



Project no.
513705

Project Acronym
CEEK AGRI POLICY

Project title
**Agro economic policy analysis of the new member states,
the candidate states and the countries of the western Balkan**

Instrument Specific Support Action

Thematic Priority Scientific Support to Policies

D12-3 Fourth 6-monthly report
**RURAL TECHNOLOGY TRANSFER IN TRANSITION ECONOMIES:
COUNTRY SUMMARIES**

Start date of project: 01.05.2005

Duration: 24 Months

Revision Final

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission	
RE	Restricted to a group specified by the consortium (including the Commission	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Acknowledgement

This report forms part of the deliverables from a project called "CEEC AGRI POLICY" which has been awarded financial support by the European Commission under the 6th Framework Programme.

The project aims to establish a network of experts involved in agricultural policy analysis and rural development in the New Member States, in the Acceding Candidate Countries and in the countries of the Western Balkan. More detailed information on the project can be found at www.agripolicy.net.

DOCUMENT HISTORY

see country reports on www.agripolicy.net for full list of authors

Date	Authors	Description
April 2007	Martin Turner and John Wibberley	Country summaries (JW) Study overview (MT)

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1. The study brief

This study formed the fourth study under the 'Rural Vitality' element of the CEECAP study programme. The brief was to undertake a broad study of the issues associated with 'technology transfer' in the context of agricultural and rural development in transition economies. These issues were expected to 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.

An important aspect of this study was to 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).

2. Introduction and context

This study followed on naturally from the previous Rural Vitality 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 system 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.

3. Study scope

There are numerous definitions of ‘technology transfer’ and the closely related term ‘knowledge transfer’, and this study did not set out 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, for the purposes of this study, technology transfer was taken to 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, therefore, technology transfer was considered 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 was possible in such a short study, the scope extended to the ways in which the agricultural and rural communities currently adopt new practices and ideas.

The study required also the completion of a SWOT analysis (an abbreviation for Strengths, Weaknesses, Opportunities and Threats) of both the available training provision and the extension/advisory sector. The use of SWOT analyses has been found to be 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, a 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 this is not always possible, of course.

4. Study methodology

It was not expected that original empirical research should be undertaken for this study. Rather, the following sources and activities contributed to the fund of information on which the individual country reports were 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**. Reports included 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**. Reports included 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. Researchers aimed to include an assessment of the extent to which agricultural/rural education, research and extension are linked, and in which ways, and to consider 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. Where possible, key practical farmer contacts were 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).

This report provides individual summaries of each of the fifteen individual country reports, and so represents an overview of the work. Much more detail will be found in the individual country reports.

5. Country Summary

BOSNIA & HERZEGOVINA

INTRODUCTION AND BACKGROUND

- 56% of population live in rural areas; 35% of rural workers are in agric., 65% in NAE
- Rural NAE =14% manufacturing, 13% construction, 12% trading, <10% services

INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- No established tradition in organised knowledge transfer; knowledge via experts, cooperatives, mass media until the 1990s
- Post-1996, programmes and projects – PHARE-PFAP 1998-2000; EU-ESP 2000-02 were important for establishment AES (Ag. Extension Services)
- AES in cantonal (Federation BiH) & Regional offices (RS); uneven provision
- Brcko District has AES funded within Dept of Ag. & Forestry of District Government

1.1.1. Agricultural and rural training

- Increasing interest in learning by rural pop. post-1996; international organisations help
- 6 faculties offer agric-related courses; 4 scientific institutes offer Ag. as well as 14 secondary schools
- USAID-LAMP Project did 1,041 training events in past 3 and half years (29,040 participants).
- Dairy, fruit, veg., field trips, training trainers, training for co-operation and marketing
- IFAD 'Livestock & Rural Finance'; FFAM (Farmers' Facilities & Access to Markets)
- World Bank on fruit growing, bee farming and irrigation
- DEZA(Switzerland)-GTZ on integral fruit and vegetable growing; many NGOs work

1.1.2. Agricultural and rural advisory/consultancy services

- AES only formed since 2002 to provide advice, gather data, link to other info.sources
- Comprehensive service but lacks personnel, funding, equipment; State must pay more
- Seminars, symposia, TV, Radio etc all play important roles in knowledge transfer

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

- Farmers only began to organise into associations of common sector interest 1996ff
- Pre-War, co-operatives provided vital links in knowledge chains - but now superseded

1.2. Agricultural and rural skill levels

- Poor education:- out of rural population older than 25 almost 25% males & 47.5% females didn't finish elementary school
- Only 4.72% rural males and 3.95% females have university education

2. Specific technology transfer issues

2.1. Training provision

2.1.1. Quality and suitability of provision

- info. is lacking but in some fields like dairy, milk yields rose from 1400 litres/cow in 1991 to 2000 in 2005
- most training was on technical/technological aspects; little on managerial skills
- there has been much overlap of provision and much of it not tailored to need

2.1.2. Availability and spatial issues

- 5,800 highly dispersed, unplanned villages; mountainous terrain; poor infrastructure

2.1.3. Practical issues

- much increased training in past decade but much project-linked, not farmer demanded
- there is no systematic, regular approach to knowledge transfer among farmers

2.1.4. Demand side issues

- many farms and large rural population, raising awareness of need to learn
- key role of higher education institutions but needs more practical training in it.

2.1.5. SWOT Analysis

S = sufficient professionals exist to provide training; many higher educ. institutions provide

W = insufficient personnel enter higher educ.; too theoretical, uneven, poorly financed educ.; irregular provision; weak linkages; lack on management/markets & NAE; poor TV/media use

O = interest of farmers; strategy of govt. re agric importance; international aid; MAFRD dev.; harmonisation with EU; IT and new training methods.

T = no unique law on Higher Ed. at State level; many subsistence farms; farmers fear change; brain drain; dispersed rural settlements; political instability; insufficient funds to develop.

2.2. Extension and advisory services

2.2.1. Public sector services

- Lack quality; most have agric.diplomas; 15,000 farm-households per AES extensionist
- 80% of staff time is spent on administration rather than extension services *per se*
- Lack of technical equipment for fieldwork and poor staff salaries hinder AES work

2.2.2. Private sector services

- still non-existent, though legal framework set up in part of the country to start these

2.2.3. Demand side issues

- Some say target only farmers eligible for incentive measures (20-30,000 farmers in Federation B&H)
- But this would neglect the concept of rural development for the mass of farmers

2.2.4. SWOT analysis

S = ample staff and good territorial coverage is developing; AES staff are getting IT educ. etc

W = insufficient specialist staff in AES; lack of staff motivation – poor equipt., wages; predominance of administrative duties; poor funding; lack of management/marketing input

O = increased interest of market-oriented farmers; agric strategy of B&H; MAFRD dev.; farmer registration; international support; development of IT and communication technologies

T = lack of legal support for AES; reduced funding for AES; farmers fears of change; lack of tradition of using AES; high share of rural pop, who are uneducated; dispersed farms; migration of young and educated people from B&H

2.3 Other important issues

- none cited

3. Overview and prospects

3.1. Training

- change favours AES growth but scale of need exceeds organised capacity to satisfy it

3.2. Extension

- AES at establishment stage; needs developed legal constitution before aid agencies go

3.3. Linkages between technology transfer agencies

- Still far to go

BULGARIA

1. Introduction and background

- 81% of territory and 42% of population is rural (in places with <30,000 people)
- 11% rural by residence; 48% rural by workplace
- Rural workforce is 75% in agriculture, 25% in NAE
- In 2003, Agriculture provided 15.6% of GVA, Services 55.4% and Industry 29%

.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

1.1.1 Agricultural and rural training

- 44 educational institutions offer agriculture; 98 do agricultural training
- 90% is public funded, 10% private; 20% have little or no formal education
- < 7% have certificate and University degree; 73% have less than secondary education
- 6 planning regions; 28 admin. regions (20 mainly rural); 264 municipalities - 231 rural
- Pre-1989, 0.7-1 million workers were trained in 900 Centres/‘Vocational Incubators’
- only 0.1 million now are so trained in a centrally-controlled way

1.1.2 Agricultural and rural advisory/consultancy services

- National Agricultural Advisory Service (NAAS) established 1999; 20 regional branches
- NAAS in 2006 had 141 staff, 3 or 4 consultants per branch (crop, animal, economics)
- Of 534,613 farms, only 77,100 are registered agric. producers of whom 18% use NAAS
- Up to 25,000 farmers may visit NAAS offices per year but only 3,400 use NAAS often
- Typical clients have 10-100 ha cereals, or 2-20 ha orchards, or 5-20 cows
- UNDP/World Bank programmes, such as the ‘JOBS’ Project
- ‘JOBS’: 50 Business Centres, trained 25,000; 48,100 consultations; 19,000 jobs created
- Many farmers have poor capacities to apply for funding

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

- Many organisations covering all sectors and some replication
- Bulgarian Agricultural Chamber (BAC) began 1995, 60 members, regional branches
- National Union of Agric. Co-operatives (NUAC) 24 regional unions, 800 ag.co-ops
- Bulgarian Farmers’ Association (BFA) emerged in 1990s as NGO alternative to NUAC
- From 2004, Ag. Producers’ Association (APA) = NGO of 120 member associations
- APA issues the periodical *Agronomist* ; associations cover all sectors e.g. milk, grain..

1.2 Agricultural and rural skill levels

- 1.35 million are engaged in agriculture but only some 25% of them fully employed in it
- >60% of farm owners are aged >55 years; 4% college trained c.f. 25% national average
- (Tautology) 1.1.1.
- Only 3% of farm managers have basic or full education in agriculture
- Farms have very low wages, low profitability;
- only 5-6% of specialised Agric. school students want to work in agriculture
- A survey of 500 Ag. school graduates of 1994 showed 4.5% do same to their major job
- The 96 professional high schools have poor equipment and no links to business needs

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- Agency for Employment Min of Labour & Social Policy runs professional courses
- These courses are for the unemployed and 31,426 people were involved in them in 2005
- >85% of those who have acquired professional qualifications are from rural areas
- 12% did farm management, 50% related to NAE (non-agricultural employment)
- After professional education, 55% of the educated unemployed found jobs in 2005
- Only 10% found agriculture-related jobs; <2% registered as self-employed in Ag.
- Machinery & input distributors give education on their products e.g. 'Farmer 2000'
- SAPARD programme runs courses – on milk, bees, crops, etc - but only <15% run
- 70% of students pay their own fees, 30% are State-aided; 90% of graduates stay in Ag.

2.1.2 Availability and spatial issues

- significant dispersion and unevenness; scarce in remoter areas; private Cos. stay in town
- 46 professional organisations exist but only 23 run courses; only 9 have regional offices

2.1.3 Practical issues

- Must match training to demand, so National Centre for Professional Dev.(NCPD)
- PHARE and the government of Bulgaria co-fund NCPD courses
- *Leonardo da Vinci II* Programme gives training on management of EU-funded projects

2.1.4 Demand side issues

- Deficit in project management and business planning
- Demand for training in adoption of new technologies in crop and livestock productions
- Agrarian education has low prestige;
- 87% of enrolments at professional schools are owing to lack of alternative schooling
- Some 90% of those attending courses need someone to stand in for them in their work
- Large farmers neither use nor claim to need public training & advisory services

2.1.5 SWOT Analysis

S = long tradition & experience; well-qualified teachers; stakeholders have good skills; economic growth favourable; CPD/LLL is developing

W = low level of social trust in State Ag.educ.; inadequate network of institutions; lack of long term policies; poor orientation/adaptation to real needs; lack of proficient methodology; lack of statistical data; training offered does not match demand

O = access to EU programmes and funds; link of training to educational majors; regional specialisation of schools; vocational classes run in communities; NGOs & international links

T = neither people nor their employers willing enough to pay for training; low motivation owing to poor farm wages; psychological barriers to learning/seeking info.; technological backwardness; low pay of school teachers and lecturers.

2.2 Extension and advisory services

2.2.1 Public sector services

- NAAS with specialists in 28 Regional Offices & capacity to serve 20,000 farmers/yr

- Advisor numbers:- 230 NAAS; 30 Vet ;160 Livestock Breeding; 30 Plant Protection; 30 Cereals & Fodder science; 10 Vines & Wines; 2000 Scientists at National Centre for Agrarian Science
- 43,397 NAAS individual consultancies were carried out in 2005
- Some 60% of NAAS work is re MAF Central policy & 40% regarding regional context
- NAAS is too top-down, and also some remoter farms cannot access it
- Some NAAS staff are too young & lacking experience to gain credibility with farmers

2.2.2 Private sector services

- Commercial organisations offer extension alongside their products
- 'Farmer 2000' reported >2,500 individual consultations, also runs courses/meetings

2.2.3 Demand side issues

- Chasm between what people demand and what the State offers;
- many farmers - especially in remote areas - do not know what State extension offers
- Private providers give technological help at implementation level but farmers seek grant, credit, and business start-up advice
- About 37% of farmers use advisory services of some sort; 4% use NAE advice; 18% of farms are estimated to demand new advisory services
- People must be 'the engine' behind rural development policies rather than beneficiaries

2.2.4 SWOT analysis

S = many programmes; free and some have benefited; private Cos. operate in NE & CS regions; focus of rural people on gaining relevant practical knowledge via demonstrations

W = NAAS has serious negative aspects; offices only in big towns; private sector helps mostly big farms; NAE advice is rare in rural areas

O = EU membership & funds; National Rural Network; economic growth; 'genial social capital' in rural areas (communicative, collaborative and mutually helpful – synergistic)

T = many fragmented farms; farmers want funds & advice to get them only; ageing population

4.3 Other important issues – none cited

3 Overview and prospects

3.1 Training

- There is not a unified strategy for development of professional agricultural education
- Lack of evaluation/monitoring and planning; inadequate link to unemployed training
- From 2000-2006, the private Plovdiv Agric College fulfilled 87 projects (52 EU-funded) but 96 State schools had none
- Hope different EU programmes to spread good EU professional educ. practices

3.2 Extension

- Farmers need to be categorised and extension tailored to their needs
- More than the present 1% of farms need to be visited by NAAS
- Client-advisor links need strengthening; farmers are still confused in market economy
- Farmers cannot pay for extension services, and private consultancy is not yet launched
- However, Farmers' Associations & Unions have some 7,500 advisors between them

3.3 Linkages between technology transfer agencies

“The linkage between the State organised and mandated education structures is disjointed, there are a great number of leakages and faults, and a great part of the courses, classes and educational programmes are inexpedient and irrational”

CROATIA

1. Introduction and background

- 43% rural by residence and 25% by place of work; rural work 15-20% in Agric, 80% NAE
- poor rural facilities; only 25% of villages + elementary school; negligible coverage of agric
- agricultural employment involves 74% men and 26% women

1.1 Introduction to rural technology transfer

- MSES = Ministry of Science, Education & Sports oversees; 7 univs.; 16 Public Colleges
- 26 public Research Insts.; 11 industrial Research Centres; 1 Business innovation Centre
- R&D spending is ahead of new members but behind EU15; private sector input is low
- Range of initiatives in past decade (HITRA, TEST, STRIP, RAZUM, BICRO)
- EICC (Eur. Info. & Communic. C., Zagreb) founded within Croatian Chamber of Economy
- 5 Technol. Transfer Cs.; small business dev via Min. of Econ, Labour & Entrepreneurship
- MAFWM = Min. of Ag, Forestry & Water Mgt. Involved in HAMAG = small business dev
- Ample institutions but still poor quality, low rate of new enterprises, low networking...

1.1.1 Agricultural and rural training

- 142 student cooperatives exist – 68% agricultural; only 232 primary schools have gardens
- 7 agric schools and around 30 secondary schools offer lower level courses
- 2 Univs. (Zagreb Faculty of Agronomy & Osijek Faculty of Agric.) + professional colleges
- 3 Regional Research Institutes for Ag. Research, 1 for Vet. & 1 for Forestry
- Many Institutes for adult education but mostly located in cities
- Increased co-operation with foreign institutions in recent years

Free courses offered by Extension Service and by NGOs

1.1.2 Agricultural and rural advisory/consultancy services

- Croatian Agric Extension Inst. (CAEI) estab. 1997 by State; free service to family farms etc.
- 200 advisers, 1 per 3,000 family farms; lacking experts in ag. econ., management, rural dev
- CAEI Annual; Report reckons 80-90,000 farmers actually use services
- CACU (Croatian Ag Co-op Union) has library for family farmers & does some consultancy

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

- Single Influential Farmers' Union free from political influence is lacking in Croatia
- Farmers' Assocs. Mainly of bigger farmers linked by specialisation
- 2 Co-op Unions:– CACU & Croatian Co-op Union;
- farmers and their organisations not ready to co-operate/participate nor to pay for extension

1.2 Agricultural and rural skill levels

- Regional diffs. in literacy & educ.; overall 28% lack basic ed. & only 4.7% have degrees
- Rural areas disadvantaged and most have only practical experience to prepare for agric work

2 Specific technology transfer issues

- no introductory comments

2.1 Training provision

2.1.1 Quality and suitability of provision

POOR QUALITY CF URBAN; POOR FACILITIES FOR PRACTICAL TRAINING; NOT TAILORED TO ACTUAL JOB NEEDS

- young not interested in agric as profession
- poor interdisciplinary collaboration between institutions of ed. & research
- mentoring system (individual tutors) introduced by ‘Bologna declaration’ in univs.
- helps alignment with employers’ needs & economic dev expected to improve employment

2.1.2 Availability and spatial issues

- large regional disparities; below average participation in the tertiary ed. Sector

2.1.3 Practical issues

- info on possibilities to fund professional ed is mostly found on Internet which most can’t get

2.1.4 Demand side issues

- Interdisciplinary approaches needed, and better practical demonstration facilities
- Need regional training/info points for farmers & unified collation of data re labour markets

2.1.5 SWOT Analysis

Training provision

Strengths	Weaknesses
<ul style="list-style-type: none"> - Relatively great number of institutions for education and vocational training - Highly qualified, competent teachers/ lecturers - Reform of HQ educational system towards EU standards (Bologna declaration) - Involvement in EU programme (CARDS, F6) - Detailed elaboration of Education and R&D strategies and programmes— although they are not carried out 	<ul style="list-style-type: none"> - The limited ability of the educational system to adapt to changes in demand on the labour market and rural economy - Small number of college graduates and a very small percent of labour force participates in life-long learning - Lack of Basic ICT skills and knowledge in secondary (vocational) education - Inadequate practical training in vocational schools - Lack of the Education Management Information System – EMIS - Undeveloped programmes for adult education - Poor investment in educational infrastructure in rural areas, agricultural research and teaching staff - Dislocated institutions for education and professional training for rural inhabitants - Regional cooperation among educational institutions is poor - Lack of continuing professional training for teachers /lecturers - Lack of systematic monitoring and quality control mechanism for higher education teaching and scientific research work

Opportunities	Threats
<ul style="list-style-type: none"> - Growth of investment in education and vocational training - Intensified reform of education system increasing the chance for local changes - Consciousness about importance of lifelong learning - Development of telecommunications and informatics' infrastructure - Expansion of private and foreign schools - Positive changes created by expectations of European Union accession - Growth of demand for qualified labour force - Development of business incubators, centres and parks - Development of vocational training programmes - Getting acquainted with e-learning - EU funds will be used to develop new forms of education planning and teaching 	<ul style="list-style-type: none"> - Small budget for adult education and professional training - "Outflow" of highly qualified workforce to the cities - Poor involvement of the private business sector in R&D - Poor spatial and professional migration of labour force – vertical and horizontal passability towards achieving occupations - Disparity in regional development - The high and long-term level of unemployment of those who have completed secondary education - Lack of involvement of adults in life-long learning - Elderly population has difficulties in finding jobs - -

2.2 Extension and advisory services

2.2.1 Public sector services

- Besides CAEI, other providers of specialist info :- Livestock C.(HSSC); Plants (ZZPS) etc.

2.2.2 Private sector services

NO ORGANISED PRIVATE SERVICES EXCEPT BY VETS.(150 ADVISORS) & VIA AGRIC INPUT SUPPLIERS

2.2.3 Demand side issues

- Some 25% of farmers are reckoned to use advisory services; some 35% want new topics
- Demand by farmers for info on economy, management and work organisation
- More consultants needed and more diversified topics;
- need to target youth and women; need to expand media used – TV, radio, websites etc.

2.2.4 SWOT analysis

Extension and advisory services

Strengths	Weaknesses
<ul style="list-style-type: none"> - Highly qualified, competent and experienced advisors - Good Research/Extension linkage (good cooperation with research institutes and faculties) - Good logistic support of informatics equipment (PC, Web-site; LAN, on-line bulletin etc.) - Team work - Permanent training of advisors - Good cooperation with international and national non government sector - Involvement in international rural development projects - Understand need for rural development work to improve rural communities - 	<ul style="list-style-type: none"> - Number of advisors in branch-offices is low - Limited financial resource – inadequate funding by state budget, 66 percent of budget goes on salaries, little left for operational costs - Inadequate number of experts (specialists for agricultural economy; management in rural business; rural development, organic agriculture, agro-tourism) - Lack of information/human communication specialists (for making extension materials more readable, more attractive to the farmers, appropriate communication techniques) - Limited (using) transport funding - High orientation on individual method in advisory work - Low salaries - Lack of programme for target group- young farmers, rural women...
<p>Opportunities</p> <ul style="list-style-type: none"> - limited advisors and financing - more participatory extension model needed - Zagreb has new Masters degree ‘Ag. - Extension & Communication’ - Farmers’ organisations weak and farmers lack motivation... 	<p>Threats</p>

2.3 Other important issues

NOTHING LISTED

3 Overview and prospects

3.1 Training

IMPROVE QUALITY, LINKAGES (E.G. ED + DEV POLICIES, TT); LINK FAMILY FARMS & ENTREPRENEURSHIP

3.2 Extension

- BICRO to create ‘technology incubators’ (World Bank funded)

3.3 Linkages between technology transfer agencies

R&D CENTRES & TECHNOLOGY-BUSINESS CENTRES LINKED TO RESEARCH/ACADEMIC INSTITUTIONS

CYPRUS

1. INTRODUCTION AND BACKGROUND

- Cypriot farmers know husbandry but have very small farms, poor spoils, hot climate
- High input costs and competitive export markets
- Since 1960 independence, various govt. schemes – infrastructure, dams; research info.
- 30.4% rural by residence; 24.5% of actively employed are in rural jobs (90.5% NAE)
-

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- 1 university and 1 college cover agricultural education; 1 Forestry College established
- Min.of Ag. 2 Rural Centres, extension service, Ag.Res.Inst.(ARI), Annual Ag.Exhibition
- Group visits by farmers are arranged so they can see technological progress
- TT by :- training, advice, consultancy, producer's organisations advised, mass media

1.1.1 Agricultural and rural training

- under Min. of Ag., Natural Resources & Environment; 2005 = 753 participants on 88 days
- 2 Regional Rural Centres; 2 programmes - for young farmers <40 years; for upgrading
- For critical issue courses, farmers are paid to go; MoA staff are trainers & train trainers
- No Higher Ag.Ed. but go to Univs.of Greece & Salonica but Cypriot Ag.graduates jobless
- 3% of 2004-06 Rural Development Budget put for young farmer training
- No private training providers in Cyprus, but there is a Co-operative Movement College

1.1.2 Agricultural and rural advisory/consultancy services

- Production info by Extension Service Min. of Ag.; marketing info by Min.of Commerce
- In 2005, 39,032 visits by 30,000 farmers & 5,745 to farms + 84 group visits (1671 fmrs)
- Technology Institute subsidises by 40% all consultancy services for technology transfer

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

- 4 National Farmers' Organisations but none yet directly involved in technology transfer
- 24 Farmers' Groups set up since 2004 aim to transfer technology – greenhouses, cattle etc.

1.1.4 Other methods of Rural Technology Transfer

- Group visits abroad and in Cyprus, some subsidised
- Demonstration plots/farms on new varieties/breeds; machinery demonstrations
- Visits to Shows, Trade Fairs etc;
- Min. of Ag. publications, info. leaflets & periodical *Agrotis* ('The Farmer')

1.2 Agricultural and rural skill levels

- 74% of farmers have less than full sec.ed. (47% of those diversified into NAE + farming)
- Only 5% of over 45s have had any post secondary education
- 20% of workers are foreign, and 90% of these have not gone beyond secondary education
- 10% of farm managers went to college/university; larger farmers tend to be more educated

2 Specific technology transfer issues

2.1 Training provision

- A levy funds the Human Resource Development Authority that subsidises private training
- Some of these courses are attended by farmers but none run for them e.g. book-keeping

2.1.1 Quality and suitability of provision

- Quality of Min.of Ag., Nat. Resources & Environt. training is evaluated & after 3 months

2.1.2 Availability and spatial issues

- MoA aims to organise courses near to farms; young farmer courses last at least 2 days
- Infrastructure for training provision has been upgraded

2.1.3 Practical issues

- MoA retains responsibility for training for 2007-13 but will use some private trainers too
- MoA should follow Human Resource Development Authority HRDA upgrading provision

2.1.4 Demand side issues

- Entry to EU is main cause of rapid increase in training demand in past 5 years to comply
- 50-60% Subsidy for machinery purchase from MoA depends on doing 150+ hrs training
- Certification in Eurepgap, BRC, HACCP requires concomitant training attendance

2.1.5 SWOT Analysis

STRENGTHS

- MoA maintains standards; HRDA subsidises farmers attending their courses
- Some extension officers assess training needs to tailor their offerings to farmers' needs
- MoA trains trainers well and courses combine theory with practicals

WEAKNESSES

- Limited number of training Centres, no sytematic assessment of training needs
- Can't use all money available via the RDP; no private training providers exist
- HRDA can't subsidise training on agricultural production or rural development *per se*
- Effectiveness of training not systematically evaluated;
- The self-employed aren't eligible for HRDA subsidy since they do not pay the levy
- Ageing population and emphasis on quantity rather than quality of training

OPPORTUNITIES

- Increased interest from farmers in new technologies; RDP funds; model of HRDA
- Training often stipulated as a condition for participating in other programmes
- IT and computers increasing and educational level of those in agri-business rising

THREATS

- Competition for RDP funds for other purposes and for non-farm private investment
- Foreign workers cannot follow the training

2.2 Extension and advisory services

2.2.1 Public sector services

- MoAg on production technology; MoCommerce & Industry on marketing
- MoA has home economics section for women

2.2.2 Private sector services

- By distributors of farm machinery and inputs;
- since 2004 retired MoA officers do private consultancy on Economic viability plans etc.

- accredited private services are offered by 30 individuals & by 22 registered agencies now

2.2.3 Demand side issues

- Increasing - from other farmers, farmers abroad and from extensionists/consultants

2.2.4 SWOT analysis

STRENGTHS

- well trained extensionists of MoA visit individual farms and can be visited free any time
- fees of private consultants are subsidised via the RDP

WEAKNESSES

- Not enough extensionists; farmers don't value or know of advice & older ones reluctant
- High cost to taxpayers/government of advice for public sector to provide

OPPORTUNITIES

- Internet info; subsidised new technology adoption demands advice; farmer interest up

THREATS

- possible exploitation by private advice providers;
- increasing gap between rich & poor farmers and small farmers can't afford advice
- 'EU restricts financing services aimed to interfere with the marketing mechanism'

2.3 Other important issues

- none listed

3. Overview and prospects

- Big opportunity was lost to fund training infrastructure via RDP owing to MoAg lag
- Ageing farmers and many foreign workers hamper training & extension uptake
- Consultancy uptake since 2004 is increasing, especially via private sources

3.3 Linkages between technology transfer agencies

- Public sector well linked but private sector via RDP not yet co-ordinated fully with it

CZECH REPUBLIC

1. INTRODUCTION AND BACKGROUND

- 85% rural by residence; 60% rural by workplace
- 4% agricultural by work; 96% of rural workforce in NAE

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- Previous Farm Advisory Service (FAS) dissolved after early 1990s
- From 2000, 3 pillars:- public interest (100% free); production technology (70% cost free; consultancy about pre-accession programmes (100% paid by client farmer).

1.1.1 Agricultural and rural training

- slow improvement in agric training during transition to EU; 25% univ./college trained
- 3 universities offer agricultural education/training

1.1.2 Agricultural and rural advisory/consultancy services

- EU changed agric sector dramatically; strong competition, proper standards, new sales
- Restructuring; environmental criteria – thus new consulting service needed
- Min of Ag. 'Concept of agric consulting for 2004-2010' Inst of Ag & Food Info (IAFI)
- Water protection; animal welfare; ecological farming; enterprise management, 'safety'
- IAFI manages State consultants' Register, education, info science

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

- Key:- MLECOOP raw milk buying; CZFRUIT; MORAVIA MEAT; CENTROODBYT (pigs)

1.2 Agricultural and rural skill levels

- In 2004, 381 events organised were attended by 18,083 people & 18,532 via SAPARD
- 300 authorised trainers receive regular updating training themselves
- CPD/LLL participant target of Lisbon Strategy = 12.5% of workers aged 25-64 (EU average = 9.4%; CR Ag workers in CPD/LLL = 2.5%)
- Current education addresses sectors rather than integrated rural development

2 Specific technology transfer issues

2.1 Training provision

- 40% publicly funded; 60% privately funded

2.1.1 Quality and suitability of provision

- organic farming training is insufficient; need more ways to disseminate info
- co-ordination of activities needs improving

2.1.2 Availability and spatial issues

- State priorities are to support research, education and consulting re organic farming
- State to collect statutory data; NGOs to serve organic farming development/info

2.1.3 Practical issues

- Government resolution 1048/2000: Min of Ag. co-operate + others on organic farming

2.1.4 Demand side issues

- Action Plan for Organic Farming = important instrument of State policy (Pillar II EU)
- State administration authorities to use CR organic produce
- High demand from farmers for business management input

2.1.5 SWOT Analysis

S = sufficient potential labour force; high level of education in agriculture

W = lack of labour & prequalifications in rural areas; emigration; lack of investment/services

O = optimising EU finance for rural development

T = depopulation of rural areas

2.2 Extension and advisory services

2.2.1 Public sector services

- Min of Ag, EU programmes + IAFI + NGOs + Univs./Research Institutes collaborate
- National Board for Agriculture & Rural Development oversees this collaboration

2.2.2 Private sector services – some NGO input to Board

2.2.3 Demand side issues

Demand for extension and advisory exists but it cannot be quantify

2.2.4 SWOT analysis

S – existence of network for extension and advisory

W-lack of support for extension and advisory services

O- using of EU funds for advisory services

T- nor sufficient support for advisory services from EUfunds

2.3 Other important issues – none listed

3 Overview and prospects

3.1 Training

- 2 groups:- a) info resources; b) education & consultancy
- Pre-accession SAPARD; now IAFI aided under ‘Rural Dev & Multifunctional Ag’
- IAFI has Food Safety Info Centre (FSIC) & provides comprehensive info to NGOs

3.2 Extension

- Educ. & Consultancy Dept of IAFI co-ordinates info-communication campaigns

3.3 Linkages between technology transfer agencies

- IAFI charged with uniquely integrated mission (not found in neighbouring countries)
- IAFI links Ag + food + Nutrition + Food safety + consumer protection + forestry/envt.
- IAFI uses IT, multimedia and diverse methods of communication

4 References & Appendices

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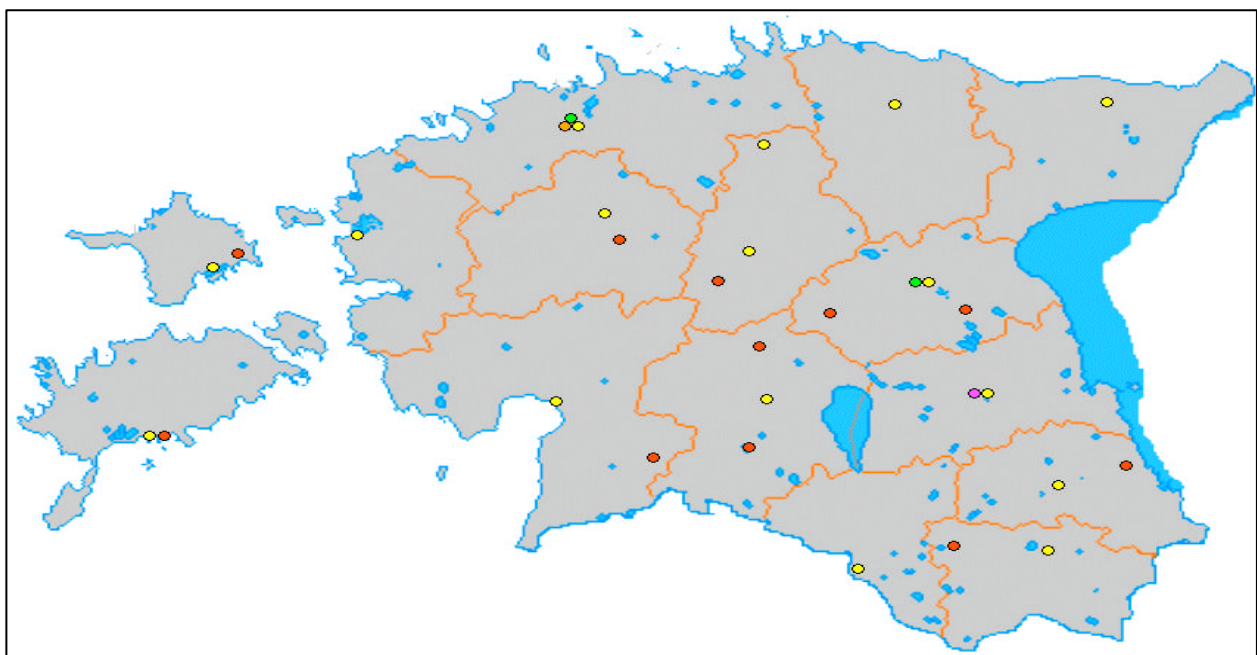
ESTONIA

1. INTRODUCTION AND BACKGROUND

- rural development instruments are more important in a more enterprise-driven CAP
- competitiveness up by: add value, innovate, training/advice, bioenergy, research cooperation
- environment : enhanced landscapes and linked to rural tourism
- new jobs created in NAE; LEADER approach helps co-operation and local relevance
- 32% rural by residence and 12% by work; 18% work in agriculture & 82% in NAE
- 3 universities and 11 colleges provide agricultural education/training (97% public funded)

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

Fig.1. Estonia: Research & development institutions, advisory centres & educational institutions



●	Research institution		
●	Vocational school		
●	Advisory centre		
●	Estonian University of Life Sciences		
●	Agricultural Research Centre		

Source: Estonian Rural Development Plan 2007-2013

- agricultural and food science research serve national agricultural policy and its adaptation
- Key Min.of Ag. Research at Jõgeva Plant Breeding Institute, ERIA, E.Univ.of Life Sciences
- Little research on enterprise impedes innovation, together with shortage of start-up capital

1.1.1 Agricultural and rural training

- Est.Ag.Univ.(EAU) in 2004 graduated 382 + 87 distance learners, 47 Masters, 8 doctorates
- EAU received 8.15 applications/available place; esp. for real estate studies, natural resources
- EAU had 4708 students in 2004; it collaborates with Baltic States and Nordic Universities
- Vocational ed. for ag. in 2004 involved 1839 students; support of RDF & ECAC

- Vocational competitions are held between students and young farmers

1.1.2 Agricultural and rural advisory/consultancy services

- 3 goals: competent advice; disseminate necessary info.; introduce accession topics
- agri-environment support for 56 municipalities; info. days, group advice days
- environment-friendly management training given free in 2 pilot areas
- RDS scheme for National Farm Advisory & Extension Service during 2007-13

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

- NGOs have given rural inhabitants new opportunities – jobs, leisure, 'rural voice'
- EU PHARE support, UNDP, USAID, Scandinavian aid, Open Estonia Foundation etc.
- ECAC (www.epk.ee) unites efforts & includes EFed.Ag.Prod. & EFF (E.Farmers' Federation)
- ECAC promotes 'Approved Estonian Taste', Information Centres, Internet portal
- E.Dairy Assoc. & E. Meat Assoc. are voluntary, non-profit organisations
- E. Coop.Assoc.unites commercial & non-profit orgs; E Hortic.Assoc has 90 farmers, traders
- E. Chamber of Environmental Assocs. (www.rohelisd.org);
- Towns & Villages initiative (www.kodukant.ee) set up the nationwide 'Rural Parliament'

1.2 Agricultural and rural skill levels

- In 2004, Estonia had 88.9% of labour force with sec.& higher ed.; Latvia 84.6; EU 25 69.8%
- 4% have degree or diploma; 29% did not complete secondary ed. & 8% have no formal ed.

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- Highly educated staff from universities, government research organisations...

2.1.2 Availability and spatial issues

- All producer organisations in each county have training facilities

2.1.3 Practical issues – this lists the demand side issues

2.1.4 Demand side issues

- economy: CAP, ERDP, SAPS & SFP implementation; complementary nat. direct payments
- animals: compliance, health/veterinary, food control
- crops: compliance, environment, ecological (incl. organic) farming, technologies
- specific crops (berry fruits, energy crops, herbs)
- business start-up; multifunctional farm concept; SME opportunities

2.1.5 SWOT Analysis

Strengths	Weaknesses
Significant share of agricultural producers with higher professional education in rural areas; Basic general education is provided close to place of resident; Good training infrastructure at county level (rooms, equipment, internet etc)	Lack of funds to improve the general education programmes; Insufficient amount of vocational schools in rural areas; Insufficient number of local libraries with free access to Internet (parish level).
Opportunities	Threats
Establishment of new regional centres for training (by ERDP 2007-2013); Financing of training centres in rural areas is rising;	Unfavourable age structure of trainers; Outflow of young teachers;

2.2 Extension and advisory services

2.2.1 Public sector services

- 2000 – 2500 farmers use advisory services (part subsidised); there are 113 attested advisors
- M.of Ag., Agric.Registers & Info. Board (ARIB), Farm Assocs., E.Advisors' Assoc, ECAC
- Individual advice via ARIB since 2001; 1492 applications in 2006, of which 1334 approved
- Group advice, day training in counties; 156 six-hour sessions for av. 23 participants in 2005.

2.2.2 Private sector services

- no private companies deal and very few individual consultants operate (about 7)

2.2.3 Demand side issues

- Some 57% of farmers use advisory services & some 19% of NAE businesses
- New advisory demands by about 11% of farmers
- Highest demand for finance/book-keeping; business plans; subsidy applications;
- animal breeding; feeding/feedstuffs; technical advice
- crops: fertilisers, plant protection, environmental/ecological prod., best available techniques

2.2.4 SWOT analysis

Strengths	Weaknesses
* Strong network of agricultural advisory centres; * Sufficient quality of advisors; * Relatively short distance of advisory services in county level;	* Insufficient number of advisors in the field of alternative production branches; * Unfavourable age structure of advisors; * Complicated compensation system;
Opportunities	Threats
* According to new Rural Development Plan (2007-2013) financing of advisory activities is significantly rising; * Technological progress on the field of communication in rural areas (Internet); * Opportunities to improve the advisors' qualifications;	* Outflow of advisors to better compensated work; * Different advice demand between the family farms and large agricultural companies; * Rising bureaucracy;

2.3 Other important issues

- conflicting information to farmers has been a problem, lack of trust and many small farms
- Saar Poll Co. was commissioned by Min.of Ag. to do 2 surveys in 2002 and 1 in 2003
- Found many small farmers have only general knowledge, costs rise while product prices fall
- Many became embittered “passive and frightened bystanders in the accession process”
- In response, *Euro-advice* was periodically published + a free brochure for small farmers
- New free service to insolvent farm businesses and new urgent ‘newsflash’ info.
- In 2005, the ECAC Info. Centre was linked with Regional Advisory Centres to good effect
- 30% of households had a computer in 2004, and 22% of households had internet access
- In 2005, 90% lived where broadband access was possible; 30% of rural people can’t access

3 Overview and prospects

3.1 Training

- National Rural Network to be established under EAFRD (European Ag. Fund for Rural Dev)
- NRN will link ECAC, Union of Organic Producers, E. Young Farmers, *Natura 2000* etc.
- State administers NRN as info.exchange point, database, training & cooperation point

3.2 Extension

- ERDP to support ‘regionally balanced functioning rural areas’
- Professional Advisory service; that re compliance with statutory (GAEC) & national policy
- Beneficiaries are farmers helped with skills to implement SPD and ERDP measures

3.3 Linkages between technology transfer agencies

- Min. of Ag. launched “Applied Research & Development in ... Agriculture 2004-08”
- Most research carried out by EAU (Estonian Agric. Univ.) – see www.eris.ee

HUNGARY

1. INTRODUCTION AND BACKGROUND

- Population of 10 million but decreasing; territory 93,030 km², 63% of it cultivated
- 19% of total area is forest, almost half the agricultural land is arable
- 87% of land is rural, with 96% of the country's settlements – home to 47% of people
- 25% work in rural areas; 15% of them in farming and 85% NAE

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- Social tension due to low rate of employment and low rate of income
- Prosperous agricultural potential but underdeveloped rural areas & non-viable villages
- Challenges to access IT, renew villages, protect heritage and develop local capacities
- Integrated rural policy needed to develop infrastructure, health & educational services
- Hungarian agriculture dualist:- mass of < 706,877 small farms; > 7,927 agric corporations
- Small farms:- 363k subsistence & 233k semi-subsistence; Av. output 2005 = 2000 euros
- Large farm output 2005 averaged 220,000 euros

1.1.1 Agricultural and rural training

- Agriculture accounts for 5% of rural employment, but 8.6% if food industry is included
- School education too theoretical; only 7.7% of agric employees have college or univ. ed.
- 6 univs & 6 colleges provide agric educ.+140 other training providers, 85% public-funded
- Of individual farmers, 27.9% have no agric qualification, 64.3% have basic qualifications
- Almost 25% of individual entrepreneurs are women av. Age 60 c.f. men 53;
- Farmers lack knowledge of EU

1.1.2 Agricultural and rural advisory/consultancy services

- Previously had a village clerk/agronomist network; now aim for agric consulting network
- Aim is to link education-research-consultancy [useful diagram of Advisory System given]
- 3 subsystems:- a) Client Advisory; b) Farm Advisory; c) Rural Development Advisory

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

- Regional Advisory Centre coverage + Professional Centres attached to Research Institutes
- National Rural Network to be formulated by the Regional + Professional Centres
- Farmers' Groups are more politically motivated & not very interested in extension advice
- Bigger Companies e.g. AGROINVEST supply training relevant to their products/activities

1.2 Agricultural and rural skill levels

- Farmers' skills lacking in business, marketing & grant applications; lack EU knowledge
- Professional Farm Management is deficient

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- Amendments to 1993 Educ. Act in 1999, 2002 & 2003 – longer basic ed. then specialise

- Rapid expansion in higher education provision

2.1.2 Availability and spatial issues

- Since 1996, county level planning of education to develop regional systems
- Continuous growth of non-State education via churches, foundations & private schools

2.1.3 Practical issues

- Info offered on farming & food processing; environment & landscape protection;
- Other topics:- Community Econ Dev; Youth & Farming; Rural tourism, IRD; LLL

2.1.4 Demand side issues

- list of strategic aspirations given rather than what farmers & others actually demand...

2.1.5 SWOT Analysis

S = broad network; strong theoretical underpinning; good and well-trained teaching staff

W = financial & educational inefficiency; poor application; non-flexible, non-creative staff

O = new curricula; staff exchanges; networking

T = unimaginative rural environment; networking costly; business-based training may conflict

2.2 Extension and advisory services

- System of special advisory services is well-established legally since 1999

2.2.1 Public sector services

- Min of Ag & Rural Dev (MARD) responsible for national supervision
- MARD Institute of Training & Consulting + 7 Regional Advisory Centres (RACs)
- RACs have registers of professional advisors;
- 400 consultants do public benefit advisory tasks re National Rural Dev Plan 2004-06
- 650 Village agri-economists carry out public administration tasks plus give some advice

2.2.2 Private sector services

- 560 legally registered consultants provide special advisory services in 24 categories
- Entry & stay on Consultants' roster needs degree, 5 yrs practice, evaluation, annual CPD
- Input and output agri-companies provide some advice but biased towards their products

2.2.3 Demand side issues

- Aim for 35,000 more farmers using services during 2007-13; 10% use now
- Business management advice much sought, but that on crops and livestock less so

2.2.4 SWOT analysis

S = broad network; good State control and regulation; good theoretical background

W = not practical enough; decreased State support; poor public-private co-ordination

O = EU measures and support

T = cuts to national budget weakening the network

2.3 Other important issues – none cited

3 Overview and prospects

3.1 Training

- Well-developed institutional background but

- school system is far too theoretical for vocational education.
- Vocational qualification level of farmers is low,
- Farmers lack knowledge of EU market situation and of professional farm management

3.2 Extension

- System well-established. Aim to increase farmers using it by 35,000 during 2007-13.

3.3 Linkages between technology transfer agencies

- as per Diagram given

LATVIA

1. INTRODUCTION AND BACKGROUND

* Latvia is 32% rural by residence, 12.4% by workplace;

- 30.6% of rural workforce is in farming, 69.4% NAE

.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

1.1.1 Agricultural and rural training

- training & Education for farmers & rural entrepreneurs is via LRAC
- LRAC = Latvian Rural Advisory & Educ. Centre; 99% State-owned, 1% Farmers' Fed.
- Ag.Training public-funded; entrepreneurship/finance etc paid for but often via EU funds
- Many private companies organise training also

1.1.2 Agricultural and rural advisory/consultancy services

- Most provided by LRAC via 26 regional offices until 2005 when supplemented by:-
- Min.of Ag.+LRAC formed Rural Consulting & Info.Exch. (RCIES) in 510 municipalities
- Private consultancy on business matters and ag.technology by providers/sellers

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

- Most just co-operate to sell; only grain & rapeseed co-op *Latraps* offers training/advice

1.2 Agricultural and rural skill levels

- Some 85% of farms are very small and only a tiny % of all farms are market-oriented
- In 2003, 37.8% of ag. Workers only had basic ed. (cf 14.6% nationally)
- Only 21.4% of Farm managers had any Ag. Ed.; 66.7% had only practical experience

2 Specific technology transfer issues

2.1 Training provision – 1 university and 4 colleges provide Ag. Ed.

2.1.1 Quality and suitability of provision

- general quality is OK, though specific courses need improving; not sufficient number of high level tutors therefore costs are high

2.1.2 Availability and spatial issues

- LRAC in 26 districts across Latvia; private companies widespread but not in remote areas

2.1.3 Practical issues

- Some training needs greater depth

2.1.4 Demand side issues

- Rising, esp.for market-oriented topics;
- LRAC ran 876 seminars in 2005 + 23,300 participants (more than 20% up on 2003)
- 2736 specialists trained in free market issues in 150 training groups during 2005

2.1.5 SWOT Analysis

S = available; free; wide-ranging

W = some not good enough; low and diffused availability so costs high; lack of quality materials, insufficient number of qualified tutors

O = more can afford as economy improves; many realise need to train; public/private cooperation

T = insufficient cooperation public/private sectors; high costs; lack of competition to provide...

2.2 Extension and advisory services

2.2.1 Public sector services

- LRAC provides via its 26 regional offices; employs 220;
- 67% income from commercial services to >20,000 farmers
- RCIES organises promotions, info. Days, advice on accessing EU funds

2.2.2 Private sector services

- Services by private consultancy companies and agric. technology (machines/input sellers)

2.2.3 Demand side issues

- LRAC gave some 41,000 free consultations in 2005 (though >50,000 in 2003...)

2.2.4 SWOT analysis

S = available free via 26 offices nationwide; in all 510 municipalities; private Cos. help business

W = lack of prepared consultation materials; quality and initiative of State specialists varies

O = improve private/public co-operation; use EU structural funds to develop services

T = too little private/public co-operation; lack of private Cos. in some sectors; low rural initiative

2.3 Other important issues – none cited.

3 Overview and prospects

3.1 Training

- Only LRAC provides via State but State policy on labour force development is ineffective
- Training provision is stimulated by available project funds, not demand-driven
- Lack of professional tutors in some topics; too few funds & too few farmers able to pay
- Rural inhabitants lack the basic education to enable them to benefit from training

3.2 Extension

- LRAC is sole provider via State; private providers serve market-oriented minority farms
- Sellers of machines and inputs also give some advice/extension
- Some 25% of farmers use advisory services

3.3 Linkages between technology transfer agencies

- Lack of linkage prevails but plans to remedy it are afoot

LITHUANIA

1 Introduction and background

- 33% of population live in rural areas; of rurally employed 42% farm, 58% NAE

INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

1.1.1 Agricultural and rural training

MINISTRY OF EDUCATION & SCIENCE IMPLEMENTS NATIONAL STRATEGY

- Comprises higher, vocational (initial & continuing), and rural communities/LEADER+

1.1.2 Agricultural and rural advisory/consultancy services

- No united agricultural/rural advisory service but programme financing via RSP & SPD
- State and private funding via feed, fertiliser, equipment companies' consultancy services
- Individual consultancies, field days, seminars, demonstrative experiments, information

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

- Special associations important e.g. Assoc.of Ecol. Ag.; Mushroom Growers' & Processors
- Regional Farmers' Assocs are more diverse in scope and quality
- TOT hindered by lack of cooperation, "people's reciprocal distrust", lack of leaders and of competent management, weak branch associations, difficult support-obtaining procedures

1.2 Agricultural and rural skill levels

- Only 6% have higher education; most rural women have no professional preparation
- Skilled agric.workers are 36% of employed rural population;
- 42% of unemployed have no professional qualification
- 4 of 5 farm managers have only practical experience; only <1 in 5 have agric.education
- Qualifications are not enough to adjust to EU standards
- Deep lack of managerial and enterprise skills & very low computer literacy
- Low LLL – only 3.2% of rural people aged 25-65 are studying
- 2005 expenditure on education & training in rural areas was 4 times less than in urban areas
- In past 2 years >20k people have gained vocational qualifications & 40k attended training

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- Higher education of specialists is good but practical preparation must be 'longer & deeper'
- Teachers are highly rated

2.1.2 Availability and spatial issues

GEOGRAPHICAL & FINANCIAL ACCESS IS PATCHY/POOR; FEW BUSINESSES SUPPORT IN-SERVICE TRAINING

2.1.3 Practical issues

- Change means new skills are needed; training is not so good on practical issues as on theory
- Better work organisation and increased income are the main benefits cited after training

2.1.4 Demand side issues

- Rural people are 'a relatively passive part of society' but student numbers are increasing
- Learning foreign languages tops the list but many do not wish to study and pay the fees
- Study needs cited are computer literacy, business organisation & management, law, accounts
- Farmers request juridical(legal) courses most and also business planning and organisation

2.1.5 Training SWOT analysis

Training provision

2.2 Extension and advisory services

2.2.1. Public sector services

- Public advisory services cover whole country – 2 main bodies (LAAS & LCA)
- *LAAS = Lithuanian Agricultural Advisory Service has 50 offices, 327 advisors covers husbandry, accountancy (for which they are best valued), building, mechanisation etc.*
- *LCA = Lithuanian Chamber of Agriculture covers organic & alternative agriculture,*
- *cooperation, rural community issues & EU information*
- *Specialised, educated & bigger farmers complain of lack of depth of information*
- *The services lack enough juridical (legal) information and help*

2.2.2. Private sector services

PREFERRED FOR DETAILED HELP BY PROGRESSIVE FARMERS DESPITE THEIR BIAS TO PRIVATE PRODUCTS

- For managerial issues, business plans, subsidy access, hygiene & welfare standards, GAP

2.2.3. Demand side issue

- Bigger and younger farmers demand more
- Training close to farms boosts attendance greatly
- Demand is only moderate for animal and crop husbandry information
- High demand on business management, computer literacy, juridical issues, organic farming
- Support services most sought – accounting, business planning, crop measurement by GPS...

2.2.4. Extension & Advisory Services SWOT analysis

Nothing listed as 'threats'; 2 possible points to add:-

- Be left behind internationally if do not improve services
- More rural to urban migration, and emigration of talent from Lithuania will occur

EXTENSION AND ADVISORY SERVICES

2.3 Other important issues

- Nothing listed

3 Overview and prospects

3.1 Training

WHOLE COUNTRY COVERED;

CPD/LLL AT REGIONAL FARMERS' LONG-TERM VOCATIONAL TEACHING CENTRES

LACK OF COLLABORATION, EMPLOYER COMMITMENT AND LACK OF MOTIVATION TO LEARN PERSIST

3.2 Extension

- LAAS & LCA satisfy most clients but progressives want more detailed information

3.3 Linkages between technology transfer agencies

- Weak, under-funded, inactive on research/technology links, weak agribusiness info. systems
- AIKOS (Open Information, Counselling & Guidance System) to supply ongoing info. on education, labour and employment

POLAND

1. INTRODUCTION AND BACKGROUND

- 38% rural by residence, 16% by place of work
- 42% of rural workers are in agriculture and 58% in NAE

1.2 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- Rural advisory services since C19th, first in the western lands under Prussian influence
- Both agricultural and general rural improvement sought – technical and economic
- Peer-to-peer & global information systems/mass media both operate; also supplier service

1.1.1 Agricultural and rural training

- 10 agricultural universities; but most run by Rural Advisory Services (RAS) often with the use of facilities of secondary schools in rural areas
- Actors:- Rural Advisory Services (RAS); Union of Farmers (UF); Ag Chambers (AC) Agency for Restructuring /Modernising Ag.(ARMA) & Min of Ag & Rural Dev (MARD)
- Scientific Research Institutes are active e.g. Inst of Soil Sc & Plant Cult: agri technologies and Inst of Ag & Food Econ.(IAFE): management

1.1.2 Agricultural and rural advisory/consultancy services

- National Ag. Extension Service (4500 staff) gives free advice; demand up since EU entry
- Growth of private services, but based on external experts

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

- Agric Chambers directly represent farmers & advice planning of Advisory Centres works; UF does so too
- Rural Youth Union also runs training courses – one of the major activity
- Agricultural Circles (name of NGO) collaborates with machinery suppliers
- Housewives Circles also promote improvements especially non-agricultural
- The Foundation for the Development of Polish Agriculture has strong involvement
- The EU Fund for Development of Polish Villages also plays a part

1.2 Agricultural and rural skill levels

- Low educational level characterises the rural population caused in average low technical efficiency
- Educational level is rising slower in rural areas; rural women are better educated than men
- 6.2% of rural women have higher ed, 24.6% have post secondary ed.(men 2.9% & 17.5%)
- > 70% of rural population voices no educ. need, but 1.3 of 2.2 million have no agric educ.

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- Farmers satisfied with quality but some voiced concern over trainers low qualification
- Free services favoured but increasing number seek private, specialised advice

- Lack of enough help to small farmers trying to adapt to the new circumstances in EU

2.1.2 Availability and spatial issues

- Car owners can reach training points within 30 minutes & non-car owners in 40 minutes
- Longer distances in Central-West region where bigger farms are located [see Map]
- Training is organised in local schools in the remoter areas to give easier access

2.1.3 Practical issues

- nothing listed

2.1.4 Demand side issues

- Moderately high interest in business management;
- Less interest in crops/livestock but 50% would like to improve it;
- High interest in marketing/promotion, Direct distribution, Non-agricultural diversification
- Rural youths prefer short courses to improve their non-agricultural qualifications
- Farmers seek info on accessing EU grants and on rural planning

2.1.5 SWOT Analysis

S = farmers' good opinions of training; wide scope of training provision; mostly free services

W = low quality of some training; lack on NAE skills; govt. chooses topics; poor R&D links

O = new funding sources; increasing demand for training; good conditions for private sector

T = lack of personnel for NAE skills; growing competition offering lower quality services

2.2 Extension and advisory services

2.2.1 Public sector services

- National Rural Advisory Services (EU-funded):- a) Central (CAA) & b) Regional (ODR)
- CAA in Brwinów Central Poland plus 3 offices in Krakow, Poznan and Radom
- CAA organises seminars, fairs, open days, internet courses, prepares publications
- ODR: 16 Voivodeship (Provincial) Ag Advisory Centres (VAAC) + 30 district branches
- From 2007, some individual services from VAAC will have to be paid for by clients

2.2.2 Private sector services

- Dramatic increase since 2004 owing to specialised demands of Farmers' Groups
- Key role in helping access funds from public & commercial sources

2.2.3 Demand side issues

- About 50,000 farms directly benefit from advisory services annually compare with up to 500,000 economically viable.
- High demand for advising concerned with receiving EU funds

2.2.4 SWOT analysis

S = long experience & good opinion of NRAS; developed network; good local understanding

W = low knowledge of new technologies; lack of resources; weak linkage with R&D

O = CAP support; growing farm incomes; better access to foreign technology

T = 'direct from suppliers' without advisors; short of quality personnel; non-ag. advice lack

2.3 Other important issues – none cited

3 Overview and prospects

3.1 Training

- Low educational level in rural Poland, many small farms, high % employed in agriculture
- Need for training to diversify farm incomes; NRAS needs to ask farmers' needs more
- Relatively low quality of work at R&D Institutes, though EU has improved resources

3.2 Extension

- Well-developed nationally & regionally; recently reformed NRAS but emphasising grants
- Best farmers have lower opinion of usefulness/practical relevance of NRAS advisors
- Only up to 10% of farmers are estimated actually to use services available
- Charged services from the private sector are on the increase, as are input supplier sources

3.3 Linkages between technology transfer agencies

- training, advisory and R&D linkages not satisfactory; too little applied research
- expected growth of internet role for rural advisors as pioneered by CAA & IAFE

ROMANIA

1. INTRODUCTION AND BACKGROUND

- 45.1% rural by residence
- Of all rural workers, 64.2% are in agriculture, 35.8% in NAE

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

1.1.1 Agricultural and rural training

- Aim for viable agricultural ventures compliant with EU standards
- National Agric.Consultancy Agency (NACA) was established in 1998
- NACA covers agric.training:- 2,926 courses in 2006
- NACA provides farmer training qualifications, CPD, specialist upgrading courses, TOT

1.1.2 Agricultural and rural advisory/consultancy services

- NACA, County Offices for Agric Consultancy (COAC) and Local Centres (LCAC)
- Production technology courses (crops etc), results of scientific research disseminated; meeting EU regulations; accessing EU grants; free information circulated

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

- NACA encourages formation of Producer Associations which also give training/advice
- NACA helped set up 31 Co-operatives, 12 Producer Groups, 675 Associations
- More such groups are being helped to form all the time
- 81% of respondents in a NACA survey felt such groups facilitate development of Ag. by:-
- Obtaining secure returns, higher investments, organic farming, marketing, EU fund access

1.2 Agricultural and rural skill levels

- Socialist period had increasing numbers graduating from secondary and high schools
- Rural areas less educated and less motivated to it than urban; transition period saw drop
- Recently, demand for vocational education increased because it helps get jobs abroad
- A higher % of rural young people (15-24 yrs.) lack education than among their parents
- Most workers in agriculture lack training and there is virtually nothing offered for NAE
- Rural schools are more poorly equipped than urban ones but vocational enrolment is up
- Tertiary educated people in 2004 were 2.8% in rural areas, 19.1% in urban areas

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- NACA courses on farm management, marketing, EU matters, new techniques, technology and legislation, organic farming, fund access, Farmer Associations, Food Security
- Joint diploma is offered by the Romanian-Austrian Fund (*Semanatorul*) to train trainers & issued by Rom. Min of Ag, Forestry & Rural Dev (MAFRD) & Austrian Chamber of Ag

2.1.2 Availability and spatial issues

- NACA has 41 County offices (COAC) with advisors/trainers, 546 LCAC advisory offices

- NACA & COAC staff have more specialised knowledge and international links c.f. LCAC

2.1.3 Practical issues

- Collaboration with foreign institutions is very important for training of trainers
- Many small semi-subsistence farms and EU entry means more collaboration for marketing
- Japanese Government aid is supporting set up of pilot Co-operatives + Management training
- Swiss aid via *Christliche Ostmission* funded visits to organic farms and waste recycling there
- Austrian Assoc of Sheep Breeders trains farmers in Sibiu County

2.1.4 Demand side issues

- High demand in 2006 in terms of intensity & diversity; 2926 courses, 170791 people trained
- Categories:- Agric production, CPD, specialist courses and training of trainers (TOT)
- Demand for crops and animals training is rated high but for business management only moderate – yet many seem to recognise need for improved competitiveness and marketing

2.1.5 SWOT Analysis

S = CPD demand rising; diversity of training provided; PHARE, SAPARD, World Bank funding; beneficiaries are increasingly sensitised to training need

W = unstable and incoherent legislative system in past decade; lack of CPD; lack of materials and of human capital; difficult to access funds; poor rural infrastructure

O = EU funds; more training, especially for remoter areas; link to the universities & overseas

T = poor infrastructure; lack of equipment to conduct courses properly

2.1 Extension and advisory services

2.1.1. Public sector services

- NACA (since 1998) has 32 specialists; COAC has 8 specialists per County
- Aim was 1 extensionist for each of 2900 communes – actually 700 in post
- NACA will be part funded by external sources, not just the State budget
- Clients are both market-oriented farmers and the many very small farmers

2.1.2. Private sector services

- Neglected until recent years, now 10%; 730 NGOs, input suppliers, processors supply some
- Agri-food sector projects funded via SAPARD use some private extension input
- Almost all staff have tertiary education whereas 75% of public sector NACA staff have

2.1.3. Demand side issues

- Survey of livestock and agri-food service usage by farmers showed 67% used advice
- Increasing through 2006 via NACA :- 1199 on-farm demonstrations; 293 symposia; 336 seminars; 1033 meetings; 305 round-table discussions; 489 debates attended by 620,000 people; 103 fairs; 95 expositions, 34 competitions, 31 festivals
- More TV and mass media watched/accessed and more free literature taken
- NACA mostly offered help to small and medium-sized farms and businesses (SMEs)
- Demand is growing for project planning and elaboration

2.1.4. SWOT analysis

Public sector:-

S = NACA has capacity and coverage; sufficient specialists; high demand for professional qualification by farmers; links to need of Farmers' Associations/Producer Groups;

W = lack of funds & poor strategy to get more; difficult communication with beneficiaries; lack of communication equipment/IT; no feedback to central institutions developing agricultural-policies; legal constraints at commune level

O = reorganisation of NACA may attract external funds; stimulate local consultants; EU entry; Bigger farms; more powerful farmers' associations; offering advisory services to groups rather than individuals

T = international competition rising; low State financial support + free advice; possible migration of the best State advisors into the private sector

Private Sector:-

S = market oriented extension; joint dissemination with commercial providers; specialists in project planning; possibilities for continuous learning

W = only a few firms exist so far; farmers lack enough to pay; less on offer to small farmers
O = potential to take over services; farms getting bigger; farmers education towards IT etc; project-related funding access

T = mentality of the Romanian farmer; lack of education; SMEs lack enough to pay; lack of understanding towards farmers

2.3 Other important issues – none cited

3. Overview and prospects

3.1. Training

- NACA training expansion & EU entry offer encouragement that training uptake will grow

3.2. Extension

- Survey of extension advice recipients showed among respondents improved turnover (70%), net profit (40%) product quality (83%)
- Demand is expected to increase further with more provided via the private sector

3.3. Linkages between technology transfer agencies

- Ministry of Education & Research elaborates objectives but has weak links to business
- Romanian Academy of Agricultural & Forestry Sciences of MAFRD oversees agric research
- Better linkages are anticipated as regional innovative clusters & Producers' Groups develop

SERBIA

1. INTRODUCTION AND BACKGROUND

- 55% of population live in rural areas according to OECD (44% by official statistics)
- 32% of rural population work in agriculture

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- In 2002, agric earned 23% of GDP, cost 3.3% of budget of which 1.4% spent on extension
- In 2004, there were 379 extensionists of whom 25 have PhD, 35 MSc & 319 are graduates
- Extension was by Institute of Science Application in Ag.(ISAA) via Regional Ag.Stations
- Conflict of interest because Regional Ag Stations cover statutory control and advice
- Small private extension service by donor agencies and private consultants
- Most farmers lack a) education; b) appreciation of the value of extension; c) funds to pay
- Service is also provided via Ministry of Science and Environmental Protection funding of Research Institutes, Universities, NGOs
- Mass media and an organised agric education system via universities and agric schools

1.1.1 Agricultural and rural training

- 28% of agricultural personnel have little or no formal education
- 34 vocational schools train technicians but most land now privately farmed
- More emphasis needed on farm business management
- 4 Faculties of Ag and 2 of Vet Science; also private universities with many branches
- many projects internationally funded; also events, mass media, publications disseminate

1.1.2 Agricultural and rural advisory/consultancy services

- Several parallel extension/consultancy services; govt, NGOs, private, USDA, UNDP, FAO
- 34 Ag. Stations co-ordinated until 2004 by ISAA; employs 250 part-funded by MAFWM
- statutory control, laboratory analytical, and advisory functions need separating
- Ministry of Agriculture, Forestry and Water Management via Agricultural Stations services technological production info

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

- Assoc Swine Producers; *Vilamet* Raspberry Prod.; Club 100 Plus Farmers; Veg.Growers ..
- Workshops, lectures & Winter Schools are organised
- Local govt. funds co-operative training among farmers, as do some NGOs
- Agric. Network *Agromreza* runs agribusiness clubs for farmers, managers & consultants
- www.agromreza.org also organises co-operatives and assists their development
- The Serbian Association of Co-operatives actively promotes joint ventures

1.2 Agricultural and rural skill levels

- unfavourable educational situation in rural Serbia; 28% of >15 year olds are illiterate
- only 5.2% of the rural working population has attended college
- although almost 50% of rural workers completed secondary school, curricula are unsuited
- urban qualified teachers, doctors and engineers are hired to do rural work instead

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- ISAA & RAS are mandated to disseminate info, advise, organise events & long-term ed.
- Research Institutes provide info by sector, as do some International Relief & Dev agencies
- Quality Management Systems & Food Safety (HACCP) are 2 such
- AGRONET = BSc Agronomists' & Computer Programmers' Network for agri-food info
- USAID funds *Agromreza* (AGRONET) as does the GASKP Assoc to improve standards

2.1.2 Availability and spatial issues

- Longest ag extension tradition of all 34 regions is in Vojvodina
- Processors are obliged by contract to provide advice and info to producers
- Manpower in remote areas is least educated and help has to be targeted with NGO aid

2.1.3 Practical issues

- ISAA & RAS now entrusted with distinct responsibilities

2.1.4 Demand side issues

- Interest is high in business management training/info., not so much in animals/crops
- Higher Ed Reforms with Bologna Declaration improvements are anticipated

2.1.5 SWOT Analysis

S = ample educ & research institutions; reforms of curricula; international recognition

W = non-harmonised curricula still exist; experts lack practical knowledge; CPD lack

O = international funds/co-operation; co-operation between research institutes/users

T = lagging behind on standards; declining productivity/competition; ecological threats

2.2 Extension and advisory services

2.2.1 Public sector services

- Established in 1991 via 34 Regional Agric Stations co-ordinated until 2004 by ISAA
- Ministry of Ag, Forestry & Water Management funds ISAA; STIPS market info system
- 6 Specialised Institutes

2.2.2 Private sector services

- None organised except those provided by Vets and some individual private agronomists
- Purchasers of inputs get free advice and are invited to promotional gatherings

2.2.3 Demand side issues

- IASA = Republic's Ag Extension Service does not have a precisely defined status
- Training of advisors has not met needs of producers & is not aware of international scene
- Advisors on farm economy, marketing and finance are lacking; funding is inadequate

2.2.4 SWOT analysis

S = developed network for extension & long experience; co-operation of institutes + big farms

W = lack of capital, personnel and slow exchange of information

O = use of foreign programmes to improve; NGOs

T = technical lag; small farms; inaccessible market capital/goods; declining competitiveness

2.3 Other important issues

- International Projects' key role: STIPS 2004; 'Be better – learn how to plan' 2001/2
- Community Revitalisation through Democratic Action (CRDA) – USAID funded
- Western Serbia Tourism Project; ACDI/VOCA for co-operative development
- MAFWM extension earnings provide 10-90% of Station budgets
- User paid 'control'/statutory earnings are mostly from seed quality control
- Need to differentiate statutory control from analytical services, from extension advice

3 Overview and prospects

3.1 Training

- Both producers & processors need training but it is not yet enough related to new situation

3.2 Extension

- Extension services need restructuring to meet EU accession needs
- Extension needs to link producers, processors, traders, & help farmers diversify

3.3 Linkages between technology transfer agencies

- Except with cereals and sunflowers, knowledge is not well transferred
- Weak capacity in agric economics and market research & poor agri-food linkage
- Research-Extension-Farmer linkage is not strong; Research-Extension links are better
- Better internal and international linkages are needed between the various TT providers

SLOVAKIA

1 Introduction and background

- 87% of population live in rural areas & 76% work there; 7% in agric., 93% NAE
- TT is a 'complex process' that must 'avoid creating and maintaining dependency of the recipient if it is to contribute to sustained and equitable development'.

1.1 Introduction to rural technology transfer

- TT must 'suit socio-economic and cultural context';
- TT should 'consider development and sustainability issues ... climate change';
- Governments can regulate, improve institutions and incentivise farmers to change

1.1.1 Agricultural and rural training

- Slovakia Agroinstitute = Centre for continuing education for people in agriculture
- 2 universities and 89 colleges provide agric.education; ag. training is 65% privately funded

1.1.2 Agricultural and rural advisory/consultancy services

- Slovakia Agroinstitute has 21 Advisory Centres, some specialised, some Regional (general)
- There are 353 registered advisers (of whom 20% hold doctorates) & 116 Associations

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

Farmers' organisations important; most voluntary and non-profit;

most Farmers' organisations co-operate within the Slovak Agricultural & Food Chamber

- Slovak Dairy Association; new one Slovak Assoc. of Milk Producers registered in 2004
- Some 52% of all milk is sold via associations
- Agrion = Assoc. of Producers of Agric & Forestry Machinery – represents internationally

1.2 Agricultural and rural skill levels

Only 7% of the agric workforce hold diplomas, and none have degrees

- Almost 15% have no formal education and half have less than full secondary education
- Diversification requires even more training and provision is currently insufficient

2 Specific technology transfer issues

2.2 Training provision

- training benefits employee and employer immediately, & is basis for national development
- Current examples given re soil conservation and minimal cultivation, underutilised crops...

2.2.1 Quality and suitability of provision

- high quality training, in good atmosphere; participants also share their ideas/info.
- website info.on training is put out by Institute of Scientific & Technical Info. for Agric. etc.

2.2.2 Availability and spatial issues

- TT available nationwide and well-dispersed with no spatial access problems

2.2.3 Practical issues

MINISTRY OF AG. SECTORAL OPERATIONAL PROGRAMME RURAL DEVELOPMENT PLAN ; CONFS. IN 5 CITIES

- 200 attended/conf., SAF Chamber, Assoc of Coops & Cos.; Landowners & entrepreneurs
- some private sector delivery and sponsorship by *Monsanto*

2.2.4 Demand side issues

- High interest; high demand for business management, moderate for arable, low for livestock

2.2.5 Training SWOT analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> - Relatively great number of institutions for education and vocational training - Highly qualified, competent teachers/lecturers - Reform of HQ educational system towards EU standards (Bologna declaration) - Involvement in EU programme (CARDS, F6) - Detailed elaboration of Education and R&D strategies and programmes—although they are not carried out - - - 	<ul style="list-style-type: none"> - The limited ability of the educational system to adapt to changes in demand on the labour market and rural economy - Small number of college graduates and a very small percent of labour force participates in life-long learning - Lack of Basic ICT skills and knowledge in secondary (vocational) education - Inadequate practical training in vocational schools - Lack of the Education Management Information System – EMIS - Undeveloped programmes for adult education - Poor investment in educational infrastructure in rural areas, agricultural researches and teaching staff - Dislocated institutions for education and professional training for rural inhabitants - Regional cooperation among educational institutions - Lack of continuing professional training for teachers /lecturers - Lack of systematic monitoring and quality control mechanism for higher education teaching and scientific research work

Opportunities	Threats
<ul style="list-style-type: none"> - Growth of investment in education and vocational training - Intensified reform of education system increasing the chance for local changes - Consciousness about importance of long-life learning - Development of telecommunications and informatics' infrastructure - Expansion of private and foreign schools - Positive changes created by expectations of European Union accession - Growth of demand for qualified labour force - Development of business incubators, centres and parks - Development of vocational training programmes - Getting acquainted with e-learning - EU funds will be use to develop new forms of education planning and teaching 	<ul style="list-style-type: none"> - Small budget for adult education and professional training - "Outflow" of highly qualified work labour to the cities - Poor involvement of the private business sector in R&D - Poor spatial and professional migration of labour force – vertical and horizontal passability towards achieving occupations - Disparity in regional development - The high and long-term level of unemployment of those who have completed secondary education - The involvement of adults in life-long learning - Elderly population has difficulties in finding jobs - -

2.1 Training provision

2.2 Extension and advisory services

- wide network of provision since 1990 – both public and private (diverse)

2.2.1. Public sector services

- Statutory provision plus those commercially demanded
- 6 Budgetary and 25 Allowance Organisations come under the Slovak Min. of Ag.
- SAFC, SAAS, BASAS, ISTIA, DCCSN of Min. of Ag.

2.2.2 Private sector services

FOCUSES ON CONCRETE SPECIALISED PRODUCTION, PROCESSING AND TRADING INFORMATION

- Assoc. of Ag. Advisors; 2 types of advice:- specialist and terrain (territorial)

2.2.4 Demand side issues

- Demand survey/research not done but some evidence of increase in demand, esp. specialist

2.2.5 Extension & Advisory Services SWOT analysis

- good complementarity between public and private sector provision
- scope to boost rural social development

- education of advisors needs improving

Strengths	Weaknesses
<ul style="list-style-type: none"> - Highly qualified, competent and experienced advisors - Good Research/Extension linkage (good cooperation with research institutes and faculties) - Good logistic support of informatics equipment (PC, Web-site; LAN, on-line bulletin etc.) - Team work - Permanent training of advisors - Good cooperation with international and national non government sector - Involvement in international rural development projects - Understand need for rural development work to improve rural communities - 	<ul style="list-style-type: none"> - Number of advisors in branch-offices - Limited financial resource – inadequate funding by state budget, 66 percent of budget goes on salaries, little left for operational costs - Inadequate number of experts (specialists for agricultural economy; management in rural business; rural development, organic agriculture, agro-tourism) - Lack of information/human communication specialists (for making extension materials more readable, more attractive to the farmers, appropriate communication techniques) - High orientation on individual method in advisory work - Low salaries - Lack of programme for target group- young farmers, rural women...
Opportunities	Threats
<ul style="list-style-type: none"> - Moore participatory extension model - Build capacity of farmers organization (associations) and expansion of agricultural cooperatives - Possibility to establish private advisory/consultancy services - Build co-operation between the different organizations (farmers, non-governmental sector, researchers and extensionists) - Expansion of small entrepreneurship - - 	<ul style="list-style-type: none"> - Unstable macroeconomic and political environment, low Government priority for agriculture and rural economy - Limited financial resources for applied agricultural and rural researches - Poor Farmer incentives, not active role in extension - Farmers, farmer’s organizations are not ready to financial support agricultural researches and extension - Poor programme to strength farmers organization - Farmers’ unwillingness to organize themselves - Youth lack interest in agriculture and older agricultural population - Unfavourable agrarian structure (high share of small farms and fragmented agricultural land

2.3. Other important issues

- majority is contracted to private sector

3 Overview and prospects

3.1 Training

ADEQUATE MODEL FOR EACH COMMUNITY EXISTS TO TRAIN FOR RURAL DEVELOPMENT

- To be based on use of EU programmes to deliver

3.4 Extension

- Have been developing since 1990, widened & improved; EU policy evolution = key driver

3.3 Linkages between technology transfer agencies

- Quite well-established linkages; Slovak Ag. & Food Chamber membership plays key role
- Cooperation & networking well developed between Public Institutions

SLOVENIA

1. INTRODUCTION AND BACKGROUND

- 57% rural by residence; 30% rural by workplace

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

1.1.1 Agricultural and rural training

- run/co-financed by Min. of Ed. & Sport + Min. of Ag., Forestry & Food (MAFF)
- agric. vocational ed. available all levels; biotech & vet faculties at Ljubljana & Maribor

1.1.2 Agricultural and rural advisory/consultancy services

- Ag. Ext. & Advisory Service (AEAS) long tradition since C19th by Ag Socs/co-ops
- Post 1972, professional agric service established; part of MAFF from 1990 named AES
- Since 1999, AEs no more under MAFF but under the Chamber of Ag & Forestry

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

- Co-operative Union & other Associations important:-
- Farmer Women, Young Farmers, Machinery Hire, Rural Tourism on Farms; Cattle...

1.2 Agricultural and rural skill levels

- Employed people had >11 years formal schooling in 2002; 60% are in kindergarten
- Secondary enrolment = 97.9%; post secondary >50%; tertiary c.40%; many part-time
- Regional variations; few adults are in training (<4%); low functional literacy
- Low co-ordination between work needs & education provision; only 28% had Ag. Ed.

2 Specific technology transfer issues

2.1 Training provision

2.1.1 Quality and suitability of provision

- Almost all agric.ed. programmes revised in past 5 years; Bologna declaration upgrade

2.1.2 Availability and spatial issues

- 12 secondary schools in 9 regions train in agric, forestry, food processing
- >400 teachers work in secondary schools and >1,500 students/year complete studies
- New programme at Faculty of Ag on Agribusiness Dev in Rakican, Prekmurje region

2.1.3 Practical issues

- Declining number of students is biggest problem; low average size of ag. holdings
- Low employment possibilities outside agriculture, though many curricula renewed
- Joint relations exist with agric schools abroad & cross-border *Leonardo da Vinci*

2.1.4 Demand side issues – nothing mentioned

2.1.5 SWOT Analysis

S = long tradition; good regional distribution; great connection made theory + practice
W = lack of ample professional training for secondary teachers
O = connect agriculture with other sciences; impact rural development & heritage/culture
T = decreased number of students registered at agricultural secondary schools

2.2 Extension and advisory services

2.2.1 Public sector services

- AES employs 310 (180 in fieldwork, 80 are specialists, 50 household advisors)
- 1 advisor per 300 farms or per 1,500 ha of UAA (Utilised Agricultural Area)
- AES trains farmers, organises events, designs development programmes, promotes producer associations, collects data, serves within the LOVENIAN Agricultural & Environmental Programme, advises on EU compliance, grants etc.

2.2.2 Private sector services

- Various Enterprise & Development Centres exist; agric stores/Cos. play a key role

2.2.3 Demand side issues

- agric technology, preparing investment/development plans, accessing EU payments

2.2.4 SWOT analysis

S = long tradition; widespread network; well-qualified advisors

W = lack of competition in Agric extension provision

O = merging farm producers into associations; promoting diversification; private extension

T = potential threat of optional membership of the Chamber of Agriculture & Forestry (Until now the membership has been obligatory for:

- Natural and legal persons engaged in agriculture production (activity),
- Persons who have arranged pension and health insurance as a farmer,
- owners of agricultural land)

2.3 Other important issues

* Public Agency for Entrepreneurship & Foreign Investments assures consultancy for SMEs

* Operates via network of Enterprise Centres for potential entrepreneurs

3 Overview and prospects

3.1 Training

- well-developed system of agric training but old age structure of farmers
- recent improvements in training provision and higher education
- great importance attached to marketing, rural development, environmental issues
- lack of good learning materials & decreased registration of new students of agriculture (especially at lower level –vocational education)

3.2 Extension

- AES has long tradition but role changed to help farmers access grants, develop, invest

3.3 Linkages between technology transfer agencies

* LEADER stimulates capacity building, public-private partnership, local collaboration

TURKEY

1. INTRODUCTION AND BACKGROUND

- In 2004, population was 70 million, of which 34% lived in rural areas
- 67.5% of rural workforce are in agriculture; 32.5% in NAE
- Almost all the women employed in rural regions work on small farms

1.1 INTRODUCTION TO RURAL TECHNOLOGY TRANSFER

- Technology transfer previously public sector only, now seen as mixed provision
- In 2005, 35,000 villages & 40,000 sub-villages; 3.5% rural households access Internet

1.1.1 Agricultural and rural training

- Ag extension & training are seen as the most important ways to improve agric production
- Lack of infrastructure, resources & skilled people;
- In 2004, only 24% of rural labour had completed primary education (8 years)
- Only 7% of secondary schools are in villages; literacy = 80.5% of rural population
- 24 universities etc have agricultural courses

1.1.2 Agricultural and rural advisory/consultancy services

- Private consultancy is well known, now institutionalised via KOY-MER Project
- Farmers pay 50% of operating expenses of their Associations' consultancy services
- There are 1021 consultants in 81 provinces; partly local institution paid, part private
- MARA (Min of Ag & Rural Affairs) pays the rest of the cost of village consultants
- Consultants advise on inputs, Registration, planning, credit, extension, diseases;
- Consultants encourage farmer co-operative marketing, natural resource conservation
- Public-private collaboration is encouraged

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

- 11 Farmer Assocs use consultants,
- 50% fees paid by Union of Turkish Chambers of Ag (TZOB), established in 1963
- TZOB has 700 local Chambers of Ag. & 4 million members;
- Hazelnut Growers' Union (Fiskobirlik) has > 230,000 members
- Civil Society organisations include many agric sales co-operatives by sector

1.2 Agricultural and rural skill levels

- 33% of women who do 60% of farm work have never attended any school
- Rural females have only 67.8% literacy
- Mandatory education has been increased from 5 to 8 years duration now
- Most rural people are unskilled; farmers use neighbours as main source of info

2 Specific technology transfer issues

- Rural services started mid C 19th – from 1838 under 'Agriculture & Industry Council'
- MARA now provides most services to some 7 million farmers; some private services

2.1 Training provision

- Public – notably MARA + Private + NGOs
- 84 State Research Agencies; Higher Educ. via 24 Ag Faculties, 19 Vet, 9 Forestry
- Independent Research Institutes; Nat./International organisations, NGOs, Farm Unions

2.1.1 Quality and suitability of provision

- 34% live in rural Turkey cf. 5.4% EU average (& new 10 countries average 13.4%)
- Current programmes inadequate to cover needs, especially of smaller producers
- Lack of market info and farmers use neighbours for info [potentially a good thing...]

2.1.2 Availability and spatial issues

- All 81 Provinces and all 802 Districts have MARA Extension Services
- Scattered settlements hamper extension access and small farms lack scope to respond

2.1.3 Practical issues

- Farmers' needs/demands are not taken into account but extensionists set agendas
- Too few Centres of info/documentation; rural people lack education to benefit

2.1.4 Demand side issues

- non-formal education remains significant sought and strategic for rural areas

2.1.5 SWOT Analysis

S = wide coverage; growing private sector input; agri-food development; ample people/land
W = few professionals & funds; poor linkages; small unregistered farms; poverty; NAE lack
O = technological developments; TV/Internet; private services; rising educ.; EU funds; public pressure for local govt. improvement and on health/environmental issues; foreign markets
T = farmers fear change; emigration of young/educated; economic instability; fragmentation; infrastructure lack; urbanisation; regional development disparities.

2.2 Extension and advisory services

2.2.1 Public sector services

- Free agric extension from governments since 1943; each county now has extensionist
- MARA now covers all 81 provinces, 803 counties and 894 villages
- MARA has 7 sections: Projects; Statistics; Plant protection; Food control; Farmers' training and extension; Animal Health; Administration.
- In 2006, extension service employed 6,965 agric engineers; 733 food technologists; 2,441 vets; 1,819 veterinary technicians; 3,828 agric technicians; 908 home economics
- A General approach + the T&V system used since 1984 but little help to small farmers
- Unsatisfactory because too costly to cover needs and too top-down...

2.2.2 Private sector services

- Some private contractors provide services to farmers, some via Chambers of Agric.
- Turkish Dairy Industry (TSEK) etc. privatised but this excluded smaller producers

2.2.3 Demand side issues

- Internet access limited (3.5% rural households and 11.6% of urban ones)
- Young people wish for better education; farmers have great regional differences/needs

2.2.4 SWOT analysis

S = complete national public organisation at village level; Professional growth; international support; NGOs help; wealth of experience

W = funds & resources lacking; poor staff motivation; inadequate linkage to research etc; highly bureaucratic; low educational level of farmers

O = change possible; progress in production & IT; private extension developing

T = farmers fear change; young and educated emigrate; limited use of appropriate extension methods; multiplicity of extension advisors; inadequate budgets.

2.3 Other important issues – none cited

3 Overview and prospects

3.1 Training

- Public, private & NGOs work on it; IT is developing; extension seen to have key role

3.2 Extension

- Extension is based on voluntary responses of farmers but often their needs not asked
- Financial support is insufficient, though extension is an important policy delivery tool
- TV & mass media increasingly important in disseminating free extension advice

3.3 Linkages between technology transfer agencies

- [Useful Diagram included] – quite strong linkages exist;
- Technology Transfer occurs where extension agents & farmers are in full co-operation
- Research-extension-farmer; private-public; regulatory agency/policy/R&D; ag-industry
- Different extension providers do not co-ordinate their offerings very much
- Extension is part of a continuing education process, integral for agric development