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PROJECT

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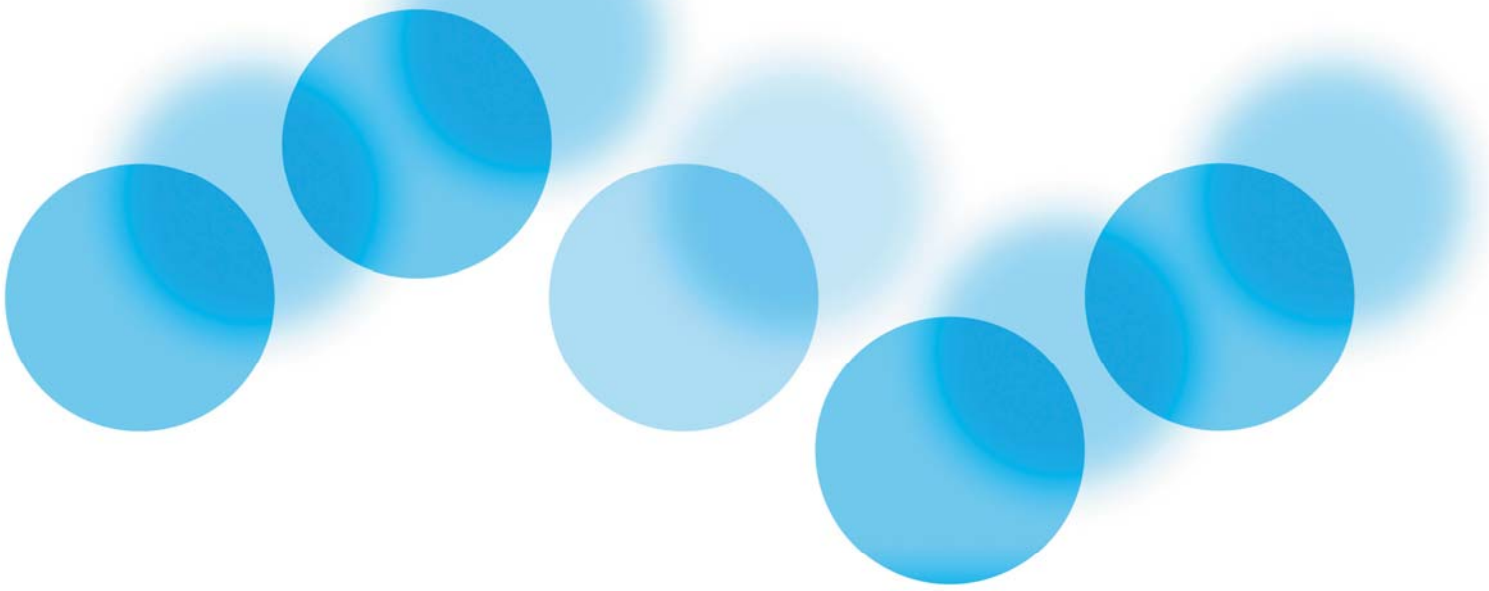
REDUCTION OF POLLUTION RELEASES THROUGH AGRICULTURAL POLICY CHANGES AND DEMONSTRATION PROJECTS

Analysis of current national legislation about Fertilizers, Manure and Pesticides



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WORKING FOR THE DANUBE AND ITS PEOPLE

UNDP I GEF
DANUBE
REGIONAL
PROJECT

AUTHORS

PREPARED BY:

Carl Bro and Danish Agricultural Advisory Service

AUTHORS:

Jens Skau

Slobodan Milosevic

Jesper Ansbaek

Gisela Felkl

With input from partners in:

Croatia

Bosnia & Herzegovina

Serbia and Montenegro

Romania

Bulgaria

Ukraine

Moldova

Carl Bro
Intelligent Solutions

Carl Bro a|s, Granskoven 8, 2600 Glostrup, Denmark

PREFACE

This assignment is directed at strengthening the capacity of the Danube River Basin countries to develop new policies on agricultural pollution prevention and to validate these concepts through a pilot project. The work builds on earlier studies and aims at helping in improving the linkages between key EU policy instruments including the CAP, Water Framework Directive, Nitrates Directive and the Common Agricultural Policy etc., within the basin.

This Project is a continuation of work in Phase 1 of the DRP, and the outputs and outcomes from this phase will be utilized and further developed in the project.

The Project will assist the DRB countries (especially in the lower Danube basin) with the development of pilot programmes for agricultural pollution reduction and low-input agriculture, in line with existing and emerging (driven by EU Accession) national environmental legislation.

The project addresses two DRP Outputs:

> Agricultural Policy (DRP Output 1.2) and
> Pilot Projects (DRP Output 1.3)

The following Tasks are included in the Project relating to Agricultural Policy:

- Task 1: Analysis of Current Legislation and Enforcement
- Task 2: Review of Agrochemical Inventories
- Task 3: Best Agricultural Practice
- Task 4: Dissemination of new Agricultural Pollution Reduction Concepts

The following Tasks are included in the Project relating to Pilot Projects:

- Task 5: Preparing detailed work programme for Pilot Projects
- Task 6: Implementing Agreed Pilot Project
- Task 7: Pilot Project Training and Demonstration Workshops

The present report on Analysis of current national legislation about Fertilizers, Manure and Pesticides is an output of Task 1: Analysis of current Legislation and Enforcement. The report contains an analysis of relevant legislation, existing policy programmes and the current state of enforcement in the DRB countries based on the Project reports from the 7 project partners in the Lower DRB countries and other available information.

The reports from the project partners in Croatia, Bosnia & Herzegovina, Serbia and Montenegro, Romania, Bulgaria, Ukraine and Moldova are available as separate files.

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LIST OF ABBREVIATIONS

BAP	Best Agricultural Practice
B&H	Bosnia & Herzegovina
CAP	Common Agricultural Policy
CISTA	Central Institute for Supervising and Testing in Agriculture , Czech Republic
DRB	Danube River Basin
DRP	Danube Regional Project
DRPC	Danube River Protection Convention
ENP	European Neighbouring Countries
EU	European Union
GAP	Good Agricultural Practice
GEF	Global Environment Facility
GFP	Good Farming Practice
GMO	Genetic Modified Organisms
IACS	Integrated Accounting Control System
IPPC	Integrated Pollution Prevention and Control
ISPA	Instruments for Structural Policies for Pre-Accession
PPP	Plant Protection Products
UNDP	United Nations Development Programme
S&M	Serbia & Montenegro
SAPARD	Special Pre-Accession Programme for Agriculture and Rural Development
WB	World Bank
WTO	World Trade Organization

1. CONCLUSIONS

Not surprisingly there are big differences among the 7 lower Danube countries and between them and EU member states. The legislation is different in all of the lower Danube 7 countries and they have not yet developed a clear agro-environmental strategy. All have received some technical assistance from different donors to establish a policy to encourage a comprehensive agro-environmental strategy and Bulgaria and Romania have reached a high level of provisions in comparison with the EU *acquis*. However, it seems that there is a big gap between the provisions and the actual enforcement and control in each country.

The lessons learned in EU countries are that training, education of farmers, assistance from extension services, and awareness activities such as pilot projects are the most important tools for the implementation of Best Agricultural Practise (BAP) and for reducing the environmental impact of agriculture. Visits to farmers who are practising BAP as well as training in the financial benefits of BAP for the farmers and the environmental impact of it on the society is the main key for the understanding of BAP.

Notwithstanding maybe the most important tools reducing the environmental impact of agriculture are incentives through direct support to investments in e.g. storage facilities, spreading equipment, and a punishment system for producers who are not fulfilling the rules and provisions, like the cross-compliance of EU and/or other national punishment systems for farmers.

It is very important to support the formation of machine rings, machine pools or other ways to organise a cost-efficient use of farm machines and equipment for handling, transport and spreading of livestock manure. Such equipment and machinery is typically too expensive to purchase and maintain for the single family farm. It is in this connection important to promote and demonstrate the value of farmer cooperation.

Limited resources are available for inspection and enforcement in the 7 lower Danube countries, and focus should be on a positive dialogue with the agricultural society (incl. the farmers) focussing on the economic and environmental benefits for each individual farm. Economic incentives should be used support to investments in e.g. storage facilities, spreading equipment for manure.

1.1. Gaps in Relation to EU Common Agricultural Policy (CAP) and Expectations about EU Memberships

None of the Lower Danube River Basin Countries are at the moment members of the EU and none of them have a national agricultural policy in line with the quite complicated set of EU rules for the 15 old members (EU15) as *cross-compliance* for direct support to farmers and the control system as IACS. Romania and Bulgaria have established the Rural Development Programme (SAPARD) and other structural measures (e.g. ISPA) partly financed by EU as pre-membership development tools.

The new EU members (EU10) have established a simple direct support system, except Slovenia. This simple direct support system is simpler than for the EU15 although it is quite complicated, especially regarding agro-environment.

The old EU15 have introduced a number of regulations and provisions (IPPC, Nitrates Directives, Agrochemical Restrictions etc.), which have to be enforced in all EU member countries (EU25), mainly by national legislation and regulations. Some of the EU countries have more strict national provisions than others (which is allowed by the EU). As an example Denmark has only approved 83 active agro-chemicals where the EU has approved more than 100. New and more environment friendly active agro-chemicals are approved every year and old ones are abandoned. Some EU countries have not finally revised their legislation in accordance with the EU's latest environmental Directives and all provisions are therefore not enforced yet.

In the past many years farmers in EU15 have invested a lot in environmentally friendly production facilities and been trained in the handling of fertilizers, other agrochemicals and manure in the most environmentally safe way in order to reduce the agricultural impact on the surrounding society. The new 10 EU members are catching up on the above directives and regulations, notwithstanding that it is a long lasting process to reach the final enforcement and visible result of the measures. At the same time all EU regulations are undergoing revisions as e.g. the new chemical product agreement of November 2005.

Romania and Bulgaria are expected to become members of the EU in 2007. The latest Comprehensive Monitoring Report of 25th October 2005 shows that the two countries still have some legislative work to adopt and to implement before membership and finally to fulfil the provision.

Croatia will soon get extra technical and financial assistance for their preparations for EU membership and also financial support to a rural development programme (SAPARD). The assistance will assist them in meeting the EU's legislative requirements in the agro-environmental field as well as in implementation of the measures.

Also B&H and S&M are on their way to become members of the EU. It is expected that the two countries can catch-up with Croatia over the coming years and will soon have the same technical and financial assistance as Croatia and also assistance from other multilateral and bilateral donors.

There is no doubt that Moldova and Ukraine will benefit from the Neighbouring Programme of EU (ENP) and on other donors' programmes (GEF, UNOPS, WB and bilateral donors) in the coming years and special effort will be done on programmes for diminishing the environmental impact from farming and agro-business. The assistance will be technical as well as financial.

The process of diminishing the environmental impact of agricultural production on rivers, canals, lakes and ground water is progressing in the DRB in all the 7 lower DRB countries. The present UNOPS/GEF project will support the progress through the activities and results of the different tasks.

As mentioned the existing Common Agricultural Policy (CAP) including cross-compliance, agro-environment and rural development measures of EU cannot just be transferred to other countries. The national policy has to build on the existing policy and tradition. The EU cross-compliance system cannot be used directly as an enforcement tool for agro-environment measures in the lower Danube River Basin countries, because it is based on the direct payment system to producers. This system which is not applied in the 7 countries at the moment and will not be applied simply to introduce the cross-compliance system. Therefore an investment support system and a supervision and control system has to be developed to ensure the enforcement of policies reducing the pollution of rivers and canals and to gain the desired effect on the environment.

2. IMPACT OF AGRICULTURE ON THE ENVIRONMENT

This Project focuses on the impact of agriculture on the environment from the use of fertilizers, handling of manure from husbandry, and pesticides. Other environmental impacts of agriculture e.g. impacts resulting from feeding of animals, use of medicine, field work, irrigation, erosion, changes in flow regime in rivers, solid waste and waste water from agriculture are not covered by the project. Outside the scope of the project is also the environmental impact of agro-services, abattoirs and food processing.

3. PARTNER ORGANISATIONS

The Partner Organisations in the 7 lower Danube countries

1. Bosnia & Herzegovina: Agricultural Institute of Republic of Srpska, Department of Agrochemistry and Agroecology.
2. Bulgaria, National Agricultural Advisory Service
3. Croatia, Regional Environmental Centre and EuroLex Consulting Ltd.
4. Moldova, NATIONAL FARMERS FEDERATION
5. Romania, Fundatia pentru Dezvoltare Rurala din Romania
6. Serbia and Montenegro, "Natura Balkanika" Nature Society
7. Ukraine, National Association of Agricultural Advisory Service of Ukraine

has drafted a report for each country focussing on legislation, Annex 5-12, which has provided an important input to this report.

4. GENERAL CONSIDERATIONS

The average use of fertilizers and of agrochemicals per ha cultivated agricultural land in the lower DRB countries according to statistical information is today very much under the level of the old EU member states (EU15) in the DRB (Germany and Austria). New figures show a small increase in the total utilisation of fertilizers and agrochemicals in the lower DRB countries in the latest years, and at the same time the area of cultivated agricultural land has been increased.

The number of cattle, pigs and poultry has been reduced since the beginning of the 1990s and has resulted in a reduced quantity of manure.

In socialist and communist time of the former communist countries the manure was not regarded as a valuable asset for fertilizing field crops but as a waste product and was wasted into lagoons or seeping into canals and rivers polluting the surroundings and the environment. Today the problem still exists. Very few cattle, pigs or poultry farms in the lower Danube countries are storing, handling, using (as a source of nutrients for the crops) or selling the produced manure in an

optimal way to use the nutrients in the manure for crop production and to prevent pollution of the environment.

Another challenge is to limit the use of pesticides in agriculture by improving their effectiveness. Many types of active ingredients in pesticides have been prohibited in the latest years in all the 7 lower DRB countries. Some countries are close to having implemented the EU Agrochemicals Positive Inventory List, where others, e.g. Romania, have got a transitional period to outface chemicals that are prohibited in other EU countries (e.g. 2.4-D).

Some of the countries still have (unofficial) stocks of outdated agrochemicals, which are still used as pesticides. In some of the countries (e.g. Romania) it is allowed to use these and in others (e.g. Bulgaria) this is strictly prohibited.

Many farmers are using outdated field sprayers and equipment with bad atomization and uneven spreading, and therefore with low effect on weeds, fungus and insects and unreasonably high impact on the environment of the sprayings.

The analysis shows big differences among the 13 DRB countries with respect to the mentioned matters.

5. LINK TO PHASE 1 DRP ACTIVITIES

This report builds on the achievements of Phase 1 of the Danube Regional Project, especially the reports:

- Recommendations for Policy Reforms for the Introduction of Best Agricultural Practice (BAP) in the Central and Lower Danube River Basin Countries.
- Final Report for Danube Regional Project Outputs 1.2 & 1.3
- Inventory of Policies for Control of Water Pollution by Agriculture in the Central and Lower Danube River Countries

It uses the same definition of Best Agricultural Practice as in Phase 1 of the Danube Regional Project: "…the highest level of pollution control practice that any farmer can reasonably be expected to adopt when working within their own national, regional and/or local context in the Danube River Basin".

Focus in Phase 1 was on the use of agrochemicals. This project considers the handling of manure as a central issue in BAP implementation in the lower Danube countries. This project will also promote the approach that introduction of BAP will have positive effects on the environment as well as on the farm production economy.

6. STATUS IN THE 7 LOWER DRB COUNTRIES AND DRB EU MEMBER STATES

In relation to EU the 7 lower DRB countries can be divided into three main groups; additionally two group of EU Member States is represented:

1. Accession countries: Bulgaria and Romania.
2. Applicant countries: Croatia, Bosnia and Herzegovina, Serbia and Montenegro
3. Other countries: Moldova and Ukraine.
4. Old EU Member States (EU 15): Austria and Germany.
5. New EU Member States (EU 10): Czech Republic, Hungary, Slovak Republic, Slovenia

There are similarities between countries in the same group but there are also big differences, including the first group, which is on the doorstep to EU membership. The main reason for the differences are the history, traditions, cultural differences, social differences, political will or lack of understanding of the impact of pollution on the surrounding environment in general and therefore lack of understanding of the need to diminish the pollution from agriculture and from agricultural activity. Some the lower DRB countries have adopted quite a number of laws in line with EU and international standards, but there is a general lack of implementation and enforcement in all the 7 lower DRB countries.

6.1. Group 1: Bulgaria and Romania

Status in implementing the EU rules for the agricultural sector

- Analysis of the relevant legislation

The first group consisting of Romania and Bulgaria are enforced to adopt and implement the EU ***acquis*** before EU membership. Romania has in the Accession Treaty got transition periods for several agro-environment measures and restrictions e.g. the transposition of some of the provisions in the agrochemical regulations, the Nitrates Directive related to vulnerable zones, and about water quality and the IPPC regulation, where Bulgaria has agreed to fulfil all provisions at the day of membership.

- Analysis of existing policy programmes

Both Romania and Bulgaria are especially benefiting from EU technical advisory project support (PHARE) to assist the two countries in the preparation of legislation in line with EU, in gap analysis, road maps, education and training before membership, plus that EU by the SAPARD facility is supporting farmers financially to invest in agro-environmental measures like storage facilities for manure and spreading material, and support to extension services and training. Also the two countries have benefited from UNOPS and World Bank projects since the beginning of the 1990s.

The reports from the project partners in Bulgaria and Romania (Annex 9 and 10) and also the EU Comprehensive Monitoring Report of 25th October 2005 (http://europa.eu.int/comm/enlargement/romania/key_documents.htm) found that Bulgaria on agro-environment and agrochemicals at the moment[1] is closer to fulfil the EU *acquis* than Romania. On the other hand Romania and Bulgaria are given direct support and credit lines to farmers, for

[1] It is an ongoing process at the moment

buying fertilizers and pesticides. According to EU national aid rules, support to fertilizers and pesticides will not be accepted from the day of membership.

Both countries have quality requirements to fertilizers and for other agrochemicals and both have requirements for labelling and instructions to users. Bulgaria has restrictions regarding the use of fertilizers (quantity/ha), and Romania only has recommendations at the moment and restrictions for spreading in the winter period. Both countries have restrictions for the use of fertilizers, manure and pesticides near lakes, rivers and watercourses and in vulnerable zones and areas. Bulgaria has set up requirements for storage facilities for fertilizers and some recommendations. Romania only has recommendations.

For solid and liquid manure Romania and Bulgaria have no requirements to quality checks but requirements and recommendations for storing and spreading. It seems that some primary legislation is missing, although Bulgaria has restrictions in spreading of manure from November to February and the manure has to be ploughed or mixed into the soil within 4 days. The enforcement of the adopted provisions and supervision is unclear.

- Analysis of the current state of enforcement

As mentioned above, Romania has in the Accession Treaty got a transitional period for some active agrochemical ingredients (2,4-D), and for some of the provisions in other directives as e.g .the Nitrate Directives.

6.2. Group 2: Croatia, Bosnia and Herzegovina, Serbia and Montenegro

Status in implementing the EU rules for the agricultural sector

-Analysis of the relevant legislation

There are also differences between the 3 countries in group 2, although it is not possible to assess who is in front in relation to the EU acquis for the agricultural sector, based alone on the reports from partners and other available information. The three countries have got and are getting assistance from international experts to develop and implement fertilizer legislation and for agrochemical inventories in line with international standards (EU Nitrates Directives, IPPC Directives, agrochemicals). The legislation has to be adopted by legislators (Parliaments and Ministries) in the respective countries. Based on experiences this is a long-standing process.

- Analysis of existing policy programmes

All three countries have quality requirements to fertilizers and other agrochemicals, labelling and instructions to users. All have restrictions in the use of fertilizers, but only laid down in the primary legislation. Croatia and Bosnia & Herzegovina (B&H) has in the primary legislation remarks about Good Agricultural Practise (GAP), but yet no clear description of GAP and lack of secondary legislation or other recommendations. Serbia & Montenegro (S&M) has some obligations in relation to a systematic soil fertility control under way in the draft Law on Plant Nutrient.

All three countries have restrictions for the use of fertilizers near lakes, rivers and watercourses but not for vulnerable zones.

Croatia has rules for storing fertilizers, S&M only has this in a draft law, and according to the national report B&H still has not made any progress in this field.

None of the 3 countries have requirements for storing liquid or solid manure, except that S&M has some requirements to avoid water pollution and infiltration into the soil. Only S&M has requirements for storing capacity of manure of at least 1 year and some recommendations related to spreading of manure in growing season and to plough it into the soil as soon as possible. The two other countries don't have any regulations or recommendations.

All three countries have some restrictions and requirements for using manure and agrochemicals in protected zones along lakes, rivers and watercourses but nothing for vulnerable areas. Croatia and S&M are supporting financially investments in storage capacity of animal manure. For producers in B&H there are no possibilities for obtaining support in 2005 and probably neither in 2006, although the farmers are receiving direct production support. Serbia has established a Fund for Environmental Protection in 2005, which in the future could support agro-environmental measures.

- Analysis of the current state of enforcement

The enforcement of the existing policy seems lacking behind schedule in all the three countries.

6.3. Group 3: Moldova and Ukraine

Status in implementing the EU rules for the agricultural sector

- ***Analysis of the relevant legislation***

These two countries have regulations and provisions regarding quality requirements to fertilizers and agrochemicals and also regarding labelling and instructions to users.

Ukraine has restrictions on the use of fertilizers per ha of agricultural land and Moldova only has regulations in the primary legislation and recommendations to avoid overdosing of different crops.

Both countries have established vulnerable areas and border zones around lakes, rivers and watercourses and some provisions to avoid pollution from fertilizers and agrochemicals. There are no limits in the period of vegetation, except that Ukraine has restrictions for spreading fertilizers on frozen and wet melted soil in winter.

Ukraine has provisions for stocking and handling fertilizers where Moldova according to the national report has no rules.

None of the two countries have rules for checking of the contents of nutrients in manure and only Ukraine has requirements regarding storing capacity of animal manure of at least 4 months for solid manure and 6 months for liquid manure. Ukraine has recommendations for allowing spreading of manure between 15th March and 15th October and not on frozen soil. For liquid manure it is in autumn only allowed to bring it out on crops and there are rules for mixing it into the soil. Moldova has at the moment no rules.

Both counties have established provisions for the use of manure and agrochemicals in border zones of lakes, watercourses, and vulnerable areas.

- Analysis of existing policy programmes

It is possible to get subsidies for investments in agro-environmental measures such as storage capacity for manure and machinery. Moldova has a special support scheme to *machine-rings* (groups of farmers) to buy agricultural machines. Both countries are supporting renovation and improvements of drainage and canals and Ukraine also for improvements of irrigation systems.

Ukraine is supporting producers buying fertilizers and pesticides by credit schemes.

Ukraine has a governmental programme for financing soil calcification to increase the pH value, and Moldova has a financial support programme for manure storage facility financed by World Bank and GEF.

- Analysis of the current state of enforcement

The enforcement of the existing policy seems lacking behind schedule in the two countries

6.4. Group 4: Austria and Germany

Status in implementing the EU rules for the agricultural sector

- ***Analysis of the relevant legislation***

Both EU Member States, Austria and Germany, have transposed the EU Directive 91/676/EEC concerning the protection against pollution caused by nitrates from agricultural sources (Nitrate Directive) into their national laws. Austria has amended its Water Law with relevant legislation. Germany incorporated EU rules against water pollution (Nitrate Directive and Water Framework Directive 2000/60/EC) in several statutes and regulations for water protection on national and federal level. The German Use of Fertiliser Ordinance includes the Ordinance on Principals of Good Agricultural Practice and serves to implement the EU Nitrate Directive. Limit values for substances harmful to health like nitrates and plant protection products are laid down in the Drinking Water Ordinance, which also serves to implement the EU Drinking Water Directive in Germany.

EU legislation regarding registration, distribution, handling and use of plant protection products (PPPs) is mainly regulated by the EU Pesticide Directive 91/414/EEC and the more recent EU Water Framework Directive 2000/60/EC. Austria as well as Germany have transposed EU legislation regarding agricultural plant protection products into their national laws. The Austrian Federal Poison Ordinance and Plant Protection Products Law for Agriculture and the German Plant Protection Law regulate all issues regarding registration, distributing, handling and use of plant protection products in agriculture and are amended with rules in line with the respective EU Directives.

- ***Analysis of existing policy programmes***

Both Austria and Germany have designated the whole national territory as vulnerable to nitrate pollution and have established an Action Program in line with the Nitrate Directive. While some other EU Member States have opted to use livestock units, Austria and Germany have set the limit for application of manure to 170 kg Nitrogen/ha/year in line with the Nitrates Directive.

The Nitrates Directive Action Programmes include provisions on periods when application of fertiliser and manure is prohibited, prescribe a maximum limit of organic manure per hectare, specify good spreading practices and procedures for land application. The Action Programmes further command minimum capacities and construction requirements for manure storage, as well as mandatory fertiliser plans, soil analysis and record keeping on nutrient input and output on farm level. The implementation of mandatory issues is regularly controlled by relevant government authorities. Both countries have quality requirements for fertilisers and other agrochemicals and both have requirements for labelling and instructions to users.

According to Austrian and German laws and regulations all plant protection products used and distributed in agriculture have to be authorized by the relevant government authority. Only PPPs listed in a joint EU positive list can obtain authorisation. PPPs authorised in other (EU) countries may not be sold or used in Austria and Germany, as authorisation of PPPs is national law. Exceptions can be made in the case of so called parallel imports of pesticides with identical active ingredients as PPPs authorised in Austria and Germany. It is a requirement in Austria and Germany that PPPs may only be used in accordance with Good Agricultural Practice, which includes choice of an appropriate pesticide, avoidance of excessive use of pesticides, use of adequately functioning and safe application equipment, appropriate disposal of left over pesticides and cleaning of equipment and appropriate storage of PPPs. PPPs may not be used near rivers and lakes and in specially defined water protection areas.

- Analysis of the current state of enforcement

Monitoring of the effectiveness of the Nitrate Directive Action Programme is in Austria done by monitoring of changes in farming practices through fertilisation statistics and livestock figures. To measure the nitrate content of waters Austria and Germany have established a national monitoring scheme with a number of measuring points for surface water and ground water pollution.

In Austria the responsibility for reporting under the Nitrate Directive lies with the Water Directorate at the Ministry for Agriculture and Forestry, Environment and Water Management. On district level the Action Programme is controlled by Water Inspectorates. Many Austrian farmers make use of a rural development programme and benefit from subsidies when complying with the standards of the Action Programme. Public awareness activities in connection with the Action Programme have been undertaken in Austria and a system of farmers´ training on how to comply with the rules has been established.

In Germany all waters, including groundwater and coastal waters, are subject to state control. All uses of water, also discharge of substances or removal of water are, in principle, subject to official authorisation. The responsibility for the implementation of the policies derived from the Nitrate Directive lies with several Federal Agencies and the Water Authorities.

Austria and Germany have transposed the Nitrate Directive, set up a monitoring network, drawn up a code of good agricultural practice and designated vulnerable zones. Authorisation for PPPs is in Austria given by the Austrian Agency for Health and Food Safety, in Germany by the Federal Office of Consumer Protection and Food Safety. During the registration process, PPPs are evaluated with regard to effects on crop protection and unacceptable effects on the environment. The authorisation is limited to certain crop situations and to certain pests. PPPs categorised as very poisonous (T+) or poisonous (T) can only be bought with an official prescription/license in Austria. In Germany an official prescription/license is mandatory for purchase of Glyphosate and Diuron containing pesticides for use on non agricultural areas.

Good Agricultural Practice with regard to PPPs is enforced in Germany by requiring a special plant protection certificate from all persons using or distributing PPPs. To obtain a license the applicant has to prove knowledge on legal aspects of plant protection, the principles of Good Agricultural Practice and Integrated Pest Management, effects of PPPs, biology of pests, appropriate storage and transportation of PPPs, safety measurements for users, avoidance of detrimental effects on the environment and appropriate technical equipment for pesticide application. A similar certification is requested in Austria from persons applying for a license for PPPs categorised as very toxic (T+) or toxic (T).

National law in Austria and Germany provides for special rules for storage of PPPs categorised as very toxic (T+), toxic (T) or harmful (Xn). Quantities of up to 100 kg or 100 l have to be stored in

special metal cabinets; quantities exceeding this limit have to be stored in specially designed rooms. In both cases the facilities should be lockable, fire safe, air circulated and leakage protected.

Spraying equipment for pesticide application has in both Austria and Germany to undergo regular inspections by accredited inspection work shops. Requirements include the appropriate functioning of the equipment, drift avoidance devices and the possibility to completely empty the tank. In both countries compliance with the rules regarding PPPs is regularly controlled by government authorities and any non compliance is punished with penalties or exclusion from rural development programmes.

Compliance with Good Agricultural Practice regarding fertiliser storage and application and application and distribution of PPPs is in Germany ensured by a complex control system under the umbrella of the Ministry for Food, Forestry and Fisheries. Executing authorities for all issues regarding distribution and application of PPPs are the Regional Plant Protection Offices. Executing authorities for all issues regarding application and storage of fertilisers on farm level are the Regional Agricultural Offices. Controlling the distribution of fertilisers and advising on good professional practice in relation to fertiliser use is the responsibility of the Agricultural Investigation and Research Institutions of the Federal States. Machinery for the application of sprayable plant protection products have to be technically inspected every other year by accredited inspection work shops. Machinery that has passed testing receives an official stamp similar to the one for cars.

The official German inspection system is based on 3 levels of control by official inspectors of the respective authorities: (1) announced farm visits, (2) unannounced farm visits and (3) visits based on suspicion of non-compliance. On such inspection visits the technical certificates for farm machinery, storage facilities for fertiliser and PPPs, stocks of agrochemicals, record keeping of farm inputs and outputs, need based fertiliser calculation and the plant protection certificate of farmers and distributors are checked. The number of annual farm or distributor inspections varies between the different Federal States of Germany. In the past years inspections on fertiliser use for example in the Federal State of Mecklenburg Vorpommern have been about 250 annually, on fertiliser calculation about 550, on record keeping of farm inputs and outputs about 650, on pesticide use about 200 and on the plant protection certificate about 350. Non-compliance with the rules and regulations can be punished with penalties and exclusion from rural development programmes.

Another important control factor in Germany is the voluntary accreditation of many German farms and most distributors of agrochemicals in accordance with German or European quality management standards like for example QS or EUREPGAP standard. Farms or distributors wishing to get accredited have to undergo very strict certification procedures and regular controls. Accredited farms are obliged to continuously produce documentation on their compliance with the quality standards and are regularly controlled by independent accredited auditors. The requirements of Good Agricultural Practice are typically also part of the requirements for the certification for quality standards.

- 2002 Report from the Commission on Implementation on implementation of the Nitrates Directive

In the 2002 Report from the Commission on Implementation of the Nitrates Directive (Council Directive 91/676/EEC) it is concluded that the impact of the Directive's implementation can only be felt a few years after its implementation. The delays both in nitrates transfer from soil to groundwaters (2-3 years for shallow waters in sandy soils, 10-40 years for deep waters in chalk limestone), inadequate designation of vulnerable zones by the majority of Member States in areas exposed to high nitrogen pressure, and insufficient measures generally applied in the first action programme, have resulted in a high and stagnant level of nitrate concentrations in groundwaters.

Globally, positive signals on shallow groundwaters can be found in Denmark, Portugal (Algarve), Germany (Baden-Württemberg), France (north-east).

The 2002 Commissions report points out that Nitrogen from agricultural sources accounts for between 50 and 80% of the nitrates entering Europe's water. Though the report considers the Directive to be fully up-to-date and in no need of revision, improvement of its implementation is recommended. To follow up previously passed water protection directives, like e.g. the Nitrate Directive and the Drinking Water Directive, the EU Water Framework Directive bundles several approaches to water protection and forms a coherent overall concept. The EU Water Framework Directive has been transposed to national law in both Austria and Germany and is in the process of implementation.

The CIFAS study – see http://cifas.ewindows.eu.org/ - provides some more details as regards status for and comparison of implementation of agro-environmental legislation in EU countries.

6.5. Group 5: Czech Republic, Hungary, Slovak Republic, Slovenia

Status in implementing the EU rules for the agricultural sector

- ***Analysis of the relevant legislation***

All New EU Member States, Czech Republic, Hungary, Slovak Republic, Slovenia, have transposed the EU Nitrate Directive 91/676/EEC into their national laws. The Czech Republic has amended its Act on Waters with relevant legislation, while Hungary has adopted the EU Directive in its Water Management Acts. In the Slovak Republic the EU Water Framework Directive including the Nitrate Directive is fully transposed into national legislation as New Water Act. In Slovenia the Decree on the Input of Dangerous Substances and Plant Nutrients into the Soil ensures the legal adoption of the Nitrate Directive.

The Czech Republic has in full compliance with EU Pesticide Directive 91/414/EEC transposed the Directive to national law. The Czech State Phytosanitary Administration and the National Institute of Public Health, which are Departments of the Ministries of Agriculture and Health, have statutory responsibility for pesticide regulation. Hungary has with its new Plant Protection Act of 2000 and several ministerial decrees adopted EU pesticide legislation. The Slovak Republic has amended the EU pesticide Directive by a new pesticide law. In Slovenia registration of plant protection products is legally based on the Slovenian Act on Plant Protection Products and legislation measures to protect water against pollution by nitrate and pesticides are set out in the Decree on Input of Dangerous Substances and Plant Nutrients into the Soil and the Decree on Instructions of Implementing Good Farming.

- ***Analysis of existing policy programme***

In line with the EU Nitrate Directive each member state must designate vulnerable zones and draw up action programmes of measures for protecting water against pollution by nitrates from agriculture for the vulnerable zones.

The Czech Republic has designated ca. 45% of their agricultural lands (36% of total territory) as vulnerable to nitrate pollution. It has established a Code of Good Agricultural Practice addressing fertiliser and pesticide use, record keeping and storage and an Action Programme. Based on soil and climatic conditions, agricultural land is divided into three fertiliser application zones. Different restrictions regarding fertiliser use are applicable for the three zones. The Czech Republic has in accordance with the principle of Cross-Compliance also formulated a Good Agricultural and Environmental Condition.

Hungary has designated 47% of its total territory as vulnerable to nitrate pollution from agriculture and prepared an Action programme in line with the EU Nitrate Directive.

A Slovakian government decree defines vulnerable zones representing 62% of total country agricultural soil (34% of total territory). Environmental policies as provided by the Nitrate Directive and the EU Water Framework Directive are laid down in two Slovakian National Environmental Action Programmes. The principles of GAP are incorporated into a decree of the Ministry of Agriculture of Slovak Republic and a code of GAP has been completed.

Given that groundwater in Slovenia is a source of drinking water for more than 90% of the entire population, the entire national territory has been designated as a vulnerable zone.
Also Slovenia has defined a code of Good agricultural practice.

In all four countries the total amount of Nitrogen from organic fertiliser may not exceed 170 kg/ha/year and National Action Programmes include measures on minimum storage capacity for farm fertiliser and limitations regarding the application of fertiliser.

As provided under the EU Pesticide Directive all PPPs used and distributed in the four countries must go through an authorisation procedure and agrochemical companies must provide scientific data to prove that a product is safe and effective before it can be sold or used. All countries annually issue an official list of registered plant protection products, which also include chemical preparations based on microorganisms and approved biological agents ('macroorganisms').

All countries of the group have designated government institutions to perform administrative, professional and development functions in the fields of the protection of plants, the registration, placing on the market and use of plant protection products and the technical requirements for the equipment for the application of the plant protection products. Also quality standards of mineral fertilisers, the professional training of the liable persons and the information dissemination to the public are enforced by respective government authorities.

- ***Analysis of the current state of enforcement***

All new EU Member States in group 5 are enforcing Action Programmes for the protection of waters against nitrate pollution. The measures included for fertiliser application are similar for all countries and according to the principles of Good Agricultural Practice. The value for annual input of Nitrogen in livestock manure is 170 kg/ha/year. Application of liquid manure is prohibited in a period between November and February. Restrictions for use of manure on steep slopes, water-saturated ground, frozen or snow-covered ground and on ground near waters are defined. It is mandatory in all countries to make fertiliser plans on farm level taking into account the status of the soil. Storage capacities for livestock manure should be adequate for the respective period of storage.

The Czech Republic has as part of its first Action Programme for vulnerable zones in 2004 installed an expert agricultural supervision system to control the main features of the programme: ban of fertiliser use in certain periods, minimum storage capacities for farm fertiliser, restrictions on fertiliser use with regard to soil and climatic conditions (application zones I, II, III), crop rotation, erosion control, maximum amount of 170 kg Nitrogen/ha/year as organic fertiliser. The Central Institute for Supervising and Testing in Agriculture (CISTA) started in 2003 with 23 model inspections and continued based on valid regulation including the possibility of fines in 2004 with 50 inspections and in 2005 with 54 inspections. This means that ca. 8% of the Czech vulnerable area were inspected from 2004-2005. Approximately 11% of the inspections were done on small private farms. The inspection results revealed that the main risk of water pollution from Nitrates in the Czech Republic comes from inadequate storage of mineral and organic fertiliser on farms. The

capacity and technical condition of storage facilities particularly of manure and the lack of financial resources to improve the facilities were seen as major problems for small as well as for large farms. The Central Institute for Supervising and Testing in Agriculture is also conducting expert agricultural supervision of farms and distributors based on the Czech Republic Act on Fertilisers. In this framework The Central Institute for Supervising and Testing in Agriculture performs 1100-1200 checks per year on storage of fertiliser, use of fertiliser, conducting fertiliser evidence and distribution of fertiliser. The most serious faults found during inspections are non-compliance with rules regarding distribution of fertiliser and use of livestock manure.

Czech farmers who use PPPs are obliged to keep records of the use of PPPs, the equipment they use has to be registered and tested at least once every two years and they have to undergo special training in the use of PPPs. For certain PPPs an official permission has to be obtained by the user. Official inspectors carry out the control of marketing and use of PPPs. Similar rules regarding record keeping of pesticide use, testing of application equipment and mandatory training of pesticide users are enforced in the other countries of group of New EU Member States.

With accession to the EU, authorisation of 69 active ingredients in Hungary have expired in order to harmonise with the EU pesticides directive 91/414. Similarly, pesticides that were not in harmony with the EU Pesticide Directive were withdrawn from the market also in the other countries. A state run groundwater monitoring network is in the process of being installed in Hungary to monitor groundwater quality with regard to nitrates and PPPs in accordance with EU Pesticide Directive, EU Nitrate Directive and EU Drinking Water Directive. The Phytosanitary Administration of the Republic of Slovenia performs administrative, professional and development functions in the fields of the protection of plants, the registration, placing on the market and use of plant protection products and the technical requirements for the equipment for the application of the plant protection products. It enforces the quality of mineral fertilisers, the professional training of the liable persons and the information dissemination to the public. Slovenia ranks among the EU member states that scored most with regard to implementation of the EU Nitrate Directive based on a European Commission assessment.

The implementation of Good Agricultural practice in line with the Nitrate Directive places a direct obligation upon farmers in the EU Member States. The Directive, however, does not provide for the possibility to offer farmers agro-environmental payments to encourage them to meet the obligatory reductions in fertiliser application and requirements for manure storage in nitrate vulnerable zones. The implementation of the Water Framework Directive, supported by the Market Support Measures (Pillar 1) and the Rural Development Measures (Pillar 2) under the EU CAP, and the introduction of the concept of Cross Compliance now offer good opportunities for supporting the control of nutrient and other agrochemical pollution in the Danube River Basin, by allowing EU countries to develop EU co-financed schemes for grant-aided investments and farmers training.

The Research Institute of Crop Production of the Czech Republic has developed a set of instruments to implement the Czech Action Programme and to lead the farmers to protect water (www.mpsr.sk/conference/data/jan_klir.ppt). The approach is not only based on control as an instrument to enforce the Action Programme but combines several steps like persuasion, compulsion, agreement, investment support and more. Education, information and consultancy are used to persuade farmers. Compulsion is reached by legislation. Agreements are suggested for example regarding compensation of disadvantages from limited fertiliser use or regarding share of profits of water companies etc. Investment support is lined out for reconstruction of stables, improvement of storage of manure and machinery for manure application. Direct payments and payments through the European Agricultural Fund for Rural Development should be tied up with the fulfilment of Cross Compliance.

7. EU – AND WORLD TRADE

Pollution and contamination of food and agricultural produce with agrochemicals, bacteria, virus etc. are not accepted in international trade for food safety reasons.

EU policies, and notably the Common Agricultural Policy (CAP), are increasingly aimed at heading off the risks of environmental degradation, while encouraging farmers to continue to play a positive role in the maintenance of the countryside and the environment by targeted rural development measures and by contributing to securing farming profitability in the different EU regions.

The agro-environmental strategy of the CAP is largely aimed at enhancing the sustainability of agro-ecosystems. The measures set out to address the integration of environmental concerns into the CAP encompass environmental requirements (cross-compliance) and incentives (e.g., set aside) integrated into the market and income policy, as well as targeted environmental measures that form part of the Rural Development Programmes (e.g., agro-environment schemes). Central to the new approach are the concepts of 'cross-compliance', 'direct income support', 'good farming practice' and 'modulation'.

Cross-compliance

A key element of the reformed CAP is the single farm payment for EU farmers, independent from production; limited coupled elements may be maintained to avoid abandonment of production. This payment will be linked to the respect of environmental, food safety, animal and plant health and animal welfare standards, as well as the requirement to keep all farmland in good agricultural and environmental condition ("cross-compliance").

Direct income support

The 1999 CAP reform entailed a further shift from price support to direct payments, with payments becoming essentially direct income supports. This change was driven not only by the need to make the EU farm sector more competitive in the face of the increasingly open global trading regimes, but also by the need to respond better to society's concerns about the relationship between farming and the environment, by removing incentives to intensification of production processes.

Good farming practice

The complexity of the relationship between agriculture and the environment – harmful and beneficial processes, diversity of local conditions and production systems – has conditioned the approach to environmental integration in the context of the CAP. Central to the understanding of this relationship is the principle of Good Farming Practice which corresponds to the type of farming that a reasonable farmer would follow in the region concerned. This includes at least compliance with the Community and the national environmental legislation. GFP entails, for example, compliance with the requirements of the Nitrates Directive and the use of plant protection products. As regards the rural development policy, compliance with minimum environmental standards is a condition for eligibility for support under several different rural development measures, such as assistance for investments in agricultural holdings setting-up of young farmers and improving the processing and marketing of agricultural products. Moreover, only environmental commitments above the reference level of Good Farming Practice (GFP) may qualify for agro-environment payments. The support to less-favoured areas also requires the respect of the codes of GFP.

Modulation

The Agenda 2000 CAP reform also introduced the possibility of a shift of support from market policy to measures contributing to environmentally benign practices. Thus, part of the contribution to farmers in direct payment may be made available by Member States to increase the budget available for agro-environmental measures. This concept, known as 'modulation', is a part of the

horizontal regulation. The 2003 CAP reform includes modulation as a compulsory measure. Modulation will start in 2005 with a rate of 3 %, increasing in two steps up to 5 %. Farmers receiving direct payments up to EUR 5 000 will receive a full reimbursement of modulation amounts. Modulation amounts will be allocated to Member States on the basis of objective criteria.

Financial Incentives for Pollution Control

The EU Rural Development Regulation 1257/1999 (the "second pillar" of the CAP) makes provision for Member States to encourage more environmentally-friendly farming methods, including practices and actions that reduce the risk of agricultural pollution. This offers a good opportunity for supporting the control of nutrient pollution in those DRB countries joining the EU, by allowing them to develop EU co-financed schemes that:

a) offer grant-aided investment (up to 50%) in agricultural holdings that helps to "…preserve and improve the natural environment" – for example, by purchasing new manure storage facilities or purchasing more up-to-date equipment for fertiliser and manure application

b) training farmers for the "…application of production practices compatible with the maintenance and enhancement of the landscape and the protection of the environment" – this includes:

- training for organic farming
- training for farming management practices with a specific environmental protection objective

c) introducing agro-environment schemes that offer area payments to support "…agricultural production methods designed to protect the environment and to maintain the countryside" – this is very important tool for supporting the adoption of organic farming, as well other pollution control techniques such as uncultivated buffer strips, conversion of arable to pasture land and the introduction of more diverse crop rotations.

In Romania and Bulgaria, financial assistance is available for developing and implementing "pilot" agro-environment measures with SAPARD co-funding – the Special Pre-accession Programme for Agriculture and Rural Development.

Additionally, following agreement on proposals arising from the recent Mid-term Review of the CAP a new "meeting EU standards" measure will be introduced to "help farmers adapt to the introduction of demanding standards based on EU legislation…concerning the environment, public, animal and plant health, animal welfare and occupational safety". This is potentially a very useful tool for reducing pollution and some of the acceding countries are proposing to make extensive use of it to improve manure storage and management facilities on farms.

World Trade

In the last round of negotiations in WTO, elements as Good Agricultural Practise (GAP) were discussed. The official reason is to reduce the impact of agriculture on the environment, including animal welfare, and to ensure free trade between countries fulfilling these criteria. The trade "talks" between the EU and USA over the use of hormones (growth-promote) and GMO in production of food have caused many discussions the last many years. In the future there are no doubts that new elements such as production methods e.g. Good Farming Practise (GFP), Good Agricultural Practise (GAP) or Best Agricultural Practise (BAP) will play an increasing role.

8. RECOMMENDATIONS

8.1. 8.1 Pollution Prevention Opportunities for the Agricultural Production of Field Crops and Husbandry in Lower DRB Countries

To turn producers in the Lower DRB countries into using Best Agricultural Practise takes time and needs financing and a firm strategy. Some of the countries (Romania and Bulgaria) have already made substantial progress and others (Moldova and Ukraine) almost haven't enforced anything of their legislation nor of enforcement. Bulgaria and Romania are front runners because they are on the doorstep to EU membership, although in practise they are far from implementation of all the provisions. These two countries will have to introduce the EU direct support mechanisms including the cross-compliance system. This may put an extra pressure on agro-environmental measures. Few other countries are supporting farmers directly to buy fertilizers and agrochemicals (even though it is not allowed if they are members of WTO). In these countries it is not possible to establish a form of cross-compliance system without a general direct support, and for administrative and financial reasons this can't be recommended. Other countries will not able to introduce the cross-compliance system because they are not paying farmers any direct support and will certainly not do so.

EU is the main importer of agricultural goods and food and also a big player on the world market for agricultural produce and food. Some of the 7 countries will in the near future be members and the others will be new "neighbouring countries". Therefore it is obvious for all these countries to adopt the EU legislation (*acquis*) related to agro-environment as soon as possible, and to enforce and control them in their own country (Annex 14 Overview of EU legislation). The CAP principles of 'cross-compliance', 'direct income support', 'good farming practice' and 'modulation' will give a range of new possibilities for integrating environment into agricultural practices.

On top of adopting basic EU legislation, other national legislative provisions and measures can be added plus recommendations related to e.g. Best Agricultural Practise as some of the countries have already introduced.

Experience from present EU countries shows that other additional measures have to be added to ensure an effective implementation of BAP, especially regarding financing of the necessary investments in storage capacity, efficient equipment and machinery, education and training of civil servants, extension services, producer organisations, farmers and employers, demonstration of the effects, and awareness and information campaigns about the financial and environmental benefit of BAP.

8.2. Policy instruments

In Phase 1 of the DRP the following policy instrument for the control of agricultural water pollution were reviewed (from the Phase 1 report: Review of Agricultural Water Pollution Control and Policy in the Danube River Basin Countries):

Regulatory Instruments – many of the main agricultural pollution issues (nutrients, pesticides, farm waste and agricultural run-off) are addressed by existing regulatory instruments in the DRB countries, with the most extensive coverage of issues in those countries preparing for EU accession in 2004. In most other countries, existing regulatory instruments tend to be rather general with relatively few specific regulatory instruments in place. Consequently there is much potential to prepare more targeted instruments to prevent water pollution through the control of specific farming practices – also to improve compliance and enforcement.

Economic Instruments - not surprisingly, the economic instruments used in the DRB countries are mainly disincentives due to the lack of financial resources to introduce incentive schemes. Where economic instruments are in place they do not currently address all pollution issues in all countries. The number of incentive measures in the four countries acceding to the EU in May 2004 is expected to increase with EU accession and the availability of EU co-financing for rural development measures, such as agro-environment programmes.

Advisory/Information Instruments - the transfer of knowledge and information to farmers via advisory/informative instruments can play a key role in changing the management practices of farmers and reducing agricultural pollution. However, the most frequent limitation upon this type of instrument for controlling agricultural pollution in the DRB is that the actions taken are too small with insufficient staff and financial resources. There is large potential to further develop advisory/information instruments in all countries.

Project Based – there are various types and sizes of projects targeting the prevention of agricultural water pollution with a tendency towards research and policy implementation in those countries working towards EU accession in 2004 and later.

Comment:

The main policy recommendations based on the present experiences from the Pilot Project relates to Advisory/Information Instruments and Economic Incentives:

- Effective and affordable advisory service able to be in close dialogue with the farmers;
- Support schemes for storage capacity for at least 6 months production of livestock manure and equipment for bringing out the manure.

8.3. Recommendations for BAP in the Lower DRB Countries

The Project has in dialogue with the project partners elaborated the following recommendations for BAP in the Lower DRB Countries (headlines reflect DRP Phase 1 approach):

General

1. Getting the agricultural community actively and positively involved in reducing the environmental impact of agriculture by stressing the economic benefits for the farmers in the short and long term.
2. Develop a national agro-environmental programme (master plan) for diminishing pollution from agriculture
3. Develop a programme for cleaning up of old hazardous pollution from agriculture (manure, organic sediments in canals and rivers, collection of outdated agrochemicals and destruction of these).

Regulatory Instruments

4. Adopt in principle all provision of the EU basic regulations for prevention of pollution of the environment from agriculture.

5. Set national rules (provision and recommendations for Best Agricultural Practise) for storing and spreading of manure and agrochemicals (dates and maximum amounts).
6. Adopt in the master plan and legislation principles of the EU basic regulations for prevention of pollution of the environment from agriculture. The master plan has to be seen in relation to or be a part of a Rural Development Programme.
    a. The programme has to include different kinds of national support to agro-environmental measures (financial support to investments in agro-environment measures, training, and extension services).
    b. The programme has to include fees or other kinds of punishment if producers are violating the different agro-environment provisions.
7. Systematic implementation and enforcement of the legislation and provisions.
8. Personal License to all using agrochemicals for pest control.
9. Yearly mechanic control of field sprayers.
10. Certification and control schemes for Organic/Ecological farming.

Economic Instruments

11. Support schemes for investments in BAP, especially in storing capacity for manure and equipment for spreading manure.
12. Support for restructuring, training and operation of the extension/advisory services. The restructuring should facilitate that private farmers will be involved in the farm advice system.
13. Establishment of a fund for promotion of Organic/Ecological farming aiming at subsidizing farmers during conversion.

Advisory/Information

14. Systematic training of civil servants, extension services, farmers and employers in the agricultural sector.
15. Awareness rising among the public concerning the benefits for environment, nature, health and economy of environmental friendly agriculture (BAP).
16. Awareness rising about Organic/Ecological farming among farmers, advisory services and agricultural scientific and research institutions.
17. Revitalise knowledge of sustainable methodologies on manure management and crop rotation form pre-communist times for small farms (Subsistence farming).

Project Based

18. Establish pilot projects and seminars showing the results of Best Agricultural Practise in all 7 lower Danube countries.

WORKING FOR THE DANUBE AND ITS PEOPLE