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From agricultural education to education for rural development and food security: All for education and food for all

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Summary

How do Education For All and Food For All strategies interact? Why has international assistance to agricultural education declined? How can we move forward? These are the main topics addressed in this report. The paper was the first of a series presented at the Fifth European Conference on Higher Agricultural Education, held at the University of Plymouth, United Kingdom, from 10 to 13 September 2000. "From production agriculture to rural development: Challenges for higher education in the new millennium" was the theme of the conference.

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Education and food for all

Reducing the number of undernourished people to half their present level no later than 2015 as part of an ongoing effort to eradicate hunger in all countries, is the commitment undertaken by the international community during the World Food Summit, convened in Rome in 1996[1].

More than 800 million people do not have access to enough food to meet their basic requirements. Poverty is a major cause of food insecurity and sustainable progress in poverty eradication is critical to improve access to food[2]. More than 1.3 billion people worldwide live in poverty and nearly three fourth of them live in rural areas. Virtually all of them depend directly or indirectly on agriculture for their livelihoods. Despite the continuing process of urbanisation, about 3.2 billion of today's 6 billion world population is rural and this number will be about the same in

30 years time. The total population active in agriculture is about 1.3 billion and this number will not change significantly in the next 10 years[3].

In 1998, the less developed regions as a whole accounted for 97 per cent of the 113 million children out of school. During the same year the number of illiterates was about 880 million [4]. Most commonly, the chronically undernourished are also illiterates and out of school children are a category more at risk of being among the undernourished.

World poverty can be significantly decreased by 2015 if developing and industrialised countries implement their commitments to attack the root causes of poverty[5]. The challenge lies in implementing a common vision for achieving the targets set by the world conferences of the past decade which suggested that we work for sustainable growth that favours the poor and provides more resources for health, education, gender equality, and environmental sustainability worldwide.

The "agriculture-only model of rural development"[6] has proven inadequate to address poverty reduction, rural development and sustainable natural resources management. The latest thinking and good practices in such domains indicate that the empowerment of poor people, policy and institutional reforms in the rural sector leading to participation of stakeholders needs to be the starting point[7]. Also The Rome Declaration stressed that sustainable development policies should consider education essential for empowering the poor and achieving food security. Research shows that basic education affects small landholders and subsistence farmers productivity immediately and positively, and that a farmer with four years of elementary education is, on average, 8.7 per cent more productive than a farmer with no education. Moreover, farmers with more education get much higher gains in income from the use of new technologies and adjust more rapidly to technological changes[8]. The provision of more and better basic educational services in rural areas such as primary education, literacy and basic skills training can substantially improve productivity and livelihoods[9]. Moreover, many children will be the farmers of tomorrow, and educated children have more chance of becoming more productive farmers. All of the major UN conferences and conventions of the last decade[10], including the United Nations Conference on Environment and Development[11] and the World Food Summit recognized that education and training are indispensable with respect to achieving sustainable development and successfully implementing all chapters of Agenda 21.

In this new millennium, as the global market moves from a technology based to a knowledge based economy (K-Economy), education and training will become even more crucial and access to quality of education will be the yardstick which will differentiate and increase the gap among rich and poor[12].

Why has international assistance to agricultural education declined?

As "the agriculture-only model" has proven inadequate to address rural development, so has agricultural education and training (AET). Education and training needs to address rural development, sustainable natural resources management and poverty reduction, with a broad, holistic focus by redefining its strategies and responsibilities and expanding its target.

We can identify two series of reasons responsible for the crisis of AET:

(a) reasons specific to strategies and targets of the AET system, (b) and reasons common to the crisis of the "business as usual" education and training paradigm prevailing until the eighties[13].
(b) The specific reasons for the AET system crisis have been analysed on many occasions, among others, by Maguire[14], Lindley[15], or by Willet[16]: agricultural education and training have been isolated from the market place and from the rest of the education system. This isolation has been leading to curricula irrelevance, falling teaching and learning standards, unemployment of graduates and, thus, decreasing investment support. Responses to such crisis were mostly fragmented, and inward looking, lacking a vision and a systemic approach. Operating in a sort of "ghetto", or an "Ivory tower", according to the situation, AET has taken responsibility only for a reduced clientele, including the students of vocational education and training institutions, and of the higher agricultural education, and has not addressed the needs of the vast majority of the rural population, who represent a great percentage of those 800 million undernourished and illiterates. This group has become, instead, the priority target for poverty reduction and education strategies in the decade of the nineties. By disregarding the educational needs of vast numbers of the rural population, donors and governments have built an agricultural human resource pyramid which could be considered almost as an inverted pyramid, where the absence of a diffuse general nor specialised knowledge, can limit national efforts to implement sustainable policies for agriculture, rural development, food security and poverty reduction efforts.
(c) Some of the reasons for the crisis of AET are common to the crisis of the "business as usual" education and training aid paradigm[17]. As in other domains of international assistance to education, different prevailing paradigms[18] could be identified over time also for AET.

During the period (1960-80), the dominant rationale was education and training for **economic growth**. International assistance was funding mostly public sector oriented, donor-driven "enclave projects" of vocational and technical training or higher education, where the public sector was the deliverer of education and training, and often also the main expected employer of graduates. During this period local authorities ownership or involvement in policy formulation and strategic decision making was quite limited. Investments in primary education were a minor percentage of total international aid to education: in 1981-1983 about 7.4 percent of direct aid to education went to primary education, versus 39 percent for secondary education (general, training of trainers and technical) and 34 percent for

higher education[19]. Higher education was regarded by donors as a politically more rewarding investment. Investments were predominantly supply driven and focused mainly on hardware (equipment, vehicles and construction), international experts and overseas training. Recurrent expenditures that would allow project sustainability and institutional capacity building were disregarded. Salaries of overseas experts would absorb about 44 percent of the direct aid to education, and scholarships abroad about 17 percent[20]. In this context aid to AET education and training was aimed at training the "right number" of individuals, calculated by manpower forecasting techniques, equipped with the training required by factories, farms and companies, in order to allow them to deliver products and services which would allow their economies to grow. As Bawden recalls "Growth was the aim and the objective of education and training assistance was to provide manpower to support techno-scientific production and productivity growth. Little if any concern was expressed for rural development and for possible long term impact on biophysical and socio-cultural environmental aspects of development"[21]. Although physical and staff development targets were met, sustainability became a serious issue since the recurrent expenditures of new educational facilities grew beyond institutional economic capability[22].

By the end of the seventies and beginning of the eighties the international debate started questioning previous priorities and strategies of international aid to education and training, as well as the manpower planning techniques[23]. The focus started shifting from education for economic growth to education for development as an integrated complex social, cultural and economic process[24] that should be aiming at contributing to poverty reduction.

The UNDP Human Development Report, in 1990, set the decade's development agenda, emphasizing the shift from the development paradigm that narrowly focused on growth as measured by Gross Domestic Product (GDP), to Human Development, measured by the Human Development Index, a composite index based on three main indicators: longevity, educational attainment and standards of living[25]. The education sector agenda was set in 1990 by The World Conference on Education for All (EFA)[26], which stressed the need to invest, as sector first priority, on basic education, formal and non formal, including early childhood, primary education, literacy, and basic population, health and agriculture skills for life. Although vocational and technical training[27] and higher education were acknowledged as important components of education systems and of international aid, priority was given to EFA. This meant less funding available for traditional intermediate and higher education projects also in the agriculture sector, especially if formulated in isolation from a wide education sector approach, a systemic policy, or a clear focus on poverty reduction. While the interest for agricultural education projects focused on limited stakeholders involvement declined, a new concern for the needs of the disadvantaged, the poor, and for the unequal educational opportunities of rural population has emerged.

Summarising, in general, and with minor differences, donors priorities over the last two decades shifted from vocational and technical and higher education to basic education; from isolated project to coordination and "sector wide approach"[28], aiming at facilitating local ownership of national policies and programs. Institutional and system reform, definition of long term sector policies, diversification[29] and a strong concern for sustainability, relevance, responsiveness and efficiency became today's imperatives for investments in education and training systems. Within such a context awareness has started developing[30] about the fact that although education is universally acknowledged as a prerequisite to build a food secure world, reduce poverty and conserve and enhance natural resources, educational opportunities are not equally distributed[31].

- **Access to education is lower among rural children, youth and adults**: The gap between urban and rural illiteracy is not closing; in several countries, rural illiteracy is two or three times higher than urban illiteracy.
- **Quality of education is lower in rural areas:** curricula and textbooks in primary and secondary schools are often urban biased, irrelevant to the needs of rural people, and seldom focus on issues such as skills for life and rural development.
- **Institutional capacity to address education for rural development and food security needs strengthening**: ministries of education and their universities, ministries of agriculture, health, finance etc., often lack awareness and coordination in targeting the needs of the poor, sustainable rural development and food security.

So how do we move forward?

Given the multifaceted character of poverty and food security, the FAO Education Group sees the following areas for systemic action:

1. Targeting multiple stakeholders[32], focusing on "Education for All" and Food for All

We want to move from production agricultural education, to a systemic and inclusive approach embracing a wide range and large numbers of stakeholders through formal and non formal education, at all levels of the education system. We intend to contribute to granting access to quality education to the absolute poor, rural landless, urban dwellers, women, members of minority groups and other disadvantaged groups, especially those in isolated backward areas and to all food insecure groups. While moving from the traditional AET approach to Education for Rural Development and Food Security, (EFRDFS) we shall still place great emphasis on vocational and technical training and higher education for agriculture and rural development, while focusing, with priority, on satisfaction of basic learning needs of rural populations. This is what we call "Education and Food for All".

2. Contributing to placing education at the core of the global and national development agenda[33] and food security agenda, by focusing on the following priorities:

- *Expanding access to education and improving school attendance* in rural areas by promoting or supporting:
    - Initiatives aiming at improving children's health, providing food for students, easing the financial burden on parents who usually have to feed their children, and in some cases generating income for the school, such as school canteens and school gardens, fish ponds and raising of animals.
    - The use of information and communication technology, and distance education.
    - Education of rural girls and women.
    - Life long education and skills for life in a rural environment.

- *Improving the quality of education* for rural development and food security by supporting:
    - Participatory curriculum development, and teacher training to respond to rural development needs and farmers' demands, at all level of the education system[34].
    - Environmental education, across the curriculum[35], and awareness rising in relation to sustainability of current patterns of consumption.
    - Nutrition education[36], including school gardening and small animal care which bring alive the content of science and social studies, provides shared experiences for language development and settings for mathematics. These can also provide life skills, basic entrepreneurial and self employment skills, while also contributing to enhance the relevance of the curriculum and quality of education[37].
    - Basic financial literacy for children and adults (through, for example, schools saving clubs) and marketing, and rural financial management education in intermediate and higher education.
    - HIV / AIDS prevention to address its impact on agriculture and rural livelihoods.
    - Agricultural universities and vocational training institutions to improve their role of service to farmers, rural children, youth, and adults, and their interaction with basic and intermediate education.

- *Strengthening institutional capacity* in planning and managing education for rural development and food security. Efforts to ensure Food for All need to be closely co-ordinated with those aiming to reach Education for All, since the results of both programs are interdependent. Targeting rural population educational needs requires an increased partnership and an interdisciplinary approach among UN agencies and other development agencies and programs, government entities (Ministries of Education and their

Universities, Ministries of Agriculture, Health, Local government Bodies, etc), and with private sector, national and international organizations, civil society, mass media, and religious organizations. We intend to contribute to:

- The definition of a systemic approach to education for rural development and food security, addressing all levels of education, with priority on basic education (primary formal and non formal education, adult literacy and adult education and basic skills for life).
- Research and dissemination of best practices and case studies which illustrate the contribution of education to sustainable agriculture and rural development and food security.
- Training of policy makers and managers on education for rural development and food security

Last but not least we attribute great importance to:

3. Fostering interdisciplinarity and new partnership, which are two basic principles underlining FAO strategies and objectives.[38] The international conferences and summits convened in the nineties indicate the need for a concerted attack on poverty and environmental degradation. The new paradigms emerged in such fora indicate that new alliances need to be adopted in order to address development, and the efforts to ensuring Food for All need to be closely coordinated, among others, with those aiming at reaching Education for All. These new partnerships for education for rural development are needed at global, regional and at national level.

It is time to make decision for priorities for change. There is much to be done, we need to run against time to go beyond the set goal of halving the number of hungry and illiterate people by the year 2015, and ensuring that all children, particularly girls, are in school. These are not maximum goals, but minimum goals. New partnerships mean working together: if we are working together, breaking ancient walls and bridging our efforts, we can make it. Together, we can build a better world for all.

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[1] Rome Declaration on World Food Security and World Food Summit Plan of Action. World Food Summit, Rome, 13 -17 November 1996

[2] Rome Declaration

[3]FAO statistics, 2000

[4] UNESCO, Education for All, Year 2000 Assessment: Statistical document, UNESCO, Paris, 2000,

[5] International Monetary Fund, Organization for Economic Co-operation and Development, United Nations, World Bank Group - 2000 Goals: A better World for All. Progress towards the international development goals, New York, June 2000

[6] The World Bank, Policy and Institutional Reform for Sustainable rural Development: putting the pieces in place, WBI, Training Course, 2000)

[7] See for example, International Monetary Fund, Organization for Economic Co-operation and Development, United Nations, World Bank Group - 2000 Goals: A better World for All. Progress towards the international development goals. New York, June 2000

[8] "The single best measure of basic education impact on economic development, however, is the additional productivity of workers or farmers with more education over those with less. Productivity measures show directly the effect education has on the capacity to produce, and, hence on the potential to increase economic output. A survey done for the World Bank on 18 studies that measure the relationship in low-income countries between farmers' education and their agricultural efficiency (as measured by crop production) concluded that a farmer with four years of elementary education was, on average, 8.7 per cent more productive than a farmer with no education. The survey also found that the effect of education is even greater (13 per cent increase in productivity) where complementary inputs, such as fertiliser, new seeds or farm machinery, are available". Martin Carnoy: The Case for Investing in Basic Education. UNICEF, New York 1992, p. 26, 34 and 41.

[9]"Farmers with little land are highly risk averse, in general, because they have so little flexibility. For them, the difference between a good harvest and a bad one can be the difference between subsistence and hunger. Those small-scale farmers with higher levels of education, however, even with a few years difference in schooling, are better able to adapt innovations to local conditions and therefore more likely to assume risks in changing production techniques." Beatrice Edwards, Rural Education and Communication Technology, paper presented at the First Meeting on the Integration of Agricultural and Rural Education in the Americas; Washington D.C. August 25-27.

[10] Such as the World Summit for Children (1990), the Conference on Environment and Development (1992), the World Conference on Human Rights (1993), the World Conference on Special Needs Education: Access and Quality (1994), the International Conference on Population and Development (1994), the World Summit for Social Development (1995), the Fourth World Conference on Women (1995), the Mid-Term Meeting of the International Consultative Forum on Education for All (1996), the Fifth International Conference on Adult Education (1997), the International Conference on Child Labour (1997) and the Dakar World Forum on Education For All (2000).

[11] Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol 1, Resolutions adopted by the Conference. United Nations publications, sales No. E.93.1.8) Resolution 1, annex 2;

[12] In this new millennium the creation and development of a "learning society" in which all children and adults are provided through basic education with the capacity of written and numeric communication, for people to be able to further learn ("trainability" and learnablity") and make improvements in their own lives and sustain development in the information age is especially important in poor countries where relatively few jobs are available and development has to come from widespread ability in the population to improve their livelihoods. In Martin Carnoy: The Case for Investing in Basic Education. UNICEF, New York 1992

[13] Kenneth King, Aid and Education in the Developing World. London. Longman, 1991; or Introduction: new challenges to international development co-operation in education. In Changing International Aid to Education: Global patterns and national context

[14] For examples: Charles Maguire, Education for Agriculture and Rural Development: Identifying Strategies for Meeting Future Needs, powerpoint slides, presented and the World Bank AKIS Workshop, Washington, 1-3 December 1999; First meeting on the Integration of Agricultural and Rural education in the Americas, Washington DC, August 25-27 1999; From Agriculture to Rural Development: critical choices for agricultural education, paper presented at the 5th European Conference on Higher Agricultural Education, September 10-13, 2000

[15] William Lindley, Quality Improvement in Undergraduate Education, Proceedings of the Inaugural Conference of the Global Consortium of Higher Education and Research for Agriculture, July 22-24, 1999, Amsterdam, The Netherlands

[16] Anthony Willett, Agriculture Education Review, Support for Agriculture Education in the Bank and by other Donor. Part I . Past and Present Perspective. AKIS thematic team, The World Bank Rural Development Network, October 15, 1998

[17] Kenneth King, Aid and Education in the Developing World. London. Longman 1991; or Introduction: new challenges to international development co-operation in education. In Changing International Aid to Education: Global patterns and national context. UNESCO / NORRAG, Paris 1999.

[18] As suggested by Stephen Heyneman in: Development aid in education, a personal view, in: Changing International Aid to education: Global patterns and national contexts".Pages 132-146

[19] The World Bank Education in Sub-Saharan Africa, The World Bank, Washington DC1988. Pag 108-9 (French version)

[20] Education in Sub-Saharan Africa, Washington, quoted

[21] Richard Bawden, Agriculture Education Review. Part II. Future Perspectives. AKIS thematic team, The World Bank Rural Development Network, November 12,1998

[22] Willett, op. cit.

[23] "Dans les pays industrialisés le problème ne consistait plus à faire face aux besoins en main d'oeuvre, mais au contraire à affronter le chômage.(...) De leur côté, les pays en développement rencontraient des difficultés dans leur exercice de prévision des relations formation-emploi, du fait du manque de données et de moyens, et s'apercevaient des obstacles politiques que soulevait une telle planification. Pour toutes ces raisons l'approche main d'oeuvre comme instrument de prévision et de planification a été un peu partout abandonnée, in: Olivier Bertrand, Planification des ressources humaines: méthodes, expériences, pratiques. UNESCO / IIPE, Paris, 1992

[24] A milestone in the international educational debate has been the publication of the World Bank 1988 book on Education in Sub Saharan Africa (quoted above).

[25] "The Human Development Index is a composite index based on three main indicators: longevity, as measured by life expectancy at birth; educational attainment, as measured by a combination of adult literacy (two-thirds weight) and the combined gross primary, secondary and tertiary enrolment ration (one third weight); and standards of living, as measured by GDP". In UNDP: Human Development Report 2000, UNDP, Oxford University Press, New York, 2000

[26] World Conference on Education for All, (Jomtien, Thailand, 5-9 March 1990). World Declaration on Education for All and Framework for Action in Meeting Basic Learning Needs. New York, Inter Agency Commission for WCEFA UNESCO, 1990

[27] See, on the topic, for example, Groupe de travail pour la coopération internationale en matière de développement des compétences professionnelles et techniques: Politiques des agences en matière de développement des compétences professionnelles et techniques. Un résumé des réunions de Francfort (Novembre 1996) et de Londres (Mai 1997). Une publication conjointe du DDC, BIT, and NORRAG, Berne 1997. Or: The World Bank, Vocational and Technical Education and Training, A World Bank Policy Paper, Washington DC, 1991. Working Group for International Cooperation in Vocational Skills Development: Donor Policies in Skills Development. Reforming education and Training Policies and Systems, Geneva, April 1998 Working Group for International Cooperation in Vocational Skills development: Debate in Skills Development. Sector Program Support and Human & Institutional Development in Skills Development, Copenhaghen, June 1999.

[28] for "Sector Wide Approach " see, for example: Lars Rylander and Martin Schmidt: SWAP Management, Experiences and Emerging Practices", Sida, Stockholm, 2000

[29] meaning by this a new role for the private sector

[30] Proceedings from the Workshop: Education for Agriculture and Rural Development: Identifying Strategies for Meeting Future Needs", Washington The World Bank, December 1999, and: Principles for Developing an FAO Strategy in Support of Agricultural Education and Training in: Issues and opportunities for agricultural education and training in the 1990s and beyond, Agricultural Education Group, SDRE, FAO, Rome 1997, p.69.

[31] "Due to increasing urbanisation, fed by out migration from rural areas, governments often give priority to urban needs for health, education and social services, at the expense of rural areas and the agriculture sector. Such trend leads to even greater impoverishment in rural areas and leads to higher levels of migration.(...). There is thus a need for comprehensive rural development policies, that protect rural population from further marginalisation by a more organized urban sector with a greater political voice. In: "Issues and opportunities for agricultural education and training in the 1990s and beyond, Agricultural Education Group, SDRE, FAO, Rome 1997, p.17

[32] Maguire.

[33] see James D. Wolfensohn, President, The World Bank: Placing Education at the Core of Development, Presentation at the World Education Forum, Dakar, Senegal; April 27, 2000

[34] Alan Rogers, Peter Taylor, Participatory Curriculum Development in Agriculural Education. FAO, Rome, 1998;

[35] See for example: F.M. Schlegel, Ecology and Rural Education, Manual for Rural Teacher, FAO, Rome 1995; Gagliardi & Alfthan, Enviromental Training, ILO Geneva 1994; Intégration des thèmes de l `environnement et du développement durable dans les programmes d'éducation et de vulgarisation agricoles, Consultation d'experts, FAO, 1993. Sylvia A. Ware, Science and Environment Education Wiews from Developing Countries, The World bank Washington D.C. 1999

[36] See also Beryl Levinger, Nutrition, Health and Education for All. UNDP and EDC, Ewton, Massachusset, 1994

[37]Peter Taylor and Abigail Mulhal, Contextualising teaching and learning in rural primary schools: using agricultural experience. Vol 1 and 2, Department for International Development, serial number 20, London 1997

[38] The Strategic framework for FAO, 2000-2015 Paragraph 31. FAO, Rome 1999