

Changes in agricultural curricula

Outcomes of YPARD e-discussions - GCARD2 Youth discussions

As food security, natural resources scarcity, climate change, and increases in human population threaten the stability of the environment, **the agricultural professional** must have new competencies and skills to respond to and adapt to the new challenges presented. **Educational Institutions on Agriculture** thus, play a large role in ensuring that agricultural education meets the needs of today's and anticipates the needs of tomorrow's agricultural challenges. Universities replenish the stock of human capital in research, extension and agribusiness organizations. While they are the leaders of preparing the youth for the future, they themselves acknowledge that they need to enter in a process of renovation to become more effective in doing this. (Capacities' Montpellier Action Plan, CAPMAP 2010-2020).

YPARD has contributed to the debate with the views of young professionals on this process through the study: *"Formal higher agricultural education: working towards a new generation of Young Professionals in ARD"*, 2011. YPARD then further probed the results of the study through an online discussion examining: **"What are the new skills and competencies required in new professionals in agriculture and rural development?"**

The outcomes of this e-discussion will feed YPARD Youth delegation's input on Youth capacity building in agricultural research for development, at the Global Conference for Agricultural Research for Development (GCARD2). This e-group has prepared this proposal for presentation at the youth preparatory meeting at GCARD2 which will be fed into the GCARD2 plenary.

The on line process was hosted on the YPARD's web site:

<http://www.ypard.net/forum/changes-agricultural-curricula-gcard2-youth-discussions>

KEY ISSUES AND PROBLEMS IDENTIFIED

Soft skills have been identified as being crucial in professional world and yet often lacking in professional agricultural education. Some of these that were highlighted include:

ICT skills: *"While information today is everywhere due to internet access, the skills required to access and use it are not as easy to get. I think that **access to information** through the acquisition of new skills (from soft skills to specialized skills relevant to the field of expertise) should be the focus of higher education."* CodrinPO

Internships have been pointed out as a key tool (but not the single one) for acquiring these soft skills. However educational institutions are often weak in providing opportunities for good quality internships. Our colleague, Darlington Kahilu, suggests that practice must be better integrated with theory.

Mohammed_yaro

*"I kind of agree with the **internship** concept from my experience with both undergraduate and post graduate students on practical attachment at my institute. So I will however advocate for a structured practical internship program as an integral part of Agricultural training to provide not a hands on experience but also generate on the Job excitement in Youth."*

Interactive teaching methods and encouraging students to participate to **Extra curricula activities** are highlighted as being other ways to acquire these soft skills.

Including **agriculture at earlier stages** in education has been identified as a must.. If graduates do not succeed on getting employed elsewhere, *“they should be given enough practical experience at primary, secondary and tertiary levels so that they are able to take those farms that are going to be left by the parents who are catching up with age each day”*.
Darlington Kahilu.

Some of the participants also pointed out the importance of Higher Educational Institutions giving graduates knowledge and experience of **entrepreneurship**.

To draw some conclusions we compared these results to the YPARD study: *Working towards a new generation of Young Professionals in ARD*.

The study showed that Young Professionals had identified **Research and Communication as the two most important Competence groups**. In the Business and Economic competence group, **Entrepreneurship skills** were considered to be very important. In terms of general higher education experience, this study indicates that it is very important to **develop language abilities** and **gain experience from on-the-job training**, possibly through internships.

In both the study and the online discussion, **entrepreneurship** was identified as being very important for the set of skills of the new professional in agriculture, as well as **practical knowledge and experience**.

RECOMMENDATIONS: ACTIONS FOR ADDRESSING THESE ISSUES

Discussion participants stressed the importance of being able to **obtain the latest knowledge of a particular discipline**. *“A very good example of the need to regularly updating or modification of Agricultural R&D skills is what is now known as the enormous issue of climate change phenomenon.”*
Mohammed yaro

However, how to **meet the need of an updated curricula** compared to the considerable **time length** that is required to reform curricula, could not be agreed upon during the discussion. It was suggested that continual updating is something that professors can do more easily than Institutions.

Nawsheen

*“Personally, the first changes I started to see in myself was when I got engaged in **extra-curricular activities**. I joined the Agricultural Society of the University and was volunteering in organising events like World Food Day, Job Fairs etc. During these activities, I had to deal with members, companies, Ministries, lecturers, deans and other stakeholders and by being involved, these soft skills gradually develops.”*

(...)My point is that sometimes we cannot rely solely on the school curriculum to get the skills required on the job market. All universities must make these extra-curricular activities a culture and encourage students to get involved. Very often, youth clubs and organisations are present around us, but since no one encouraged us to join, we never did.

Darlington Kahilu

*“Agriculture is a doing science. So this being the case, I feel agricultural colleges and universities should help young people appreciate this field by **combining theory and practice** at a one to two ratio.”*

Tenusha

*“I also believe it would have been interesting if university could have helped students to **create their own business portfolio**, help them set up at least one concrete business/scientific project in their study course and organize open days where investors or stakeholders can view these projects..”*

If we want to achieve a change in agricultural curricula young graduates have to be taken into account and included in the process.

Changes in curricula imply **changes on teaching methods**: “what you hear, you forget, what you see, you remember; what you do, you understand.” Julius

As mentioned previously, participants underlined that “internships are not the only way for acquiring skills and competences...“peer learning groups” or “dual education system” as different alternatives for achieving the highly valuable soft skills.”;Myriam Perez.

Several **examples** of interactive learning methods were given during the discussion, such as: the HAFL method, problem based learning, and dual education of French system among others. The Eras Mundus Programme came out as an example to strengthen internships on agricultural curricula

Julius

*“To the question of whether **students should be involved?** I say yes. Just like agricultural research and development nowadays emphasize participatory approaches to knowing, learning and research; educationists now emphasize participatory curriculum review which of course will be student-centered in nature.”*

Aniissah

*(...)“It is worth pointing out that CTA is doing a great job among the farming community by holding different web 2.0 workshop throughout the developing nations. **But face to face communication** remains a primary concern.”*

Martina

*(...)At the Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences (**HAFL**), students need to do an internship on a farm (or similar), which lasts at least one year, to get their permission to study agriculture. The idea behind that internship: Knowledge which can't be learnt by studying books: milking cows, harvesting crops, observing animals, recognizing plant pests and diseases are hard skills, which need/makes experience to complete knowledge. But as well soft skills are trained: social competencies like communication with the farmers and their families, empathizing into the daily farm life (students have to live with the farmer family) and many others.*

Martina

*(...) “.through a teaching method called **Problem Based Learning**. Due to that method students are able to acquire knowledge (e.g. doing adequate paper research) themselves within short time. They work in working groups, in which every week another student takes over moderation, protocol writing, and decides about how the results have to be presented. At the end of every Problem Case students have to do a self-assessment and give feedback to the others. During studies the students are forced to do presentations in most of the modules.”*

Codrin

*Although not in agriculture, I saw today what a French national did in Romania: a copy-pasted Business School after the French educational system.
In the short version: the school offers undergraduate courses in marketing (Bachelor level) on a system where you are in school one week, you work (as an intern/employee) in your field for a week. Theory and practice put together. **What they learn in school they put into practice the next week.**
For this to work, the school signed partnerships with a few multinational companies that also pay the students for their work (minimum wage). So the students get the practical skills, some pocket money and experience in the CV (that every employer asks for). Upon graduation, they students have the option to either continue working for the company where they interned or find something else.*

Regarding Universities' role on internship facilitation, participants wondered if "should not the educating body take charge of placing fresh undergraduates on at least a 6 month placement/trainee/internship once their course is over?" tenusha

But above all, the conclusions highlighted the **government's** responsibility to address this issue "In such an instable agricultural context... "How to build new competencies on these bases? Would still be valuable the profile that we can build today for tomorrows context?" I think these are the first questions all agricultural policy makers have to answer. Many governments are conscious that something must be done in agricultural curricula but these thoughts are not transformed into concrete actions". Ngouambe

Ngouambe

" Here in Cameroon, **Ministry of Agriculture and Rural Development** has more than 40 agriculture schools which trains technicians, agriculture agents in diverse domains concerning agricultural sectors. Today there is a whole programme with the support of French Development Agency which aims to adopt a new education methods leading all students to be directly operational after their trainings and be more available to farmers."

Finally, it is important to keep in mind that: "education should **improve independence of the students and raise their self-awareness**, as they will sooner or later stay in a responsible position". Grafmartina

But if agricultural education should address and answer farmers' needs, our colleague is very right when remembering us that:

Stephen

(...) ".most of what we all seem to have been alluding to here are changes to curriculum for research and allied professionals in agriculture. We seem discount **the place of the farmers** of tomorrow in this whole equation."

How to make farmers take part into this process?

BIBLIOGRAPHY

"The GCARD Roadmap. Transforming agricultural research for development systems for global impact". GCARD 2010. FAO, Rome 2011.

"Working towards a new generation of Young Professionals in ARD", YPARD 2011.

"Strengthening capacities for ARD and enhancing efficiency of the innovation chain CIPCAD/GCARD final statement and Action Plan, *Capacities' Montpellier Action Plan (CAPMAP 2010-2020)*". CGARD 2010, Montpellier2010.

ACKNOWLEDGEMENT

Discussions were launched the 3rd September and closed the 14th September 2012.

During these 11 days there were 28 posts on the site coming from 11 participants for the discussion on agricultural curricula change.

Codrin Paveliuc-Olariu was the facilitator of this topic discussion.
The report was prepared by Myriam Perez.

We thank the participants to these e-discussions:

Nawsheen Hosenally	Mauritius
Tenusha Jundoosing	Mauritius
Julius Naligwu Ingweye	Nigeria
Mailu Stephen Kyallo	Kenya
Myriam Perez	Spain/France
Martina Graf	Switzerland
Mohammed Yaro	Ghana
Darlington Kahilu	Zambia
Nestor Ngouambe	Cameroon
Aniissah Bibi Ibrahim	Mauritius
Codrin Paveliuc-Olariu	Romania