Discussion

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Professor Heady's interesting paper on the potential of and constraints to food production brings together all the salient elements that bear upon the food problem of developing countries. Even though these important issues have been extensively discussed in the literature, particularly since the World Food Crisis of 1972-74, Professor Heady's discussion gives a clearer perspective of these issues than has been done before. And the result is a clearer perception of the world food problem.

If I have rightly understood **the** thesis of his paper, it would be true to say that Professor Heady has lent the weight of his authority to what has now become the increasingly accepted view which is that the world's physical agricultural resources are adequate but serious economic policy restraints may prevent food production from increasing at a rate sufficient to feed the increasing population in the developing countries. In my view, Professor Heady correctly identifies the sources of growth which are principally: (a) increasing current yields, (b) intensifying production, (c) bringing new areas into cultivation, and (d) reducing post harvest losses.

Professor Heady believes that given the right policies, developing countries can increase average yields on existing farms from around 1.2 tons/ha to 3.0 tons/ha possibly within the next 30-40 years. But the transition will not be easy; it will depend on whether developing countries are willing and able to adopt hard policies including domestic price and trade policies that would elicit the required food supplies. In the main, I concur with what Professor Heady has to say on these issues. However, Professor Heady goes on to say that the introduction of production policies is necessary but not sufficienl — action must be taken on the population front as well. Professor Heady acknowledges that a sure way of bringing down birth rates is in his own words "to increase the opportunity cost of women's time" which is essentially a function of economic development.

However, he seems skeptical that significant income growth can be achieved by many low income countries in the next 30-40 years. Accordingly, he concludes that if low income developing countries are to escape the Mathusian trap, they have to rely on the explicit introduction of family planning so as to bring down birth rates.

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While I am in substantial agreement with Professor Heady's paper, I would prefer to see more emphasis on the following issues:

Production Constraints. Low-cost technological packages have yet to be made available for many small farmers. The genetic potentials of several important food crops have to yet be [realized] including the millets, root crops, and pulses. Existing high yielding varieties of rice are limited to normal irrigation conditions. For instance, we do not yet have suitable packages for rainfed rice growing areas or semi-arid coarse grain areas, and where they do exist, high yielding varieties still present great risks to small farmers. For lower risks we need varieties which are drought and disease resistant even though yields may be lower. Also, delivery systems for rainfed areas are high-cost because farmers are scattered and adoption rates vary greatly among farmers. In all this access to land or security of tenure is essential for adoption of innovation. Similarly, low-cost technological packages need to be worked out for the tropical areas that are within the means of small farmers. Existing technological packages may bring additional lands into cultivation but the supply price at which these lands can be converted is beyond the means of the average small farmer. In many areas of the world, the ecological consequences of bringing land into cultivation do not appear to be fully understood. In other words, the constraints to food productionare not technical but rather economic, institutional, and ecological.

The Role of Developed Countries. Professor Heady puts all responsibility for increasing food production on the developing countries. No reference is made to the role of the developed countries. While I agree that developing countries must make the hard domestic policy decisions, I am convinced that the developed countries also have an important role to play. The World Food Council in discussing year after year: (a) financial and food aid, and (b) access to the markets of developed countries, is evidence of the need for developed countries to play a role in the solution to the food problem. The paper stresses the importance of international comparative advantage, but fails to mention that OECD external tariffs prevent the developing countries from taking advantage of factor endowments. The pressure [of narrow economic interests in developed countries] against the use of multilateral assistance to finance the production of citrus fruits, palm oil, and sugar works against the comparative advantage of developing countries.

Trade, Self-sufficiency, and Aid. Professor Heady states that developing countries' agricultural prices are too low to provide adequate incentives to farmers. I could not agree more, but I do feel there is some danger in this generalization. The taxonomy work done by IFPRI and the work currently being done in the World Bank leads us to believe that it is useful to break the developing countries into broad groups or typologies. First, we have a minority group which includes the OPEC and the semi-industrialized countries with ample foreign exchange. They are probably better off importing grains since the world price is lower than the domestic price. Second, we have grain exporting countries like Thailand and Argen-

tina where the domestic prices are lower than international prices. Third, we have a group of countries with foreign exchange constraints but with good prospects for increasing domestic food production. Most low income Asian countries fall into this category. These countries should allow prices to rise and thereby pursue a policy of self-sufficiency. Professor Heady's conclusions would apply to this category. Finally we have a group of countries where not only the foreign exchange constraint is binding but also per capita production has been steadily declining. In this case, a policy of self-sufficiency or near self-sufficiency would drive prices so high as to increase the degree of malnutrition to unacceptably high levels. For the time being, these countries should be regarded as the target group for financial and food aid.

Budgetary Constraint. Professor Heady quite rightly states that the price increase necessary to elicit supply would have to be supplemented by direct food distribution such as a "food stamp" program. I would like to add one caveat to this which is that in countries where the supply response is not high enough because low-cost technological packages are not readily available for most farmers, the required price is bound to be high. And the budgetary burden required to mitigate the resulting malnutrition would be excessive. This is so because large sections of the population are already either on the edge or below the precipice of malnourishment. Given the known budgetary constraints of developing countries, there is a limit to which prices would be allowed to rise. This is apart from the well-known fact that a price rise would entail urban political pressure on the government.

Family Planning. If I have understood him correctly, Professor Heady's position is this: it would be a long time before per capita incomes could rise to levels sufficient to bring birth rates down. Therefore, politicians and administrators must introduce explicit family planning programs without waiting for per capita incomes to rise significantly. If birth rates do not decline within the next 30-40 years, Professor Heady would be prepared to make the value judgement - which I personally find to be rather unfortunate — that politicians and administrators ought to be held morally responsible for the misery and suffering of millions yet to be born. The problem I have with this judgement is that it seems to be based on an unrealistic view of the scope of political action [in shaping the destiny of nations.] It would seem to me that Professor Heady ascribes to politicians and administrators more power than they actually possess to manipulate social phenomena. For one thing, as Myrdal, Huntington, and others have pointed out, the majority of Third World countries are in fact "soft" states. Governments are weak where states do not have a strong central political party or parties for mobilizing public opinion. This condition is satisfied in only a few developing countries. The Pretorian State typical of Latin America and lately of Africa is a classic example of the naked confrontation of social forces in society. Where conflicts do not get resolved, a government is weak to act. I therefore do not believe birth control measures alone

could bring down birth rates on a massive scale; an increase in per capita income is also necessary. I believe that both economic development and explicit family planning have to be promoted side by side if birth rates are to decline on a significant scale.