

WORLD CONFERENCE ON HIGHER EDUCATION

Higher Education in the Twenty-first Century

Vision and Action

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Note1: To meet UNESCO publishing standards, some editing of papers has been required.

Note2: Authors are responsible for the choice and the presentation of the facts contained in signed articles and for the opinions expressed therein, which are not necessarily those of UNESCO and do not commit the Organization.

**Speech of Mr W. I. Lindley
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Mr President, Mr Director-General, Your Excellencies, Distinguished Guests, Ladies and Gentlemen: May I first take this opportunity to extend to you greetings from FAO's Director-General, Mr Jacques Diouf. Education is the corner-stone for rural development and all of us wish you success in this important event.

Congratulations are in order to the organizers of this World Conference. Your efforts have brought together 2500 participants from 150 countries to discuss the many and varied aspects of higher education as we approach the 21st century.

The Relevance of Higher Education in Agriculture and Rural Development

Food security and its relationship to sustainable agricultural production and rural development have become matters of concern for developing countries and for the international community. While there are many complex factors that influence sustainable development and food security, it is clear that education in agriculture plays an important role in preparing farmers, researchers, educators, extension staff, members of agri-businesses and others to make productive contributions. A critical issue in the 21st century will be the changes and adaptations required in agricultural education to more effectively contribute to improved food security, sustainable agricultural production and rural development.

Poor quality training of agricultural professionals, technicians and producers has been identified as part of the global food security problem. Unfortunately, the training of human resources (the development of human capital) in agriculture is often not a high priority in the overall development plans of countries. As a result, curricula and teaching programmes are not necessarily relevant to the production needs and employment demands of the agricultural sector.

Due to the growing economic crises in the public sector of many developing countries, the situation has become even more serious in recent years. In the past, the public sector absorbed nearly all of the students who studied agriculture. This is no longer the case. Agriculture graduates and diploma holders are finding it more difficult to become gainfully employed. Governments can no longer afford to hire every graduate, and education in agriculture has not kept up with the increasingly sophisticated labour demands of the private sector. These and other factors, such as environmental degradation, rapid changes in technical knowledge and the marginalisation of rural areas, all call for changes in the current systems of education in agriculture in many countries.

From a series of regional round tables, expert consultations, and recent staff analyses, it is possible to identify a number of issues that are a concern as we move into the next century.

- Changing employment opportunities in agriculture and the need to adjust the curriculum accordingly;
- Budgetary and financial constraints at all levels;
- The continuing marginalisation of agriculture and rural development, and the increased numbers of urban-based students who have little or no practical experience;
- Rapid scientific progress and technical change;
- Increased concern about environmental issues and the preservation of limited natural resources;
- The role of women in the agricultural sector and their opportunities for education and employment;
- The need to integrate population issues and gender analysis into agricultural education;
- The need for an inter-disciplinary, systems approach to education in agriculture and rural development;
- The relationship between resident instruction, research and extension at the university level;
- The community development responsibility of tertiary level education; and
- The need to revise the pre-service (pre-employment) education of extension workers.

This is not an exhaustive list, but it demonstrates the complexity of the issues. Even a cursory glance shows that tertiary level education in agriculture (university and intermediate level) needs careful review. These are concerns for not only educators. These issues should be placed high on the development agenda and brought to the attention of planners, policy makers and those who borrow funds for investment. From research results to the green revolution, investment in agricultural education and sustainable rural development brings a high return. In most of the less industrialized countries, 75 percent of the population lives and works in the rural areas. Meeting the needs of the rural sector is a concern of FAO. From this perspective, we would like to see that the concerns of the agricultural sector and rural development are an integral part of the conference agenda, discussions, and recommendations.

A Need for Change

The degree of development is relative, but sustainable development, including the preservation of the environment and the conservation of natural resources, is, without exception, a concern of every nation in the world. These challenges will require:

1. new educational strategies such as a greater application of distance learning and community development initiatives,
2. innovative leadership including a greater involvement of the private sector and institutional partnerships, and
3. a broad-based approach to "agricultural education".

There is an urgent need for curriculum revision and much better teaching and learning processes that take into account the current trends and factors that influence the production, processing and marketing of food and fibre. It is time to move forward – a time to respect the past while looking to the future. It is a time for visionaries, not historians.

Agriculture will continue to be a major contributor to the economies of most developing countries. However, as countries become more industrialized, the agricultural share of the gross domestic product will progressively decline. In many developing countries, the agricultural sector is undergoing rapid changes as a consequence of both technological progress and an industrialization process that calls for an increased market focus, competitive practices and higher productivity. Employment opportunities in off-farm agriculturally related activities are expected to increase at a faster rate than in production agriculture.

Agricultural education curricula need to be redirected to address the labour demands of employers. The reorientation of curricula will need to incorporate both the new role of market-oriented agriculture as well as issues of direct relevance to food security and rural poverty. Courses of study will need to better reflect the importance of social and environmental issues for sustainable agricultural and rural development. Meaningful curricula revision will require a better understanding and incorporation of the underlying psychological processes that influence learning, with special attention to experiential learning and participatory learning strategies that focus on inductive reasoning skills.

Colleges and universities need to determine their unique functions and the special attributes that they can offer students and the agricultural community. Moreover, agricultural institutions need to do a better job of carrying through with their unique ability to solve the agricultural problems of the communities they serve. A holistic approach to teaching agricultural production through a multi-disciplinary systems perspective will increase the utility of both scientific and local knowledge.

Inter-university and inter-departmental alliances offer a means to capitalize on individual university strengths and to reduce costs reflected in the duplication of efforts. Regional collaborative strategies should be explored as a means to keep pace with accelerated scientific advancement. A commitment to developing communication infrastructure, especially with regard to the new computer-based communication technologies, should be a priority.

The curricula of agricultural colleges and universities in developing countries need to adjust to the current and future employment needs of graduates. The emphasis in curricular revisions should be on problem solving and on sets of skills (e.g. computer or communication proficiencies) that are transferable in a diverse employment sector. New options for programmes of study should be based on enabling students to meet the expectations of employers in the private sector.

Given the severe restrictions on financial resources, governments in developing countries need to determine levels of continued support to higher education in agriculture based on the ability of colleges and universities to carry out curricular modifications that reflect employment markets. In some countries, there has been excessive growth in the number of diploma and degree granting institutions. The challenge is to achieve a "better fit" between the supply and the demand for trained human resources.

In the next century, agricultural education and rural development institutions will need to address not only immediate production needs, but also long-term food security, sustainable rural development needs. This will require moving from a single-disciplinary approach to an inter-disciplinary, systems approach which incorporates a wide range of new topics, including gender, environmental and population issues.

A major challenge will be the transformation of agricultural education institutions into dynamic promoters of change within their environments. This will require that they abandon established traditions of academic isolation and become active contributors to sustainable agricultural and rural development through innovative teaching, research and outreach programmes. A first step could be a series of regional and national meetings wherein the needs of agricultural education and rural development in the less industrialized countries are specifically addressed at the decision making level.