The knowledge transfer from science to practice – a survey with EU researchers

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Abstract

Group members came from 12 European countries, six from new (BG, CZ, EE, HU, PL and SI) and six from old EU member states (DE, ES, FI, IT, NL, PT).

The aim of the work was (a) to analyze the role of the scientists in a dialogue between them and the practitioners within the organic production sector, (b) to find the best practice models of such dialogue as the examples to be followed by others. All project partners conducted surveys with 10 selected scientists from own country.

Key areas of the questionnaire were directed to the (A) person (gender, age, years of activity in teaching and/or researching), (B) number of projects, papers, trainings and interviews, (C) examples of best practice models, and estimates of (D) potential collaboration between scientists and stakeholders, (E) about the success of personal activities as to farming, processing, trading & marketing, (F) of the improvement of communication between science and practice, (G) of potential threats for knowledge transfer from scientists to practitioners.

Almost similar results were found for scientists from old and new EU member states. Clear difference was the higher contribution of training sessions for practitioners by scientists of new EU member states. True for both groups was the relatively low activity in writing popular papers.

Introduction

Due to increasing research activities around organic agriculture within the EU, thanks to EU, other International or national funds i.e. the German Federal Scheme Programme there is a recognizable progress of knowledge and understanding of organic agriculture. To which extent have practitioners an active part in that progress? Which best practice models can be found in various EU member states? Which strategies can be provided as final result of the mobility project within the Leonardo da Vinci partnership programme? That is the context out of which the data presented are derived.

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Material and methods

The survey was prepared, uploaded and administered by the software Grafstat 4.0. Data of the survey were collected in a database. Statistical evaluations were done by Minitab 16. Inputs per partner ranged between 6 and 12. The complete set of data consisted of 136 protocols.

Results

The 'person data' contained questions about gender, age, period of academic activity in the field of organic agriculture, position within the institution and type of institution. It became obvious that the share between male and female responses was more even in the NMS[15] (52 to 48 %) compared to the high male share in OMS[16] (71 to 29 %). Within NMS interviewees the share of younger persons (age between 26 and 45 years) was the double of OMS respondends of the same age whereas middle age persons were fourfold more to be found in OMS than in NMS (43 vs. 11 %). The distribution of type of working place was very much dominated by universities in OMS (75 %) compared to 55 % in NMS, coworkers of Research Institutes contributed to the survey more in NMS than in OMS (41 vs. 17 %). Parallel to the age of respondends the requested period of activities for teaching or researching OA matters resulted in more counts for 11 to 20 and >20 years in OMS (47 vs. 31 %; 19 vs. 10 %), but more counts for 1 to 10 years in NMS (59 vs. 35 %).

With regard to the knowledge transfer from science to practice Table 1 presents condensed data about the quantity of projects, papers, trainings and interviews conducted, written and initiated by the interviewees. Academic activities are not very much different between new and old EU member states. It differs more on the level of popular projects and corresponding papers. There is a relatively high share of zero activities in both group; although this type of activity seems to be less attractive in post communistic countries. Increasing demands for academic proofs and credits might be one possible explanation for that fact, access to funds for that type of activity another one. On the other hand within NMS there seems to be a higher willingness to spend time outside the academic live and provide training sessions for practitioners (93 vs. 77 % are clear indications beside 23 % none within OMS).

Table 1: Counts (%) for scientific and public knowledge transfer related to old and new EU member states

Quantity	0		1-10		>10	
	NMS	OMS	NMS	OMS	NMS	OMS
Research projects	4	8	80	65	15	28
Research papers	1	6	55	52	44	41
Popular projects	38	17	58	75	4	8
Popular papers	8	8	55	60	37	32
Trainings	6	23	81	69	12	8
Interviews	23	28	65	58	12	14

With regard to estimations about the success of personal work and its promotative effects on the development of the various fields of work the answers were very moderate (see Table 2). The levels **good** and **excellent** never exceeded 20 %. It seems that the group of interviewees in the NMS was more linked

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15   NMS = New member states

16   OMS = Old member states

into the areas around farming practice. That would explain the higher counts for potential benefits in processing, trading and marketing.

Table 2: Counts (%) for scientific and public knowledge transfer related to old and new EU member states

	Farming		Processing		Trading		Marketing	
	NMS	OMS	NMS	OMS	NMS	OMS	NMS	OMS
Good to excellent	16	15	11	8	13	3	11	3

Dialog and collaboration needs open-mindness from all sites. If this is really true the survey wanted to clarify by asking for the expected willingness of stakeholders (see Table 3). The closer contact to farmers and their advisors became very obvious by their related figures, ranging between 40 and 60 %. The estimates of OMS respondends were slightly (Farmers: 49 vs. 43 %) and distinctly (Advisors: 56 vs. 43%) higher then those of NMS. Similar comparisons could be drawn for processors and traders, but on a much lower level. Again, this result might reflect the specific background of the respondends which obviously was closer to farming practice than the other areas.

Table 3: Counts (%) for the estimated willingness of stakeholders for cooperation

	Farmers		Advisors		Processors		Traders	
	NMS	OMS	NMS	OMS	NMS	OMS	NMS	OMS
High	46	49	43	56	13	25	12	16

It is trivial to emphasize the urgent need of financial support for any kind of projects. Therefore the high estimates for the relevance of the different donors are confirming that fact (see table 4). EU and governmental sources are very high scored by both groups. NGO's are also relevant institutions, but their importance was scored lower. Other sources seem to be better accessible in OMS than in NMS (72 vs. 48 %).

Table 4: Counts (%) for the estimated necessity of financial support by various donors

	EU		Government		NGO's		Others	
	NMS	OMS	NMS	OMS	NMS	OMS	NMS	OMS
Important to very important	87	84	90	89	65	65	48	72

Beside the financial aspects the improvement of dialog and collaboration are also dependent upon other factors, i.e. contact between stakeholders, access to research sites and acknowledgement of universities for that type of projects and activities. The figures of important and very important scoring are presented in Table 5. In all cases the estimates reached around 80 % and more. The obstacle for more engagement of scientists for less scientific projects seems to be higher in NMS (89 vs. 80 %) and confirms the data of Table 1.

Table 5: Counts (%) for estimated improvement of knowledge transfer

	Debate among stakeholders		Access to research site		Acknowledgement by University	
	NMS	OMS	NMS	OMS	NMS	OMS
Important and very imporant	82	79	90	92	89	80

Which bottlenecks can negatively interfere with intended projects for better knowledge transfer? Four factors were requested in the survey: lack of (1) time, (2) interest and (3) money plus (4) relevance of a supportive political environment (see Table 6). There is a graduation of relevance from (1), (3), (2) to (4). Again the lack of money can be interpreted as most urgent factor in the NMS, followed by all others. Within the OMS all factors were scored less relevant compared to NMS with regard (3), (2) and (4).

Table 6: Counts (%) for estimated threats for the collaboration between science and practice

	Lack of time		Lack of interest		Lack of money		Political environment	
	NMS	OMS	NMS	OMS	NMS	OMS	NMS	OMS
Important to very important	76	81	68	50	82	62	53	48

Conclusion

On the one hand the need for more applied projects clearly interferes with the increasing demand of universities for more scientific outputs and approvals. On the other hand the knowledge transfer is very much dependent on engaged scientists, in specific when governmental institutions outside universities are missing for the conversion and transmission of existing scientific knowledge. Beside adequate political and academic environment the financial issue can be emphasized as the most urgent factor for the promotion and improvement of better knowledge transfer from science to practice.

Suggestions to tackle with the future challenges of organic animal husbandry

Animal husbandry as milk, meat and egg provider, as contributor to more efficient use of arable land and finally as continuous provider of organic matter for the improvement of humus plays an essential role in organic agriculture. Therefore animal production should be supported by proper regulations, subsidies and counselling. Animal welfare issues are highly demanding for organic practitioners which need competent advice. Regulations for processing should also be appropriate for smaller farms.