

Improving Awareness of Sustainability Issues in Agriculture and Forestry

4

An important first step in setting the foundation for integrating environment will be to improve awareness of the extent and impact of sustainability issues in agriculture and forestry. This is because change is unlikely unless and until the main stakeholders—including non-environment government agencies, the private sector, and the general public—are well informed about the issues and press for change. The local consultant reports on which this study is based showed that, in nearly all countries, public awareness of the environmental impacts of agriculture and forestry is quite low.

Data from environmental monitoring are important for raising awareness. Environmental monitoring systems generate data on the extent of the problem and provide a way of measuring progress towards its solution. Such systems have advanced considerably over the past decade, especially in terms of establishing basic parameters for air and water quality. Although data are still lacking in many areas related to agriculture and forestry,¹⁸ donor support is improving such monitoring in selected areas, such as forestry and nutrient management in Georgia and dryland management in Kazakhstan. There is a need for quantitative, time-series data on such parameters as soil erosion; nutrient levels in streams, aquifers, and drinking water; salinity levels in soils and water; food safety inspections; forest health; illegal cutting; and forest certification. While environmental monitoring is primarily a government function, NGOs also have a role to play in generating and, especially, in disseminating such data.

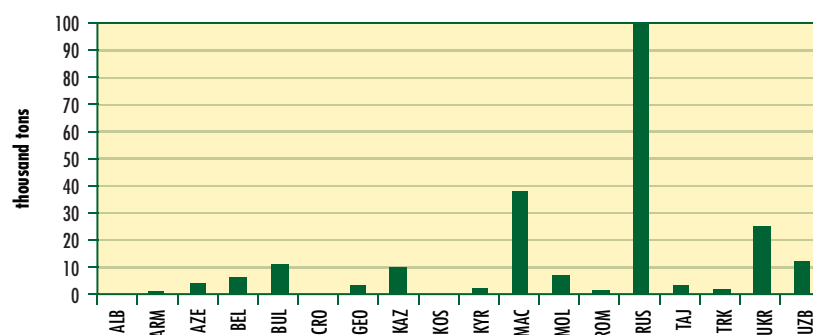
Until recently, information on obsolete pesticides was sketchy at best. However, ratification of the Stockholm Convention on Persistent Organic Pollutants has led to greatly improved data (see Figure 3). While the overall picture remains quite alarming, with about 225,000 tons of toxic materials inadequately stored in the study region, progress is being made in several countries. In Albania, Croatia and Romania, disposal of stocks is almost complete, while programs have started in Armenia, Georgia and Moldova.

Ready access to environmental information is a pre-requisite to public awareness. Although 15 of the 22 study countries have signed the Aarhus Convention¹⁹ and passed national legislation to ensure access to information, some major countries (including Russia, Turkey, Serbia, and Uzbekistan) have not. Moreover, many practical barriers still hinder information access, especially in the east. There is bureaucratic reluctance to share information, a tradition of not questioning authority, and technical barriers such as limited access to the internet, especially in rural areas. NGOs can play a catalytic role in overcoming these barriers.

Awareness among government decision makers also needs to be improved. An important role

¹⁸ As illustrated by the inability of this study to get comparable country statistics on many areas of concern, such as the indicators in Annex 3.

¹⁹ *The Convention on Access to Information, Public Participation in Decision-making and Access to Justice, 1998*. Its Secretariat's Compliance Committee has documented a number of cases in EECCA countries where the public has been denied reasonable access to environmental information.

Figure 3: Obsolete Pesticide Stocks by Country (thousand tons)

Source: POPs Newsletter (2007).

Note: Total recorded stocks for these countries = 224,500 tons. Data not available for BiH, SER, or TUR.

for ministers of the environment is to provide concise data on the nature and extent of priority problems, as well as their economic, environmental, and social implications to cabinet colleagues—both in relevant line agencies such as agriculture, forestry, and water, and in ministries of finance and economy, where resource allocation decisions are made. In many cases, special efforts will be needed to inform those who allocate budgets, because of their lack of familiarity with the sectors, as well as regional and local government officials who administer agricultural and forestry programs.

Awareness of the need to adapt to climate change is becoming increasingly critical. Until recently, attention has focused primarily on the need to reduce greenhouse gas emissions in order to reduce the effects of global warming. But most experts now agree that despite mitigation efforts to date, the climate is already warming and will likely continue to do so, and the agriculture and forestry sectors will be among the most affected (Parry et al. 2007). The EECCA and SEE countries will not be immune from these changes: while some of the most northerly areas may initially benefit from slightly increased agricultural and forestry productivity as a result of initial warming (1–3°C), even mild warming will reduce productivity in more southerly areas due to a variety of causes (heat

stress, droughts, flooding, wildfires, pests and diseases), and warming above 3°C will have negative implications even for higher latitudes (Alcamo et al. 2007). The transition countries should therefore begin to proactively integrate climate change risk management into their development plans for the agriculture and forestry sectors. Adaptations could include actions such as altering varieties, improving water management, investing in irrigation,

altering the time or location of activities, rural income diversification, improving pest management, and increasing the effectiveness of weather forecasting. Thus far, there is little evidence that this important work has begun. Undertaking it on a sufficient scale will require increasing awareness among the public and policy makers about the potentially devastating implications of climate change for agriculture and forestry. The EU has recently made promising progress in this direction with the release of the “Green Paper” on climate adaptation (Commission of the European Communities 2007). The transition countries should use this example to raise awareness of their particular situations, and most importantly to begin taking action.

While adoption of innovations from the rest of the world is encouraged, robust agriculture and forestry research systems are needed to adapt technologies to local conditions and test them in the field. This is especially true for more intractable issues such as IPM or salinity. In many regional countries, research systems have not adapted to a new role in support of the private sector or have been weakened by transition. Funding is generally scarce. Nevertheless, responses to questionnaires in the SEE countries (Annex 2) suggest that most research systems are addressing environmental

and sustainability issues. Although a comparable question was not asked in the EECCA countries, the picture there appears less optimistic. However, in a number of countries, including Azerbaijan, Georgia, and Serbia, World Bank projects have introduced competitive grants and targeting of priority problems, with evident success. Romania has recently increased staffing and funding for agricultural research.

A robust, widespread, and cost-effective system of agricultural advisory and extension services is needed to disseminate relevant research findings—including Good Agricultural Practices—to farmers and to receive feedback from them on problems of current concern (see Box 8). Experience in the region is extremely varied. The SEE countries generally have a “conventional” government extension service, with regionally based extension agents providing advice on agro-technical issues on a no-cost basis. However, these services vary considerably

in their effectiveness and ability to advise farmers on sustainability concerns. For example, even Poland’s large extension system is providing limited value to farmers because of low pay, inadequate travel allowances, and a high administrative burden. The situation in Turkey is similar.

Problems in advisory and extension systems are more acute in the EECCA sub-region, where the previous system of top-down directives to collective farms is no longer relevant but has yet to be replaced, in most cases, with a fully effective alternative. Governments are reluctant to shoulder the full cost of a “conventional” system and also wish to address the need for advice on business planning and marketing for farm workers turned farmer entrepreneurs. Consequently, a number of innovations are being tried, often with outside support. For example, under a World Bank-financed project in Kazakhstan, a private corporation has been contracted by the government to recruit and

Box 8: Modernizing Agricultural Extension

It is generally recognized that an effective two-way channel of communication among farmers, researchers, and administrators is needed, if agricultural output is to grow in a sustainable fashion. A system usually called *agricultural extension* provides such a channel. In moving from central planning to a market economy, regional countries have followed a number of paths with varying success. There is a stark contrast between the two sub-regions; in SEE countries extension services are able to reach private farmers (Turkey is a good example), although some are quite new and many lack full effectiveness. Extension agents are often constrained by low pay, lack of mobility, and excessive paperwork. Many EECCA countries, however, provide few services to private farmers and are making do with the vestiges of the old Soviet system, directed mainly at privatized former collective farms. Moldova is a refreshing exception, and Kazakhstan and Ukraine are beginning to build new systems.

In both sub-regions, there is a clear trend towards supplementing the conventional system of regionally based government extension agents with various forms of private sector support on a fee-for-service basis. This “second tier” of services is typically directed at larger commercial growers and provides business planning services, in addition to agricultural technology. In some cases, farmer associations provide a third tier of services. While this is a logical way to limit budget outlays in countries that already have a widespread conventional service, there are dangers in relying solely on the private sector in countries (such as Georgia) where the bulk of farmers are poor. There are already examples of new models of extension that collapsed after the donor project was completed. In virtually all regional countries, extension services are doing relatively little to promote sustainable agriculture, indicating a need to redirect priorities and staff training.

It seems clear that integrating environment into agriculture will only become widespread when governments and donors take decisions to modernize extension systems and provide a full range of services to farmers at all levels. This implies costs to governments, but studies show that benefits will likely greatly exceed such costs. A comprehensive global meta-analysis of returns on investment in agricultural extension services found a median rate of return of 44 percent (Alston et al., 2000). A review of estimated rates of return for World Bank agricultural extension projects in EECCA countries found similar results, ranging from 16 percent to over 200 percent.

train extension agents to provide both agro-technical and business advice. However, it remains to be seen how this system will survive when project funding is over, and whether the agents can also deliver messages on sustainability. In Georgia, the government intends to rely on the private sector to provide services on a charge-back basis, but this seems unlikely to work for the bulk of poor farmers. In several countries, effective services have been set up in certain regions with donor project support, but there is no mechanism to expand them towards national coverage.

The challenge for countries and donors alike is to examine the strengths and weaknesses of current extension systems in the light of present needs, including the need to advise farmers on good agricultural practices and other sustainable technologies, and to review and evaluate successful innovations from other regional countries. Important considerations will be cost-effectiveness; the feasibility of cost recovery from farmers; the role of farmer associations; input suppliers; processors/wholesalers; mass media; and achieving equity between the needs of larger commercial

growers and small subsistence farmers. The old approach of top-down extension services fully funded by governments is no longer seen as being particularly effective or affordable, and therefore needs to be replaced by demand-driven systems that rely on a combination of public and private support.

The SEE countries with substantial areas of private forests are in the process of establishing forestry extension services (for example, Croatia). However, these should not be expected to solve all the challenges faced by the new forest owners: small holdings; lower productivity compared to state forests; and lack of knowledge of sound silvicultural practices. Owners are also faced with the temptation to sell their timber for a quick profit. Romania illustrates the need for reasonable but enforceable regulations on private forests. Forestry departments may need to develop other tools, such as integrated community development programs for forest villages (e.g., in Turkey) or programs aimed at educating the public about multiple-use concepts or the advantages of certification for domestic consumption, especially in the east.