

The contribution of higher agricultural education to learning and development in rural areas: experiences and policy implications

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Introduction

Whilst higher agricultural education has contributed to the growth and modernization of production agriculture it has often failed to make the curriculum and management adjustments needed to provide the education and services required by the changes affecting the sector and the rural space. The focus has mainly been on professional development for those responsible for agriculture and rural development.

Universities also have a role to play in poverty alleviation. The vast majority of poor people in developing countries live in rural areas and education is a key factor in helping to reduce the level of poverty. In this context, the relationship between higher education and rural development is an important policy concern, particularly in countries where the revitalisation of rural areas represents a critical challenge.

The current focus on rural development and poverty reduction requires a comprehensive view of rurality. "Rural" is more than agriculture and rural development concerns all those who live in the rural space as well as those in urban areas who have close links with rural activities and people.

Beyond its traditional role, higher agricultural education has an opportunity, in cooperation with other stakeholders, to enrich and support other levels of education with critical knowledge and information on agricultural and natural resources issues. This latter contribution can be of key importance in the pursuit of sustainable rural development, poverty reduction and food security.

Higher Agricultural Education: status and challenges

In many developing countries, Higher Agricultural Education (HAE) is experiencing serious problems that impact on the quality of the education provided and bring into question the relevance of the programmes offered. Issues of concern include inadequate funding, often-decreasing enrolment, poor infrastructure, the declining quality of research and teaching, low faculty morale, and high graduate unemployment rates.

The past decade has seen considerable pressure on universities and colleges due to growing constraints on public sector spending. Often, this meant that increases in enrolments were not matched by commensurate increases in resources. In addition, universities have to

find an increasing proportion of their resources through research contracts, with internal funds for research having often decreased significantly. This trend has led to a search for greater efficiency in research, teaching and management. Some of the measures inspired by this motivation were maximising class sizes and minimising any duplication in teaching across the institution. It also meant that faculties had to expand to reach some critical mass, often through merging with others (Yonggong, Zhang 2004). Similarly, many universities of agriculture enlarged their mandate to cover new areas, not always related to agriculture. Eventually, many faculties of agriculture experienced a considerable erosion of their independence and, sometimes, identity (Van Lierop et al., 2003).

Change has also been registered in the profile of students entering agricultural programmes. Students in HAE are no longer purely rural in origin or necessarily from a farming background. No longer is the student intake from amongst the best secondary school graduates. No longer is agriculture the first choice of many of those who pursue degree courses in agriculture. The urgency of “getting a degree” is often the main motivation of learners and the impact of HAE graduates on agriculture or rural development is not necessarily strong.

These problems are generally not being dealt with because of internal and external factors that include declining political power of rural electorates, the impact of low prices for agricultural products, the demands of other critical priorities for development, and the absence of policies for higher agricultural education.

The crisis in HAE has been identified and debated in national and international settings and the transformation of the sub-sector has taken place in many countries. The “new” conception of the agriculture sector is more inclusive, reflecting the use of off-farm resources in food and fibre production systems, recognising consumer concerns for quality and food safety, and including the skills and technologies that integrate the physical farming part of the food chain with all the post-harvest human uses and impact.

Increasingly, within this new vision, HAE institutions are given an enlarged mandate, including a role in community development and poverty reduction.

The contribution of HAE institutions to learning and development in rural areas

Traditionally, universities, including agricultural universities, have focussed most of their attention on national development through the two missions of research and teaching. Universities have often seen themselves as institutions to prepare graduates for national and international labour markets, and to address research problems. Academics have had to win national and/or international acclaim for the quality of their research and teaching, and this has sometimes been at the expense of making a greater contribution to local economies and communities. Most universities have not developed strategies to contribute to community education and to support local development.

Furthermore, higher education and basic education have co-existed side by side with relatively little interaction. Despite the impact of the quality of university teaching and research on the state of the education system of a country, there has been a tendency for universities to pay little attention to primary and secondary levels of the school system. Even university departments of education have sometimes needed encouragement to develop partnerships for educational research and teacher placements with local schools.

It is increasingly recognised that types and levels of education other than basic education, including higher education, must contribute significantly to the pursuit of Education For All (EFA) goals. Notably, the World Conference on Higher Education (1998) proclaimed as one of the missions and functions of higher education “to contribute to the development and improvement of education at all levels”. In the context of lifelong learning policies, and steps towards more coherent, seamless and flexible education and training systems, universities are likely to have an important role to play in supporting teaching and learning at all levels. Yet, the extent to which universities already support basic education and the nature of this support are not well known. In some countries, universities play a much greater role in supporting basic education than in others. Whilst many universities are keen to demonstrate their contribution to territorial development, and most have some links with other educational institutions in their locality, the exact roles and priorities of universities in relation to supporting basic education remains to be further specified.

In order to play an active and constructive role in rural development, agricultural universities need to adjust their programmes to new topics, new teaching and learning models, new partnerships with schools, academia and rural space stakeholders, expanded representation in governance and continuous dialogue with policy-makers.

HAE can be a key source of knowledge for rural development. HAE institutions have the responsibility to provide teaching and learning opportunities for those who seek careers in the management of the rural development process or who will, at various levels, implement rural development activities and processes. This includes knowledge and skills for off-farm employment and the provision of life-long learning opportunities. As important is the emerging broader educational mandate of HAE institutions vis-à-vis rural people.

Ideally, all levels of education should be able to turn to universities for support and help. University faculty should feel concerned with learning achievement in schools since it influences their teaching and, ultimately, the quality of the university itself. To maximize their contribution to rural development, agricultural universities must first understand the scope of that process and analyze the educational needs of all the rural stakeholders. Too often, university managers and faculty still consider support to basic education as a departure or distraction from the core tasks of a university. However, it is asserted here that greater involvement in improving teaching and learning at all levels will ultimately help universities to improve; to become better, more relevant and more responsive learning institutions.

Thus, HAE institutions’ extension services could include support to education for rural people that encompasses primary, secondary, vocational, and adult education (*Table 1*).

Table 1. The expanded mandate of HAE institutions

Type of support by HAE	Input	Output
Professional and technical education for rural development.	HAE delivered programmes. Joint programmes with other parts of HE system. Contributions to other academic programmes (social, health, education, economics, infrastructure, environment).	Human resources with knowledge and skills to manage and implement the processes and detail of rural development.
Policy advice on education for rural development.	Vision, strategy, analysis and data for policy-makers and leaders from other sectors and society concerned with rural development issues.	Rational and sustainable education policies for agriculture and the rural areas together with the resources needed to implement the policies.
Support to primary, secondary, vocational and adult education for rural areas.	Curriculum advice and input for each level. Materials preparation for each level. Teacher training related to Agriculture and Natural Resources Management (NRM) in curricula. In-service training for ERD practitioners.	Key knowledge and skills for agriculture, NRM and related agri-business activities available to the rural population. Links between agriculture and NRM and the environment, health, nutrition and infrastructure clarified.
Lifelong education for rural space population and others.	Structured learning activities and debate on agriculture and NRM issues and their importance to rural development. Short duration training for policy-makers, politicians and civil society leaders.	An informed public supportive of the process of rural development from a position of knowledge and factual information. Alert and aware policy-makers and political leaders who provide sustainable support for rural development.

Source: Maguire, C. and Atchoarena, D., in Atchoarena, Gasperini, L. (ed.), 2003

Some lessons from Asia

➤ *Recognizing the importance of the context*

The types, objectives and modalities of outreach programmes are framed by country-specific conditions. The size of the rural population, the level of rural poverty, the size of the agriculture sector and its evolution, the trends of employment in agriculture are some of the factors influencing university strategies in extension services.

Following the human capital model, it is often assumed that investment in skills development will result in higher levels of productivity and income. Yet, the complexity of price formation mechanisms does not always correspond to the theory. In reality, the structure of the value chain in agriculture is such that often most of the value added is captured by intermediaries and not by farmers. Such situations can constitute a disincentive for engaging in training and extension programmes.

Beyond specific conditions, globalization imposes common pressures on agricultural systems. For instance, the recent membership of China to WTO will have far reaching impacts on agriculture production, income and employment. It is worth noting that, in several countries, the concept of food sovereignty is emerging as a form of resistance to some of the consequences of globalization on agricultural markets (e.g. Indonesia, Japan, Malaysia).

In many Asian countries, particularly China, Indonesia and the Philippines, in spite of industrialization and rapid economic growth, training needs in rural areas remain considerable and will continue to require massive investments in the years to come.

➤ *The challenges for higher agricultural education*

In many Asian countries, higher agricultural education continues to suffer from a number of deficiencies such as:

- ✓ lack of relevance to labour market needs;
- ✓ insufficient contribution to the increase of agricultural productivity;
- ✓ poor management of the sub-sector (centralized and top/down planning).

In an effort to address these challenges a number of reforms have been implemented or are on-going including:

- ✓ curriculum reform (see, for instance, the contribution by the University of Tsukuba);
- ✓ development of linkages with farmers and industry;
- ✓ increased autonomy granted to universities as part of the broader higher education reform (e.g. the 2004 university reform in Japan).

In this context of structural reform, the provision of services to the community is widely recognized as a fundamental mandate of universities, along their traditional missions for teaching and research (e.g. survey results, University of Nagoya). This is often mentioned in the official mission statements of universities. In Thailand, for instance, universities are expected to contribute to poverty reduction.

Extension services provided by universities of agriculture include a wide range of activities. In front of such diversity, it may become necessary to clarify the respective roles of the different partners. University extension services are best placed to play a role of innovation and catalyst. Scaling up should remain the responsibility of relevant government agencies, particularly Ministries of Agriculture. However, this distribution of responsibilities is not always easy to follow in contexts where, as a result of the decentralization of extension services to local governments, farmers' access to such support has declined. Indonesia, the Philippines and Thailand illustrate situations where local governments do not have yet the capacity to fully embrace the new responsibility granted to them in the field of extension services as part of the decentralization policy. In such cases, universities of agriculture are tempted to fill the gap.

The collaboration between universities and schools is a very active field, including a great variety of linkages (e.g. University of Obihiro in Japan). Such experiences demonstrate the contribution of higher agricultural education institutions to Education for All (EFA) and

lifelong learning. Yet, in some countries, there is a need for a legislative framework to adequately support and monitor such collaborations (e.g. Malaysia).

The involvement of universities in community development projects and farmers' training programmes can produce significant feed-back effects on the pedagogy used for regular university programmes. China Agricultural University, for instance, introduced new approaches, derived from participatory rural appraisal (PRA) techniques, which are changing the academic culture. UPLB, in the Philippines, has similar experiences.

The changes affecting the institutional landscape, through decentralization and autonomy, bring about new opportunities for improving the relevance of delivery as a result of both increasing flexibility and greater proximity. Yet, the effects of public sector reform on funding principles for university outreach programmes introduced more uncertainty. The emergence of project-based financing does not always meet the criteria for sustainability. Institutional reforms can therefore lead to new tensions between various objectives (flexibility and local market relevance versus sustainability).

The increasing pressure for cost-recovery also raises an issue of policy consistency. Can universities generate income through outreach activities or research and at the same time contribute to poverty reduction?

***Box 1 - Collaboration between HAE institutions and Basic Schools in the Philippines:
Rationale, Modalities and Outcomes***

Public HAE institutions are subject to the same curricular and accreditation requirements as private institutions, although they do not need to get a permit to operate. In addition they play a specific role in EFA through the upgrading of teachers competencies. As a consequence, almost all State Universities and Colleges have teacher education programs and hence, laboratory schools. Public HAE also have a role in mobilizing knowledge to enhance productivity through education, research and extension. In order to perform these functions, public HAE institutions benefit from a normative funding formula where a share of budget allocation earmarked for extension activities.

Forms of partnership with schools include:

- Laboratory schools;
- Partnership to implement project like establishment of school based nurseries (Pampanga Agricultural College);
- Partnership for Adopt a Barangay-Adopt a School Program.

These various types of programmes associating HAE institutions and schools resulted in:

- Greater awareness among local government and NGOs for EFA;
- More local governments support to & involvement in EFA matters;
- Improved facilities and infrastructures for education;
- Enhanced knowledge and skills;
- More committed teachers;
- Effective village partnership.

In spite of such results, experience also showed that interventions requiring intersectoral and interagency cooperation are more complex to manage. There is still a need to address poverty as fundamental issue in education.

Policy issues

HAE institutions are increasingly being asked by national and regional authorities to contribute to learning and development in rural areas. Many institutions are becoming more directly involved in supporting local and regional development. Agriculture universities have focused traditionally on crop and animal production, but have redirected their mission towards the broader aim of supporting rural development.

The term "community outreach and extension activities" is taken to mean those activities undertaken by the institution with the intention of contributing to learning and development in rural areas. In particular, it means those activities conducted in addition to conventional teaching and research activities. These activities are often, but not always, delivered away from the main campus.

HAE institutions are to make an active contribution to regional development. This emerging regional development agenda requires that this form of engagement be formally recognised as a "third role" for HAE institutions, and be fully integrated with mainstream teaching and research.

Responding to this new demand requires an adaptation of resources and of the management framework. In particular, the challenge is to link the teaching, research and community service roles through internal mechanisms which facilitate engaging with local development partners.

In spite of the experiences documented by the Asian case studies, changing the academic culture remains a challenge. To a large extent, extension continues to be seen as a practice, not as a science and faculty members are often reluctant to recognize local knowledge.

The rewarding system constitutes another issue. Incentives are often lacking to secure an adequate participation of academic staff in extension services.

The university sector often lacks adequate funding mechanisms to support extension programmes. The Philippines provides an interesting case where the formula funding includes a specific component for outreach services. Such mechanisms deserve special attention.

The lack of cooperation between Ministries of Education (or Higher Education) and Ministries of Agriculture is felt as an obstacle to optimize the provision of outreach activities by universities of agriculture.

Finally, the provision of outreach/extension services by universities requires an appropriate evaluation system, including performance indicators. This is clearly an area that would require specific investigation. Useful lessons may be derived from the systems put in place in most countries to evaluate research activities.

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