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1 Introduction and background

1.1 Introduction to rural technology transfer

1.1.1 Agricultural and rural training

One of Romania's main aims is the creation and development of viable agricultural exploitations, in line with the EU standards. In this respect an important role is given to the National Agricultural Consultancy Agency (NACA), which identifies the needs of different category of farmers for agricultural training. For NACA 2006 was a successful year regarding agricultural and rural training in comparison with all recent years since the institution has been established, as a record number of 2926 training courses have been organised.

In order to realise the specific training activities both for specialists and for farmers the NACA together with the Professional Training Department and the different Producers' Associations had the following goals:

- development of a short and medium term strategy regarding training of farmers after identifying their needs for training services
- development and implementation of a Continuous Training Program according to the requirements of the EU standards
- continuing the authorising process of the different counties' agricultural advisory and extension offices that provide professional training
- coordination of territorial implementing of the 4.1 SAPARD measure ("Improvement of professional education").

Professional training going under the NACA provides the following course types:

- Training courses for qualification of the agricultural producers
- Training courses for continuing and better improving the professional education of farmers
- Training courses offered to perfection the professional knowledge of specialists in agriculture
- Training courses for trainers in agricultural advisory and extension services

1.1.2 Agricultural and rural advisory/consultancy services

In Romania agricultural and rural consultancy services are offered by both the public sector (NACA, the County Offices for Agricultural Consultancy and Local Centres for Agricultural Consultancy (LCAC)) and the private sector.

The public sector provides consultancy regarding producing technologies of arable crops: results of scientific researches that have practical utility to the agricultural producers, European regulations that need to be kept, both regarding activity on farms and processing of agricultural products, accessing EU funds and organising an informational system of editing, multiplying and free distribution of information materials (brochures, handouts, posters, handbooks).

1.1.3 Role of farmers' groups, including national or regional farmers' organisations

According to the strategy of NACA establishing the different forms of associations is a priority, as this is one of the most efficient forms and possibilities of creating viable sized agricultural exploitations, a more economic way of land use, of capital accumulation and competitiveness. By establishing different forms of associations agricultural exploitations have bigger chances in attracting and accessing governmental and European funds.

In this respect, the NACA through the Counties' Offices for Agricultural Consultancy (COAC) and Local Centres for Agricultural Consultancy (LCAC – at level of communes) disseminates the prescriptions and directions given by the framework of law regarding the creation, function and development of the different associative forms in Romania. These institutions offer as well technical assistance and consultancy regarding the training activity and information of the leaders of the groups and of the technical personnel. They elaborate programmes in order to exchanging experiences between the association forms existing in Romania and that in foreign countries.

Until now the NACA contributed to the establishment of:

- 31 co-operatives
- 12 producer groups
- 675 associations

At the moment are under establishment process:

- 25 co-operatives
- 63 producer groups
- 53 associations.

NACA has made a survey in order to evaluate the information level and preparedness of agricultural producers regarding the actual requirements of the market, ability of producers to identify the adequate size of agricultural exploitations in order to have a viable agricultural production [1, *Report – National Agricultural Consultancy Agency*]. The result of the survey showed that 81% of subjects consider that development of production on farm and obtaining secure and increasing returns are much facilitated by the different association forms. For farmers these issues would be the most important sources of motivation that would stimulate them to establish co-operatives or producer groups. At the same time agricultural producers are willing to associate in order to be able to make higher investments in the crop or animal sector, in services, production processes or organic farming, developing of market networks and access to community funds.

1.2 Agricultural and rural skill level

In the socialist period in Romania there has been a positive regarding the number of persons graduated secondary and high school in rural areas, though qualitative differences could be noticed between the educational level of rural and urban areas. In the first decade of transition period the rural education system has been negatively affected by the fact that graduated professors left the rural communes, the shutting down of small secondary schools in remote villages and mainly by the lack of interest for learning of the rural children and their families. In the last demand for vocational education increased especially because represents an advantage in finding job abroad.

As in most communes and villages only primary and secondary education is available and the cost of qualification in urban areas became relatively high a bigger share of the young (15-24

years) people are lower educated as their parents. Generally, people involved in agricultural production have no training and education in this field, and they lack of managerial and business skills. The education system can not face yet the challenges requested in order to diversify the rural economy (Dumitru, Diminescu and Lazea 2004, p. 48).

There are pronounced disparities between urban and rural areas regarding equipment for vocational and apprenticeship education, IT technology and teaching material. Generally, the quality of rural education is lower than in towns due to difficulties in attracting the best teachers. (Dumitru, Diminescu and Lazea 2004, p.48). As a consequence regarding vocational, apprenticeship, post high school and foremen education approximately one third of the young school age population living in rural areas has no access to it, which represents a risk for the human capital development in rural areas for the future. . Nevertheless according to the report of the Ministry of Education and Research on the national education system there is an increasing trend in the number of students enrolled in vocational and post high schools both in the urban and rural areas.

There are differences between the rate of tertiary education graduates coming from urban and rural areas (in 2004 – 2.8% in rural areas; 19.1% in urban areas). In the last years the interest for professional skill increased in rural areas, so the post high school and foremen graduates have been in 2004 – 9.9% in rural areas and 7% in urban areas. (*Raport asupra starii sistemului national de invatamânt* (Report on the national education system)).

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

Since the establishment of the NACA in 1998 the number of trainings provided by the Agency reached a record level in 2006 with 1075 training courses.

Training courses offered to perfection the professional knowledge of specialists (both from the private and the government sector) in agriculture and rural development were held at county level in collaboration with institutions from higher education and scientific research and NGO's. The courses had/have the following topics:

- management of the agricultural exploitation
- marketing of agro-food products
- Romania's accession programme to the EU
- information on new techniques, technology and legislation
- promotion of organic farming
- development of the agricultural exploitations applying to external financial possibilities
- association forms in agriculture
- presenting the legislation on food security of the population
- modalities for elaboration of projects in order to access the European funds.

In 2006 in collaboration with the Romanian-Austrian fund „Semanatorul” was held a seminar and several trainings for trainers in agricultural extension and advisory services. These trainings and practical experiences took place in Austria and in 8 Romanian counties from the central and southern part of the country for 143 specialists from the NACA, COAC and LCAC. The themes of the trainings were:

- Module I: Improving the cooperation between agricultural producers and advisors/consultants
- Module II: Methods used in consultancy
- Module III: Development and improvement of profitability of small and medium sized agricultural exploitations; consultancy methods presented during the seminar organised in Austria
- Module IV: Practical initiative in organising trainings and advisory work.

The diploma offered at the end of the courses was issued by the Romanian Ministry of Agriculture, Forestry and Rural Development and the Austrian Chamber of Agriculture.

2.1.2 Availability and spatial issues

The NACA has 41 local offices in each county that are named as County Office for Agricultural Consultancy (COAC) whose personnel are advisors and trainers in the territory regarding issues of agriculture and rural development. At the level of towns and villages through the 546 Local Centres for Agricultural Consultancy there is provided rather consultancy than training. This can be explained by the fact that the personnel of the local council who should handle these issues do not always have the proper thorough grounding and training.

In comparison the staff of NACA and COAC possess up to date and more qualitative information regarding these issues, as they have the chance to participate at international seminars, professional visits and trainings abroad, practical initiatives, demonstrative lots, changes of experience, in the realisation of different agreements with foreign country's institutions.

2.1.3 Practical issues

Regarding the training of trainers should be mentioned the most important collaborations with foreign institutions.

One of the most important problems regarding Romania's agriculture is the high number of existence of small semi-subsistence farms. The EU membership requires some form of association of these agricultural exploitations in order to benefit from CAP market measures and to face competitiveness. According to an agreement for a period of 18 months between the government of Japan and Romania assistance will be provided regarding the establishment of pilot cooperatives. In this regard trainings in “Management within the agricultural cooperatives” were organised both for consultants and farmers in four counties. There was published and distributed a handbook as well, with the title “Management within the agricultural cooperatives – Handbook for directors of agricultural cooperatives”.

The Romanian specialists from NACA and COAC were offered several other trainings from international institutions on practical issues, such as:

- With the collaboration of Christliche Ostmission fund from Switzerland: visits were made on organic farms (cereals, vegetable, medicinal and aromatic plants, animal breeding), demonstrations of recycling of waste materials, preparing compost. The duty of the Romanian specialists being to disseminate the information to advisors in agriculture and farmers by organising meetings, round tables.
- According to a protocol made between the Austrian Association for Sheep Breeding and the COAC of Sibiu county trainings will be organised to farmers regarding sheep breeding for milk and meat, processing of milk and meat and the establishment of a sheep farm.

Trainings organised from part of NACA and COAC to agricultural producers and farmers were:

- Training courses for qualification of the agricultural producers
- Training courses for continuing and better improving the professional education of farmers

At the moment agricultural production is being realised by a high number of producers who lack of professional training. A survey made by the NACA and its territorial offices (COAC) revealed that trainings for improving the professional knowledge of agricultural producers should cover the following topics: arable crops, zoo technology, horticulture, fishery, mechanisation, agro-tourism, forestry.

The thematic content of professional training had as well other modules, such as:

- management of the agricultural exploitation
- agro-food marketing and specific legislation
- accountancy and business administration
- Romania's integration into the EU
- organic farming
- professional organisations and other association forms.

Trainings put accent on practical training and were organised on agricultural exploitations, instructional/didactic and private farms which dispose of adequate and suitable technical equipment, workshops.

2.1.4 Demand side issues

In 2006 there was a high demand for agricultural and rural trainings regarding both their intensity and diversity. The increasing interest coming from the part of the beneficiaries can be explained by their willingness of having the possibility to access governmental and European funds improve their professional knowledge in order to be able to create modern and profitable agricultural exploitations and.

Demand for trainings organised to continue and improve the professional education of farmers are due to their growing needs for new technological, economic and legal information that helps them to organise, coordinate and evaluate their agricultural activities. In this respect the trainings had/have the following themes:

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- new technology elements (arable crops, zoo technology, agro-food industry, fisheries and others)
- information on new legislation put into force (subsidies given by the Ministry of Agriculture, Forestry and Rural Development), EU legislation, Common Agricultural Policy, association forms
- promotion of programs on accessing governmental and Community funds
- life annuity
- Farm Register
- milk quota
- management of the agricultural exploitation
- marketing of agricultural products
- protection of the environment – Code of best agricultural practices
- presenting the elements regarding agro-food security of population according to the EU standards
- organic farming
- agricultural technologies – seasonal working
- other courses

In 2006 NACA and COAC organised 2926 trainings, as follows:

- 1831 training courses for qualification of the agricultural producers
- 1075 training courses for continuing and better improving the professional education of farmers
- 12 training courses offered to perfection the professional knowledge of specialists in agriculture
- 8 training courses for trainers in agricultural advisory and extension services

The total number of persons who in 2006 obtained professional training offered by NACA, COAC and LCAC (both for their own staff and agricultural producers) was 170791, out of which:

- qualification of the agricultural producers: 36741
- continuing and better improving the professional education of farmers: 131447
- perfection the professional preparedness of specialists in agriculture: 2460
- courses for trainers in agricultural advisory and extension services: 143

2.1.5 SWOT analysis

Training provision

Strengths	Weaknesses
<ul style="list-style-type: none"> - there is an increasing tendency in demand for continuous professional training activity in agriculture - diversification of agricultural fields where training is provided - implementation of externally financed programmes (PHARE, PHARE-VET, World Bank, SAPARD, etc.) regarding employment, information and training are starting to show their results - the increasing consciousness of beneficiaries intensifies the implication and participation of all training providers 	<ul style="list-style-type: none"> - a rather unstable and incoherent legislation system in the last 10 years - lack of continuous training programmes for adults in agriculture and rural development - lack of financial resources to run the agricultural training programmes - lack of specific material, logistics and of a well prepared human capital - difficult access to external financial resources for agricultural and rural development programmes - lack of infrastructure in the rural areas led to increased difficulties to beneficiaries in accessing different training programmes
Opportunities	Threats
<ul style="list-style-type: none"> - accessing EU funds for improving professional education level in agriculture and rural development - increasing the number of beneficiaries by organising trainings in the more remote areas as well - increasing the involvement of universities in organising trainings in collaboration with NACA - using the experience's collected as a result of the cooperation with international institutions 	<ul style="list-style-type: none"> - lack of proper infrastructure in order to provide trainings in communes, villages (remote areas) - risk of lacking the new techniques and equipment necessary for the implementation of the practical issues of the training courses

Source: *Raport - Agentia Nationala de Consultanta Agricola* (Report – National Agricultural Consultancy Agency), 2006

2.2 Extension and advisory services

2.2.1 Public sector services

In Romania the Ministry of Agriculture, Forestry and Rural Development is responsible for the institutional structure of the system. Since 1998 the extension and advisory services are structured on three levels: the NACA which has small personnel with around 32 specialists, the COAC with about 8 specialists in each county and initially was intended that each of 2900 communes would have 1 specialist, but in reality there were around 700 by total. Between 2001 and 2005 there were a number of negative effects generated by the fact that the consultancy services at county and commune level were transferred under the authority and control of the

Ministry of Agriculture Forestry and Rural Development. According to GO 22/2005 regarding the reorganisation of NACA the territorial offices and centres (county, commune) go under the authority of NACA and financing will be realised not only from resources from the state budget but from external sources as well.

The main extension and advisory services providers are the NACA, NGOs, the private sector, input suppliers and processors from the agro-food industry. Clients are both small farmers and those who produce for the market, agricultural associations, input suppliers, traders and processors.

2.2.2 Private sector services

Lack of financial funds in the public sector (travel costs to communes, publishing brochures, making up to date experiments) limits the supply of consultancy services. As a result, in Romania extension and advisory services start being offered in the private sector as well. These companies are predominantly linked to input supply activities that offer agricultural producers new technologies when selling their products without perceiving any additional costs. The private sector had an important role in the development of the agro-food sector, as the majority of projects obtaining financial resources from the SAPARD fund (Measure 1.1 Improving the processing and marketing of the agro-food products and fishery industry) were elaborated by private companies (2).

The private sector offers services in technical assistance, elaboration of studies and projects, research and development, information related to agricultural production, disseminates information regarding to market prices, sales and legislation. Beneficiaries of private sector consultancy services are predominantly commercial companies and agricultural associations and to a lesser extent individual farmers.

The number of NGOs offering consultancy services in rural areas is around 730 and they are present in each county. They offer consultancy regarding the association of farmers in animal breeding, food processing, food industry, arable crops, as well as activities in protection and preserving of forests, soil, water.

The personnel of the private companies and NGOs are around 1-14. The number of people who have tertiary education level is almost 100%, while in the public sector this is about 75% (2).

2.2.3 Demand side issues

The importance of extension and advisory services in agriculture and rural development was neglected until recent years. This is due to the historical structure and legacy of the way of functioning of the centralised structure of decision making. On the second hand, to the basic characteristics of consultancy services that these are answers to needs generated by the free will and decision of the agricultural producer (2). That is when the agricultural producer will be able to take own decisions regarding what to produce, he will be the one to turn for information. The growing demand for consultancy service in recent years, especially 2006, started to increase.

According to the report of NACA extension and advisory services offered by the public sector in 2006 were:

- 1 199 demonstrative lots on 15 522 hectares with different arable crops
- Technical-scientific programmes: 293 symposiums, 336 seminars, 1033 meetings, 305 round tables, 489 debates attended by 620 000 persons (specialists, representatives of associations and different input suppliers, young farmers, agricultural producers)
- 103 fairs, 95 expositions, 34 competitions, 31 festivals
- Making audiovisual materials: daily broadcasting on radio (both at national and county level) and weekly and periodical broadcasting on television
- Free distribution of different informative materials (brochures, posters, handbooks).

Consultancy in technical assistance and farm development was predominantly offered to small and medium sized exploitations by NACA:

- Offering consultancy and technical assistance: information campaigns regarding the Farmer Programme, SAPARD programme, milk quota, Farms Register, legislation regarding land property, but as well as correct application of production technologies, identification and utilisation of inputs, management of production, EU legislation
- Elaboration and territorial distribution of 75 type-projects for establishment and consolidation of agricultural activities in the rural areas regarding arable crops, animal breeding and processing industry, agro-tourism.
- Elaboration of documentation and technical assistance in order to obtain financing from the Farmer and the SAPARD Programmes (779 projects for the Farmer and 242 projects for the SAPARD Programmes)
- Helping the agricultural producers with information and filling out the forms regarding the milk quota.

2.2.4 SWOT analysis

Extension and advisory services

Strengths	Weaknesses
<ul style="list-style-type: none"> - <u>The public sector (NACA, COAC)</u> - Although at present it is not fully exploited, the NACA network has the capacity to identify the needs at local level - Sufficient number of personnel specialised in different fields - High demand for professional qualification of farmers - The extension and advisory services are offered and directed according to the specific groups of beneficiaries (professional associations, farmers organisations) 	<ul style="list-style-type: none"> - <u>The public sector (NACA, COAC)</u> - Lack of financial funds for expenditures - Difficult and rigid communication between consultant and beneficiary - Insufficiency or even lack of communications equipment. Difficult access to informational sources (media, internet, etc.) which leads to difficulties in reaching new technologies or practices - No feedback to the central institutions responsible for developing the agricultural policies - Legal constraints to stimulate local consultants (at level of communes) - Lack of a solid strategy to attract additional funds

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<ul style="list-style-type: none"> - <u>The private sector</u> - Market oriented supply of extension and advisory services - The dissemination of information regarding products and technologies is made jointly with the supplier of inputs - The personnel is specialised in elaborating studies and projects - Possibilities for continuous 	<ul style="list-style-type: none"> - <u>The private sector</u> - Yet, there are only a few number of private firms - Access of beneficiaries to these services is limited, because of their limited financial resources and that the private firms are situated in highly productive areas - The advisory and extension services given from the part of the private companies are offered particularly to associations and professional organisations and to a smaller extent to (small) farmers
<p>Opportunities</p>	<p>Threats</p>
<ul style="list-style-type: none"> - <u>The public sector (NACA, COAC)</u> - Possibilities of attracting external funds with the reorganisation of NACA according to GO 22/27.01.2005 - Possibility of stimulating local consultants - The Accession to the EU will create additional possibilities and chances to Romanian farmers – access to technologies already existing in the EU - The appearance of bigger private farms will create better possibilities for those who offer extension and advisory services, including NACA - Formation of more powerful farmers organisations - Putting accent on offering extension and advisory services to groups, rather than to individuals - <u>The private sector</u> - Growing potential of private sector and of NGOs to take over extension and advisory services - Appearance of bigger farms will create growing possibilities to consultancy services suppliers - Changing the education and mentality of farmers and increasing their interest towards new technologies - Accessing funds with based on a project creates opportunities for the development of the sector 	<ul style="list-style-type: none"> - <u>The public sector (NACA, COAC)</u> - Competition in agriculture from the part of the private international and national companies is increasing (new products and new technologies) - Low financial sources coming from the state budget will continue to weaken the capacity of consultancy, especially if extension and advisory services will continue to be offered free of charge - Lack of motivation of local advisors might determine their migration into the private sector - <u>The private sector</u> - The mentality of the Romanian farmer - Lack of an adequate education - Limited financial resources at level of small and medium sized exploitations - Lack of a “common language” concerning the mentality and understanding of farmers

Source: *Studiu de cercetare asupra impactului consultantei în zootehnie și în industria alimentară* (Research study on the impact of extension and advisory services in zoo technology and agro-food industry), 2005

3 Overview and prospects

3.1 Training

The data of NACA according to which the number of trainings in 2006 grew and reached a peak (2926 trainings) shows that demand for these services is growing. The majority of trainings are offered by the NACA and to a lesser extent by the private sector. In order to offer more qualitative training collaboration with institutions from higher education and scientific research, which at the moment is still weak, needs to be developed and enforced.

The different EU programmes will bring future possibilities regarding the development of training process through the different trans-border collaborations, the implementation and use of the experiences of the EU to stimulate innovation. These possibilities are awaited to contribute to spread of best practices in professional training.

3.2 Extension

According to the study (2) on the impact of extension and advisory services in zoo technology and agro-food industry 67% of the surveyed persons obtained these services, while 33% did not. The beneficiaries applied to consultancy services to access new technologies for their units, to prepare the documentation to access SAPARD funds, to comply with the sanitary-veterinary norms, to purchase equipment and to establish a business.

Extension and advisory services led to increasing the turnover, the net profit and the quality of the products in 70%, 40% and respective 83% of those asked. At the same time only 11.5% neglected the benefits that consultancy services might bring, while 31% considered it very expensive and 69% as affordable.

All this considered can be said that in future, as the financial possibilities of agricultural producers grow, it is expected that demand for extension and advisory services will increase further with accent on private sector. This can be said especially in the case when access to consultancy and extension services from the public sector though is offered free of charge, beneficiaries act suspicious fearing that they might pay taxes at a later date.

3.3 Linkages between technology transfer agencies

In Romania the Ministry of Education and Research is who elaborates and defines the global objectives of the education system and is responsible for the implementation of the educational policy. Among this its duty is as well as to elaborate the objectives of the different educational levels and educational profiles. According to this consults the scientific associations of the teachers, the trade unions' form the different sectors, the associations of the local public administration, student's organization. Concerning vocational, apprenticeship, post high school and foremen education approximately one third of the young school age population living in rural areas has no access to it, which represents a risk for the human capital development in rural areas.

At the moment the cooperation between institutions of educational system and private business companies is very weak. There is a gap between the types of skills of what business entities demand and the courses and programs of the educational institutions.

The agricultural research activities in Romania are under the authority of the Romanian Academy for Agricultural and Forestry Sciences. This institution is coordinated by the Ministry of Agriculture, Forestry and Rural Development and cooperates with the following institutions: Romanian Academy, Corporation of Universities of Agricultural Sciences, Ministry of Education and Research, Ministry of Environment and Water Management.

The NACA in order to accomplish its objectives and responsibilities develops, among the before mentioned institutions, collaboration with the Ministry of European Integration, NGO's, prefectures, county and local councils.

In the near future linkages between technology transfer agencies could be more intensive as the producer groups grow stronger and the regional innovative clusters become more intensive in the field of agro-food production.

3.4 Case study: Cluj County

A survey had been conducted in April 2007 in order to find out the way people from rural areas participate on trainings, get informed about the Common Agricultural Policy of the European Union, agricultural technologies, subsidies to agricultural farms and rural SMEs, rural development measures etc., and how agricultural consultancy services are being used.

The survey covered 4 communes from Cluj county with different characteristics:

- Savadisla, a well developed commune close to Cluj-Napoca (20 km), where many people are occupied outside agriculture
- Cojocna, a commune 25 km to Cluj-Napoca, with a great potential for tourism (there are salted lakes with therapeutic effects), but where small-scale agriculture is the main occupation of people
- Iclod, a commune 35 km from Cluj-Napoca, situated on a main access road, with fertile agricultural land and tradition in animal breeding
- Margau, an isolated commune in the mountain area, 65 km from Cluj-Napoca, where the main occupation of people is linked to forestry and animal breeding (mainly sheep); the interest of tourists/hikers for this area is growing.

A number of 47 persons answered the questionnaires. Some of them lived in the administrative center of the commune, others in the belonging villages. 57% (27 persons) of those interviewed were women. Respondents were from the age-group 18 to 60 years: one person of 18 years old, 8 persons (17%) between 20-29 years old, 16 persons (34%) between 30-39 years, 12 persons (26%) from 40 to 49 years and 10 persons (21%) between 50-59 years.

The qualification level of the respondents is higher than the average in rural areas: 4 respondents (9%) had secondary education (8 classes), 7 persons (15%) graduated 10 classes, 3 (6%) vocational school, 22 persons (47%) high school and 10 (21%) had university degree.

64% of the respondents get regularly informed about the changes occurring in agriculture due to the accession to the EU. Men are informed in a higher percent (79%) than women (56%). Major sources of information are TV, newspapers, the employees of the Mayors' office and other

people, but quite many mentioned information meetings, training courses and around 10% use the Internet as the main information source.

The county-level Department of the Ministry of Agriculture, Forestry and Rural Development, as well as of the Office for Agricultural Consultancy organize public information meetings in each commune, even though not very frequently (once in a year or each second year). These meetings are announced in each village by the Mayors' office; they usually hang up posters in frequently attended places and also inform people verbally. Additional to these meetings, other meetings and training courses have been organized by NGOs active in rural development or agriculture, such as the micro-regional associations of the villages, the Civitas Foundation for a Civil Society, the Transilvania Ecological Club, the Bioterra Association, the Outward Bound and others.

The number and frequency of meetings organized in the villages, as well as the diversity of topics covered very much depend on how active people working in the Mayors' office or in the association of the villages. For instance in Savadisla there is a very active local development agent (who works for the association of the villages), who organizes at least 5 meetings per year in the commune center, covering a big variety of issues. In Margau, which is more remote and there is no person responsible for rural development programs employed, the last public meeting took place in 2005. Here the employees of the Mayors' office declared that the population lost the habit to participate on public gatherings, as very few of them were organized since 1990.

When people were asked whether they know about such meetings or trainings, a high percent (52%) answered that they do not know that such meetings would be organized, or they find out too late, after the event already took place. Women have better information channels about local events, than men: 56% of the women answered that they get to know about these meetings/trainings, while only 35% of men affirmed the same.

People who live in the administrative centers are better informed than those living in the belonging villages; those who have direct personal connection to the Mayors' office (work there or have relatives or neighbours who work there) are better informed than the rest. 8 people (17%) mentioned that they also search the Internet for such information. Internet is available in each Mayor's office and in some villages (Savadisla and Cojocna from our sample) there are information centers (tele-centers) where the public can access the Internet. The local development agent in Savadisla announce local events also on the Internet.

The percent of those who actually participated at public information meetings or training courses is even lower, 38%. Here again men are more active (45%) than women (33%), even though the information about such events reaches women more easily. Only people with responsible positions in the Mayors' office or in the associations of villages participate at meetings and/or training courses organized outside the commune, mainly in the county residence Cluj-Napoca, but also in other neighbouring towns (Huedin, Dej). Subjects of meetings mentioned by respondents were: EU agricultural policy, EU funding for farmers, Structural Funds, general aspects of the EU integration process. The training courses were organized on: animal breeding, agro-tourism, project management, ecological farming, computers.

The interest of people to participate at information meetings or trainings in the future is high (79%). Here again the men are more eager (90%) than women (70%). Subjects of interests are (in descending order): agro-tourism, rural development, agricultural production (modern technology of animal breeding, field-crops, fruit), agricultural infrastructure, setting up of fisheries, wood processing, funding for SMEs, general knowledge about the EU and EU funding opportunities,

business, foreign languages, computers, project management, proposal writing, methods for solving social problems.

In the studied area in the pre-accession period mostly local public authorities accessed SAPARD funds for projects of infrastructural development. They have used the consultancy services of the county-level Department of the Ministry of Agriculture, Forestry and Rural Development, as well as of the Office for Agricultural Consultancy. The interviewed farmers and entrepreneurs did not apply for EU funding. Local farmers try to find answers generally from the agent for agriculture employed by the Mayor' office or from more educated/informed members of the community.

Even though the sample chosen is not representative for Romanian villages, but the answers given allow us to observe how training and consultancy activity have been perceived. There is a passive interest for some themes, but in fact only a small part of population use the opportunities and participate at training and information activities offered to the public.

4 References

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4. ***, (2005). *Proiectele SAPARD – prioritate în activitatea de consultanta (SAPARD projects – priority in the consultancy services)*, *Fermierul*, Bucuresti
5. Dumitru, Mihail; Diminescu, Dana and Lazea, Valentin. (2004). *Rural Development and the Reform of Romanian Agriculture*, European Institute in Romania, Working Paper Series, no.10-11, Bucharest
6. ***, (2003). *Forța de muncă în România: Ocupare și somaj în anul 2005* (Labour Force in Romania: Employment and Unemployment in 2005), NIS, Bucharest
7. ***, (2005, 2006) *Romanian Statistical Yearbook*, Bucuresti, INS
8. ***, *ORDONANTA nr.22 din 27 ianuarie 2005 privind reorganizarea activitatii de consultanta agricola* (Ordinancy no. 22/2005 referring to reorganizing the activity of agricultural consultancy)
9. ***, *LEGE nr.36 din 30 aprilie 1991 privind societatile agricole si alte forme de asociere în agricultura*

10. ****, LEGE nr.26 din 27 martie 2000 privind aprobarea Ordonantei Guvernului nr.103/1999 pentru modificarea si completarea Ordonantei Guvernului nr.35/1994 privind ratificarea Acordului de împrumut dintre România si Banca Europeana pentru Reconstructie si Dezvoltare, în valoare de 25 milioane dolari S.U.A., destinat finantarii proiectului "Piata de Gros" Bucuresti, semnat la Bucuresti la 9 iunie 1994*
11. ****, Lege 170/2005 pentru ratificarea Acordului de împrumut dintre România si Banca Internationala pentru Reconstructie si Dezvoltare, privind finantarea Proiectului pentru modernizarea sistemului de informare si cunoastere în agricultura, semnat la Bucuresti la 28 ianuarie 2005*
12. ****, ORDONANTA nr.37 din 14 iulie 2005 privind recunoasterea si functionarea grupurilor de producatori, pentru comercializarea produselor agricole si silvice*

ANNEX

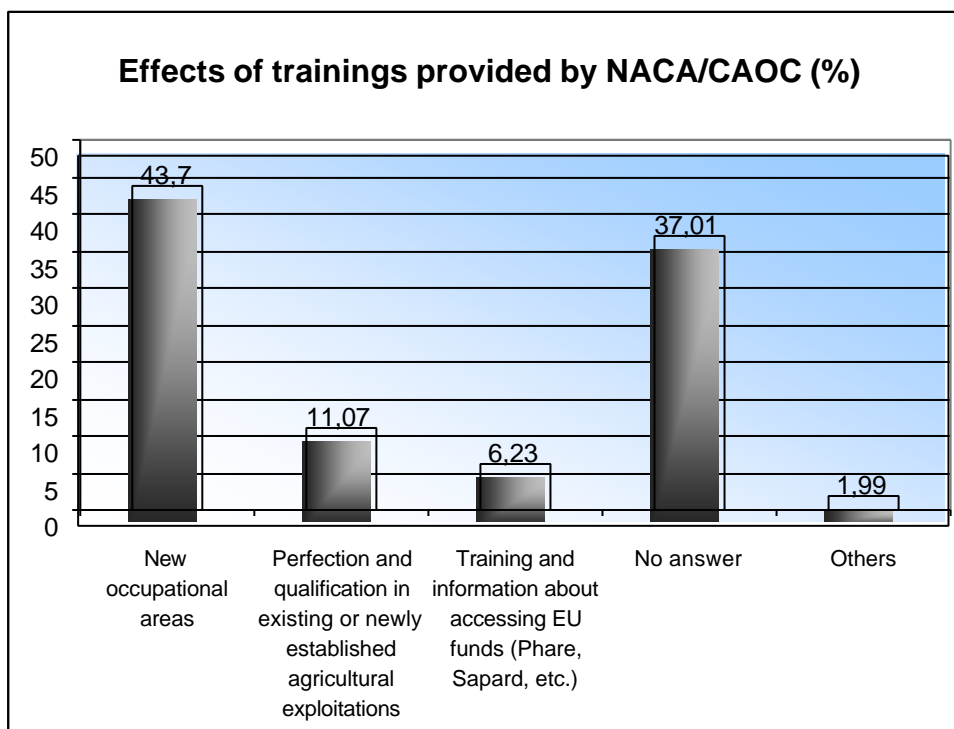
Training provision and use by the rural population

Approx. % of population that is rural by:	
(a) place of residence	45.1%
(b) place of work	n.a.%
Approx. % of all workers in rural areas in:	
(a) agricultural employment	64.2%
(b) non-agricultural employment	35.8%
Number of universities and similar institutions with agricultural courses	14 universities out of which 34 faculties (all state budgeted)
Number of colleges and similar institutions providing agricultural training	81 high schools (agriculture, forestry, agro mountain, veterinary)
Number of other training providers:	
(a) publicly funded	90%
(b) privately funded	10%
Approx. % of agricultural personnel with:	
(a) degree or equivalent	75%
(b) diploma or equivalent	
(c) certificate or equivalent	
(d) full secondary education	25%
(e) less than full secondary education	n.a.
(f) little or no formal education	n.a.
Estimated level of demand for further training: (use A=high, B=moderate, C=low)	
Agriculture – arable/cropping production	A
Agriculture – livestock production	A
Business management	B

Advisory and extension services available to agricultural and rural businesses

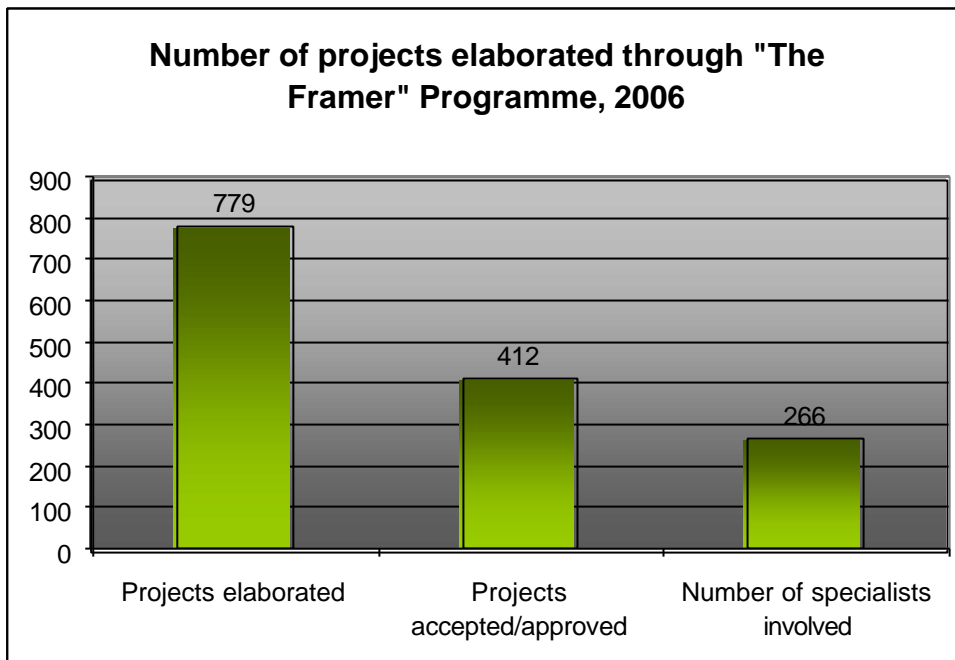
<i>Public sector organisations by name</i>	Approximate number of advisors or consultants
National Agricultural Consultancy Agency (NACA)	32
County Office for Agricultural Consultancy (COAC)	328
Local Centres for Agricultural Consultancy (LCAC)	700
<i>Private sector organisations by name</i>	Approximate number of advisors or consultants
Private companies	n.a.
NGOs	n.a.
Estimated % of farmers actually <i>using</i> advisory services of some sort	%
Estimated % of NAE rural businesses actually <i>using</i> advisory services of some sort	n.a.%
Estimated demand for <i>new</i> advisory services - % of all farms and other rural businesses	n.a.%

Fig. 1.



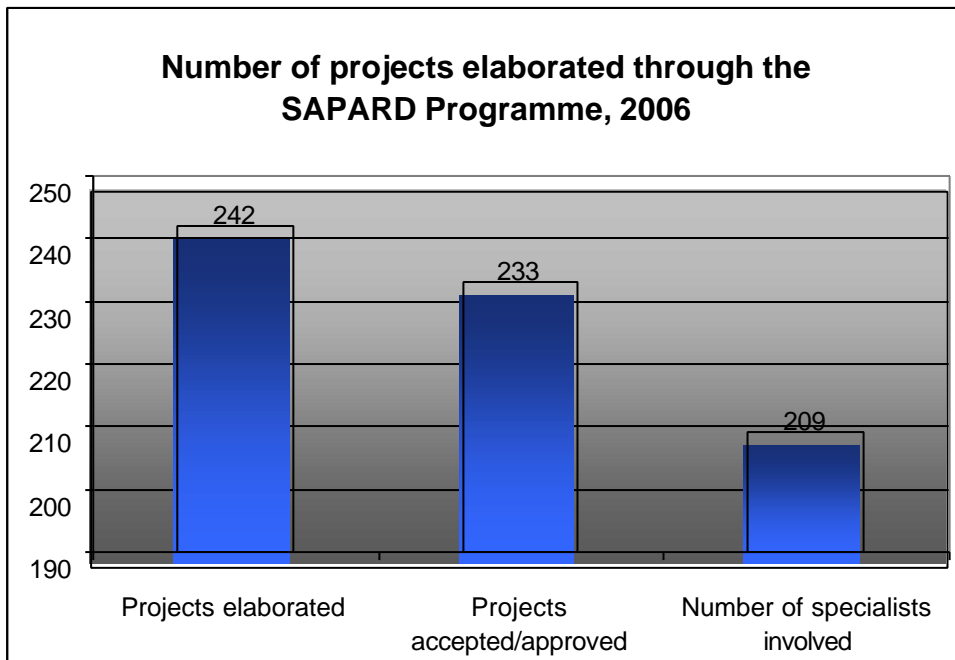
Source: Raport - Agentia Nationala de Consultanta Agricola, 2006 (Report – National Agricultural Consultancy Agency)

Fig. 2.



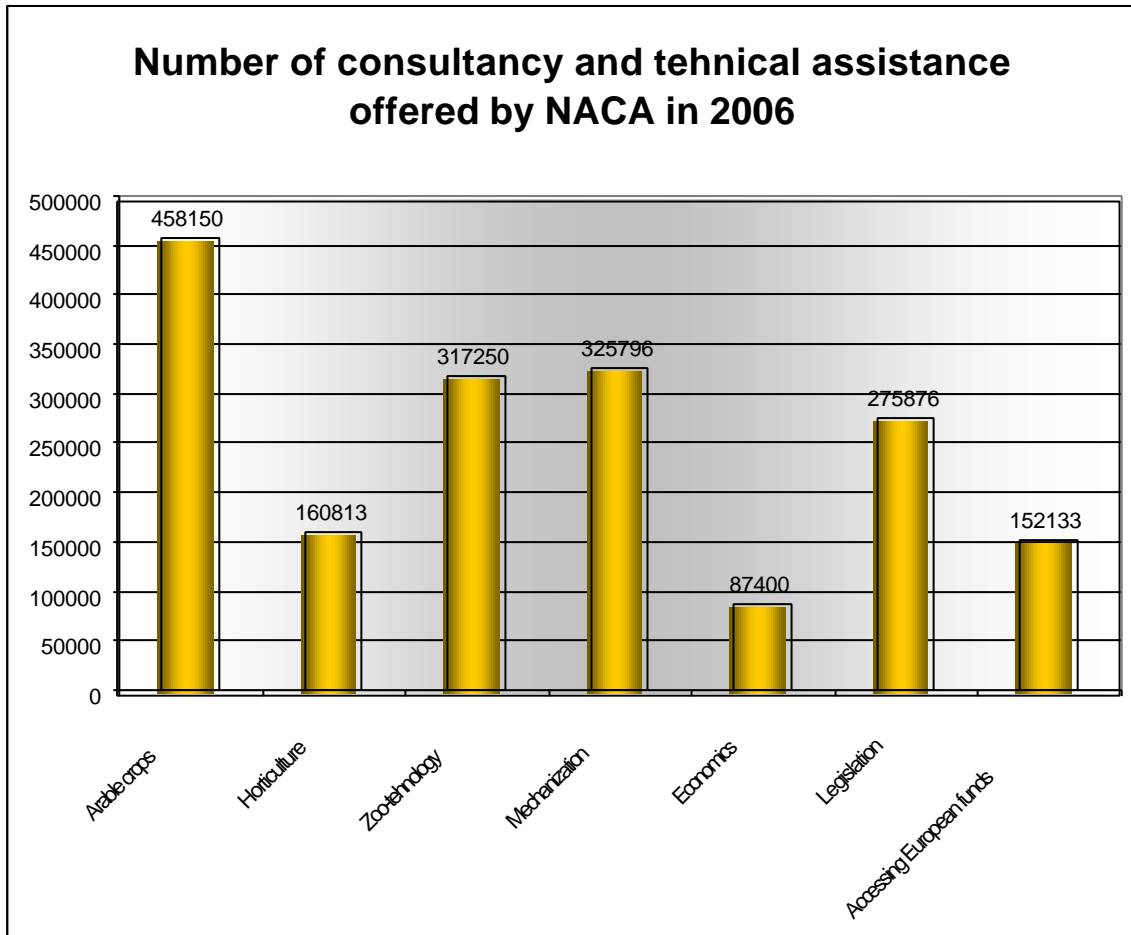
Source: Raport - Agentia Nationala de Consultanta Agricola, 2006 (Report – National Agricultural Consultancy Agency)

Fig. 3.



Source: Raport - Agentia Nationala de Consultanta Agricola, 2006 (Report – National Agricultural Consultancy Agency)

Fig. 4.



Source: Raport - Agentia Nationala de Consultanta Agricola, 2006 (Report – National Agricultural Consultancy Agency)

Guideline for report drafting

‘RURAL TECHNOLOGY TRANSFER IN TRANSITION ECONOMIES’

Brief

A broad study of the issues associated with ‘technology transfer’ in the context of agricultural and rural development in transition economies. These issues will include

- the level of farmers’ technical education and skills in relation to the likely future needs of the sector (encompassing technical skills, business and managerial skills, marketing competence, etc.);
- the nature, availability and accessibility of extension services, in both the public and private sectors;
- and the current strengths and weaknesses of training providers and extension services given the challenges facing rural areas.

Once again, an important aspect of this study will be expert and farmer views on the degree of ‘culture change’ as farmers and other entrepreneurs adapt to market conditions. The key issue is how this has affected farmers’ attitudes to, and uptake of, ‘technology transfer’. The technology transfer may have included involvement with training, contact with extension/consultancy services, and less formally from each other (whereby the best farmers may become the preferred source of practical learning for other farmers through some types of farmers’ group, or via larger gatherings better described as Farmers’ Groups or Associations, or Farmers’ Organisations if they operate at national or regional level).

Introduction and context

This study naturally follows on from the previous study of agricultural and rural employment in the context of the ‘Lisbon Agenda’. Against the background of the process of globalisation and, at the very least, a greater exposure of domestic producers to competition, from both inside and outside the European Union, technology transfer has a crucial role in rural development.

The progressive restructuring of the EU’s CAP has reached the stage where production subsidies are being progressively withdrawn in favour of alternative funding priorities, such as encouraging the adoption of more environmentally-friendly production practices in agriculture through the creation of a ‘market’ for the public goods which the sector produces. The increased urgency of the adoption of technology-based systems and structural changes in Western Europe has been driven by reduced price support (both real and anticipated) and the greater liberalisation of agricultural markets. At its worst, globalisation may have an adverse effect on social welfare through the harshness of unmanaged restructuring in agriculture and the consequent changes to traditional practices and communities.

Improving the speed and efficiency of technology transfer offers one way in which at least some of the adverse impacts of globalisation can be mitigated, enabling nations to commercially exploit their intellectual property. The proper outcome of publicly funded research is the improved economic competitiveness of the economic sector to which the research applies, in the present case agriculture and other rural economic activity, and the economic and social well-being of the people directly employed and indirectly supported by that sector.

Study scope

There are numerous definitions of ‘technology transfer’ and the closely related term ‘knowledge transfer’, and this is not the place to debate the merits of alternative definitions. In its most narrow sense, technology transfer is concerned with the effectiveness of the processes by which the outputs of research, broadly understood to include formal and informal activity, become available for use by those who are involved in the practicalities of production – in this case, in the agricultural and rural sectors of the economy.

So, technology transfer will certainly include the activities of agencies which have a clear technology transfer mandate, such as publicly funded extension services at universities, research institutes and other similar institutions. Typically, these services have been established with the explicit brief to help ensure the transfer of technology and pure research to ‘real world’ applications in economic activity.

More broadly, however, it should be apparent that technology transfer encompasses both formal and informal training, including not only that provided by institutions and agencies but also the spread of new knowledge and ideas through social and peer networks. In this report, please consider technology transfer in its broadest sense: ‘the local adoption and adaptation of knowledge from outside the community, regardless of its source or method of transfer’. To the extent that it is possible in such a short study, the scope extends to the ways in which the agricultural and rural communities currently adopt new practices and ideas.

It would be helpful to your critique, as well as to users of your report, if you could complete a SWOT analysis of both the available training provision and the extension/advisory sector as part of your report (see sections 2.1.5 and 2.2.4). SWOT is an abbreviation for Strengths, Weaknesses, Opportunities and Threats. SWOT analysis is an important tool for auditing the overall strategic position of a business or sector and its environment. Once key strategic issues have been identified, they feed into business or sector objectives. The key distinction is between internal and external issues:

- Strengths and weaknesses are internal factors.
- Opportunities and threats are external factors.

Of course, SWOT analysis can be very subjective, and so is best used as a guide and not a prescription - two people rarely come-up with the same version of a SWOT analysis even when given the same information about the business or sector and its environment. Adding and weighting criteria to each factor increases the validity of the analysis. Ideally, it should be completed by a group of informed professionals but, if this is not possible, try and circulate a draft to colleagues for comment and amendment. If this is new to you, there is lots of help available on the web – ‘googling’ *technology transfer* produces masses of information and guidance.

Study methodology

It is not expected that you undertake original empirical research for this study. Rather, the following sources and activities should contribute to the fund of information on which your reports should be based:

- Collation of national statistics on agricultural and other training available in, or relevant to, rural areas (using definitions identified in the first rural report), distinguishing between **provision** and **uptake**. Include analyses of as many of the following as possible - by age, gender, level of education or previous training, disability, etc. as well as by category of rural area (if different classifications are recognised) or by region; and by agriculture and non-agriculture, including sub-classifications as far as possible.
- Collation of national statistics on agricultural and other extension services (advisory or consultancy, public or private sector) available in, or relevant to, rural areas (using definitions identified in the first rural report), distinguishing between **availability** and **use/uptake**. Include analyses of as many of the following as possible - by age, gender, level of education or previous training, disability, etc. as well as by category of rural area (if different classifications are recognised) or by region; and by agriculture and non-agriculture, including sub-classifications as far as possible.
- Review and summary of relevant research and other studies, particularly any review of the adequacy of training or extension provision. While ideally this work will focus on the more comprehensive and recent studies, it should also encompass partial, regional or older studies where these are still relevant. Aim to include an assessment of the extent to which agricultural/rural education, research and extension are linked, and in which ways. Propose how such linkages might be strengthened or improved.
- Review and summary of government documents where these have been published, including policy statements and policy appraisals, if available.
- The formal views of experts, which for these purposes may be defined as people with an acknowledged reputation (e.g. as an academic researcher) or whose work and experience makes them familiar with the statistics and issues.
- Any other appropriate sources of information. If possible, key practical farmer contacts should be invited to comment – perhaps via one or more ‘Farmers’ Focus Groups’ (and the numbers whose views are so taken into account indicated alongside their comments).
- Exeter is again preparing a bibliography of the most readily identified papers and other information sources available in English; this should be seen as providing general assistance only, there can be no substitute for your own national searches. This will be circulated within the next few days.

Annex

It is expected that each report will include a statistical annex which summarises the available information on trends and current levels of rural employment (by business sector), unemployment, education levels, education provision, etc. on which the report is based. Large tables should go in the Annex, but you may wish to include small (summary) tables within the text.

The pro forma tables below are provided as a guide to the sort of information to be collated, but please include more information if it is relevant and available. Please enter the latest, best data you can obtain and state in your footnotes to the tables the source and its date *and* any qualifying statement (e.g. special criteria to define categories, etc.) which will help the interpretation of the information. Where necessary, in the absence of formal statistics please use informed estimates if this is possible. Additional, detailed table(s) showing educational statistics and analyses relevant to this study will be very helpful. Please annotate your entries with qualifying comments, and also state the source and date of your data.

Some general points

- *Please observe the 'maximum' guidance (overall report not more than 3,500 words).*
- *Reasonably up-to-date statistical material, where available, is valuable and should normally be included in an Appendix, with full acknowledgement of source.*
- *All publicly available sources should be referenced.*
- *This report will benefit greatly if an expert in rural employment issues, or someone who has good existing knowledge of this area, is closely involved throughout even if not as principal author.*
- *All references should be cited using the Harvard System, arranged alphabetically with the title of the journal or source given in full (see guidance given in the first report template).*

Study timetable

- First draft national report by 28.02.2007
- Revision by a project partner from CEECAP by 12.03.2007
- Sending of the report to Martin Turner by 14.03.2007
- Final report due 31.03.2007

Martin Turner and John Wibberley
University of Exeter
17 January 2007