NATIONAL FRAMEWORK FOR ENVIRONMENTAL ACTIONS

1. INTRODUCTION

The national framework for environmental actions, provided for in Article 36 of Regulation (EU) No 1308/2013 establishing a common organisation of the markets in agricultural products, is another tool that Producers Organisations (POs) of the fruit and vegetables sector can use so as to achieve their objectives of functioning.

The national framework for environmental actions indicates the requirements that have to be fulfilled by the environmental actions selected under an Operational Programme (OP) and the details on eligibility conditions for support. It is also integrated into the national strategy.

As mentioned in the preamble of Regulation (EU) No 1308/2013 «the production and marketing of fruit and vegetables should fully take into account environmental concerns, including cultivation practices, management of waste materials and disposal of products withdrawn from the market, in particular as regards protection of water quality, maintenance of biodiversity and the upkeep of the countryside». For the reasons mentioned above, environmental actions are part of the OPs and they may have the following objectives:

- promoting, and providing technical assistance for, the use of environmentally sound cultivation practices and production techniques;
- the management of by-products and of waste in particular to protect the quality of water, soil and landscape and preserving or encouraging biodiversity;
- contributing to a sustainable use of natural resources and to climate change mitigation;
- particularly relating to water, and methods of production respecting the environment, including organic farming.

Environmental actions are part of the OPs and they may be funded only by Operational funds. Funds are financed by:

(a) financial contributions from members of the producer organisation and/or the producer organisation itself and

(b) Union financial assistance.

2. ENVIRONMENTAL NEEDS AND PRIORITIES FOR SUSTAINABLE OPERATIONAL PROGRAMMES

Environmental problems are among the key challenges the agriculture of Cyprus is facing. Key environmental problems concern quantitative and qualitative water resource degradation, soil degradation, wildlife habitat loss. The main causes of

these problems are found in climate change, intensive farming and the lack of environmental awareness by, mainly, older producers.

Production and marketing of primary sector products is characterised by a highly competitive environment. The main reasons that caused these conditions are found in the continuing pressure for reduction of production costs due to the Common Market Organization and the EU's preferential agreements with third countries.

With regard to the situation in Cyprus, agriculture is the largest consumer of water with 91.5 million cubic meters per year (70% of total consumption), production costs are rising due to the specific characteristics of Cypriot agriculture, including scarce water resources, fragmentation and high labor costs. All of this has led Cypriot farmers to high-input agricultural practices to intensify crop production so that they can survive under the current circumstances.

Cypriot authorities have identified the above problems and efforts have been made for years to resolve them. To this end, the Department of Agriculture exploits the means offered by the European Union. Among these are the tools offered by the Common Organization of Agricultural Markets and in particular the environmental actions implemented under the OPs of the POs of the Fruit and Vegetables sector.

The environmental problems that the national framework for environmental actions aims at are the following:

Water management

As a result of climatic conditions of Eastern Mediterranean, with its long hot summers and low annual rainfall, lack of water for Cyprus is a reality that is deteriorating. The increased effects of severe drought, combined with the rise in temperatures, had as a result the groundwater enrichment to be insufficient.

According to a long series of observations, the mean annual precipitation, including snowfall was estimated at 503 mm, while from 2000 until now has been reduced to 463 mm. In addition, rainfall is unevenly distributed geographically as also there is great variation of rainfall with frequent droughts spanning two to four years. Apart from reduced rainfall, a major factor in reducing water reserves is the high crop irrigation needs.

In addition to quantitative degradation, water quality has also been affected. Water reserves have been affected by intensive agricultural practices and water pollution from urban sewage as well as from industrial and agricultural waste. Overexploitation of aquifers for irrigation purposes has resulted in some areas to the intrusion of seawater in aquifers. Yet, the increase in the use of chemical fertilizers and agrochemicals beyond the real needs of cultivation, as a result of farmers' efforts to increase their crop production, is still an environmental burden.

In Cyprus the water shortage problem was identified and dealt in time. For this purpose, desalination units have been created. Units are activated during periods of drought so that the available fresh water is supplied for irrigation purposes and water supply needs are mostly covered by the water of the units.

The government water policy focuses on the maximum potential exploitation of non-conventional water resources, such as recycled water, the use of which produces equal quantities of good quality water. Tertiary treated recycled water is used for irrigation of existing cropping land and for recharging aquifers. Full exploitation of recycled water is a long-term costly process, the success of which will decrease or even eliminate the necessity to build more desalination units. At the same time, the use of improved irrigation systems used widely in irrigated crops results in huge saving of water.

In addition, the Department of Agriculture of Cyprus is implementing an Action Programme for the sensitive Nitrification Areas, which primarily aims at reducing nitrate pollution caused by various agricultural activities. For this purpose, nitrate-sensitive areas have been identified where groundwater is contaminated or likely to be contaminated by agricultural activities.

Finally, Rural Development Programmes (RDPs) include actions that target to a better management of the available water, aiming to reduce the impact on water balance and to improve water status.

Degradation of soil quality

Main problems that lead to degradation of soil quality are erosion, pollution, salinity, deforestation of natural habitats and ecosystems, and land use change.

Regarding erosion, the problem is mainly found in mountainous and hill areas. The main factors which exacerbate this problem is the composition of soil, the intense off-season rains, the steep gradients, the areas with winds, fires, the abandonment of arable land and to a lesser extent, overgrazing or the type of plants cultivated.

One of the most serious soil pollution causes is the increased use of agrochemicals, especially when their use is not carried out in a rational way. Soil pollution has a significant impact on biodiversity and water pollution. It is also a cause of degradation of sensitive ecosystems and the alteration of natural resources.

Regarding salinity, water used for irrigation is considered the largest source of salts in the soil. Other causes of soil salinity are the addition of fertilizers and soil improvers.

Finally, the change of use of agricultural land due to urban and tourism development and its conversion into residential areas, is very common in Cyprus. The result of this activity is the permanent loss of precious agricultural land.

To address the problems presented above, Cyprus has already included relevant measures in the RDP. Improvement in soil management is promoted through the use of more extensive cultivation methods, such as:

– Mechanical weeds control and their incorporation in the ground. Reducing use of plant protection products improves the organic and chemical composition of the soil while reducing the need for fertilisation and irrigation. The measure applies to the cultivations of olive trees, deciduous trees, citrus, vines and species of traditional landscape (almonds, carobs, hazelnuts and Rosa Damaskina)

– Three-year crop rotation system contributes to reducing the use of agrochemicals and fertilizers. At the same time, it has a significant contribution to preventing soil erosion from intense rainfalls. The measure applies to cultivations of potato and cereals.

– Maintenance and preservation of dry stone walls, as a further measure, contributes significantly to the drainage of soil and the prevention of erosion but also to limited use of fertilisers.

– Finally, the massive participation of banana producers in the Measure concerning the conservation of environmentally friendly agricultural practices in banana cultivation, contributes to the containment of the strong residential and tourist development, observed in recent years in the only banana-growing region of Cyprus, which negatively affects biodiversity and the environment in general.

Biodiversity

The varied climate, diverse geological structure, geographic location and insular character of Cyprus have resulted in a wide variety of habitats. This fact combined with the geographical location of Cyprus at the crossroads of three continents, one of the major bird migration routes, resulted in the formation of a rich biodiversity. Moreover, fragmentation, which characterises agriculture of Cyprus, contributes to the biodiversity of the island.

The importance of biodiversity for the stability and functioning of an ecosystem is obvious. The current main threats to Cypriot biodiversity are:

- The change of land use;
- unsustainable agricultural practices, especially in regard to irrigated crops;
- pollution of soil, air and water caused by industrial, domestic and agricultural activities;
- invasive species (plant and animal);
- overexploitation of the scarce underground and surface water resources;
- climate change (higher temperatures, reduction of average annual precipitation)

Restoring and preserving the structure and functionality of ecosystems and hence the protection of biodiversity is a primary objective of the RDP of Cyprus. The main measures are Agri-environmental and Climate measures as also the funding through Natura 2000 and Water Framework Directive.

In the framework of the 2nd River Basin Management Plan of Cyprus and the implementation of the Water Framework Directive (WFD), the Water Development Department has included an action to remove foreign / invasive plant species (eucalyptus and acacia) so as to improve important ecological characteristics of ecosystems.

The Organic Farming Support Measure, as an agri-environment and climate measure, helps maintain water quality, prevent soil degradation, preserve biodiversity, and reduce greenhouse gas emissions and CO2 emissions.

Areas of the Natura 2000 Network that have been designated as Sites of Community Importance (SCI) and Special Protection Areas (SPAs) also come under agricultural systems, which are characterized by high biodiversity due to the mosaicity they present in the types of crops and practices since old times. Natura 2000 Network includes 40 sites designated as Sites of Community Importance under the Habitats Directive (92/43 / EEC) and approved by the European Commission as well as 30 areas designated as Special Protection Areas (SPAs) for the conservation and protection of wild birds.

Climate Change

As the average temperature on the planet is rising, the occurrence of extreme weather events such as droughts, floods, heatwaves will occur more often. Climate changes more rapidly than expected because of greenhouse gas emissions coming mainly from the production and use of energy. As far as agriculture is concerned, energy production costs and energy consumption in agricultural and food processing sectors are rising at a very high rate in the last decade (81.5 ktoe in Cyprus vs. 66.8 ktoe in the EU-27).

The negative effects of climate change are not the same in all geographic regions of earth. The Mediterranean, and more specifically, Cyprus as a Mediterranean island, is considered to be more vulnerable to climate change and especially to water issues, coastal erosion, etc.

At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C.

The EU was the first major economy to submit its intended contribution to the new agreement in March 2015. It is already taking steps to implement its target to reduce emissions by at least 40% by 2030.

The greenhouse gas reduction target, expected to be set for Cyprus, will be between 20-25% lower than 2005 level.

The main purpose of the National Environmental Framework is to describe actions which contribute to the maintenance and protection of environment (general objective), in accordance with the main needs and priorities for Cyprus.

The specific objectives of the National Environmental Framework are the following:

- protection of soil
- protection and maintenance of water quality
- sustainable use of water resources
- protection and maintenance of habitat and biodiversity
- protection and maintenance of landscape

- contribution to climate change mitigation
- reduction and/or improved management of waste

3. GENERAL CONDITIONS FOR ALL ENVIRONMENTAL ACTIONS

OPs in the fruit and vegetables sector must include two or more environmental actions while, at least 10 % of the expenditure under OPs must cover environmental actions.

Also, environmental actions selected under an OP must meet the following requirements so as to be eligible for support:

- respect the requirements for agri-environment-climate payments set out in Article 28 of Regulation (EU) No 1305/2013 and in particular go beyond the baseline/reference level requirements, which include:
  - the relevant mandatory standards established pursuant to Chapter I of Title VI of Regulation (EU) No 1306/2013,
  - the relevant criteria and minimum activities as established pursuant to points (c)(ii) and (c)(iii) of Article 4(1) of Regulation (EU) No 1307/2013,
  - and relevant minimum requirements for fertiliser and plant protection products use as well as other relevant mandatory requirements established by national law.
- be conform to the National Environmental Framework,
- where at least 80 % of the producer members of a producer organisation are subject to one or more identical agri- environment-climate commitments provided for in Article 28(3) of Regulation (EU) No 1305/2013, then each one of those commitments shall count as an environmental action,
- meet the appropriate requirements of Regulation (EU) No 1305/2013, in particular those set out in Article 3, and in particular contribute to the development of a Union agricultural sector that is more territorially and environmentally balanced, climate-friendly and resilient and competitive and innovative,
- investments which increase environmental pressure shall only be permitted in situations where effective safeguards to protect the environment from these pressures are in place,
- various environmental actions may be combined provided that they are complementary and compatible. Where environmental actions other than investments in physical assets are combined, the level of support shall take account of the specific income foregone and additional costs resulting from the combination,
- commitments to limit the use of fertilisers, plant protection products or other inputs shall be accepted only if such limitations can be assessed in a way that provides assurance about compliance with those commitments,

- Investments beneficial for environment made at the premises of producer organisations, or at the premises of their producer members shall be eligible for support if they:

  (a) could achieve a reduction in the current use of production inputs, emission of pollutants or waste from the production process; or

  (b) could achieve replacement of the use of fossil energy sources with renewable energy sources; or

  (c) could achieve a reduction in the environmental risks linked to the use of certain production inputs, including plant protection products or fertilisers; or

  (d) lead to improvement of the environment; or

  (e) are linked to non-productive investments needed to achieve the objectives of an agri-environmental-climate commitment, in particular where those objectives relate to the protection of habitats and biodiversity.

Investments beneficial for the environment, referred above, shall be fully eligible for support.

Regarding the funding of environmental actions, also the following apply:

1. Support for the environmental actions shall cover additional costs and income foregone resulting from the action.

2. Support for environmental actions that are identical to agri-environment-climate or organic farming commitments as referred to in Articles 28 and 29 of Regulation (EU) No 1305/2013 respectively, shall be limited to the maximum amounts laid down in Annex II to that Regulation for agri-environment-climate payments or for organic farming payments. The above will not apply to environmental actions which do not relate directly or indirectly to a particular parcel.

4. DURATION OF CERTAIN ENVIRONMENTAL ACTIONS

Environmental actions which are identical to agri-environmental-climate commitments supported under the RDP shall have the same duration as those commitments. Where the duration of the action exceeds the duration of the initial OP, the action shall be continued in a subsequent OP.

According to article 3.1, second paragraph, of Implementing Regulation (EU) 2017/892, the Competent Authority may authorise shorter durations for environmental actions or even their discontinuance in duly justified cases, and in particular taking into account the results of the evaluation in the last but one year of the implementation of the OP referred to in Article 57(3) of Delegated Regulation (EU) 2017/891.

In the future, where relevant, this requirement will also apply to other environmental actions newly included in the National Framework.

5. RISK OF DOUBLE FUNDING

For the purpose of excluding the possible overlapping of environmental actions covered by this Framework, with certain measures included in the RDP of Cyprus, Agri-environmental Measures of the RDP, as regards practices applicable to particular crops, are not eligible for support in the Environmental Framework, so as to ensure that each beneficiary may receive support for a given action only under one scheme. For example, organic farming implemented through the RDP for all crops cannot be eligible through the Environmental Framework.

6. NON EXHAUSTIVE LIST OF ENVIRONMENTAL ACTIONS

The following types of environmental actions may be eligible for implementation under an OP:

(a) actions that are identical to agri-environment-climate commitments as referred to in Articles 28 and 29 of Regulation (EU) No 1305/2013, respectively, and which are provided for under the RDP of the Member State concerned;

(b) investments beneficial for the environment;

(c) other actions beneficial for the environment, including those which do not relate directly or indirectly to a particular parcel but that are linked to the fruit and vegetables sector, provided they contribute to soil protection, water or energy saving, improvement or maintenance of water quality, habitats or biodiversity protection, climate change mitigation and reduction or improved management of waste.

ACTION 1.1 INTEGRATED PRODUCTION MANAGEMENT SYSTEMS

Justification of action

The implementation of Integrated Production Management aims at the reduction of inputs to agricultural holdings and the rational management of natural resources, while all cultivation operations are carried out under the supervision of specialised scientific personnel and recorded by the producers. This leads to protection of the environment and of the health of the workers on the holding and consumers. Integrated Production Management Systems include integrated protection against pests and diseases of crops which aim at reducing the use of plant protection substances.

Specific Commitments

1. The producer members of the Producer Organisation apply integrated production methods compliant with the basic principles and requirements of a well defined protocol of Integrated Production Management (i.e. GlobalGap).
2. The producer members of the Producer Organisation who implement the well defined protocol of Integrated Production Management must be certified by a recognised independent Certification Body.
3. The Producer Organisation must maintain a constantly up-to-date file (first

and last name, surface areas, type of crop and production volume) recording the producer members who implement the protocol of Integrated Production Management.

4. Citrus crops are not eligible for this action.

For this action, a duration requirement of five years applies.

Commitment 1 may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

The support for this action will be defined through a specific national study where baseline practices and expenses will be excluded from funding. The support will be determined taking account of the additional costs and income foregone related to the conversion from conventional production methods (compliant with the baseline/reference level requirements) to integrated production methods. The calculation of the additional costs will take account of possible cost savings resulting from the action (e.g. reduced use of plant protection products, fertilisers and water) and possible higher prices for products.

MEASURE 2. REDUCTION OF THE USE OF CHEMICAL INPUTS IN HOLDINGS

ACTION 2.1 PREPARATION AND IMPLEMENTATION OF A CROP FERTILISATION PLAN

Justification of action

The soil is the basic source of the nutritive elements necessary for the completion of the biological cycle of plant organisms. The use of chemical and/or organic fertilisers aims at supplementing the soil's deficient nutritive elements during the cultivation period. However, despite this, their use poses a risk of contaminating the soil, the groundwater and surface waters. The purpose of this action is the use of the absolutely necessary quantities of chemical and/or organic fertilisers required by the crops, through the accurate determination of the nutritional needs of the crops and the capacity of the soil to supply nutrients to the crops. The use of soil analysis and the determination of nutrient status of specific plant tissues support the implementation of a sustainable nutrient management of various vegetable and fruit crops. The implementation of fertilization plan based on analytical procedures and results is an element of a wider strategy for minimizing the risk of soil degradation and water contamination.

Specific Commitments

1. The Producer Organisation, in collaboration with qualified personnel, compiles a soil or foliage sampling programme, depending on the crop.
2. Analyses of soil and/or foliage (at least for N, P and K) are undertaken for the preparation of a fertilisation plan.
3. The fertilisation plan must be established by (internal or external) qualified personnel, based on the analytical results and the nutrient status of the crops, and finally implemented by the producer members.
4. The Producer Organisation maintains a file recording the analyses undertaken

and a copy of the fertiliser composition that is issued by the qualified personnel.
5. The producer members maintain and update a relevant log or file recording the fertilisation of their crops (plots concerned and volumes of fertilisers applied), while keeping the original documents of the analyses made.
6. Producer Organisations must maintain a constantly up-to-date file (first and last name, surface areas, type of crops and volumes of fertilisers applied) recording the producer members who implement this action.

For this action, a duration requirement of at least three years applies.

Commitments 1 and 3 may be implemented with the help of an advisory service (Support action 7.2).

Only commitments going beyond the baseline/reference level requirements are eligible for support.

Amount of eligible expenditure
The cost of soil analyses upon invoice issued.

ACTION 2.2 USE OF BIODEGRADABLE PLASTIC SOIL COVERING

Justification of action
Weeds are one of the main factors that reduce the yield of crops, and this is why producers use herbicides for dealing with this problem. The continuous use of herbicides creates problems of soil pollution and possible pollution of surface waters and groundwater, expression of resistance in weeds, reduction of microbial activity in the soil and indirect deterioration of the soil's fertility. Therefore the use of alternative methods of dealing with weeds in conventional agricultural has a significant positive impact on the environment.

Specific Commitments
1. Use of biodegradable plastic soil covering for crops. Use must be continuous and concern crops where it is practically feasible.
2. The Producer Organisation must maintain a constantly up-to-date file (first and last name, surface areas concerned, type of crop and quantities of biodegradable plastic used) recording the producer members who implement this action.
3. Only commitments going beyond the compulsory requirements are eligible for support.

The action may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure
1. The additional cost of the use of biodegradable plastic soil covering for crops in respect of normal plastic, calculated as the difference between the conventional cost and the cost actually occurred. In this respect, the saving entailed by no collecting the plastic folds will be taken into account.
2. The maximum support for this kind of actions will be defined through a

specific national study where baseline practices and expenses will be excluded from funding.

ACTION 2.3 SOIL SOLARISATION

Justification of action

The use of plant protection substances to deal with pests and diseases in the soil creates problems of pollution both in the soil and in the groundwater and surface waters. The use of soil solarisation as an alternative method results in reduction of the use of plant protection products and the adequate treatment or containment of soil pathogens with positive consequences for the environment. The use of plastic soil cover with layers improves the efficiency of the method by reducing additional expenditure for treating soil pathogens at a later date.

Specific Commitments

1. Implementation of soil solarisation on its own for dealing with soil pathogens.
2. Use of plastic film with polyamide layers for applying the method.
3. The Producer Organisation must maintain a constantly up-to-date file (first and last name, surface areas concerned, type of crop and quantities of plastic film with polyamide layers used) recording the producer members who implement this action.
4. Only commitments going beyond the compulsory requirements are eligible for support.

The action may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

The maximum support for this kind of actions will be defined through a specific national study where baseline practices and expenses will be excluded from funding.

ACTION 2.4 CROP PEST AND DISEASE EARLY WARNING AND MONITORING SYSTEMS

Justification of action

The early use of plant protection substances is an important element for correctly combating crop pests and diseases. An inappropriate or mistimed intervention creates a series of problems, such as inadequate treatment and reduction of the population of beneficial insects and micro-organisms, while it also burdens the environment. Moreover the control of environmental conditions is of crucial importance in predicting the presence and development of various pests and diseases that infect fruit and vegetables both during production and post-harvest.

Specific Commitments

1. Installation of meteorological stations at representative points of areas where the plots of producer members of the Producer Organisation are situated.
2. Installation and monitoring of pest monitoring traps.
3. Keeping of a pest monitoring file.
4. The PO must submit to the National Authorities a feasibility study prepared by qualified personnel in order to justify the expected environmental benefits of the specific action proposed.
5. Implementation of risk prediction models for the infection of crops by pests and diseases to be determined by the Producer Organisation.
6. Creation of a rapid early-warning system for the producer members in order to take measures to deal with the threats.
7. Pest and disease management according to the warning scheme.

The above-mentioned commitments may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

Cost of purchase and installation of the following systems for monitoring crop pests and diseases upon invoice issued**:**

1. Maximum minimum thermometers
2. Anemometers
3. Instruments for measuring relative humidity of air
4. Instruments for measuring solar radiation intensity
5. Software for entering environment parameter measurements
6. Software for predicting the risk of infection by pests and diseases
7. Computers – network for collecting and evaluating the parameters required to implement the Action.

ACTION 2.5 USE OF PROTECTIVE NETS AGAINST INSECTS

Justification of action

The use of plant protection substances to deal with pests and diseases in the soil creates problems of point and non-point pollution both in the soil and in the groundwater and surface waters. Moreover it increases the exposure of the user and workers to chemical substances. The use of protective nets against insects as an alternative method of dealing with crop pests results in a reduction in the use of plant protection substances with positive consequences for both the environment and users' safety.

Specific Commitments

1. Purchase and installation of protective nets as a means of protecting field and greenhouse crops against insects.
2. The Producer Organisation must maintain a constantly up-to-date file (first and last name, surface areas concerned, type of crop and quantities of protective nets used) recording the producer members who implement this action.

The above-mentioned commitments may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

1. The costs of protective nets against insects upon invoice issued.
2. The maximum support for this kind of actions will be defined through a specific national study.

ACTION 2.6 USE OF GRAFTED SEEDLINGS

Justification of action

Soil pathogens are one of the most important factors in reduction of agricultural production as well as deterioration of the quality of the products. Therefore producers, in order to secure satisfactory, high-quality production, use significant quantities of soil disinfectants and/or plant protection products for dealing with soil pathogens. However, the continuous use of these substances entails risks of point and non-point pollution both for the soil and for the groundwater and surface waters. Moreover it increases the exposure of the user and the workers to chemical substances. The use of grafted seedlings with subjects resistant or tolerant to soil pathogens, is considered as an effective non obligatory action which contributes to reducing the use of soil disinfectants and plant protection products with positive consequences for both the environment and users' safety.

Specific Commitments

1. Purchase and use of grafted seedlings of tomato, cucumbers, melons and watermelons with subjects resistant / tolerant to soil pathogens, aimed at reducing use of soil disinfectants and/or plant protection products.
2. The Producer Organisation must maintain a constantly up-to-date file (first and last name, surface areas, type of crop and quantities of grafted plants used) recording the producer members who implement this action.
3. The Producer Organisation must submit to the National Authorities a feasibility study to justify the environmental benefits expected from the specific action proposed.
4. Only commitments going beyond the baseline/reference level requirements are eligible for support.

The above-mentioned commitments may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

1. The additional cost of the use of grafted plants. In addition any cost saving (e.g. reduction in the use of chemicals) will be taken into account and will be excluded from funding.
2. The maximum support for this kind of actions will be defined through a specific national study where baseline practices and expenses will be excluded from funding.

MEASURE 3. PRESERVATION OF NATURAL LANDSCAPE AND PROMOTION OF BIODIVERSITY

ACTION 3.1 PLANTING OF HEDGES

Justification of action

The installation on the boundaries of plots and the preservation of plant species other than those cultivated promotes biodiversity in the agricultural ecosystem. Indigenous species should be used to provide a habitat to birds and insects. Therefore the opportunity is provided to install, increase and maintain organisms that participate in achieving equilibrium between organisms beneficial for and harmful to cultivated species. Such activity contributes to improving the agricultural ecosystem, increases and maintains biodiversity, and positively contributes to the management of holdings.

Specific Commitments

1. Purchase and installation at the boundaries of plots of indigenous species other than those cultivated.
2. Producer Organisations must maintain a constantly up-to-date file (first and last name, surface areas concerned, type and number of plants of indigenous species installed) recording the producer members who implement this action.
3. Eligible indigenous species for planting of hedges will be designated through a National study which will take into account other relevant Agroforestry Environmental actions included in RPD.
4. Species that are eligible in measure 10.1.6 "Protection of Natural Vegetation and Landscape Characteristics, adjacent to Parcels for biodiversity purposes" of the RPD will be excluded from the list with the eligible indigenous species.

Amount of eligible expenditure

The cost of the plants of indigenous species installed upon invoice issued.

ACTION 3.2 CONSTRUCTION OF BIRD NESTS

Justification of action

The natural activity of endemic or migratory birds in agricultural areas throughout the year is a very important element, of high environmental value for the agricultural ecosystem. The enrichment and preservation of agricultural ecosystems with various species of birds contributes significantly to improving and maintaining biodiversity in holdings, and contributes to reducing the populations of organisms harmful to crops.

Specific Commitments

1. Installation of bird nests at the holdings.
2. Producer Organisations must maintain a constantly up-to-date file (first and last name, plots concerned, number of bird nests installed) recording the producers who implement this action.

Amount of eligible expenditure
The costs of bird nests installed upon invoice issued.

MEASURE 4. SOIL PROTECTION, IMPROVEMENT OF FERTILITY

ACTION 4.1 GREEN MANURE

Justification of action
The use of groundcover plants is a very important agricultural activity that protects the environment and maintains the fertility of the soil. It significantly contributes to microbial activity, and in some cases it prevents the leaching of nitric ions into the groundwater. Moreover the incorporation of the plant mass into the soil contributes to enriching the soil with organic matter, and provides a part of the nutritional needs of the crops that follow. This results in reduction in the use of chemical fertilisers, thus protecting the environment and indirectly contributing to reducing greenhouse gas emissions.

Specific Commitments
1. Sowing, cultivation and incorporation into soil of appropriate green manure plants.
2. Producer Organisations must maintain a constantly up-to-date file (first and last name, surface areas with green manure, type of green manure plant cropped) recording the producer members who implement this action.
3. Eligible indigenous species for planting of hedges will be designated through a National study.

For this action, a duration requirement of five years applies.

Amount of eligible expenditure
The maximum support for this kind of actions will be defined through a specific national study where baseline practices and expenses will be excluded from funding

ACTION 4.2 MAINTENANCE OF MINIMUM VEGETATION

Justification of action
The maintenance of minimum vegetation under tree crops is an important factor for the reduction of soil erosion, especially in mountainous and semi-mountainous areas due to rainfall. Additionally, in coastal areas, the maintenance of ground vegetation protects the soil from wind erosion. The reduction of soil erosion contributes to maintaining soil fertility and reducing the risk of pollution of surface waters and groundwater with nitric ions and phosphorus.

Specific Commitments
1. Maintaining minimum vegetation under tree crops by using lawn mowers. The height of the remaining plant species must be at a level that will not be competitive to the cultivated crops.
2. Producer Organisations must maintain a constantly up-to-date file (first and last name, surface areas concerned, type of cover crop used) recording the

producer members who implement this action.

3. The obligations deriving from this action are not an equivalent practice of the Greening for Pillar 1 of the Common Agricultural Policy. Applicants for participation in this action must have already fulfilled the obligations arising from the requirements of the greening of Pillar 1.
4. Carob, almond and walnut crops are not eligible for this action.

For this action, a duration requirement of five years applies.

Eligibility for support is limited to commitments going beyond the GAEC standards and other relevant mandatory requirements established by the national legislation.

Amount of eligible expenditure

The maximum support for this kind of actions will be defined through a specific national study where baseline practices and expenses will be excluded from funding.

ACTION 4.3 BIO-BEDS

Justification of action

The waste water from sprinkler rinsing is an important factor in soil pollution, soil biodiversity reduction, and pollution of surface waters and groundwater. The biodegradation of plant protection products in special "bio-trickling" beds contributes to avoiding pollution of the soil and groundwater with the residues of plant protection products. Moreover the implementation of such systems can contribute to maintaining the quality of the soils, since they are not burdened with this type of agricultural waste. Furthermore it should be stressed that the implementation of bio-beds goes beyond the relevant mandatory requirements of Community and National legislation on waste.

Specific Commitments

1. Installation and operation of bio-beds for covering the needs of its producer members.
2. A feasibility study from qualified personnel must be submitted by the PO to the National authorities in order to justify the environmental benefits of the specific action proposed.
3. Producer Organisations must maintain a constantly up-to-date file (first and last name, surface areas, type of crop and number of bio-beds) recording the producer members who participate in this action.

Only commitments going beyond the baseline/reference requirements, and particularly the relevant mandatory requirements of European and national legislation of waste, are eligible for support.

For the implementation of the above-mentioned commitments, the PO may rely on the help of an advisory service (support action 7.2).

Amount of eligible expenditure

The costs for the following upon invoice issued:

1. Concrete floor for rinsing of sprinklers with gutters (150m^2) 2. Tanks for storing liquid waste from rinsing
3. Pumps for transferring liquid waste to storage tanks
4. Irrigation system for transferring liquid waste to biotrickling beds
5. Installation of 20m^3 biotrickling bed (filler material, waterproof plastic bottom sheet, drainage and collection pipes for rinse water)
6. A pump for transferring rinse waters to the liquid waste collection tank.

MEASURE 5. MANAGEMENT OF WATER RESOURCES AND WATER SAVING

ACTION 5.1 INSTALLATION OF IMPROVED IRRIGATION FACILITIES

Justification of action

The management of water resources and water saving is an important factor for maintaining sustainability in agricultural ecosystems. The use of improved irrigation systems contributes to a more efficient use of the water available for irrigation, since the use of these systems saves water. It can also facilitate a more accurate use of fertilisers (e.g. through fertirrigation), thus reducing the risk of polluting soils and water bodies. However the aim of the action is the replacement or the improvement of existing irrigation facilities in order to save water without increasing irrigated area.

Specific Commitments

1. Installation of an improved irrigation system in replacement to an existing one or installation of improvements to an existing irrigation system.
2. Use of the improved irrigation system installed as intended.
3. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of water saving, is attested to be at least 5% compared with the baseline practice or the currently used facilities as also it does not result in a net increase of the area under irrigation, unless the total water consumption for irrigation of the whole farm, including the increased area, does not exceed the average of water consumption of the previous 5 years prior to the investment.
4. The Producer Organisation must maintain a constantly up-to-date file (first and last name, surface areas concerned, type of crops concerned, type of improved irrigation systems or improvements installed) recording the producer members who implement this action.

The installation of improved irrigation facilities is eligible for support only in already irrigated areas.

To implement the above-mentioned commitments the PO may reply on the help of an advisory service (support action 7.2).

Amount of eligible expenditure

The costs related to the installation of the improved irrigation system upon invoice issued.

ACTION 5.2 CONSTRUCTION OF TANKS AND RAINWATER COLLECTION SYSTEMS

Justification of action

The collection of rainwater from greenhouses' roofs in the winter is an important practice for managing water resources intended for agricultural purposes. The rainwater collected can be used for satisfying part of the crop needs, which contributes to reducing the pumping of groundwater, especially during the winter. Continuous pumping of groundwater risks creating negative repercussions through the pollution of groundwater bodies with seawater and the destruction of these natural valuable resources.

Specific Commitments

1. Installation and/or construction of rainwater collection tanks and installation of pipes for transporting water from greenhouse roofs to storage tanks.
2. Producer Organisations must maintain a constantly up-to-date file (first and last name, surface areas concerned, type and volume of the storage tanks installed, and type and length of the pipes installed) with the producer members who implement this action.
3. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of water saving, is attested to be at least 15% compared with the baseline practice or the currently used facilities as also it does not result in a net increase of the area under irrigation, unless the total water consumption for irrigation of the whole farm, including the increased area, does not exceed the average of water consumption of the previous 5 years prior to the investment. However, the action will also be eligible if allows for a reduction of at least 7 %, calculated over the fiscal depreciation period of the investment compared to the pre-existing situation, provided that the action can contribute to at least one additional environmental benefit.
4. For eligibility for support, the PO must also provide an irrigation scheme, established by qualified personnel, regarding the use of the water collected through the rainwater collection tanks installed. The irrigation scheme established must be implemented by the producer members concerned. The rainwater collection volume of the tanks should be in line and proportional with the needs of the existing cultivated area.

For the preparation of both the feasibility study and the irrigation scheme, the PO may rely on the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

The following costs upon invoice issued:

1. Plastic water storage tanks
2. Pipes for transferring rainwater from greenhouse roofs to storage tanks
3. Creation of earth storage tanks (earth work and waterproof cover plastic sheet)

ACTION 5.3 RECYCLING AND MANAGEMENT OF PACKING PLANT WATER

Justification of action

The preparation of fruit and vegetable for sale requires the use of significant volumes of water (e.g. for calibration, washing and transport to the packing line). During the washing procedure the rinsing waters are burdened with microorganisms, residues of plant protection products, foreign matter, etc. The management and reuse of rinsing waters for other purposes, e.g. the irrigation of crops, is an important factor in saving and rationally managing water within the framework of an integrated management plan.

Specific Commitments

1. Installation of system for the collection, the treatment (where appropriate) and recycling of packing plant waters aimed at water saving.
2. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of water saving, is attested to be at least 15% compared with the baseline practice or the currently used facilities as also it does not result in a net increase of the area under irrigation, unless the total water consumption for irrigation of the whole farm, including the increased area, does not exceed the average of water consumption of the previous 5 years prior to the investment. However, the action will also be eligible if allows for a reduction of at least 7 %, calculated over the fiscal depreciation period of the investment compared to the pre-existing situation, provided that the action can contribute to at least one additional environmental benefit.
3. Reuse of the recycled water according the feasibility study.

For the preparation of the feasibility study, the PO may rely on the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

The costs related to the installation of the system for the collection, treatment and recycling of water from packing plants upon invoice issued.

ACTION 5.4 REDUCTION OF WATER EVAPORATION FROM WATER STORAGE TANKS

Justification of action

Water loss from tanks due to the prevalent weather conditions of Cyprus is significant. Therefore the reduction of evaporation is a significant factor for

managing the water resources and saving the water available for irrigation.

Specific Commitments

1. Covering open air tanks with a plastic cover for reducing the evaporation of the tank water.
2. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of water saving, is attested to be at least 15% compared with the baseline practice or the currently used facilities as also it does not result in a net increase of the area under irrigation, unless the total water consumption for irrigation of the whole farm, including the increased area, does not exceed the average of water consumption of the previous 5 years prior to the investment. However, the action will also be eligible if allows for a reduction of at least 7 %, calculated over the fiscal depreciation period of the investment compared to the pre-existing situation, provided that the action can contribute to at least one additional environmental benefit (e.g. reduced use of energy).

For the preparation of the feasibility study, the PO may rely on the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

The costs related to the installation of a plastic cover over earth open air tanks upon invoice issued.

MEASURE 6. ENERGY SAVING AND REDUCTION OF GREENHOUSE GAS EMISSIONS

ACTION 6.1 INSTALLATION OF THERMAL CURTAINS AND SHADE NETS IN GREENHOUSES

Justification of action

A reduction in greenhouse gas emissions is achieved by saving energy in greenhouses in the winter and reducing the loss of heating. The use of thermal curtains can reduce the losses in heating from greenhouses by 30-60%, depending on the type of curtain used. In this way the energy required for heating is reduced, resulted on the reduction of emission of greenhouse gases. Correspondingly, the use of an exterior shade net on greenhouses during periods with increased sunshine reduces the consumption of energy by the greenhouse cooling systems, and by extension the emission of greenhouse gases.

Specific Commitments

1. Installation of thermal curtains and shade nets in greenhouses.
2. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of energy saving, is attested to be at least 15%, compared with the baseline practice or the currently used facilities,

calculated over the fiscal depreciation period of the investment. However, the action will also be eligible if allows for a reduction of at least 7 %, calculated over the fiscal depreciation period of the investment compared to the pre-existing situation, provided that the action can contribute to at least one additional environmental benefit (e.g. reduction in the use of other production inputs, reduction in the emission of air pollutants).

3. The Producer Organisation must maintain information about the producer members who implement the relevant action.

For the preparation of the feasibility study, the PO may rely on the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

The costs of thermal curtains and shade nets in greenhouses upon invoice issued.

6.2 INSTALLATION OF DOUBLE INFLATED POLYETHYLENE LAYER

Justification of action

The most energy intensive processes in a greenhouse are those related with cooling or heating of the production facilities. Reduction of the needs for heating or cooling the crop environment may be achieved by improving the insulation of the cover area of the greenhouse, as it seems that most of the energy losses of the greenhouse take place through there. A double inflated polyethlyne layer is popular choice for the reduction of the energy consumption of greenhouses. The energy consumption savings range from 19 to 40% according to the size, orientation and the glazing material. A great increase in energy savings can be achieved by combining application of double inflated polyethylene and thermal curtains, which can save up to 30.4% of the energy consumption for heating, while the double inflated layer can save alone 19.1% of the initial heating power.

Specific Commitments

1. Installation of double inflated polyethlyne layer in a greenhouse or replacement of en existing single layer film.
2. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of energy saving, is attested to be at least 15%, compared with the baseline practice or the currently used facilities, calculated over the fiscal depreciation period of the investment. However, the action will also be eligible if allows for a reduction of at least 7 %, calculated over the fiscal depreciation period of the investment compared to the pre-existing situation, provided that the action can contribute to at least one additional environmental benefit.
3. The Producer Organisation must maintain information about the producer members who implement the relevant action.
4. The action may be eligible for support only if it is combined with the installation of thermal curtains.

Commitment 2 may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

1. The costs related to the purchase and installation of double inflated polyethylene layer upon invoice issued.
2. The maximum support for this kind of actions will be defined through a specific national study where baseline practices and expenses will be excluded from funding.

6.3 USE OF EFFICIENT MOTORS AND PUMPS

Justification of action

Pumps and motors are used in many operations in the greenhouse, i.e. irrigation, hydroponic effluents circulation, cooling pad water circulation, etc. Several options for efficient motors-pumps, with higher efficiency but also with higher cost, can be found in the market. The economic viability of substituting and old motor-pump with an efficient one should be always assessed carefully as it highly depends on the required installed power in the greenhouse. The higher the electrical power installed in the greenhouse, the more economically viable this choice will be.

Specific Commitments

1. Installation of efficient motors-pumps.
2. The PO must submit to the National authorities a feasibility study prepared by qualified personnel in order to justify the environmental benefits of the specific action proposed. The action will be eligible for funding if the expected environmental benefit, in terms of energy saving, is attested to be at least 15%, compared with the baseline practice or the currently used facilities, calculated over the fiscal depreciation period of the investment. However, the action will also be eligible if allows for a reduction of at least 7 %, calculated over the fiscal depreciation period of the investment compared to the pre-existing situation, provided that the action can contribute to at least one additional environmental benefit
3. The Producer Organisation must maintain information about the producer members who implement the relevant action.

Commitment 2 may be implemented with the help of an advisory service (Support action 7.2).

Amount of eligible expenditure

Cost of purchase and installation of efficient motors and pumps upon invoice issued.

MEASURE 7 SUPPORT ACTIONS

ACTION 7.1 EDUCATION AND TRAINING

Justification of action

Training and knowledge transfer to the producer members and/or employees of the Producer Organisations may be essential for the implementation and the

effectiveness of certain environmental actions. Therefore, under this action, P.O. should be able to organize training courses and workshops for their members and/or employees concerning special issues which are relevant to the environmental actions implemented through their OPs. Training and education actions must be performed by qualified personnel internal or external to the PO.

Specific Commitments

For eligibility for support, the following set of requirements must be met:

1. The training action is intended to complement (i.e. accompany and be associated with) at least one of the environmental actions included in the National Framework, which must therefore be included in the OP of the PO, and is specifically targeted to reinforce the positive environmental impact of that action or those actions. The actions concerned must be specified in the OP of the PO.
2. The training activity must be entrusted to additional (internal or external) qualified personnel.
3. The OP must clearly indicate the specific task that the additional qualified personnel is required to perform during this action.
4. The Producer Organisation must maintain records for their members and/or employees who participate in the educational and training programme.

Amount of eligible expenditure

The personnel costs related to training and education (upon the invoice issued in case of external qualified personnel). Furthermore detailed records must be kept showing the actual number of the POs members trained and the specific tasks performed by the qualified personnel used. In case of use of internal qualified personnel, the time worked must be documented.

Similar actions are excluded from eligibility for support under other chapters of the National Strategy

ACTION 7.2 ADVISORY SERVICES

Justification of action

Advisory services may be an important tool in improving the performance of environmental actions implemented under the OPs of the POs. Thus advisory services should be included as supplementary commitments to other environmental actions of the National Framework, in order to support the implementation of certain environmental actions and contributing to their effectiveness.

Specific Commitments

For eligibility for support, the following set of requirements must be met:

1. The advisory service must be intended to complement (i.e., accompany and be associated with) at least one of the environmental actions included in the National Framework, which must therefore be included in the OP; and are specifically targeted to reinforce the effects of these actions. The actions concerned

must be specified in the OP of the PO.

2. The implementation of the advisory services must be entrusted to additional (internal or external) qualified personnel and a contract must be established between the POs and the advisors concerned.
5. The OP must clearly indicate the specific task that the additional qualified personnel is required to perform during this action.
3. The Producer Organisation must maintain records for their members who have access to the advisory services.

Amount of eligible expenditure

The personnel costs related to the advisory services (upon the invoices issued in case of external qualified personnel). Furthermore detailed records must be kept showing the actual number of the POs members having access to the advisory service and the specific tasks performed by the qualified personnel used. In case of use of internal qualified personnel, the time worked must be documented.

Similar actions are excluded from eligibility for support under other chapters of the National Strategy

SUMMARY TABLE OF PROPOSED ACTIONS INCLUDED IN THE NATIONAL ENVIRONMENTAL FRAMEWORK		
MEASURE	**number**	**ACTION**
Agricultural production systems that respect and protect the environment	1.1	Integrated production management systems
Reduction of the use of chemical inputs in holdings	2.1	Preparation and implementation of a crop fertilisation plan
	2.2	Use of plastic soil covering
	2.3	Soil solarisation
	2.4	Crop pest and disease early warning and monitoring systems
	2.5	Use of protective nets against insects
	2.6	Use of grafted seedlings
Preservation of natural landscape and promotion of biodiversity	3.1	Planting of hedges
	3.2	Construction of bird nests
Soil protection, improvement of fertility	4.1	Green manure
	4.2	Maintenance of minimum vegetation
	4.3	Bio-beds
Management of water resources and water saving	5.1	Installation of improved irrigation facilities
	5.2	Construction of tanks and rainwater collection systems
	5.3	Recycling and management of packing

		plant water
	5.4	Reduction of water evaporation from water storage tanks
Energy saving and reduction of greenhouse gas emissions	6.1	Installation of thermal curtains and shade nets in greenhouses
	6.2	Installation of double inflated polyethylene layer
	6.3	Use of efficient motors and pumps
Support actions	7.1	Education and training
	7.2	Advisory services