AGRICULTURAL HIGHER EDUCATION IN ETHIOPIA: CHALLENGES AND PERSPECTIVES

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Being associated with agricultural education and research for over three decades it may be timely to review the historical development of agricultural higher education, especially at tertiary level, and to reflect some of the achievements and challenges facing the agricultural education system in Ethiopia.

Though formal agricultural education began at Ambo in 1931, it has attained prominence after the Oklahoma State University mission took over the agricultural teaching-learning processes under the sponsorship of U.S.A's Point-Four Program in Ethiopia in the early 50s.

The mission's agricultural education program began its operation in Jimma as Agricultural Technical School by enrolling best qualified elementary level graduates from all over the nation by providing a unique and comprehensive training program designed to encompass both theoretical and practical agricultural education.

Later, the mission has upgraded its undertakings by opening up a college level education program in Eastern Ethiopia, at Alemaya (now renamed Haramaya), by enrolling, mostly, best performing graduates of the technical school. The curricula were developed mainly in four professional areas: Agricultural Economics, Agricultural Engineering, Animal Sciences, and Plant Sciences, and were designed to include relevant and standardized courses that prepare students to assume higher responsibilities upon graduation. Most of the graduates of the college were assigned to serve in agricultural development sector while a number of them were sent abroad to pursue advanced education in order to assume posts in the academia, in research institutions, in policy formulation and implementation position upon their return. Some of the graduates even went into establishing their

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own private farming enterprises which later grew into a corporate size of entrepreneurship.

A number of the professionals trained abroad gradually took over the responsibility of running the college educational and research programs and have even played a crucial role in making the curricula more relevant to the local condition.

Having been designed in line with land grant universities in USA, the academic program of the college had attracted students even from other African countries. A number of them joined and graduated from the then College of Agriculture and assumed leadership role upon their return to their respected countries.

The Ethiopians who joined research institutions in this country, through their unreserved effort of research undertaking in soil management and fertilizer application, in selection and breeding of crop varieties, in crop protection, in livestock breeding and husbandry, have contributed significantly to boost agricultural production in the country. The fascinating outcome of their endeavor has attracted a number of international development agencies to operate within the country in collaborative research programs. Along with the research output, their contributions in capacity building and skilled manpower development have been highly significant. They deserve our recognition in laying out the foundation for agricultural development in the country.

Today, the demand for trained manpower and involvement in agricultural research is more glaring than ever to meet the many formidable challenges facing the rural development sector. Currently, the country is under pressure to insure food security to the ever increasing population. As food demand increases more research undertakings are needed to improve production per unit of land, to improve crop varieties and animal breeds, to obtain better quality and yield of food products, to reduce food spoilage and deterioration, to promote more lowland and dry land irrigated agricultural farms, and to protect the ecosystem.

Overcoming the many challenges facing the agricultural sector depended mostly on well-trained, well-equipped and adequate number of professionals who possessed the technical knowledge and human relation skills, and commitment needed to bring about real change.

Agricultural colleges and universities are expected to take the responsibilities of training professionals who would possess the capacity and commitment to facilitate sustainable agricultural and rural development in the same way land grant universities did in the U.S.A. With their three-fold mission of teaching, research and extension, land grant universities had played the role as one of the great engines of economic growth in the U.S.A. (Maguire, 2000).

We have reached a point in agricultural education where demand for change from outside the institutions are numerous and strong and it is , therefore, critical that decisions are made on how to respond. It is noted that food security is still a critical issue and therefore food production would continue to be a major focus of universities and other agricultural education institutions for some time to come.

As agricultural higher education is critical to a country's development, Ethiopia needs to have a farsighted approach to streamline education in order to generate innovative ideas to facilitate the much needed reform.

The country has embarked on reforming its socio-economic and political structure in line with free market economy and political liberalization since 1995. As a result the number of tertiary level educational institutions and the enrollment rate has increased substantially. However, there is little evidence to confirm improvements of quality education in light of the shortage of motivated instructors due to unattractive incentives and massive intake of students.

In addition, as clearly stated by Hansen (1990), even the most enthusiastic and committed university leader would find it difficult to surmount the bureaucratic, political, and societal barriers to change. Public sector agricultural educational institutions were not always autonomous enough to

make the bold and rational decisions required to effect improvements in the way they operated. Enrollments, programming, and financing are three areas where many agricultural universities lacked control.

According to Maguire (2000), Africa's Universities currently stand in crisis at a pivotal point in their development. Some of the main problems in African universities are:

1. Enrollments are often greater than the capacity of universities to handle;
2. Unsustainable patterns of expenditure for higher education;
3. Decline in the quality of education;
4. Declining relevance to national needs;
5. Exodus of teaching and research staff to areas of higher pay and better conditions;
6. Too many universities in certain countries unsustainable with existing budgets;
7. Disconnect with the employers of graduates from the universities.

To a large extent, the problems reflect the realities in this country.

Nationwide, agriculture has shown noticeable improvements in production. Despite serious droughts which plague parts of Ethiopia, despite the ravages of pests, and an exploding increase in population, the production of food has been sustainable. This is due to the fact that researchers, teachers and extension workers have collaboratively worked to identify and disseminate vital technological findings to the farming community. Yet, as observed by Oniango and Eicher (1999) in Kenya, there is a constant pressure on the universities and other education and training institutions to adjust to the realities of change.

However, agricultural education faces a variety of challenges and dilemmas. As pointed out by Oniango and Eicher (1999), the problems with agricultural education are the followings:

1. Weak connection with other parts of the agricultural education system – colleges, vocational schools, farmer training networks;
2. Lack of communication with the employers of the graduates of the

Universities;
3. Poor practical skills;
4. Decreased funding as urban focus gathers strength;
5. High unemployment of graduates from the university, often due to lack or relevance of curriculum;
6. Failure to attract the best quality students from secondary schools.

In general, these problems present a formidable barrier to effective education. As stated by Maguire (2000), "if agricultural education systems do not produce employable graduates at all levels they risk of becoming irrelevant as educational institutions. It is a common observation that, in the private sector, a failure of an institution to recognize market needs will cause it to lose customers, profits and indeed, may end in its closure". In the public sector, however, things are different. "Public sector institutions are not subject to the kind of market forces that govern the life of a firm. This fact is particularly true of agricultural universities, most of which are public institutions. In the absence of conventional market pressures, what might serve to ensure that the university addresses important social needs innovatively and responsively?" (Hansen, 1990).

Changes that impact on agricultural education as pointed out earlier, the delivery of quality education and training is a major challenge in view of decreased funding, higher student intakes, and loss of key experienced teaching and research staff. However, there are other challenges also that impact on agricultural education (Maguire, 2000).

1. The shift of focus from agriculture to rural development
   The current trend in agricultural education is to focus more on rural development as a whole rather than concentrating on agriculture alone. Success in agriculture may insure food security but other developments that go hand-in-hand with agriculture that may have an impact on poverty alleviation may remain behind. The areas, such as natural resources, human settlement, biodiversity, infrastructure, education, health and energy need to be addressed in rural development programs along with agriculture. The current challenge to agricultural educational institutions is how to provide education and training befitting to rural development needs.

2. Globalization

   "Globalization is sometimes defined as the integration of the world economies by allowing free movement of trade, technology, and people. The internet is globally integrating and merging the different nations of the world. Its impact on globalization includes expansion and improvement in the business strategies" (http://www.studymode.com/essays/Globalization-ofGoogle).

   "Governments need the advice of economists who can deal with agriculture and the macroeconomics in an integrated world as each country must understand the implications of WTO rules and regulations, make its case internationally, and formulate appropriate national policies. The agricultural universities are the logical place to house expertise on this topic, to provide education for undergraduate and post-graduate students, and to inform societies at large" (Maguire, 2000).

3. Biotechnology

   Biotechnology has brought drastic changes in the lives of mankind. Almost all biological phenomena are subject to biotechnology for advancement in output of products, in medicine, in breeding, and in change towards desired characteristics. Agricultural universities must be able to join forces with other scientists in the advancement of this technology by launching programs of study and research undertakings in this area for the benefit of mankind.

4. Urbanization

   Migration of rural people to urban centers has become a common phenomena as the urban centers create more job opportunities, have easier access to services such as health and education. The impact of rural to urban migration has not been given much attention in this country, especially on the capacity of farming families to produce sufficient food for themselves and for the market, as well as, on rural poverty. Agricultural Universities may have to build capacities to find solution to this social problem to curtail this massive movement of rural youth.

5. Information technology

   Universities need to assess the state of information technology in their campuses, how readily can teachers and researchers access the

world-wide web, how many programs or courses are enriched by materials or direct inputs from educational and scientific institutions outside the country.

Agricultural faculties and colleges should be proactive in revising their curricula and teaching methodology to respond to the training need of the country on the basis of the challenges listed above. The country is yet to fully exploit the lowlands and the dry lands as the Israelis have been doing, to fully conserve and properly utilize the mountains, and to fully harness the water resources and to develop the livestock sector.

In appreciating the effort of the government in opening-up more mid and tertiary level public agricultural educational institutions at different sites in the country, the effort may boost the supply of qualified manpower in order to minimize agricultural development problems and forestall food insecurity for the growing population. India achieved green (crops) and white (milk) revolution in agriculture as well as self fulfillment in food for about a billion of its people by promoting agricultural education institutions at every province. Those professionals associated with these institutions, in addition to their teaching responsibility in producing some of the human capital critical to the development of agriculture and the rest of the economy, they have helped the local governments in supplying information in the formulation of policies and strategies for rural development.

In order to make a meaningful impact on agricultural development universities and colleges need to forge strategic alliances and partnership with public and private institutions and organizations, donor agencies, and technical assistance agencies. No single entity could solve the problems related to the relevance, quality, and sustainability of agricultural education alone.

The private sector has an important role to play in attaining the goals of research, education and extension. Its involvement is of paramount importance in light of the capacity limitations of public educational systems to cater the societal demand of the country. Currently, however, the

engagement of these private institutions of higher learning in agricultural education is quite low.

With the expansion of these educational centers, opportunities would be opened up to those aspiring to upgrade their knowledge on their own, but lacking means while serving at rural settings.

The current strategy for national development, as it encompasses all aspects of rural development, is heading towards consolidating resources in order to bring about meaningful changes. In recent years, agricultural institutions of higher education have been under increasing governmental pressure to make direct, visible, and relevant contribution to national research and development. More precisely, teaching, research, and outreach programs of agricultural institutions of higher education are expected to be in line with national strategies for meeting the challenges of food security, economic growth, and sustainable environmental management (Amare, 2004; Belay, 2004a; FDRE, 2002; Teshome, 2005a).

A study program in agro-business entrepreneurship may also attract quite a number of graduates to go into farming as a business providing that the necessary assistance and guidance is given from the concerned government body. Egypt has embarked such a program under the title "Mubarek project" some years back to attract those young graduates from agricultural colleges to get them engaged in running their own farms by providing them the plot of land they need, by laying out irrigation infrastructures, by establishing a village with proper housing and supplying them with all other amenities. Seed money has also been provided as a loan to run the farms with the establishment of a well functioning marketing system. Under such a scheme the country has promoted its agricultural production to attain three harvests per year in the same plot of land through irrigation in the Nile Delta basin. Such a venture may have an added advantage in insuring food security for the nation (Personal communication and observation).

In conclusion, the challenges facing the country in supplying sustainable food production to meet the demand of the increasing population may be

met with concerted effort by all stakeholders, with more participation of the public and private agricultural development and training institutions.

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