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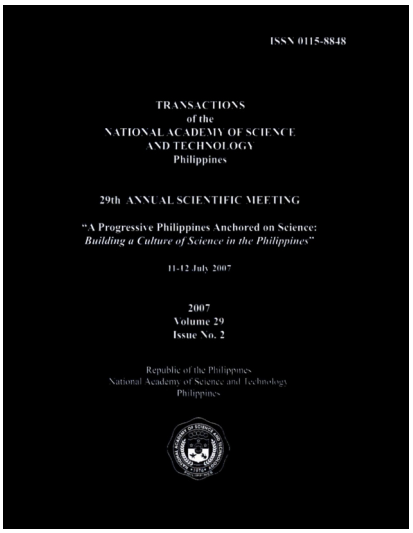

A Road Map for Science Education in Agriculture

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A Road Map for Science Education in Agriculture

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Among the many problems besetting our country today, the low quality of our education remains to be the foremost issue our government needs to address if we want to move forward towards a more progressive Philippines.

So what is ailing Philippine education?

Despite the fact that the basic literacy rate in the Philippines is very high and even closer to those of the developed countries than the developing ones, Philippine education has failed to live up to its potential for overall excellence. The general quality of education is very poor. In fact, the education outcome in the Philippines is quite low in comparison to the rest of East Asia, ranking last among 36 countries in student performance in mathematics and science tests. This dismal performance can be attributed to several factors. First, there is too little funding allotted to education. Each year, we hear the perennial problem of lack of classrooms, books, desks, chairs and even teachers, and until now, this has not been adequately addressed. The Philippines reportedly has the worst pupil-teacher rate in Asia at 45:1, even behind Laos (31:1) and Vietnam (30:1). Second, compounding these problems is the very low salaries of our teachers in comparison to our Asian counterparts. For instance, our teachers are receiving an annual salary of $1,241 while their Singaporean counterparts receive as much as $21, 280 and their Malaysian counterparts $5,800. This is why we are steadily losing our best teachers to United States and lately, even to China, where they are paid up to 10 times their salaries in the Philippines. Third, there is very low enrollment in S&T courses. Moreover, a lot of those who have graduated with degrees have not even acquired the necessary level of competence that their schooling is supposed to provide them with. Our graduates land in the wrong jobs and our trained researchers and technicians migrate abroad in search of

greener pastures.

Let us analyze the issues by focusing on those surrounding agricultural education. Against the backdrop of national decline in enrolment in agriculture courses, we have the following challenges to confront with:

Declining support for tertiary education. UNESCO recommends 4% of the gross domestic product (GDP) for education. However, the percentage of the GDP the government has spent on education has actually decreased during the last five years, falling from 3.5% in 2000 to 2.4% in 2005. Similarly, the education sector's percentage share of the annual budget has dropped from 15.4% in 2000 to 12% in 2005.

Declining enrollment in agriculture and the poor image of agriculture. Most still have the perception that agriculture is a lowly profession because not much significant effort is done to promote both the field and the profession. So, when we talk about agriculture, what most people see in their minds is a picture of a poor farmer tilling the land from sun up to sun down with his carabao. We also have the culture and mindset that the brightest goes to medicine and the dumbest to agriculture.

High unemployment among our agriculture graduates. Yearly, we produce thousands of agriculture graduates who later turn out unemployed, or if they ever get a job, it is not related to agriculture but belonging to other disciplines.

Changing employment pattern. Most of our agriculture graduates land jobs in the call center industry as it is more financially rewarding.

VISION

Agricultural education has a vital role in meeting all these challenges. What we need is an agricultural system that will:

Address the needs of agricultural development within the Philippine context. Philippine agricultural education holds to its traditional methods of instruction. This method, while mirroring global trends in terms of course and curriculum, has a blatant downside: it is specifically tailored to the needs and demands of more developed countries like United States or Singapore. This should not be the case. Our Philippine agricultural education should be well-suited to the needs of the country while taking heed of the significant international developments and international forces that continue to shape the landscape of the overall educational system. What we need to produce are high-quality and innovative graduates with appropriate knowledge, skills, and attitudes that will meet the stakeholders

needs. These relevant, employable, and innovative graduates will be the country's leaders of change.

Develop leaders of our food and natural resources systems. These new leaders must have the social consciousness, values and ethics, and at the same time, must have entrepreneurial skills. They must have solid technical and scientific principles, with a holistic approach to problem-solving, should be life-long learners, and must have strong leadership and team building and communication skills.

STRATEGIES

What needs to be done?

We must build awareness among the youth by using a discovery-&-inquiry based method of teaching and by starting them young. In particular, we have to shift the emphasis of our undergraduate education from developing a professional to an entrepreneur. Very few professionals take on the entrepreneurial route. Agricultural schools should fortify courses with subjects that will help develop the entrepreneurial spirit. Relevant courses such as business administration, accounting, financial management and communication skills should be included in the agriculture curriculum. These courses should be part and parcel of the basic curriculum and not just exclusive to majors of the agricultural business degree. It is imperative that we educate our young people on agricultural education with a business focus so that our graduates would become job givers rather than simply job seekers. Relatedly, we must never lose sight of the importance of enhancing our RD & E programs in agriculture that will support the graduate education in agricultural science. There should be a strong government policy statement in support of science education and science technology with corresponding budgetary provisions.

ACTIONS

Education is a long-term play with no quick fixes. If we want to turn around our poorly performing education system, we need to look at system-wide and long-term solutions—not provisional answers—that can impact positively on all schools at reasonable costs.

The cornerstone of these is a three- point action plan. We have to push for reforms and reorient the thrust of our agricultural education through the following:

1. Advocate for the integration of agricultural science and

technology education in basic education.

We have to start our students young by using discovery-&-inquiry based teaching methods. We have to focus on building a strong base in primary education and transforming young children into inquisitive, thinking individuals with a passion for science and technology so that they will become intelligent, competent and productive adults who can contribute to a competitive economy.

2. **Partner with the industry and private sector in developing entrepreneurship in agricultural science education**

A very weak industry-academe linkage befalls our current system. We train people in theory and minute instances of application when in fact an emphasis on on-the-job training (an apprenticeship of sorts) would serve as the best environment for putting classroom knowledge into work. Classroom instruction can be substantiated by engaging visiting lecturers who are practitioners from the industries. Curricula can be customized to fit present and future skills and knowledge demands of the industries. In drawing up the specific subjects and activities to be required by today's college students (where more specialized training occurs), the industry sector should be consulted. This guarantees that graduates are equipped for employment and that industries have a pool of talented newcomers. The benefits of an industry-academe linkage outnumber its costs. On the part of industries, this lessens in-house trainings since companies can influence schools to incorporate relevant subjects into course curriculum. This automatically allows firms to divert some training expenses to other endeavors (capital build-up, etc.). Students, on the other hand, receive first-hand instruction from industry leaders and seasoned practitioners, something that textbooks cannot provide.

3. **Lobby for long-term, ample budgetary support by the national government to agricultural research and development programs.**

The common denominator in the educational problem is lack of funds. This is the foremost obstruction ailing our educational system. Without sufficient funds, we will not be able to give our students the best education that they deserve and this will only compound the deteriorating quality of our social and economic life. The World Bank encourages developing countries to spend at least 20% of their national budget on education. The Philippines could spend only 12%. The UNESCO's recommendation is a budget of at least 4% of our GDP and we are spending only 2.4%.

These three actions are, however, not silver bullets that will solve our

problem of poor agricultural education. But they could otherwise unveil a silver lining if pursued. Still, the bottom line is that, we must have a strong and unwavering resolve to confront the issues.

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