

Center for Agricultural research and Ecological studies Vietnam National University of Agriculture Hanoi - Vietnam

# AE education and training at Vietnam National Unversity of Agriculture: a view from inside

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### Content

- Approach & assumption
- History of Department of Agroecology
- Overview of ecological courses, with focus on AE course
- Internal views on AE course
- Conclusions and some further steps being taken for AE course.

Research questions: (1) what are major content of the AE courses? (2) how has the course been taken? (3) How have students understood the course? (3) what is needed to make the course more attractive and practical to students?

- A number of AE lecturers (including the retired) were interviewed to get their ideas on the AE course.
- It is likely that other agricultural universities in Vietnam have initially adopted ecological and AE textbooks published by VNUA, and a number of AE lecturers of these universities were graduated from Vietnam National University of Agriculture.
- For these understanding of AE course be given at VNUA could be strongly reflecting ecological courses being taken at other agricultural universities in Vietnam.

## History of the Agroecological Department

Period	Department	Faculty
1956-1975	Dept of Farming & Meteorology	Faculty of Agronomy
1976-1990	Dept of Meteorology	Faculty of Agronomy
1991-1995	Dept of Meteorology & Ecology	Faculty of Agronomy
1996-2007	Dept of Ecology & Environment	Faculty of Agronomy
2008-2012	Dept of Agroecology	Faculty of Natural resource and Envir.
2013 – now	Dept of Agroecology	Faculty of Environment

#### Department of Agroecology at the present

#### ECOLOGICAL COURSES:

- Basic Ecology
- Ecology & Environment
- <u>Agroecology</u>
- Human ecology
- Applied ecology

#### 3 specializations and 6 working areas:

- 1. Education & training
- 2. Research
- 3. Publication
- 4. Technological transfer
- 5. Consultancy

. Services

#### RESOURCES MANAGEMENT

- Agroforestry
- Meteorology
- **Biodiversity**

#### **MODELLING:**

- GIS & RS
- Modelling

## Ecological courses being lectured

Ecological subject	No. of specializations (being given lectures)	Faculty
Basic Ecology	3	<ul> <li>Faculty of Environment</li> </ul>
Ecology & Environment	14	<ul> <li>Faculty of Annimal sciences</li> <li>Faculty of Post-harvest</li> <li>Faculty of Agricultural economy</li> <li>Faculty of Environment</li> <li>Faculty of Education and Foreign languages</li> </ul>
Human Ecology	2	<ul><li>Faculty of Agribusiness</li><li>Faculty of Environment</li></ul>
Agroecology	5	<ul> <li>Faculty of Agronomy</li> <li>Faculty of Environment</li> </ul>

- Ecological courses are designed for 2-3 credits (15 lecturing hours/credit)
- At the present, 28 specializations are being offered at VNUA
- Total students: 30,000 (4 5 years, depending on specializations)

#### Lecturers

- Most are graduated at Vietnam National University of Agricuture (Agronomy).
- The rest from Vietnam National University (Resources management) and University of Agroforestry
- Most have graduated from universities of OECD countries for higher education (MSc/PhD).
- None has pursed specialization on Ecology and AE
- Some have been given short ecological training abroad
- At the present, there are 10 staff working at the Dept.

### History of ecological courses

- Ecological course has been given at Vietnam National University of Agriculture since early 1990s.
- The course has been mainly containing ecological concepts, and very less on referring these concepts to reality of agricultural practices in Vietnam.
- To compensate the weakness of ecological course for specific demands of an agricultural university, an agroecological course has then integrated into the university program in early 2000s.
- In following years, other ecological courses were developed and integrated into the university program.

### Agroecological textbook

- Major content:
  - Principles and concepts of agroecology
  - AE system: properties, structure and performance
  - Designing sustainable AE systems
- Major references used
  - Altieri, M.A, 1995: Agroecology. The Science of sustainable agriculture
  - Kumar. H.D, 1995: General ecology
  - Zandstra, H.G, 1981: A methodology for on- farm cropping system research

#### **Course lectures and assessment**

#### Course lecturing:

- Following content & structure of approved textbooks
- Additional reading materials
- Lecturer's self-experience & interests

#### Examination:

- Mid-term: writing, paper or group presentation (by topic selected)
- Final: writing (mainly close book), gradually moving towards (open) multiple-choice.

There has been no formal and synthesized assessment for graduated students for the courses, so far.

### Internship & graduation thesis

- Internship: no specific internship is designed for the courses. Annually, departments are assigned for arrangement of internship for a number of the faculty (final-year) students (i.e., 70-100 students) for a 3 weeks:
  - A visit to a selected site
  - Some small other activities: HH survey, crop/soil measurement, pest/biodiversity inventory...
- Graduation thesis: annually, 70-100 students are assigned to the Department lecturers for supervising thesis research & writings (5-10 students/lecturer). Technically, none has been really work on AE:
  - Very short time for thesis: total of 6 months for field research & thesis writing
  - AE is technically complicated
  - Researches are rather counting on HH survey, with very few treatment setup.

### **Constraints: for lecturers**

- Most of lecture contents, including examples, are taken from foreign references.
- Subjectively designed textbooks contain very broad ecological issues with shortage of practical examples, especially those related to Vietnam.
- Very limited research on ecology has been taken given little funding available as well as ecological complexity.
  - For instance, in the period of 2012-2016, VNUA has implemented 725 research projects, of which 41 projects (5.7%) related to AE/OA, but containing a rather limited aspect of AE such as: compost preparation/utilization, herbal pesticides, bio-bedding (for animal raising), VietGAP demonstration etc.,.
  - Only ONE of these 41 projects was implemented by the Department of Agroecology!

### Constraints: for students

- All ecological courses have been considered as not important by students since they (as in their names) are not directly related to their specializations.
  - $\rightarrow$  Lack of attention & efforts by students for study and self-study
- Evidence: Ecological principles and knowledge are poorly digested and applied by students

 $\rightarrow$  all of students' theses have been very less and without ecological senses/views included, even for very related topics such as pest/soil/water/crop management etc.,)

### Conclusions

- Ecological courses are not new at VNUA. Contents and examples are majorly referred from foreign textbooks/cases.
- Lecturers don't have background specialized on ecology.
- Limited access to funding for ecological research.
- Ecological principles and concepts have been largely failed to be digested and applied by students.
- There have been lack of linkages of these principles/concepts to the real life that students have been experienced with:
  - Students easily forget what they have been taught about.
  - Others are getting confused on understanding, combining and applying these principles/concepts for explaining relevant events/issues happening around themselves as well as providing relevant ecological precautions in their researches/works.

### What to move towards future

- Recently, we adopt 6 AE models identified by GRET into the course: applied ecology for MSc students.
- Pivot on these 6 models, we introduce relevant ecological principles/aspects to students.
- This (reverse) approach could help students better understanding and relating ecological principles/aspects to farming systems that they have experienced with and/or observed, as well as possible research questions/solutions for remaining/emerging issues in each type of farming system in a specific rural context.