some extent in South America, develops in response to the desires of the United States, and not to the needs of its own people.

Then, after acquiring millions of acres of land in Latin America for its own use, the U. S. turns around and offers food to Latin American countries under P. L. 480. However, P. L. 480 is by no means a program whose primary aim is to

help the recipient nations. The principal purposes of the law are "To increase the consumption of United States agricultural commodities in foreing countries... to develop and expand export markets for United States agricultural commodities" (26). The law was passed in 1954 as a means for removing the vast agricultural surpluses which had accumulated (10). Now, with most surpluses gone, the law serves as a subsidy enabling U. S. farmers to export their products on the world market. The majority of food shipped abroad under P. L. 480 is sold to foreign governments, but substantial amounts are donated through Care and other voluntary agencies.

The P.L. 480-Care program, however, is no solution whatsoever to the feeding problem of Latin America. It is a stopgap measure which could be supported under temporary disaster conditions as floods, earthquakes or droughts. But P.L. 480-Care programs have the effect of slowing the development of domestic agricultural production, and thus are harmful rather than helpful to the recipients.

In the first place, the Care program does cost money to the recipient governments-several hundred thousand dollars in both Costa Rica and Guatemala. This money could be placed into long-range development programs for producing food. Secondly, Care products compete with local industries; the case of milk in Costa Rica is an example. If Care had not been barred from Costa Rica in the mid-fifties, Dos Pinos would not have gotten off the ground (27). Thirdly, in its school feeding programs, Care accustoms children to foods —e.g. milk and CSM— which may never be produced in sufficient quantity in Central America. Thus a taste, and a dependency, is created for American rather than local products. This dependency serves the U.S. farmer who wishes to increase exports, but it hurts the economy of the recipient nation. Fourth, Care competes with local experiments in high-protein food production. Incaparina is an excellent case; this new food has not been distributed by the Guatemalan or other Latin American governments because of the availability of Care products. And fifth, P. L. 480-Care imports have brought down the prices for local wheat and rice in some countries such that local farmers have no incentive to increase their production (28).

Thus P. L. 480-Care programs have adverse effects on the development of food industries in underdeveloped countries.

And in addition, the programs fail to make even a temporary impact on the nutrition problem. Whereas the most severely malnourished group is under 5 years of age, most Care food goes to school children. Costa Rica and Guatemala have a relatively high coverage of pre-schoolers — from 10-20%. Worldwide figures reveal that only 2% of pre-school children in underdeveloped countries have received P. L. 480 commodities (9). The reason why Care food goes to schools rather than pre-schoolers is that Care — with its main interest in stimulating U. S. exports — is more concerned with volume of milk distributed rather than with nutritional status, and schools are the easiest institutions through which to distribute large volumes of food. So P. L. 480 has little immediate effect, and in the long run it aggravates rather than solves the nutrition problem of underdeveloped countries.

3. Private investment in local food industries. It is universally agreed that underdeveloped countries —individually or in regional groups— should attempt to become self-sufficient in feeding themselves. The method of agricultural growth recommended by the United States is development by private investment (9). This means reliance on wealthy individuals, companies and banks to invest in profit-making ventures. However, from the experience of the milk industry and Incaparina in Costa Rica and Guatemala, such faith in private investment must be questioned. In both countries, milk producers are squeezed between rising costs of raw materials and stable milk prices. The dairymen are responding by leaving their industry and investing in beef cattle or other commodities. Costa Rica and Guatemala are not exceptional cases: on a worldwide basis per capita milk production is currently declining (24).

In the case of Incaparina, the price is fixed by INCAP, and the company producing the food in Guatemala has been losing money. Consequently, there has been insufficient promotion of the new product and its distribution is limited (29). Incaparina provides a prime example of how a good, inexpensive protein source is caught between the selfishness of U. S. food policy and the inability of the profit motive to solve the nutrition crisis. In order to feed poor people, Incaparina must be sold more cheaply; yet to generate profits, Incaparina must be sold less cheaply. The only answer is government subsidy of

Incaparina for the poor; yet that solution has been prevented by U.S. pressure to use American milk and CSM.

In general, high-quality protein foods are expensive relative to the staple corn, beans and rice. Only by keeping down the prices of these protein sources will malnourished families be able to buy them. Yet if prices are artificially low, production of meat, eggs and milk will not be profitable, and private investers will stay away. It seems clear that reliance on the profit motive will not feed the underdeveloped world. Only a high-priority public decision to place money into the production and distribution of high protein foods for domestic consumption will allow these countries to nourish their own people.

4. Poor people need nutrition education. Many nutritionists, doctors, government officials and food producers in the developed and underdeveloped worlds believe that poor people are malnourished because they do not know what foods to eat (13, 30). In the words of one publication, "Lack of knowledge of the simplest facts of nutrition is at the root of a high proportion of the cases of malnutrition today" (13). Many dollars for nutrition education are spent on the basis of this view.

Yet the belief is largely fallacious. Peasants in Central America generally choose their foods in the most intelligent manner possible; that which best satisfies hunger at lowest cost. The diet of the Guatemalan Indian is an example-corn tortillas and black beans. One pound of corn costs 4 cents and can fill up two people for a day. One egg, on the other hand, costs 5 cents and fails to satisfy one person for one meal. Given that choice, who would not eat corn? No wonder that an Indian, finding that his hen has laid an egg, sells rather than eats the egg. Nutrition programs teaching him to do otherwise will not (and should not) succeed. Education in modern agricultural practices is often unrewarding for the same reason: the inputs (new seeds, fertilizer, pesticides) may be more expensive than the increased yields are worth (28).

The Guatemalan Indians, descendent from the great Mayan culture, were not always malnourished (31). Before the Spanish conquest they had plenty of land, and ate fruits, small forest animals, and fish. Now, however, the European colonists own most of the land, having forced the Indians into smaller

and smaller areas and eliminated many of their old food sources. The indigenous people have nowhere to migrate, and their soil is depleted by constant corn harvests. And because they now need money to survive, they sell rather than eat the small amounts of meat, eggs and milk produced by their few animals.

Clearly the solution to the nutrition problem of these two million Indians, and tens of millions of peasants throughout Latin America, is to give them back their land. With moderate rather than tiny holdings they could feed both themselves and the cities of their countries. Land reform, not education, can solve the feeding problem in Latin America.

RESUMEN

La economía política de la malnutrición: generalización de dos casos centroamericanos.

El mayor problema de salud pública de latinoamérica tiene su raíz en una deficiencia de proteínas de buena calidad en la temprana malnutrición-infección. Este problema no es fundamentalmente provocado por la super abundancia de población en relación con el potencial suministro de alimentos ni tampoco por la deficiente educación alimentaria de las familias malnutridas. Más bien, la malnutrición en latinoamérica gira alrededor de 2 hechos político-económicos. Primero, los países tienen una subproducción de alimentos debido a la naturaleza de la tenencia de la tierra y a los sistemas de exportación de alimentos. Segundo, las masas de personas malnutridas no pueden adquirir suficientes proteínas debido a que carecen de tierra y de dinero.

El problema nutricional no puede ser resuelto mediante programas de suministro de alimentos por los Estados Unidos o por inversiones privadas locales. La solución estriba en una reforma agraria, redistribución de la riqueza y una acción prioritaria de los gobiernos conducente a desarrollar la producción industrial de alimentos con alto contenido proteínico y bajo costo.

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