

Much can be done on both approaches in all animal protein shortage areas, particularly milk in India and fisheries in Indonesia.

*Pulse protein.*—The reference standard for pulse protein is an amount which, when added to available animal protein, equals 17 grams. This protein supplements cereal protein and is especially important in the diet when animal protein is less than 17 grams.

A deficiency in pulse protein in 1962 appears only in Ceylon at 5 grams, in Malaya and Thailand, each at about 1 gram, and in scattered areas of central and western Africa, ranging from about 1 gram in Nigeria to 7 grams in Liberia. The pulse protein deficit in 1962, expressed in terms of dry beans and peas, is 69,000 tons for Africa and 81,000 tons for the Far East. Somewhat larger tonnages are indicated for 1966.

Pulse protein shortages could perhaps best be met by increasing production in the deficit regions. This does not appear to pose any formidable problems. It may be noted that Thailand is a substantial exporter of pulses and Nigeria of peanuts. In both countries the shortage in consumption appears to relate more to low personal income, faulty internal distribution, and Government export policy than to a shortage of supply.

*"Other" protein and calories.*—The reference standard for total protein is 60 grams. The standard for calories varies from 2,300 for the Far East and Communist Asia to 2,710 for Canada and the Soviet Union. Deficiencies in "other" protein (protein other than animal and pulse) and in calories are expressed in terms of wheat.

In the projected 1962 and 1966 food budgets, calorie shortages occur in 36, and "other" protein shortages in 31 of the 60 less developed countries and areas included in this study. The two shortages generally occur together in the same country. Principal exceptions are the nine countries and areas of central and western Africa where no calorie shortage occurs, but where animal and pulse protein and fat shortages are widespread. The reason for this is that in this tropical area cassava, other root crops, bananas, and plantains are generally plentiful so that food energy sources are readily at hand.

Calorie and "other" protein shortages, expressed in terms of wheat, total over 29 million tons for both 1962 and 1966. The 1962 food budget for the five diet-deficit regions includes 93.6 million tons of wheat from domestic production and 20.8 million from imports, including accelerated concessional purchases and grants. This is 9.1 million tons more wheat than the regions imported in 1958. The 1956 food budget provides for imports of 25.3 million tons. These tonnages are about as much as these regions can and are willing to receive and move into consumption. The remaining deficit therefore of over 29 million tons for each of the 2 years cannot be further reduced by imports. Even if it could, it would seem unwise to create dependence on outside sources for a larger share of the food supply.

The diet-deficit regions should therefore be encouraged and assisted to increase their own wheat and other cereal production, first to erase the nutritional shortage, and then to reduce imports. It is only by such means that the diet-deficit nations can assure the food supply essential for their survival, and establish the conditions necessary for economic growth and advancement of their material well-being.

In the densely populated Far East, where land resources are limited, population is expanding rapidly, and the nutritional deficit in "other"