Agroecology in farmer education in Flanders: a survey.

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State-of-the-art

Agroecology is put forward as an alternative way of looking at current sustainability issues in the agricultural system. UNESCO [1] emphasizes the importance of education in the transition towards more sustainable development. However, little information is available on the required elements for incorporation of agroecology in farmer education and the extent to which agroecology is currently incorporated in farmer education. Therefore the project "Agroecology as a leverage for education in sustainable agri- and horticulture in Flanders" was initiated. In an earlier stage of the project we developed a reference and assessment framework. This framework includes: (i) agroecological principles and practices; (ii) key competences for agroecological farmers [2,3] and the methods needed to teach them [2]. These teaching methods focus on a.o. experiental, action and collaborative learning, student-centered teaching, competency focussed teaching, self-evaluation, peer assessment, reflection, and the use of different types of knowledge. At the current stage of the project we use this framework to assess educational programs for (future) farmers on their incorporation of agroecology. This paper reports on the results of a survey we disseminated amongst all Flemish formal, such as secondary and higher agricultural education, and non-formal educational centres, such as specialised training courses for (future) farmers.

Methods

Based on the reference and assessment framework [3], we constructed a survey which was spread amongst 3 target groups: i) secondary schools, ii) high schools and universities, and iii) non-formal education centers. According to the target group, the same questions but different wordings were used to improve the comprehension. The survey consisted of a part for teachers and a part for program coordinators or school directors. The survey consisted of 6 parts: (1) general questions on the respondent; (2) his educational approach; (3) his evaluation methods; (4) his course content; (5) his vision on alternative agricultural systems; (6) his familiarity with agroecology. In parts 2 until 4, we probed for the implicit presence of agroecology in the respondent's courses, by asking questions on teaching methods, sources of course material, teaching approach, interdisciplinary teaching, evaluation methods, and course content. In part 6 we explicitly probed for their familiarity with agroecology.

Before dissemination, the survey was tested by 6 persons, with expertise either in surveys or in education. In February 2016, the surveys were disseminated amongst secretariats or directors of all (n=24) secondary schools with agricultural curricula, all (n=8) providers of agricultural higher education and 24 non-formal providers of agricultural education in Flanders. We received answers from 71 (50 completed) respondents from 15 secondary schools, 51 (37 completed) respondents from 8 providers for higher education, and 29 (20 completed) respondents from 9 providers of non-formal education. We performed descriptive statistics using Microsoft Excel.

Main results

Regarding our indicators for implicit implementation of agroecology in the educational programs, we found that there is some room for experiential, action, and collaborative learning, but main focus still lies on theory- and teacher- centered approaches, both in teaching and evaluation.

		Secondary education	Higher education	Non-formal education
1. To what extent is agroecology included explicitly in education programs for (future) farmers?				
a. Familiar with "agroecology"?		37 % (n=49)	62 % (n=34)	50% (n=10)
b. Mention agroecology in their courses		87 % (n= 18)	82% (n=21)	80% (n=5)
c. Would like to teach more about agroecology		81% (n=16)	55% (n=20)	25% (n=4)
2. What are barriers for teachers to incorporate agroecology in their courses?				
Too little time or room to indulge in agroecology		29% (n=18)	40% (n=20)	20% (n=5)
Little knowledge about agroecology		24% (n=18)	15% (n=20)	0% (n=5)
Too little course material available		24% (n=18)	15% (n=20)	0% (n=5)
Too rigid official final learning objectives		10% (n=18)	N.A.	N.A.
The school vision does not allow it		5% (n=18)	0% (n=20)	20% (n=5)
Other (according to the number of citations)	- Skepticism of fellow teachers regarding the subject; - Students are not receptive towards the subject (mainly because of family norms and values); - This should be taught after secondary school (e.g. in specialized courses and high schools). - Not clear how to integrate it in technical courses; - Agroecology does not fit with the subject of my courses.			

Table 1. Findings on the familiarity of teachers with agroecology and the explicit incorporation of agroecology in education programs for (future) farmers.

Table 1 shows that, within our response group, teachers in secondary education are less familiar with agroecology than teachers in higher education or non-formal education (1a. in Table 1). But the major part of those who are familiar mention agroecology in their courses (1b. in Table 1). Furthermore, particularly in secondary education, they would like to teach more about it (1c. in Table 1). A possible explanation might be that secondary teachers feel less free to fill in their course content because they have to comply with official fixed learning goals defined by higher administrative levels. Barriers to implement agroecology (2. in Table 1) are mainly lacking time or room to indulge in the concept. Another interesting barrier mentioned relates to the negative attitude of fellow teachers and students towards agroecology and other alternative farming systems.

For dissemination of the survey amongst the teachers, we were dependent on the goodwill of secretaries and directors of the educational programs. Since we did not receive response from all teachers and educational programs, our results cannot be generalized for Flanders.

Conclusions

Our survey gives an interesting first impression on the incorporation of agroecology in Flemish agricultural education. However, further thorough research is needed, based on school visits and interviews with teachers and students, to clarify actual incorporation of agroecology in the curricula, barriers and possible educational instruments and methods to incorporate agroecology.

References

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