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Course Experiences and Perceptions of Farmers in Esfahan as a basis for a Competency Profile of Extension Instructors*

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Abstract

The purpose of this study is to analyze farmers' experiences with and perceptions of agricultural extension courses and their instructors in Esfahan. This study is part of a larger project on the development of a competency profile of extension instructors. Many attempts have been made to develop competency profiles for professionals (Shim, 2006). A perennial problem is the extent to which differentiation is needed as a consequence of the characteristics of the target group (Mulder et al, 2005). In the study reported here, which was conducted in 17 different townships in the province of Esfahan in Iran, this question is explored. An exploratory study was done with 27 farmers and then 102 farmers who participated in courses were interviewed. Data were collected about the following factors: motives for course attendance, course appreciation, topics for future courses, and the competence of the agricultural extension instructors (AEIs). The relationships between farmers' personal and farm characteristics and the factors mentioned were also tested. Given the results of this study, we think a general competency profile is possible, but that variation is needed as to the age, gender, educational level, and learning motives of farmers. Target group stratification and internal differentiation in courses should be included in the competency profile.

Keywords: agricultural extension, courses, instructors, competence, competency profile, Esfahan, Iran.

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Course Experiences and Perceptions of Farmers in Esfahan, Iran as a basis for a Competency Profile of Extension Instructors

Introduction

An important part of the agricultural extension service in Iran is the provision of courses to farmers. Agricultural extension instructors (AEIs)¹ do not receive any specific training before they are asked to teach the courses. Nor are there special arrangements for professional development. Course instructors, who deliver essential information and skills to farmers during short-term courses, develop their teaching skills in practice. If they receive less than positive evaluations, they are being replaced by other candidates, just like in commercial training settings. Through this selection, the final quality of the AEIs is relatively high, but there is a considerable trade-off with the selection of these professionals. The general idea is that through appropriate preparation of extension workers for the role of instructors, the selection process and overall organization of the courses would be more cost-effective.

Because there are no specific training programs for AEIs, these would have to be developed. A first step in that process is to conduct a needs assessment, and to design a job competency model for the extension instructor. The instruction can be conceived of as a human resource development role (HRD), and thus, the methodology to develop competency profiles for HRD professionals can be employed. This has been done recently for the purchasing profession (Mulder, Wesselink & Bruijstens, 2005), but also for the extension profession in Korea (Shim, 2006). Whereas these studies concentrated on analyses of expert opinions and interviews with job holders and broad roles, the present study on the development of a competency profile for extension instructors included an analysis of the experiences and perceptions of the target group of the extension instructors, i.e., the farmers. This is particularly relevant for evaluating the question as to whether the competency profile should be differentiated according to the heterogeneity in the needs of the target group, or whether it could be sufficient to use one comprehensive competency profile.

The competency profile in turn could be used as a basis for the design of a curriculum for training extension professionals. For this, there are other sources too, of course, such as educational programs that are already available, principles and methods of extension (Van den Ban, 1996; Van den Ban & Hawkins, 1996), and adult education theories and principles. These theories and methods can be used in order to achieve effective farmer participation in extension and education programs, and powerful learning. Theories suggest that adult learners tend to seek information that matches their societal roles, that they go to the places where they feel comfortable, places that are non-intimidating, user friendly, and in which others speak their language, that of the uninitiated public. Therefore, the tendency is that adult learners appreciate being in an informal and familiar atmosphere, free from the pressures of the formal learning environment (Heimlich, 1996; Cerf & Hemidy, 1999; Kilpatrick & Rosenblatt, 1998; Knowles, 1978; Seaman & Fellenz 1989). The study of

Karbasioun, Mirzaei & Mulder (2005) also points at the power of informal learning over formal courses. So, courses for professional development of AEIs should be based on these notions to a large extent. Various extension programs have been carried out by the agricultural extension organization (AEO) in Iran using techniques such as farm visits, key farmers, constructional army, Basij (construction) groups, and rural councils. (Heidari, 2000, 2003). Along with these programs, various extension courses have been provided for farmers in which AEIs are involved by the Ministry of Agricultural-Jihad (MAJ), in co-operation with some other organizations (Karbasioun, Mirzaei & Mulder, 2005). Many studies showed that extension courses had added value for farmers; nevertheless, a number of obstacles in the implementation process of these courses have decreased their effectiveness (e.g. Arabzadeh, 1997; Chizari & Karbasioun, & Lindner, 1998; Karbasioun & Chizari, 2004a, 2005; Karbasioun, Mirzaei & Mulder, 2005; Karbasioun & Mulder, 2005; Karbasioun, Mulder, Biemanse, 2006a; Keshavarz, 1994; Zamani & Talebianpour, 2001).

Barriers identified in the studies mentioned above are partly of physical and partly of psychological nature. For instance, Arabzadeh (1997) showed that although extension training programs (courses) have had positive effects, they are confronted with some difficulties that hinder their success. He listed major negative factors such as the inappropriateness of the classroom environment (such as light, seating, and ventilation), shortage of instructional technology tools, the existence of incompetent instructors, and the lack of scientific visits from successful farms and local manufacturers. Chizari et al (1998) in their study also investigated the most crucial obstacles in extension courses. They discovered ten main constraints for the implementation of extension courses such as lack of facilities for practical teaching, incompatibility of participants' combination in terms of age, gender and career, and the lack of linkage between instructors of the courses with research centers. Moreover, they showed that AEIs lack various technical and general competencies².

Karbasioun et al (2005) in their recent research underlined the positive effects of extension courses on farmers' job status. However, they reported that these courses suffer from low level farmer motivation, lack of follow-up and continuity of training programs for farmers, shortage of funds allocated to the courses, and inadequate attention paid to personal characteristics of farmers in designing extension courses.

Purpose and research questions

To come back to the main point of this study, which is the analysis of farmers' experiences with and perceptions of courses and instructors in Esfahan province, there is very little information about this topic until now. As said, this study is a part of a bigger project that aims at designing a competency profile for AIEs. In the larger project, various groups of respondents, including farmers, experts, managers, and AIEs, were involved in data collection. The findings of this study will be used to formulate conclusions for the development of the competency profile. An important issue in this is the consideration regarding the specificity needed in differentiated competency profiles. For this, the role of farmers' courses provided by AIEs will be evaluated. The extent to which farmers are satisfied with these courses and also their opinion on actual and desired competencies of AIEs will be reviewed. Furthermore, farmers' course needs are studied. So the main purpose of the current study is to explore farmers' views about agricultural extension courses, motives for attendance, and competencies of agricultural extension instructors to find essential ingredients for the competency profile for AIEs.

The specific research questions of this study are the following:

1. What are the motives for farmers to attend agricultural extension courses?
2. To what extent do farmers appreciate the most recent course they attended?
3. What topics do farmers suggest for future courses?

4. To what extent do farmers evaluate the agricultural extension instructors (AEIs) as being competent?
5. What competencies do farmers think an AEI should possess?
6. What are the relationships between farmers' personal and farm characteristics (age, gender, education, land size etc.), course attendance motives, course satisfaction and the perceived competencies possessed and needed by AEIs?

Methods and data sources

In this study, interviews and a survey questionnaire were used for data collection. A pilot study was conducted which consisted of 27 explorative, semi-structured interviews with farmers in two townships of the province of Esfahan³. Based on the results of this pilot, a questionnaire was developed for a larger survey. The questionnaire included open and closed questions. In designing the closed questions, a 5-point Likert-type scale was used.

The data collection process lasted two months from March until April 2005.

The survey was done amongst 102 farmers, who were selected based on their participation in extension courses offered by the AEO in the province of Esfahan during the year 2004. The number of farmers selected from each township varied based on the size of the township and farming population there. The reason for choosing farmers who had participated in extension courses was to focus on the view of farmers who have already received some training via the courses, and therefore would be able to express their views about the characteristics and qualifications of those courses and the AEIs. Additionally, because the results of this research are supposed to provide support information for the main project (designing a competency profile for AEIs), participating farmers could also provide information about what was going on in the courses they followed. Obviously, the results of this study cannot be generalized to

the complete population of farmers in the province of Esfahan, due to the characteristics of the target group.

Given the diversity of fields of the training programs, a proportionate sampling method was used by which all different areas were covered. The sample was distributed over 17 townships.

Because the education level of the majority of the farmers was low, experienced experts who were familiar with the context of the farmers and who were neither AEIs nor the employees of AEO were selected to interview farmers. The interviewers were specifically trained for the interviews.

The questionnaires were completed during the personal field interviews in the farmer's villages (by visiting the farms or homes). Inasmuch as farmers were usually busy with their farming activities at the months of interview, suitable times were appointed by getting help from rural council members in the villages. Each interview lasted from one to one and half hours. Upon interview, simplification and explanations were given by interviewers in order to prevent any misunderstanding on their part.

To test the validity of the questionnaire, thirteen copies were provided and distributed among experts in the Ministry of Agricultural-Jihad using email and personal contact. Their remarks were taken into account. The reliability of the questionnaire was pilot-tested amongst a group of twenty-two farmers who were in a similar position as the target population. Finally, based on the expert appraisal and pilot-test with farmers, the questionnaire was amended where necessary. The data were analyzed by applying descriptive statistics and correlation techniques, including factor analysis. The structure and content of the questionnaire is as follows (number of questions for each topic is mentioned between brackets): demographic characteristics of respondents (8); products produced in the farm (7); reasons for participating in courses presented in the village by the agricultural extension services (AES)⁴ (11); extent

to which extension courses were relevant for real problems and difficulties in the farm (1); benefits gained from participation in the most recent course (3); characteristics of the last extension course taken (11); topics for future courses (1); actual competencies of AEIs involved (16); desired competencies of AEIs (1 open question).

Results

The results of this study will be presented in the order of the research questions. That means that first of all the motives of farmers for course attendance will be addressed. Next, the alignment of the courses to the needs of farmers will be presented. After that, topics for future courses will be reviewed. Subsequently, the results regarding the farmers' evaluations of AEIs will be addressed. And after that, the competencies farmers find important for AEIs will be presented. Finally, the relationships between farmers' personal and farm characteristics, course attendance motives, course satisfaction and the competencies possessed and needed by AEIs will be analyzed. This will lead to the conclusions section in which the essential question of this study is answered, which is to what extent the whole project can result in a general comprehensive competency model, or to what extent target group differentiation is needed in the model. But first of all some background information about the research group in this study is given.

Background information

Analysis of the personal characteristics of the farmers shows that 4% of them were uneducated. Of the respondents, 40% had completed primary school level, 22% secondary school and about 30% high school. Of the group, 83% were male, 86% were married and nearly 60% were over 40 years of age. Also, a considerable number of respondents (44%) possessed between one to five hectares of lands under cultivation and 21% more than ten

hectares of lands. Additionally, around 80% had personal lands (irrigated or dry-land), but 80% had no dry-land under cultivation.

In addition, the inter-relationship of farmers' personal traits was measured via using Kendall's tau (Kt) test. This showed that older farmers predominantly completed a low level of education (Kt= -.436**, Sig. = .000, N= 100); also, married farmers (men or women) were generally older (Kt=.454**, Sig. = .000, N= 100) and less educated (Kt= -.384**, Sig. = .000, N= 100) compared to single farmers.

The vast majority of farmers (87%) were involved in crop production and in decreasing percentage they produced mainly animal products (57%), fruits (48%), and vegetables (21%). The flower-growing sector was non-existent and the fishing (6%) and local handcrafts (3%) sectors were negligible.

These personal characteristics of the target group were very similar to the characteristics of the target populations in previous studies (Karbasioun & Mulder, 2004; Karbasioun, Mirzaei & Mulder, 2005).

Motives

The four most important motives reported on a 5-point Likert scale (0= nothing; 1= a little; 2= moderately; 3= very; 4= very much) were: acquiring new knowledge (M= 3.5; sd= .74), acquiring skills and experience (M= 3.4; sd= .82), personal interest (M= 3.1; sd= .85), and becoming more familiar with other farmers and extension employees (M= 2.9; sd= .78). On the contrary, the least important reasons were (ranks= 9, 10 and 11) getting a certificate at the end of the course (M= 1.0; sd= 1.26), spending free time, and being amused (M=0.6; sd= 1.10), and the insistence of friends (M= 0.4; sd= .98).

In other words, results show that the main motives for farmer participation are knowledge and skill acquisition, personal interest and socializing, whereas other incentives, such as receiving a certificate or spending free time are not crucial.

Alignment of courses and evaluation of the most recent course characteristics

As to the alignment of courses, farmers were asked to what extent they addressed their real problems, whether delivering extension courses was helpful at all. The average perceived alignment of the courses (235 courses up to the time of the interviews) to the real problems on a 5-point scale (0= not at all; 1= a little; 2= moderately; 3= very; 4= very much) was 3.15 (sd= .82). This means that farmers on the whole were very satisfied with this alignment. Furthermore, more than 95% of the farmers perceived the courses to be ‘good’ and ‘excellent’ in terms of the quality of implementation. Here the average (M) on a 4-point scale (1=weak; 2= moderate; 3= good; 4= excellent) was 3.6 (sd= 6.27). These findings are similar to what has been found in previous studies (e.g. Dashti, 1994; Keshavarz, 1994; Arabzadeh, 1997; Zamani & Talebianpour, 2001; Karbasioun & Chizari, 2004a, 2005; Karbasioun, Mirzaei & Mulder, 2005; Karbasioun & Mulder, 2005). For this course evaluation, 11 items were considered and the items were rated on a 5-point Likert-scale (0= nothing; 1= a little; 2= moderately; 3= very; 4= very much). The results showed that in general farmers had a rather positive opinion about the courses; they rated the items predominantly as ‘moderate’ and ‘good’ ($3.2 \geq M \geq 1.7$; $1.48 \geq sd \geq .58$). The farmers were satisfied with the timing of the courses (M= 3.2; sd= .70), applicability and feasibility of the content of the courses (M= 3.2; sd= .61), contact with staff members of the courses (M= 3.1; sd= .63), location of the courses (M= 3.0; sd= .64), and quality of catering and hospitality during the courses (M= 3.0; sd= .58). Aspects of the courses that could be improved were: examination methods (M= 1.7; sd= 1.48), and instructional technology and use of audio-visual instruments during the course (M= 2.0; sd= 1.15). According to these results, the farmers surveyed found that the courses were helpful but needed to be re-designed in some aspects such as the examination methods and the use of instructional technology (see also Karbasioun, Mulder, Biemanse, 2006a,

2006b). There is however room for improvement as to strategies for registering participants (Item 8: $M= 2.6$; $sd= .74$) and the length of the courses (Item 9: $M= 2.6$; $sd= .94$).

Topics for future courses

Farmers were asked to mention topics for courses they would like to be given in the future. This question was designed to uncover the specialization of AEIs that are needed in extension courses. For this, an open-ended question was included in the questionnaire and asked during the interviews. After that, the answers were coded and categorized in different groups. According to the results, the topic that was wanted by the majority of the farmers first is crop products; 56% of the respondents mentioned this. Next, 43% mentioned using different inputs in the farm, 34% mentioned orchards, 34% vegetables, and 29% animal production. Other topics for courses were significantly less wanted according to respondents. Irrigation methods (7%), healthy production of milk (3%) and packing of agricultural and animal products (1%) were mentioned by only a few farmers. All topics mentioned were already presented by MAJ but with different frequencies. The preferences mentioned by the farmers have implications for the disciplinary background of the trainers required and the AEI competence profile.

Competencies of AEIs as experienced

The competencies of AEIs as experienced by the farmers who took part in the courses, was also assessed. According to the results, most of the competencies were being rated as 'good' to 'moderately good' ($2.3 \geq M \geq 3.3$; 0=very weak; 4=very good). It can be concluded that according to the respondents the AEIs had a rather adequate level of practical and technical knowledge and skills to teach a training course. The AEIs were capable of communicating the ideas in a comprehensible manner and listening to queries presented by the trainees. They seemed sufficiently experienced in the subjects they teach, class management, and communication skills (Ranks 1 to 3: $3.3 \geq M \geq 3.1$; $.79 \geq sd \geq .57$). However, the farmers expressed the least satisfaction with the evaluation skills (Rank= 7: $M= 2.6$; $sd= .86$), post-

course follow-up (Rank 8: M= 2.4; sd= 1.01), and the use of appropriate instructional methods during the courses (Rank 9: M= 2.3; sd= 1.19). Therefore, in the experience of these farmers, the AEIs were adequate, but there is room for competence development in a number of areas such as ways to encourage and stimulate farmers, examination methods, post-course follow-up, and instructional technology skills.

Competencies of AEIs that farmers want

In addition to the previous question, farmers were asked to formulate the competencies of an AEI via an open-ended question. The results were coded and categorized. The intention of using an open question here was to give farmers the opportunity to formulate their opinions freely. The results are that 42% of the farmers thought that competent AEIs should have current knowledge and up-to-date information, and also 42% believed AEIs should have experience in the field of the course. A smaller percentage indicated that AEIs should use principles of supporting adult learners (27%), be competent in applying teaching methods (23%), be familiar with farmers' culture and language (20%), and finally, be aware of farmers' actual problems (23%). The items are indicators of the farmers' impressions about competencies of the AEIs in general; therefore, the categories are not comparable with those used in Table 3 and were more specific.

A generic competency model for AEIs possible?

The final research question in this study is what are the relationships between farmers' personal characteristics, course attendance motives, course satisfaction, and the competencies possessed and needed by AEIs? This question is important to evaluate the possibility of creating one general competency profile of AEIs.

First of all, the relationship between personal characteristics and course attendance motives was studied. To explore the correlations between motives and to categorize them, an exploratory factor analysis was conducted for the data presented in Table 1. The factor

analysis used was a principal components analysis with factor extraction and VARIMAX rotation. This was done to examine the uni-dimensionality/convergence and discriminatory validity. The four commonly used decision rules were applied to identify the factors (Hair et al., 2005): 1. minimum eigen value of 1; 2. minimum factor loading of 0.5 for each indicator item; 3. simplicity of factor structure; and 4. exclusion of single item factors. Reliability was evaluated by assessing the internal consistency of the indicator items of each construct by using Cronbach's alpha.

As can be seen in Table 5, the motives for course attendance are categorised in three main components, which have been named *Personal Development*, *Performance Improvement*, and *Extrinsic Motives*. Personal development and performance improvement together can be seen as intrinsic motives for course attendance. As mentioned before, the items that had a correlation of higher than 0.5 were loaded in one component. Personal development motives could be defined as farmers' personal interest for taking part in the courses. Performance improvement motives are identified as information and skill-seeking behaviour of farmers. And finally, extrinsic motives can be described as motives that are not directly related to the course content and objectives, but to influences from outside, such as encouragements to participate in the courses by friends (see for details Table 1).

Table 1
Rotated Component Matrix for the motives of course attendance¹

Motives	Component		
	Personal	Performance	Extrinsic

	development	improvement	motives
1. Acquiring new information		.88	
2. Acquiring new skills and experiences		.87	
3. Personal interest	.59		
4. Becoming more socialise with other farmers and extension employees		.70	
5. As a matter of curiosity	.62		
6. Extension agent' request			.64
7. Due to a good feeling of readiness and youthfulness via attendance at these courses	.84		
8. To get access to more facilities and services provided by extension centre after the course			.85
9. For getting a certificate at the end of course	.78		
10. For filling the free times and being amused			.71
11. Friends' insisting			.68

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ¹: Rotation converged in 5 iterations.

The relationships between personal characteristics of farmers and the three mentioned motivation categories were measured via using Pearson correlation test (r_p) for interval variables (age), Kendall's tau test (Kt) for ordinal variables (education level and categorized irrigated land size) and Mann-Whitney U Test for nominal variables (Gender and marital status). The significant results of the tests are presented in Table (2).

Table 2
Relationships between personal and farm characteristics of farmers and course attendance motive categories

Personal characteristics	Motive Category	r_p^1 (n)	Kt ² (n)	MW ³ (n, z)
Age	Personal development	-.483** (96)		
	Performance	-.212* (97)		

	improvement Extrinsic motives	-.260* (97)	
Education level	Personal development	-.156* (96)	
Size of irrigated land	Extrinsic motives	-.183* (91)	
Gender	Personal development		309.00** (95, -3.23)
	Performance improvement		400.50** (97, -2.72)
	Extrinsic motives		327.00** (96, -3.11)
Marital status	Personal development		251.00** (96, -3.10)
	Extrinsic motives		236.50** (97, -3.32)

Note: r_p^1 = Pearson correlation test; Kt_2 = Kendall's tau Correlation test; MW^3 = Mann-Whitney U Test; * = Correlation is significant at the 0.05; ** = Correlation is significant at the 0.01

The data show that there was a significant negative correlation between age, personal development, performance improvement, and extrinsic motives. Older farmers were less motivated for courses. But this particularly holds for personal development motives ($r_p = .483$, $N = 96$). Education level has only a negative relation with personal development related motives ($Kt = -.156$, $N = 96$), which means that higher educated farmers had less personal development motives for taking part in courses.

Differences between motives for the characteristics gender and marital status were tested with a Mann-Witney-U test. The differences were significant for the following relationships: gender and personal development ($MW = 309.0$; $Z = -3.23$; $Sig. = .001$), performance improvement ($MW = 400.5$; $Z = -2.72$; $Sig. = .007$), and extrinsic motives ($MW = 327.0$; $Z = -3.11$; $Sig. = .002$), as well as marital status and personal development ($MW = 251.01$; $Z = -3.10$; $Sig. = .002$) and extrinsic motives ($MW = 236.5$; $Z = -3.32$; $Sig. = .001$).

Furthermore, there was a significant negative relation between the size of the irrigated land a farmer owns and extrinsic motives ($Kt = -.183^*$; $Sig. = .010$; $N=91$).

No significant correlation were found between the kind of farmers' land ownership (personal, rental, or mixed) and any of three motive categories.

Also there was a significant positive correlation between extrinsic and personal development motives ($Kt = .238^{**}$; $Sig. = .000$; $N=96$).

Next, the relationships between personal and field characteristics of farmers and course/AEIs characteristics were tested. Farmers' general satisfaction with the courses/AEIs was divided into two main levels, low and high, and a T-test was done for age, and a Mann Whitney test for ordinal variables such as education level and land size. The results of the T-test showed that there was no significant difference between age and satisfaction with AEIs, but there was a significant difference between age and satisfaction with courses ($t = 2.892$; $df = 12$; $Sig. = .003$). The Mann Whitney test (MW) showed no significant difference between farmers' education level, kind of ownership, irrigated land and dry-land size on the one hand, and their satisfaction with both courses and AEIs on the other hand. Finally a significant relationship was found between farmers' satisfaction with the courses and their satisfaction with AEIs ($Kt = .211^{**}$; $Sig. = .004$; $N=102$).

Conclusions and discussion

As said before, many attempts have been made to construct competency profiles of agricultural extension employees. The most recent attempt is that of Shim (2006). These competency profiles are all broad, in the sense that they apply to various roles of the extension expert. The general project of which this study is part is aimed at defining a

competency profile of agricultural instructors, which is basically one role of the extension expert.

Coming back to the main purpose of this study, which was to analyze the extent to which one general competency profile of agricultural extension instructors would be possible, we come to the following conclusion. Given the data in this study, we think such a general competency profile is possible, but variation is needed as to the gender, marital status, learning motives, age and education level of farmers. These results support other related studies done by researcher et al recently (Karbasioun, Mulder, Biemanse 2006a, 2006b). Target group stratification and internal differentiation in courses should be included in the competency profile, because various relationships and differences were found in this study regarding course characteristics and competencies of instructors. For example, instruction (or more generally: learner support) can be differentiated by motives for course attendance such as leisure activity, acquiring new knowledge and skills, and actual performance improvement. Also, these motive categories might be used during the selection process of farmer-trainees, since these motives differ significantly.

Satisfaction with courses is rather high in general, but there is room for improvement. AIEs should be aware of that, and this should be taken up in the competency profile too. The competency would then read like: the AIE is sensible for areas for course improvement, is able to identify those areas, and is able to realize those improvements.

Various topics for future courses was identified by the farmers; their preferences were very clear. This has important consequences for the selection or professional development of extension instructors as well. If disciplines vary too much (like crop science and animal science), it seems hard to include these in the competency profile. But a general element in the competency profile should be aimed at the match between the field of the course and the

discipline of the instructor. There are, of course, overlapping areas, and interdisciplinary topics (like using inputs), and this should also be addressed in the competency profile.

The instructors (AEIs) are being evaluated quite positively by the farmers, although about half of their competencies are rated below the middle of the scale, so there is room for professional development on these competencies. However, if we take into account that much of the personal evaluations may be contaminated by social desirability, and we would deduct one point of the scores, all competencies would be rated as moderate or lower. Of course, this is not fully justified, because the level of social desirability is not known, but the general idea gives a certain perspective on the data.

Now that this study is done, it is a lost opportunity that the competencies with which the AEIs were evaluated were not used for the identification of the relevance of these competencies for the competency profile. The competencies used for evaluating the AEIs could be inserted in the competency profile as they are, but this is too easy, because they should be weighted from different perspectives, and not from the farmers' perspectives alone. However, it can be concluded that the most relevant competencies identified by farmers match the farmers' views on the actual competencies of the AEIs. Again, if the perceived competencies of AEIs would be corrected for social desirability, there would be a lot of professional development needs.

Looking back on the study we would suggest including a stronger performance focus next time. Farmers' perceptions and preferences are important, but what is also interesting is to what extent courses have actual impact on factors such as the farm, farming, product quality, market share, poverty reduction, and sustainable development. Needless to say, that this requires another study.

The farmers in this study found that AEIs were adequately qualified, but they needed development in some aspects such as motivational skills, implementing examination

methods, following up lessons, and using instructional technology. These findings are in line with previous studies (e.g., Chizari & Karbasioun, 1998; Karbasioun & Mulder, 2004).

Farmers expect AEIs to be more sensitive towards the real problems they face and to tailor the course content accordingly. Simple participation in these short-term courses is not enough to enable them to apply the knowledge gained. As such, they expect AEIs to provide a more practical teaching approach that includes a proper follow-up and evaluation.

As to the competencies of AEIs, respondents believe that a competent AEI should be well-informed (having up-to-date knowledge), be experienced, be able to apply the most relevant and up-to-date teaching methods, be familiar with farming culture and language and, finally, be aware of the problems farmers actually face. The competencies found in this study, and those found in the other studies of this project, will be taken together, and compared with the more general competency profiles of extension experts, such as the one developed and evaluated by Shim (op cit). The researchers hope to be able to report on this in their next contribution.

Notes:

¹AEIs are working for the Ministry of agriculture as part-time employees. These AEIs are distributed across 29 different provinces in Iran. On average, approximately 100 persons are working in each province. These AEIs teach farmers in extension courses that last between two and five days in most cases. The organisation of the courses and the selection of AEIs are regulated by law, and course directors at the local level need to comply with the regulations.

²Competencies are capabilities, capacities or potentials and can be understood as characteristics of persons, teams, work units or organizations which enable them to attain desired achievements. In other words, competencies comprise of integrated meaningful clusters of knowledge, skills and attitudes (Mulder, 2001).

³The Province of Esfahan is one of the biggest and most strategic provinces of Iran after Tehran. It contains 19 townships, 43 counties, 83 cities, and 121 big villages, consisting of plains as well as mountainous area. The total population of this province is 4, 316, 767 Persons and the city of Isfahan, itself has more than three million inhabitants. Rural population has been decreased during the years dramatically. There are totally about 535000 km. sq cultivable lands in Esfahan. Due to enough water resources, agriculture and animal husbandry are of high importance in Esfahan. Totally, %89 of the lands in the province is irrigated and %10.8 is non-irrigated or dry farming (Mirzaei, 2004).

⁴In Iran, AES officially started more than 50 years ago, following the basic philosophy for the existence of extension services, and from that time significant efforts have been made to

make farmers more productive, healthy and prosperous through applying appropriate extension programs.

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