

OUTLINE OF AN ARTICLE FOR THE
NATIONAL GEOGRAPHIC MAGAZINE

THE WORLD FOOD SITUATION

I. Global Agriculture : Two Cultures

Some parts of the world, particularly North America and Western Europe are facing problems associated with uncomfortable surpluses of plant and animal products. Some other parts of the world like the Sahelian region of Africa and the Indo-China region (Vietnam, Kampuchea) of Asia are facing acute scarcities of food. There are many areas in the world which are green due to good rainfall but have had no 'green revolution' due to lack of technological progress. There are some countries like the United States where the family operated farm is getting extinct, while there are other countries like China and India where the number of farming families whose livelihood security depends on very small farms is increasing. However, the agriculture of both developed and developing countries share some problems in common. The common problems relate to ecological, economic and energy factors. The agriculture of developing countries is also beset with problems relating to equity (i.e., relative benefits to large and small farmers and benefits to women) and employment (i.e., whether the technologies lead to labour displacement causing more unemployment or labour diversification).

II. Changing nature of the food security challenge

Until the beginning of the eighties, physical access to food was the major food security challenge in most developing countries. Now, particularly in Asia and Latin America economic access to food has become the more important food security challenge. Inadequate purchasing power resulting from inadequate opportunities for skilled employment is becoming a major cause of under-nutrition.

In the 21st century, ecological access to food may become the most important food security challenge. The global agricultural scenario is a mosaic, ranging from the shifting cultivation method of land management to highly sophisticated systems of land and water management. Soil erosion, salinity, alkalinity, loss of biological diversity, acid rain and other forms of environmental damage are increasing in several parts of the world. The carrying capacity of land has already been exceeded in many developing countries. The great challenge therefore is achieving a balance between human and animal populations and the rest of the biosphere.

III. Emerging technologies

Modern technology helps to introduce "land saving" forms of crop husbandry and "grain-saving" forms of animal husbandry. Ecologically sound technologies are knowledge-intensive. They call for very effective extension services. Only when a package of technology is supported by appropriate packages of services and public policies, the desired degree of agricultural progress is achieved. Technology, financial resources and government policies (in areas like agrarian reform, pricing of inputs and output and rural infrastructure development) are all equally important for moving agriculture forward. In many countries in Africa, technologies are available but government policies are not tailored to the needs of agricultural progress. The recent work of Dr. N.E. Borlaug and his colleagues in several countries of Africa has demonstrated that when this constraint is removed there is rapid progress in improving productivity. Lack of success in achieving food self-sufficiency is thus caused by many factors - technological, ecological, economic, social and political.

I. Overview of the world food situation

Illustrations from North America (which continues to be the major food basket of the world) and from China which is feeding successfully over a billion people from a little over 100 million ha of arable land. The illustrations from USA will be from California to show how the Imperial Valley, described as a "hopeless desert" at the beginning of this century has become a thriving agricultural area.

II. Green Revolution and its after-effects

Illustrations from India, Indonesia and Colombia

III. "Hot Spots" for Famine

Illustrations from Kampuchea and Ethiopia

IV. Ecological Challenge

Illustrations for Brazil, Niger and Nepal.

V. Challenge of Incentives

Illustrations from USSR and United Kingdom from Europe and Zimbabwe in Africa.

VI. Moving agriculture forward

Illustrations from the recent work of N.E. Borlaug and his colleagues in Ghana.

VII. Our agricultural future:

(a) Ecological, economic and ethical challenges

(b) New Opportunities opened by recent progress in biotechnology, information sciences and remote sensing.

(c) Working toward "Symphonic" agricultural systems characterised by mutually reinforcing packages of technology, services and government policies which lead to ecologically sustainable and economically viable systems of agricultural production.

**COUNTRIES TO BE INCLUDED FOR
CASE STUDIES AND ILLUSTRATIONS**

Asia : China, Kampuchea, Indonesia, Nepal and India.

Africa : Ghana, Niger, Ethiopia and Zimbabwe

Europe : United Kingdom, USSR

Latin America : Brazil, Colombia

North America : United States (California)

NOTES :

1. There will be no need to travel to several of the above mentioned countries, if suitable illustrations can be assembled.
2. A paper on "China in the Nineties" is enclosed, which summarises some of the important areas needing attention in developing countries.

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