

Standard summary project fiche

Project number: TR 07 02 06

Twining no: TR 07 IB EN 01

1. Basic information

- 1.1 CRIS Number** :
- 1.2 Title** : Implementation of Nitrate Directive
- 1.3 Sector** : Environment
- 1.4 Location** : Turkey

Implementing arrangements:

1.5 Implementing Agency¹ :

The Central Finance and Contracts Unit (CFCU) will be Implementing Agency and will be responsible for all procedural aspects of the tendering process, contracting matters and financial management, including payment overall project coordination, and monitoring of project activities.

The Head of the CFCU will act as Programme Authorizing Officer.

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1.6 Beneficiary (including details of SPO)²:

Beneficiary of the project is the Ministry of Agriculture and Rural Affairs. Details of the Senior Programme Officer (SPO) are as follows:

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Department Manager

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¹ Reference is made to Annex 3 for the implementation arrangements for this project.

² Reference is made to Annex 3 for the implementation arrangements for this project.

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1.7 Overall cost	: 6,765,000 €
1.8 EU contribution	: 5.823.750 €
1.9 Final date for contracting	: 2 years after the signature of the Financing Agreement
1.10 Final date for execution of contracts	: 4 years after the signature of the Financing Agreement
1.11 Final date for disbursements	: 5 years after the signature of the Financing Agreement

2. Overall Objective and Project Purpose

2.1 Overall Objective:

The overall objective of the project is to reduce the nutrient input impact on the water resources, soil and atmosphere by controlling pollution caused by the agricultural sources in Turkey's water and soil resources.

2.2 Project purpose:

Project purpose of this project is to reduce nutrient pollution caused by the agricultural sources on surface and ground water resources and soil by strengthening the infrastructure of Ministry of Agriculture and Rural Affairs (MARA) for implementation of EU Nitrate Directive.

2.3 Link with AP/NPAA / EP/ SAA

AP

As it was stated at the short term priorities in Accession Partnership Document in 2006. Under the heading of Environment, that: "Adopt a revised programme for transposition and implementation of the *acquis*. Continue to transpose and implement the *acquis* related to the framework legislation, international environmental conventions, legislation on nature protection, water quality, Integrated Pollution Prevention Control".

NPAA

The Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources was adopted and published in the Official Gazette as Nitrate Regulation on 18.02.2004 and it is also included in NPAA as a medium term priorities. In the NPAA revised in 2006, the implementation of nitrate pollution from agricultural activities was mentioned as a main issue in the commitments.

2.4 Link with MIPD

The MIPD 2007-2009 is pointing the importance of environmental subjects, especially reduction of pollution under Component III. While formulating the main intervention areas for environmental subjects, emphasis the work and investment load with following sentences (Title 2- Major areas of intervention):

“The EU environmental legislation belongs to one of the most difficult in terms of transposition, implementation, enforcement and heavy investments. Turkey has to make significant investments to put in place the Community acquis in regard to the environment. (...) Environmental projects to be financed under IPA need to be closely linked to implementation of environmental plans for the relevant sectors (water, waste, etc.) (...)”

Afterwards determining the main areas of intervention as follows:

- Environment measures related to water supply and waste water treatment
- Environment measures related to waste management, including the rehabilitation of contaminated sites and land.

On the other hand, under the main priorities title of the same component (Title 3), indicating the investments in this sector as, “They should take into account the river basin approach in accordance with the Water Framework Directive and other waste related legislation. Priorities in this sector should mainly cover drinking water supply, waste water treatment. Other investments which could be considered are linked to directives on nitrates, sewage, sludge and dangerous substances. Investments must meet the standards set out in the Directives.”

Addition to paragraphs determined above, “reduction of the pollution of recipient water bodies” is also formulated under the “Expected results and time frame” title of the MIPD (title 4).

Furthermore, agro-environmental subjects are taken into account under Component V- Rural Development as “Priority axis 2: Intervention under this priority have to take the form of preparatory actions for implementation of agro-environmental measures and Leader”. Key issues regarding to “Priority axis 2” are indicating as follow:

- The preparation for implementation of actions designed to protect the environment and maintain the country side.

Expected results for this priority are:

- Better protection of natural resources in beneficiary areas
- Development of practical experience with regard to implementation of agricultural production methods designed to protect the environment and maintain the country side.

2.5 Link with National Development Plan (where applicable)

Not Applicable

2.6 Link with national/ sectoral investment plans (where applicable)

EU Integrated Environmental Compliance Strategy (UCES) for 2007-2023 has been developed under the responsibility of Ministry of Environment and Forestry and in cooperation with other related organizations. The document contains the information pertaining to the technical and institutional infrastructure, and the environmental improvements that are required to be performed as well as the mandatory arrangements regarding to harmonization with EU Acquis and the effective implementation of the legislation.

Regarding to the UCES report, during the preparation, output from the following documents were made use of; “National Environmental Strategy and Action Plan” that was prepared as a basis beforehand and the “Integrated Harmonisation Strategy Project” that was realized with the EC resources and the “Planning Project for High Cost Environmental Investments”. Furthermore, care was taken to make sure that the strategy prepared was in line with the Development Plan, Annual Programs, and the strategies and policies of the National Program for 2003.

On the other hand we can indicate the linkage with our project with the following paragraphs which are formulated under different chapters of the UCES Report.

Regarding the chapter which the present situation in Turkey is described, one of the main problem showed out in the area of environmental protection is “the excessive and unlawful withdrawals from the underground water, the water pollution that happens as a result of the pesticides and the fertilizers makes the protection of underground water sources imperative.”

(...) Also “the insufficiency of the network to monitor the pollution, not being able to provide the necessary means for standard establishments and accreditation, the failure in compiling the data in a manner that will reflect the environmental indicators and the insufficiency of the numerical environment to Access the environmental data, make it harder for the solution recommendations to be formed and also cause problems in the implementation.” (...)

And the regarding paragraph continues with this following suggestion: “The accomplishment of the following will increase the implementation success of UCES; to strengthen the legislation and implementation loop, to develop the institutional framework, to establish the necessary capacity and to provide the high quality personnel employment and equipment utilization.”

The report lays down, 8 main principles;

1. The right to live in a healthy and balanced environment
2. The integration between the sectors
3. The user-polluter shall pay

4. Taking the measures to prevent the pollution
5. Protection of the natural resources
6. Sustainable development
7. Cooperation between the private-public sector
8. Increasing the environmental consciousness in the public eye and the public participation

and many other sub-principles which are more specific on this nitrate project. These are;

1. The laws and by-laws related with environment will be reviewed and their compliance with EU Acquis will be ensured in stages.
2. Environmental information and monitoring systems will be established for the implementation of the environmental norms and standards and for the monitoring of the Implementation.
3. For the environmental protection consciousness of the public to be increased and instilled, the environmental information providing and training studies will be emphasized through the means of press and publishing.

(...)

Especially following items are indicated as “necessary steps which will be taken sure to realize the implementation of UCES and the establishment of full harmonisation”;

1. Legislative Compliance
2. Implementation: (...), appropriate institutional structures are established with suitable budgets for the management of the national legislation and that the necessary sanctions for controlling and penalizing are put in place.
3. Investment: Including the financing of the investments, the necessary measures with respect to the environmental harmonisation will be taken.

Furthermore, under “Sectoral Priorities and Policies” chapter, the report explains main requirements to prevent water resources against pollution, lays down, one “directly linked” and other “linked” strategies with this nitrate project.

First strategy is “Applying good agricultural practices in the determined sensitive areas which are are classified as sensitive to monitor and improve the water and the soil quality in terms of the nitrates” for the purpose of “monitoring water and soil pollution caused by nitrate originating from agricultural sources and preventing the further pollution by controlling related levels at minimum in the pollution sensitive areas.”

Other strategy is “Establishing a national monitoring network related with the underground, surface and shoreline waters and Providing information to the public with respect to the water pollution” for the purpose of “monitoring the pollution level of the underground, surface and shoreline waters and preventing the further pollution by determining the pollution sensitive areas.”

Also under the chapter “Investment needs of the water sector” the Nitrate Directive has been indicated as one of the directive “that require the highest amount of investments to implement in Turkey” and calculated minimum estimated investment for this directive is 270.000.000 EURO.

With contribution of this project a really important step will be performed in implementation of Nitrate Directive. Also not just implementation capacity of MARA experts will be developed but also very important pollution monitoring network will be established.

3. Description of project

3.1 Background and justification:

3.1.1 General Background

Increasing food needs of the society, forcing the Turkish farmers to improve their production capacity. Producing more means, more input which lead into increase of pollutant risks on water, caused by agriculture. However, Nitrate and Phosphate are the ingredients of numerous fertilizers which required for plants during growing season, they are very risky pollutants. Also the manure includes these two components. In case of inappropriate storage of the animal wastes or overdose fertilizing, those two substances – nitrate and phosphate- cause to heavy pollution in water resources like rivers, lakes, seas. Strong increase on concentration of those two components turns the water resources to undrinkable, also resulted in dead of the aquatic life forms (fishes, plants etc.) because of the eutrophication with the increasing number of the alga (moss) over the water surface.

This kind of pollution has been introduced as a problem with in West Europe at the beginning of 1980s for very first time. Afterwards some European countries published laws and developed action plans to discourage overdose fertilizing in agricultural production. In 1991, EU has introduced a new directive related to Nitrate Pollution. Regarding to this directive, every single European State should monitor pollution caused by nitrate (also phosphate), and determine vulnerable zones where the pollution rates are signaling the high levels and sample and evaluate the pollution rates for prevention. The purpose of the nitrate directive is to protection of the waters against the nitrate pollution caused by agricultural sources and to discourage further contaminations. The Nitrate directive has strong links with Drinking Water Directive, Urban Waste Water Treatment Directive, and Water Framework Directive.

Adoption and implementation of the nitrate directive in Turkey will be an important step during the EU accession process. Relevant national legislation “Regulation on Protection of the Waters Against Nitrate Pollution Caused by Agricultural Resources” has been put in force at 18th February, 2004. For Implementation of the regarding regulation, 5 basic phases should be performed:

1. Determination of the water resources which are subject or will be subject to Nitrate pollution,
2. Description/ determination of the vulnerable zones,
3. Development of the good agricultural codes and implementation,
4. Development of “Action Plans” for every vulnerable zone,
5. Setting up a National monitoring and reporting system.

The reason for non adoption of the monitoring of the Nitrate pollution parameters in surface and ground water as a behavior is not just the farmers' overdose fertilizing practices linked to their low knowledge level on nitrate pollution, but also that the nitrate regulation introduced newly and absence of the secondary legislation and other related guidelines blocking the transfer of the measures to practice. Preliminary condition to develop this consciousness is to improve water and soil analysis facilities. As a responsible body MARA needs to perform these conditions.

Approximately 30% of the Turkey's population is formed by farmers with small and divided lands. For this kind of areas, it's necessary to perform the surface and ground water analysis on site. On the other hand, as a necessity of Nitrate Directive, water and soil quality monitoring and requirements for good agricultural practices is pointing that performing of these analyses should be done. However, present situation is indicating that technical capacity of MARA's province laboratories not enough to meet the requirements of soil quality analysis.

Nitrate pollution is especially stated in the areas where intensive and irrigated agricultural production areas, 20 provinces (Adana, Aksaray, Ankara, Antalya, Aydın, Çorum, Diyarbakır, Edirne, Erzurum, Eskişehir, Hatay, Kahramanmaraş, Kayseri, Konya, Malatya, Manisa, Mardin, Samsun, Şanlıurfa, Van) are determined as preliminary areas to support with mobile labs. Mobility of the labs will obtain servicing freedom for neighbor provinces.

As a project purpose, setting up a nutrient pollution monitoring and evaluation network the water and soil sampling data flow between central body and provinces by this network the fast and eligible evaluation will be obtained.

3.1.2. The Ministry of Agriculture and Rural Affairs (MARA)

Ministry of Agriculture and Rural Affairs (MARA) carry on environmental studies that concentrated on "Making projects, researches and preparation of plans for improving and conservation of the soil, water sources, plant, animal and aquatic organism populations, taking measures for protection of the agricultural environment, averting the damage on ecological equilibrium caused by agriculture, obtaining the sustainable and rational use of the natural resources and protection of the plant animal and fishery product potentials". In this context, waste water and receiver surrounding control and assessment studies in all sea and inland water, are carry on by the Provincial Control Laboratories in 40 provinces and provincial directorate in 81 provinces regarding to Fishery Products Law (No:1380) and Fishery products regulation.

As a part of MARA's former projects supplement of photometers for 81 provinces, which are important for carrying on the required water pollution analysis like the nitrate pollution that under the responsibility of MARA, however requires an affective network to monitor and evaluate the data on nitrate and other pollutant for determination of the existing monitoring problems. Furthermore 1 staff from each province has been increased on national nitrate regulation and EU's nitrate directive. Monitoring and sampling studies on surface and ground water resources performed in 1657 stations just for nitrate pollution.

Water Framework Directive is under the responsibility of 3 main institutions: Ministry of Agriculture and Rural Affairs (MARA), Ministry of Environment and Forestry (MoEF), General Directorate of State Hydraulic Works (GDSHW). The cooperation between these 3 institutions has been strengthened during the MATRA Project (2002) on “Implementation of the Water Framework Directive in Turkey”. Same cooperation continued during the MATRA Project (January 2005-December 2006) on “Implementation of the EU Nitrate Directive in Turkey”. The sampling points on farmers wells and surface water monitoring network within the agricultural production areas has been reviewed by GDSHW in the coordination of MARA. During reviewing process, sampling wells of the GDSHW included to ground water monitoring network. Regarding to the responsibility of MoEF on reporting the surface water quality and implementation of related EU legislation, the MoEF has been informed and included to the trainings and also asked for their comments regarding to the sampling points. As a result of the project a general report for Turkey has been published and it was just prepared under the view of evaluation of the nitrate parameters.

The “Agricultural Pollution Control Project in Black Sea” which is the component of the “Anatolian Watershed Rehabilitation Project”, -financed World Bank GEF resources, is carrying on under the leadership of MARA and in cooperation with MoEF will help to control the pollution levels caused by agricultural resources in Black Sea caused by agricultural pollutants. Especially, project will launch the practices which will help reducing the nutrient (nitrogen and phosphate) run outs from the watershed basins in Çorum, Amasya, Tokat and Samsun Provinces to Black sea by preventing the nutrient pollutant contamination to surface and ground water. Main component of the project is manure management. The participation of the local society which has been put under the responsibility of sustainable use of natural resources is being obtained on every stage of management including planning, implementing, monitoring, evaluating and decision making. MARA leaded to setting up of the cooperatives and agro-environmental associations which will take part in manure storage and extension of manure usage regarding to good agriculture practices by creating a social synergism within the region. Tractors (total of 4 tractors) have been supplied to those cooperatives with the aim of obtaining manure transport to warehouses. In the context of manure management studies, construction of 3 central and 174 household farm warehouses has been completed and the water monitoring studies are continuing. However, the studies couldn't be a reference to whole Turkey because of the different climate, geography and agricultural conditions but will obtain good outputs for implementation of Nitrate Directive.

3.2 Assessment of project impact, catalytic effect, sustainability and cross border impact (where applicable)

Main project activities will be delivered in terms of training packages for technical and administrative staff of MARA and other related institutes, sampling, sharing, evaluation and reporting of the sample data taken from different sampling stations dispersed within Turkey by strengthening the laboratory capacity and using the pollution monitoring and evaluation network which will set up during the project. In order to ensure the continuity of trained expertise, MARA will pay attention to staff turnover and ask the trainees if necessary to commit itself formally to its position after the training.

The project will provide MARA staff hands-on training on sampling and evaluating and analytic reporting and decision making which will improve the quality and quantity of sampling and data evaluation.

Furthermore preparation of the secondary legislation and other related instruments (like guidelines, action plans, pollution reports, etc.) will form an important part of the project activities. This will form an important base for further applications, studies regarding to sustainability of nutrient pollution control and protection caused by agricultural resources.

The infrastructural strengthening by including the mobile labs into the structure will help the mobilization of the technical staff which will fasten the on site sampling, analyzing, reporting process and supervising practices regarding to farmers.

3.3 Results and measurable indicators:

Results of the project are;

1. Legislative alignment achieved and policy options for effective implementation and toward implementation of EU similar support mechanism developed.
2. Effective monitoring on surface and ground water for agricultural nitrate pollution obtained by developing network system and vulnerable areas determined.
3. Institutional and technical capacity of MARA has been strengthened and farmer awareness and knowledge has been increased in pilot areas and information and knowledge share has been developed by MARA to MoEF and GD of State Hydraulic Works / MoENR.

The measurable indicators for these 3 results are;

1. During first 24 month of the project pollution reports for 81 provinces has been prepared.
2. Secondary legislation, in compliance with the Nitrate Directive has been prepared and submitted to minister for approval by 2011.
3. Farmer awareness and knowledge on agricultural pollutants and importance of the controlling the nitrate pollution caused by agricultural resources has been increased within project area by 2011.
4. During first 24 month of the project effective monitoring system for surface and underground waters and soil has been set up and responsible staff has been trained.
5. During first 20 month of the project vulnerable areas in 10 provinces has been determined and agricultural action plans and manure management and application guidelines prepared regarding to this areas.
6. Over 150 MARA experts in central and province directorate and laboratories trained on Implementation of the Nitrate Regulation and its secondary legislation and other related documents by the year 2010.

7. Infrastructure of the 20 Laboratories strengthened in the provinces where agriculture is done intensively by the year 2010.
8. Total of 20 mobile laboratories started to sampling and testing the pollution rates caused by the agricultural sources in 20 provinces areas by the year 2010.
9. Pollution data for vulnerable areas of the 81 provinces, collected under agricultural pollution database via “agricultural pollution software” and “agricultural pollution network system” by the year 2010.

3.4 Activities:

Project activities will be carried out through twinning; technical assistance and equipment supply.

Act. 1 - Twinning to obtain results No. 1, 2 and 3:

A Twinning project is envisaged for a 12 (+3) month period. The EU twinning partner(s) will assist MARA in implementing relevant EU legislation and developing the secondary legislation in Turkey. Based on the transposition plan the twinning partners will work together with the staff of MARA. The activities to be carried out by the counterpart are listed below:

- Evaluating the Turkish Nitrate Regulation with relevant EU legislation for the preparation of the secondary legislation other related documents for implementation.
- Preparation of the secondary legislation in compliance with EU legislation.
- Evaluating and reporting of institutional needs of MARA.
- Evaluating of training needs of the MARA and other related institutions including MoEF and GD State Water Works.
- Preparation of training and extension materials.
- Training the related staff on determined institutional subjects.
- Training of central and local experts of MARA and other related institutions Nitrate regulation and its implementation through workshops in Turkey.
- Study visits to Member States to assess implementation of the nitrate directive.
- Assistance to supplying and preparation of the required information which will obtain basics to MARA for her current and further studies on establishment of farmers’ cooperatives for sustainable agro-environmental activities and fertilizer and manure management and reporting.
- Planning and making field trips to assess present situation of Turkey’s agricultural system in means of preparation of secondary legislation, guidelines and their implementation plans.

Act.2 - Technical Assistance to obtain result No. 2 and 3:

- Assessing technical implementation capacity of MARA
- Assessing related MARA's province laboratories in to determine the technical equipment needs for carrying the monitoring and evaluation works.
- Assessing the software and network level and other requirements to monitor, evaluate, share and reporting of the pollution caused by agricultural sources.
- Developing, setting up, testing and installation of the "agricultural pollution software" and "agricultural pollution network system" in MARA to monitor, evaluate, share and reporting of the pollution data caused by agricultural sources within Turkey's 81 provinces.
- Setting up the Digital mapping software and network with in 81 provinces.
- Evaluating the sources of nitrate pollution on surface and ground water and soil and linkage between agricultural practices by performing field visits and researches within Turkey, and preparing the reports.
- Preparation of the technical specifications for supplement of the mobile labs for MARA
- Training of MARA experts for the proper use of "agricultural pollution software", "agricultural pollution network system" and digital mapping system".
- Training of MARA experts for proper use of mobile labs.
- Preparation of training and extension materials.
- Evaluating the nitrate pollution levels for 81 provinces and preparing the action plans for vulnerable areas.
- Training of MARA and other related institute experts on soil and water pollution laboratory and field analysis techniques and also sampling.
- Training of MARA and other related institute experts on environmental risk assessment.
- Training of MARA experts on good agricultural practices nitrate codes and implementation of the codes.
- Development of good agricultural practices nitrate codes
- Preparation of the guidelines for nitrate codes and other manure and fertilizer application/suggestion guidelines.
- Training of the MARA and other related institute experts on determined technical subjects.
- Preparation of the fertilization plans for 81 provinces and vulnerable areas.

- Preparation of training materials for farmers on effectively uses of animal manure “Manure Management” and chemical fertilizers.
- Improving the farmers’ awareness on nitrate and phosphate with a communication about related issues on the published and audiovisual media in local and general base and on internet.
- Making field visits to determine the sampling stations from the high quality representative areas of Turkey’s agricultural lands.
- Making study visits to Member States to assess on monitoring and evaluating system of nitrate pollution caused by nitrates from agricultural sources and analytical reporting of the data and to assess good agricultural practices nitrate codes.
- Making field visits and carrying on necessary researches to determine nitrate vulnerable zones in the Turkey, evaluating the current and further sampling stations and reporting the collected data.
- Preparing the agricultural action plans regarding to vulnerable areas.
- Making surveys to asses the increase on farmer awareness and knowledge regarding to agricultural pollutants and importance of nutrient pollution caused by agricultural resources in water and soil within the determined project areas.
- Training on survey preparation and evaluation.

Act.3 - Supply to obtain results No. 2 and 3:

- Laboratories will be strengthened so that the required test could be carried out to evaluate the pollution caused by agricultural sources.
- For continuous fast and on-site pollution evaluation and monitoring of the pollution on water and soil supplement of the mobile labs.
- For effective monitoring, evaluation and sharing of the data related to the pollution on water and soil; developing “agricultural pollution software” and “agricultural pollution network system” that connects 81 provinces are necessary.
- For better, effective and sustainable trainings supplement of the training equipments are necessary.

Proper implementation of the Nitrate Directive requires the evaluation of the numerous chemicals. However, nitrate concentration is the only parameter, which used to measure in Turkey. During the former MATRA Project, these requirements of the nitrate directive has been evaluated and the importance and main characteristics of the pollution control and monitoring network has laid down, also required skills and equipment needs of Turkey’s sampling system. Because of that, supplement of the following equipment (see Annex V) is necessary for MARA to strengthen the infrastructural capacity and also to conduct important analyses, use the suggested sampling methods, which are important for soil analysis.

Necessity of these equipment and this project can be also seen easily from the final report of the mentioned former project where following suggestions has been formulated;

“At the moment there is no available specific data regarding to sea water quality. Furthermore there is also not enough data related to total nitrate and eautrification factors.

On the other hand, in case of having very low amount nitrate concentration doesn't mean there isn't any problem for water quality. To establish better links, it is necessary to make more analysis during the determination of sampling stations.”

3.5 Conditionality and sequencing:

N/A

3.6 Linked activities

Finalized Projects and Activities

- MATRA Project on “Implementation of the Water Framework Directive in Turkey”.
- MATRA Project on “Implementation of the EU Nitrate Directive in Turkey
- 1 personnel from each province directorate has informed on national nitrate regulation and nitrate pollution caused by agricultural resources by technical staff of central body in year 2005 and 2006.

On going Projects and Activities

- World Bank Project “Agricultural Pollution Control Project in Black Sea” which is the subproject of the “Anatolian Watershed Rehabilitation Project”, -financed World Bank GEF resources)

3.7 Lessons learned

The former projects and activities shows that reason for non adoption of the monitoring of the Nitrate pollution parameters in surface and ground water as a behavior is not just the farmers' overdose fertilizing practices linked to their low knowledge level on nitrate pollution, but also that the nitrate regulation introduced newly and absence of the secondary legislation and other related guidelines blocking the transfer of the measures to practice. Preliminary condition to develop this consciousness is to improve water and soil analysis facilities. As a responsible body MARA needs to perform these conditions.

On the other hand former studies indicate that they can not be reference to whole Turkey because of the different climate, geography and agricultural conditions but will obtain good outputs for implementation of Nitrate Directive. Further studies are necessary.

4. Indicative Budget (amounts in €)

SOURCES OF FUNDING											
H	TOTAL PUBLIC COST	EU CONTRIBUTION				NATIONAL PUBLIC CONTRIBUTION					PRIVATE
		Total	% *	IB	INV	Total	Type of cofinancing (J / P) **	% *	Central	Regional	
<u>HActivities</u>											
<u>HTwinning</u>	1.000.000 €	1.000.000 €	100%	1.000.000 €	-						
<u>HTechnical Assistance</u>	2.000.000 €	2.000.000 €	100%	2.000.000 €	-						
<u>HSupply</u>	3.765.000 €	2.823.750 €	75%	-	2.823.750 €	941.250 €	J	25 %	941.250 €		
<u>H</u>											
<u>HTOTAL</u>	6.765.000 €	5.823.750 €		3.000.000 €	2.823.750 €	941.250 €			941.250 €		

H** compulsory for INV (minimum of 25 % of total EU + national public contribution) : Joint co financing (J) as the rule, parallel co-financing (P) per exception

H* expressed in % of the Total Public Cost

H

The BC commits itself to cover the costs of the following provisions:

- Adequately equipped office space for the RTA and the RTA assistant for the entire duration of their secondment.
- Adequate conditions for the STEs to perform their work while on mission to the BC.
- Training and conference venues, costs of catering (if any), as well as presentation and interpretation equipment.
- Costs for travel by BC participants from their capitals to a MS or between MS (for study visits and internships).

5. Indicative Implementation Schedule (periods broken down per quarter)

Contracts	Start of Tendering	Signature of contract	Contract Completion
Twinning	4 th quarter of 2007	2 nd quarter of 2008	2 nd quarter of 2009
Technical Assistance	4 th quarter of 2007	3 rd quarter of 2008	4 th quarter of 2010
Supply	2 nd quarter of 2008	1 st quarter of 2009	1 st quarter of 2010
Project Duration: 33 Month			

6. Cross cutting issues (where applicable)

6.1 Equal Opportunity

Participation in this project will be open to both males and females involved in the sector. Records of professionals' participation in all project related activities will reflect this and will be kept with the project documentation.

6.2 Environment

This project will help to protect the environment and sustainable use of natural resources by creating public consciousness. By the legislative studies affective protection and control will be obtained on waters and soils against to nutrient pollution.

6.3 Minority and vulnerable groups

According to the Turkish Constitutional System, the word minorities encompass only groups of persons defined and recognized as such on the basis of multilateral or bilateral instruments to which Turkey is a party. The project will apply the policy of equal opportunities for all groups including vulnerable groups.

ANNEXES

- 1- Log frame in Standard Format
- 2- Amounts contracted and Disbursed per Quarter over the full duration of Programme
- 3 - Reference to Institutional Structure
- 4- Reference to laws, regulations and strategic documents:
- 5- Details per EU funded contract (*) where applicable:

For *TA contracts*: account of tasks expected from the contractor

For *twinning covenants*: account of tasks expected from the team leader, resident twinning advisor and short term experts

For *grants schemes*: account of components of the schemes

For *investment contracts*: reference list of feasibility study as well as technical specifications and cost price schedule + section to be filled in on investment criteria (**)

For *works contracts*: reference list of feasibility study for the *constructing works* part of the contract as well as a section on investment criteria (**); account of services to be carried out for the *service part* of the contract

(*) non standard aspects (in case of derogation to PRAG) also to be specified

(**) section on investment criteria (applicable to all infrastructure contracts and constructing works):

- Rate of return
- Co financing
- compliance with state aids provisions
- Ownership of assets (current and after project completion)

ANNEX 1: Logical framework matrix in standard format

LOGFRAME PLANNING MATRIX	Contracting period expires : 2 years after the signature of the Financing Agreement	Disbursement period expires: 5 years after the signature of the Financing Agreement	
	Total budget: 6,765,000 €	EU Contribution: 5.823.750 €	
Overall Objective	Objectively Verifiable Indicators	Sources of Verification	
To reduce the impact of nutrient input into the water resources, soil and atmosphere.	- Reduced nutrient pollution rates on Turkish natural water and soil resources.	-International Agricultural Pollution control and evaluation reports and other relevant documents	
Project Purpose	Objectively verifiable indicators	Sources of Verification	Assumptions
To reduce nutrient pollution caused by the agricultural sources on surface and ground water resources and soil by strengthening the infrastructure of Ministry of Agriculture and Rural Affairs (MARA) for implementation of EU Nitrate Directive.	<ul style="list-style-type: none"> - Farmers' awareness and knowledge regarding to nitrate pollution caused by agricultural sources by 30% until the end of project. - Annual nitrate pollution assessment, sampling, data evaluation and reporting capacity and nitrate pollution eligible test results have been increased by 80% in pilot provinces until the end of project. 	<ul style="list-style-type: none"> - Monitoring Reports of Project - Training documents, participant lists, evaluation quizzes and other records. - Monthly and annual nitrate pollution reports laboratories of the pilot province. - Data shared and collected in database of the “agricultural pollution network system” 	<ul style="list-style-type: none"> - Governmental interest on reducing and controlling nitrate pollution caused by agricultural sources on water soil and atmosphere - Farmers' awareness concerning pollution caused by agricultural sources on water soil and atmosphere increased.
Results	Objectively verifiable indicators	Sources of Verification	Assumptions

<ol style="list-style-type: none"> 1. Legislative alignment achieved and policy options for effective implementation and toward implementation of EU similar support mechanism developed. 2. Effective monitoring on surface and ground water for agricultural nitrate pollution obtained by developing network system and vulnerable areas determined. 3. Institutional and technical capacity of MARA has been strengthened and farmer awareness and knowledge has been increased in pilot areas and information and knowledge share has been developed by MARA to MoEF and GD of State Hydraulic Works / MoENR. 	<ol style="list-style-type: none"> 1. During first 24 month of the project pollution reports for 81 provinces has been prepared. 2. Secondary legislation, in compliance with the Nitrate Directive has been prepared and submitted to minister for approval by 2011. 3. Farmer awareness and knowledge on agricultural pollutants and importance of the controlling the nitrate pollution caused by agricultural resources has been increased within project area by 2011. 4. During first 24 month of the project effective monitoring system for surface and underground waters and soil has been set up and responsible staff has been trained. 5. During first 20 month of the project vulnerable areas in 10 provinces has been determined and agricultural action plans and manure management and application guidelines prepared regarding to this areas. 6. Over 150 MARA experts in central and province directorate and laboratories trained on Implementation of the Nitrate Regulation and its secondary legislation and other related documents by the year 2010. 7. Infrastructure of the 20 Laboratories strengthened in the provinces where 	<ul style="list-style-type: none"> - Proper working “agricultural pollution software” and “agricultural pollution network system” by the year 2010. - Drafted secondary legislation on implementation and control of the Turkish nitrate directive by the year 2010. - Manure and fertilizer management plans. - Water pollution monitoring reports of project - Training and extension documents and participant lists and other records of the training. - Expert Reports. - Project monitoring and evaluation reports. - Records of TV-Radio programs or advertisements. - Published internet page of the project. 	<ul style="list-style-type: none"> - Governmental interest on reducing and controlling pollution caused by agricultural sources on water soil and atmosphere - Farmers’ awareness concerning pollution caused by agricultural sources on water, soil and atmosphere increased.
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	<p>agriculture is done intensively by the year 2010.</p> <p>8. Total of 20 mobile laboratories started to sampling and testing the pollution rates caused by the agricultural sources in 20 provinces areas by the year 2010.</p> <p>9. Pollution data for vulnerable areas of the 81 provinces, collected under agricultural pollution database via “agricultural pollution software” and “agricultural pollution network system” by the year 2010.</p>	<ul style="list-style-type: none"> - Prepared database for agricultural pollution. - Supplement receipts, photos and visual checks of the laboratory equipments and mobile labs. - Supplement Receipts of the network equipments for “agricultural pollution network system”, nitrate pollution data evolution by the “agricultural pollution software” and sharing them by the reports for pilot zones via network. 	
Activities	Means	Costs	Assumptions
<p><u>Act. 1 - Twinning to obtain results No. 1, 2 and 3:</u></p> <p>A Twinning project is envisaged for a 12 (+3) month period. The EU twinning partner(s) will assist MARA in implementing relevant EU legislation and developing the secondary legislation in Turkey. Based on the transposition plan the twinning partners will work together with the staff of MARA. The activities to be carried out by the counterpart are listed below:</p> <ul style="list-style-type: none"> - Evaluating the Turkish Nitrate Regulation with relevant EU legislation for the preparation of the secondary legislation other related documents for implementation. - Preparation of the secondary legislation in compliance with EU legislation. - Evaluating and reporting of institutional needs of MARA. 	<p>1 X Twinning contract</p> <ul style="list-style-type: none"> - The duration of the contract will be 12 months; with a Resident Twinning (RTA) and a package of short term missions and specialist trainings. 	<p>~1,000,000 EUR</p>	<ul style="list-style-type: none"> - Climate conditions (flood, drought, hailstorm, storm, heavy rain and snowfall) appropriate to continue the project activities. - High interest and volunteer efforts of the farmers on participation to trainings and getting organized / working together / cooperation of the

<ul style="list-style-type: none"> - Evaluating of training needs of the MARA and other related institutions including MoEF and GD State Water Works. - Preparation of training and extension materials. - Training the related staff on determined institutional subjects. - Training of central and local experts of MARA and other related institutions Nitrate regulation and its implementation through workshops in Turkey. - Making study visits to Member States to assess implementation of the nitrate directive. - Assistance to supplying and preparation of the required information which will obtain basics to MARA for her current and further studies on establishment of farmers' cooperatives for sustainable agro-environmental activities and fertilizer and manure management and reporting. - Planning and making field trips to assess present situation of Turkey's agricultural system in means of preparation of secondary legislation, guide lines and their implementation plans. 			farmers obtained.
<p><u>Act.2 - Technical Assistance to obtain result No. 2 and 3:</u></p> <ul style="list-style-type: none"> - Assessing technical implementation capacity of MARA - Assessing related MARA's province laboratories in to determine the technical equipment needs for carrying the monitoring and evaluation works. - Assessing the software and network level and other requirements to monitor, evaluate, share and reporting of the pollution caused by agricultural sources. - Developing, setting up, testing and installation of the "agricultural pollution software" and "agricultural pollution network system" in MARA to monitor, evaluate, share and reporting of the pollution data caused by agricultural sources within Turkey's 81 provinces. 	1 X Service Contract	~2,000,000 EURO	

<ul style="list-style-type: none"> - Setting up the Digital mapping software and network with in 81 provinces. - Evaluating the sources of nitrate pollution on surface and ground water and soil and linkage between agricultural practices by performing field visits and researches within Turkey, and preparing the reports. - Preparation of the technical specifications for supplement of the mobile labs for MARA - Training of MARA experts for the proper use of “agricultural pollution software”, “agricultural pollution network system” and digital mapping system”. - Training of MARA experts for proper use of mobile labs. - Preparation of training and extension materials. - Evaluating the nitrate pollution levels for 81 provinces and preparing the action plans for vulnerable areas. - Training of MARA and other related institute experts on soil and water pollution laboratory and field analysis techniques and also sampling. - Training of MARA and other related institute experts on environmental risk assessment. - Training of MARA experts on good agricultural practices nitrate codes and implementation of the codes. - Development of good agricultural practices nitrate codes - Preparation of the guidelines for nitrate codes and other manure and fertilizer application/suggestion guidelines. - Training of the MARA and other related institute experts on determined technical subjects. - Preparation of the fertilization plans for 81 provinces and vulnerable areas. - Preparation of training materials for farmers on effectively uses of animal manure “Manure Management” and chemical 			
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<p>fertilizers.</p> <ul style="list-style-type: none"> - Improving the farmers' awareness on nitrate and phosphate with a communication about related issues on the published and audiovisual media in local and general base and on internet. - Making field visits to determine the sampling stations from the high quality representative areas of Turkey's agricultural lands. - Making study visits to Member States to assess on monitoring and evaluating system of nitrate pollution caused by nitrates from agricultural sources and analytical reporting of the data and to assess good agricultural practices nitrate codes. - Making field visits and carrying on necessary researches to determine nitrate vulnerable zones in the Turkey, evaluating the current and further sampling stations and reporting the collected data. - Preparing the agricultural action plans regarding to vulnerable areas. - Making surveys to asses the increase on farmer awareness and knowledge regarding to agricultural pollutants and importance of nutrient pollution caused by agricultural resources in water and soil within the determined project areas. - Training on survey preparation and evaluation. <p><u>Act.3 - Supply to obtain results No. 2 and 3:</u></p> <ul style="list-style-type: none"> - Laboratories will be strengthened so that the required test could be carried out to evaluate the pollution caused by agricultural sources. - For continuous fast and on-site pollution evaluation and monitoring of the pollution on water and soil supplement of the mobile labs. 	<p>1X Supply Contract (4 LOTS)</p> <ul style="list-style-type: none"> - Network system and software (A server and other necessary database software and hardware and required network connections, GPS and digital mapping software and network for the 	<p>~3,765,000 EURO</p>	
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<ul style="list-style-type: none"> - For effective monitoring, evaluation and sharing of the data related to the pollution on water and soil; developing “agricultural pollution software” and “agricultural pollution network system” that connects 81 provinces are necessary. - For better, effective and sustainable trainings supplement of the training equipments are necessary. 	<p>provinces)</p> <ul style="list-style-type: none"> - Laboratory equipments for provincial laboratories. - Mobile labs. (Special vans including equipments for water and soil quality monitoring, analyzing and sampling from soil and water resources as prescribed by Nitrate Directive) - Training equipments 		
<u>Pre-conditions:</u>			