



Food and Agriculture  
Organization of the  
United Nations



**The International Treaty**  
ON PLANT GENETIC RESOURCES  
FOR FOOD AND AGRICULTURE

# Submission form for full project proposals

Fourth Call for Proposals of the Benefit-sharing Fund

*Submitting*  
at [Treaty-Fund@fao.org](mailto:Treaty-Fund@fao.org) and [PGRFA-Treaty@fao.org](mailto:PGRFA-Treaty@fao.org)

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**PROJECT PROPOSAL COVER SHEET**

<b>Project Title:</b> <i>Identification, evaluation and genetic improvement of some local crop varieties to face with impact of climate change, increase the productivity, food security and on-farm incomes, for poor farmers in remote mountainous areas in Albania.</i>
Project duration: <b>36 months</b>
Target crops: <b>maize, bean</b>
Targeted developing country/ies: <b>Albania</b>
Total requested funding (USD) <b>100,000</b>
Total co-funding available(USD)
<b>Please select the type of project you are applying for:</b>
<input checked="" type="checkbox"/> Single country
<input type="checkbox"/> Multicountry
<b>Please select to which of the main outcomes the proposal contributes to<sup>1</sup>:</b>
<input type="checkbox"/> Outcome 1
<input type="checkbox"/> Outcome 2
<input checked="" type="checkbox"/> Outcome 1 and 2
<b>Applicant</b>
Name of Organization: <b>Agricultural University of Tirana</b>
Type of organization : <b>Public</b>
Project Contact: <b>Prof.Dr. Ndoc Faslia</b>
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<sup>1</sup>Please note that as stated in the text of the Fourth Call for Proposals (3.1. Introduction) all proposals will have to contribute to the cross cutting Outcomes 3-5 of the Outcome Matrix.



## SECTION A: EXECUTIVE SUMMARY

### 1.1. Executive summary

Albania is a small and very mountainous country, covering an area of 28750 km<sup>2</sup> and only 24 % of this area is classified as agricultural land. The average agricultural land per capita is 0.2 ha, the smallest in Europe.

About 50% of the population in Albania lives in rural areas and deals mainly with agriculture. The economic situation of families living in remote mountainous areas, is quite problematic, because these families have very small farms, with 0.2-0.3 ha of agricultural land per family, and on the other side, they live in a very difficult terrain without road infrastructure, and in these conditions, they are not able to mechanize their farms nor to use quality seed or chemical fertilizers. In addition, the climate change of recent decades (droughts, floods, etc.) has caused a very low agriculture productivity in these areas, and consequently, the food security of the population is seriously threatened.

In this context, on-farm conservation and management of local varieties of maize and bean, which are resistant to drought, diseases, pests, as well as to weather difficult situations, will create opportunities for Albanian farmers to guarantee their production, food security and increased income for their families

The main objective of the project is to contribute to food security and improved livelihood of farming communities, using of some genetically improved local varieties, which help farmers, to face effects of climate change on crop production. PGRFA addressed by this project are local varieties of maize and bean, which constitute the basic crops in daily nutrition of the communities living in mountainous area.

*The project outcomes are:* Farmers supported to maintain and conserve agrobiodiversity in areas vulnerable to climate change and food insecurity; Strengthening of research capacities to produce locally adapted varieties, adapted to produce in climate change conditions; The enabling environment for Treaty implementation is strengthened with increased funding available for the sustainability of project interventions; Enhanced equity and inclusion in the implementation of the programme.

*Direct beneficiaries of the project will be:* Poor farmers who live in remote mountainous areas, with a low level of farm income and are at risk due to the effects of climate change and the loss of agrobiodiversity. In total it is expected to benefit 500 farmers, and 60% of them, will be women. Agricultural specialists who work in the areas where this project will be implemented. In total, it is expected to benefit 25 agriculture specialists. They will be engaged in the process of evaluation, characterization, breeding and selection of local crop varieties/ populations.

Professors and researchers of the Department of Plant Sciences and Technologies of the Agricultural University. In total it is expected to be engaged 8 people. Experts and scientific researchers of the agricultural research centers, which are under responsibility of the Ministry of Agriculture. In total it is expected to benefit 5 experts. Masters and PhD students, who attend the studies at the Department of Plant Sciences and Technologies of the Agricultural University of Tirana. In total, is expected to benefit 12 students.

*Indirect beneficiaries of the project will be:* About 5 farmer groups with an average of 10 person/group, totalizing around 50 farmers. About 3 small and medium seed traders, which are interested to buy qualitative locally adapted crop seeds, and to sell them to the other groups of interest.

The geographic extension of the project will be about 5000 km<sup>2</sup>, in 5 districts and 40 villages of Albania.



## **SECTION B: PROJECT DESCRIPTION AND CONTENTS**

### **2.1. Problem definition**

Albanian economy is dominated by agricultural sector which contribute about 20% to GDP. About 70 % of the territory of Albania is mountainous and hilly areas and the basic living activity is agriculture. Agriculture in these areas is a survival activity and farmers provide income only for their families and are not able to be present in the market with their products.

Agricultural farming systems, which are applied in these areas, have an extensive nature which means: low level of agricultural inputs, almost no use of hybrid seeds, irrigation opportunities are very limited, and also mechanization level is very low.

In addition to these factors, a very negative impact on agriculture in recent decades, is caused by climate change. Long-term drought in summer, very low winter temperatures, as well as floods, has caused considerable damages to agricultural production. For these reasons, productivity in agriculture and the level of income for farm families is very low.

On the other side, these remote and poor areas of Albania are characterized by the presence of many autochthonous (local) varieties and plant populations, which are adapted to difficult climate conditions and have a great interest for cultivation, as they have very qualitative traits and features in terms of adaptation to climate change, high nutrient values, resistance to pest and diseases and tolerance to production shocks.

These local varieties needs to be identified, collected, conserved and multiplied on-farm, as well selected and used in pre-breeding/breeding programs, in order to be available for farmers. Thanks to the support provided by the previous project, it was possible to identify some varieties and populations of these crops and to conserve and multiply them on-farm and then to distribute them to the farmers for cultivation.

It is imperative that these local varieties and populations, identified in previous project activities, to be selected and introduced into pre-breeding and breeding programs, in order to improve their features, increase their productivity, and nutritional values.

The introduction of these genetically improved local varieties will give farmers the opportunity to better face climate changes and weather conditions, as well as will create the bases to increase production from their farms as a guarantee for food security and income growth for their families. The main challenges and problems the project will address are :

- Climate change in recent decades has had a significant impact on agricultural production, reducing significantly crop yields. Under these conditions, the identification and introduction into production of local crops, resistant to these changes, will be a good alternative for farmers, in order to increase production capacities and farm incomes.
- These local crop varieties have been neglected and underutilised for many years, and for these reasons, some of them have been greatly reduced and are threatened to disappear. In these conditions, collection characterization and multiplication of these local crops is an urgent need, in order to help farmers in facing with the effects of climate change and to guarantee the food security.
- The local varieties of maize and beans, represent a gene pool of a great value, but they are not studied in details, and in some cases these local varieties, due to the negligence in cultivation, have been mixed with other varieties such as hybrids, lines, and so on. Through this project it will be possible that some of the most valuable local varieties of maize and beans will be included in plant breeding programs, for the creation/development of new cultivars with high production capacity.



- For many reasons, research capacities in the field of plant breeding and research, continue to be very low. Through this project, it is expected that these capacities will increase significantly, both at university and in agricultural research centers, etc.

## **2.2. Project outcomes and related targets**

The project will aim at the identification, selection and genetic improvement of some adapted local cultivars and populations of maize and beans, which will be further cultivated by poor farmers in the remote areas of the country, in order to increase farm productivity, agrobiodiversity conservation, ensuring food security and increasing income for their families. Some of the outcomes and related targets of the project will be as follows:

### ***Outcome 1. Farmers supported to maintain and conserve agrobiodiversity in areas vulnerable to climate change and food insecurity.***

Targets described below will contribute to outcomes through different activities. This contribution will be realized through:

- Identification, collection and characterization of locally adopted crop varieties, to be used by farmers, in order to face with climate change effects.
- Improvement of local crop varieties, seed multiplication and distribution to the farmers.
- Strengthening of seed system capacities to provide quality seed of adopted local cultivars.
- Conservation and sustainable use of agrobiodiversity, as a guarantee for food security, for poor farmers living in remote areas of Albania
- Strengthening capacities of PGRFA management, as well as information systems.
- Strengthening capacities of plant breeding and scientific research, in agricultural research institutions and University.
- The knowledge and capacities for Treaty implementation will be strengthened.
- Enhanced equity and inclusion in the implementation of the programme.
- In some much more details the targets are described as following:

**Target 1.1.** A total number of 500 farmers, living in the 5 districts of the mountainous area of the country, will be supported with genetically improved of local cultivars/populations of maize and beans. To achieve this target the selected and improved local crops, will be multiplied *on-farm*, and then the qualitative seed will be distributed to the farmers and other stakeholders.

**Target 1.2 .** Four locally adapted varieties of maize and bean are identified, collected, conserved, and improved (bred) with participation of farmers and local agricultural experts. The project activities will be focused in the areas where the previous projects were not present and farmers are not supported before. This target will be achieved through, germplasm collection, karakteriztion, selection and prebreeding process, wich will be led by professors of agricultural university.

**Target 1.3.** Strengthening of seed system capacities to provide quality seed of adopted local cultivars. Through project activities a quantity of 1000 kg of certified local seeds will be distributed to the farmers. This target will be achieved through seed multiplication, under supervision of local experts and direct participation of farmer communities.



**Target 1.4.** Diversification of local agricultural systems. Many farmers will have the possibility to cultivate in their farms some local varieties and crop populations, which were not cultivated before. On the other side farmers will be aware to use in a profitable and sustainable way, the existing agrobiodiversity. This will contribute to diversification of agricultural systems and products, as well as will ensure stable yields and adoption to climate change. This will be achieved, through a broad awareness campaign, on the role of collection, conservation and multiplication, of the local crop varieties, and importance they have to face with climate change in the country.

***Outcome 2. Strengthening of research capacities to produce locally adapted varieties, adapted to produce in climate change conditions.***

**Target 2.1.** Two local populations of maize and two local cultivars of bean will be characterized, evaluated, documented, pre-bred for traits of importance to adaptation and resistance. This process will be carried out with participation of scientists and students of Department of Plant Sciences and Technologies, as well as with direct participation of farmers and local experts, where the project will be implemented. This target will be achieved through, collecting missions, in which will take part all above mentioned actors.

**Target 2.2.** Two packages and tools (germplasm, information, know-how and technologies) are co-developed and transferred to researchers, professors, agricultural experts and farmers. This will be done by project consultants in collaboration with academic staff of the Department.

**Target 2.3.** Four national institutions will be supported to strengthen capacities of PGRFA management, as well as information systems. Department of Plant Sciences and Technologies of Agricultural University, Institute of Plant Genetic Resources of Albania and two Agricultural Technology Transfer Centers will be involved in project activities. This target will be achieved through direct involvement of all stakeholders in project activities.

**Target 2.4.** Three young scientists, two researchers, 25 extensionists and 5 technical staff in agricultural scientific institutions, will be trained and supported to have the knowledge and skills in management and improvement of locally adapted varieties, which will be used by farmers, breeders and other users. This target will be achieved through, trainings, workshops, field demonstrations and other activities organized by the project.

**Target 2.5.** Young scientists (women) supported to ensure a new generation of scientists, in order to have the knowledge and skills to take forward Treaty implementation. This target will be achieved through engagement of women in project activities.

**Cross cutting outcomes and targets**

***Outcome 3. The enabling environment for Treaty implementation is strengthened with increased funding available for the sustainability of project interventions.***

**Target 3.1.** The implementation of the project will take in to consideration the existing strategies and programs drafted for biodiversity conservation and sustainable management of PGRFA. The main document to be based on, will be the “*National programme for Conservation and use of Plant Genetic Resources for Food and Agriculture in Albania. (approved 2015).*”



This national program is based on Convention of Biological Diversity as well as on International Treaty on PGRFA. For this reason the project is expected to have a great impact on enabling environment for Treaty implementation.

***Outcome 4. Enhanced equity and inclusion in the implementation of the programme***

**Target 4.1.** During implementation of the project, women will be included and will take part in all activities such as, characterization, evaluation, multiplication, field demonstrations, breeding programs, trainings, workshops etc. About 60 % of the participants, in all project activities will be women.

***Outcome 5. Partnerships and collaboration strengthened***

**Target 5.1.** For implementation of the project, four public institutions and many farmer organizations will be engaged in project activities. (Agricultural University of Tirana, Institute of Plant Genetic Resources, Agricultural Technology Transfer Centers, etc.) This participation will highly contribute to strengthen partnership and collaboration between state and private entities

**2.3. Targeted PGRFA**

The implementation of the project will target some of the local populations of maize and beans that are the basic crops for nutrition of the population, living in the areas where this project will be implemented. The project will be focused on: evaluation, selection and genetic improvement of two local maize populations and two local varieties of beans. We emphasize that, in the remote mountainous areas of the country, bean is a daily food, and it accounts for about 50% of calorie needs. Maize is also used as a food for humans, and as a basic feed for animals.

Based on data, taken from the agricultural research institutes, up to the year 1950, there were around 100 local maize populations and over 25 local bean varieties cultivated by farmers in Albania. These local varieties, were widely cultivated, especially in the mountainous areas of the country. After the 60's years, with the transition to the state economy, these crops were not planted, or were planted only on a very limited area. Now these local crops, can be found in very small surfaces, in the farmers' gardens, mainly in the northeastern villages of the country. Also, in the national gene bank, there is a part of the germplasm of maize and bean populations, which is stored in long-term conditions. These local types of maize and beans, which are the target of this project, will be collected from farmers' gardens as well as from the germplasm stored in the gene bank.

It should be noted that due to the lack of attention and interest to these local cultivars, some of them have lost some the qualitative traits or features of interest, due to "mixing" or crossing with hybrid cultivars introduced from abroad.

Under these conditions, the project will have, as its target, the identification of the maize and bean populations that will be evaluated, characterized and selected, in order to obtain "pure" local cultivars, which have high productivity capacities and adapted to environmental stresses (droughts, diseases, pests etc.). Except this, the project will target some local populations of maize and bean, which are identified by previous projects, as well as some gene bank accessions, stored in two scientific research centers of agriculture, which actually are under responsibility of Ministry of Agriculture.



## **2.4. Beneficiaries**

The direct and indirect beneficiaries of this project are expected to be:

### **Direct beneficiaries**

- Poor farmers who live in remote mountainous areas, with low levels of farm income and are at risk due to the effects of climate change and the loss of agrobiodiversity. In total it is expected to benefit 500 farmers, and 60% of them will be women. They will profit genetically improved seeds and will take part in field demonstration and multiplication of selected crops.
- Agricultural specialists who work in the areas where this project will be implemented. In total, it is expected to benefit 25 agriculture specialists. They will be engaged in the process of evaluation, characterization, breeding and selection of local crop varieties/populations.
- Professors and Researchers of the Department of Plant Science and Technology of the Agricultural University. In total it is expected to be engaged 8 people. They will be direct responsible for breeding and evaluation of selected traits of local varieties/populations
- Experts and scientific researchers of the agricultural research centers, which are under responsibility of the Ministry of Agriculture. In total it is expected to benefit 5 people. They will take part in all project activities as well as help on identifying of valuable accessions which are stored in gene banks.
- Masters and PhD students, who attend the studies at the Department of Plant Sciences and Technologies of the Agricultural University of Tirana. In total, is expected to benefit 12 students. They will take part in all project activities, helping the process of evaluation and germplasm characterization.

### **Indirect beneficiaries**

- About 5 farmer groups with an average of 10 person/ group, totalizing around 50 farmers.
- About 3 small and medium seed traders, which are interested to buy qualitative locally adapted crop seeds, and to sell them to the other groups of interest.

## **2.5. Mainstreaming gender in project activities**

All project activities will be carried out with the participation of women, who will be directly involved in the evaluation of local crop varieties, their characterization, prebreeding process as well as in the techniques of conservation, multiplication and cultivation of selected local varieties .

It is foreseen that out of 500 beneficiaries of the project, approximately 60% of them will be women. In order to ensure the participation of women in the project, some of the measures to be implemented for this purpose will be:

- about 50% of training and workshop participants, will be women
- in the selection and evaluation phenotypic process of local species, about 65% of the participants will be women.
- the technology transfer of multiplication and cultivation of local crops, will be done mainly by women who carry about 80% of the work needed in agriculture.

The specific challenges faced by women will be addressed by the project as following:

### Mainstreaming gender in project activities

No	Project activities	Measures to put in place for mainstream gender throughout project
1	Public awareness on climate change effects and importance of agro - biodiversity conservation, as a measure to face this effects.	<ul style="list-style-type: none"> <li>• About 60 % of the participants in all meetings, discussions, media etc, will be women</li> </ul>
2	Identifikation, collection and characterization of locally adopted crop varieties of maize and bean, to be used by farmers, in order to face with climate change effects	<ul style="list-style-type: none"> <li>• Participation of women in collection of local maize and bean varieties.</li> <li>• Participation of women in characterization process which will be done during field cultivation</li> <li>• Participation or women in field demonstrations and other field acitivities</li> </ul>
3	Improvement of local crop varieties, seed multiplication and distribution to the farmers.	<ul style="list-style-type: none"> <li>• Involvement of women ( about 50 % of participants ) in <i>on-farm</i> cultivation and seed multiplication process</li> </ul>
4	Strengthening of seed system capacities to provide quality seed of adopted local cultivars.	<ul style="list-style-type: none"> <li>• Consolidation of seed systems will be done through participation of women in the distribution of quality seeds.</li> <li>• Involvement of women (about 70 % of the participants ) in the process of seed handling, manipulation and standartization</li> </ul>
5	Conservation and susustainable use of agro-biodiversity, as a guarantee for food security, for poor farmers living in remote areas of Albania	<ul style="list-style-type: none"> <li>• Participation of women in trainings and workshops, focused on sustainable use of PGRFA</li> </ul>
6	Strengthening capacities of PGRFA management, as well as information systems.	<ul style="list-style-type: none"> <li>• Participation of women in filed activities, focused in <i>on-farm</i> conservation</li> <li>• Technology transfere on methods and techniques on short-term and long- term conservation of plant germplasm</li> <li>• Participation of women in trainings and workshops, focused on strengthening capacities and use of PGRFA</li> </ul>
7	Strengthening capacities of plant breeding and scientific research, in agricultural research institutions and University.	<ul style="list-style-type: none"> <li>• Direct participation of women in the processes of prebreeding and selection of local populations of maize and bean.</li> <li>• About 50 % of the scientists engaged in scientific research will be women</li> </ul>
8	Strengthening of the knowledge and capacities for implementation of the Treaty	<ul style="list-style-type: none"> <li>• Abot 60 % of the participants in all project activities will be women</li> </ul>



## **2.6. Potential development impact and impact pathways**

The project will support farmers living in the poorest areas of the country, by increasing farm productivity and increasing the level of income. This will be achieved through the selection of local crop varieties, adapted to environmental stress, and genetically improved, suitable for cultivation in remote mountainous areas. The project will have an impact on several areas that are:

### **2.6.1 Food security and poverty alleviation**

The selection and breeding of new locally adapted populations of maize and bean, will contribute considerably to increase the food security capacities as well as the level of production for targeted crops. Introduction of four new crop populations/varieties with high nutritional values will have direct impact to increased income for farmers and improved livelihood in targeted area.

The availability of food in targeted area will be increased and this will be arrived through development of new forms/ populations/ varieties of crops, which are much more productive than the existing crops. The main product of evaluation, selection and breeding process, will be the creation of new forms/ population/ varieties of targeted crops which have high nutritional values.

The income level of farm families involved in the project, will be increased. Farmers will be the most important beneficiaries of the project. Using drought resistant, diseases and pest resistant locally adopted crops, they will be able to increase the productivity of crops and the level of income for their families.

### **2.6.2. Adaptation to climate change and environmental sustainability**

The selected local varieties of maize and bean and practices of on-farm cultivation will have a great positive impact, to give farmers possibility to face climate changes in agriculture. At the end of the project it is expected that adaption to climate change and environmental sustainability will change as following:

- The availability of resilience and adaption through better management of high-resistant genetic material of maize and bean, will be increased at least 70 %. Farmers will be the direct beneficiaries as they will have at their disposal a high-resistant genetic material.
- The protection and sustainable management of natural resources for targeted farm families, will create much more security for farmers to use local crops which are resistant to climate change. Sustainable management of these resources will be improved at least 70 %.
- The forecasting, monitoring and information systems related to climate change and PGRFA will be considerably improved. This will be done through a better collaboration and coordination between state and private institutions which are interested in management of natural resources.
- In the context of the project, it is expected that availability of vulnerability assessments will be increased at least 60 %. Collaboration with all partners of the project, exchange of information, collection of the new information on climate change and effects expected in agriculture, will enable for all partners, to increase considerably the availability of vulnerability assessments.



### **2.6.3. Scientific impact**

Implementation of the project will have a great scientific impact because many professors, researchers, students and technical staff from research institutions will be involved. Through project activities, information exchange and technology transfer knowledge will be increased. In this context relevant scientific findings related to PGRFA will be available and widely disseminated.

Through implementation of the project, the scientific knowledge and technological options for adaption to climate change will be considerably improved. Scientific capacities for management of PGRFA in the institutions involved in the project, will be improved considerably. This will be done through direct participation in selection and evaluation and breeding process of new locally adapted varieties.

Availability of new scientific data related to PGRFA as well as improvement of access to information and data systems related to PGRFA will be increased, compared to the existing situation. This will be spreaded out, through website, on line data base, and new publications.

### **2.6.4. Capacity development and empowerment**

Institutional capacity and empowerment as well as sustainable use of PGRFA in many institutions involved in the project, will be increased through direct participation in related project activities such as breeding programs, trainings, workshops, publications, websites, lectures, etc. This will be achieved by:

- Number of people empowered and equipped with skills, knowledges and capacity related to PGRFA will be increased. Direct beneficiaris of increased skills and knowledges related to PGRFA will be farmers, agricultural experts, researchers, students of Agricultural University, genebank staff, and experts working in Agricultural Technology Transfer Centres. They will take part actively in field activities (collecting, evaluation, selection, on farm conservation, field demonstrations) as well as in trainings, workshops, lectures, publications, media etc.
- Institutional capacity for collection, management, genetic improvement and sustainable use of PGRFA in Department of Plant Sciences and Technologies, national gene bank and Agricultural Research Institutions will be increased through direct participation in related project activities such as trainings, workshops, publications, websites, lectures, local and central media, on-line databases etc.
- Capacities of resource –poor farmers to develop new varieties/ populations resistant to climate change effects, and relevant technologies for climate change adaption and food security will be increased. Framers will be direct involved in the characterization and evaluation of the new genetic material which will be selected, improved and planted on farm. The farmers will be actively involved in the process of selection of new forms, populations and varieties of crops, which will be used to produce high-quality seeds. They will take part in open field days wich will be organized to demonstrate the results and outputs of project activities.

### **2.7. Relevance to national or regional priorities in its plans and programmes for PGRFA**

This project will further develop some of the achievements of other projects that have operated in the field of conservation and use of agrobiodiversity. The project will be in full compliance with national strategies and programs that deal with biodiversity conservation,



management of natural resources, sustainable rural development and improvement of living in rural areas of the country.

Albanian government recently approved the Strategy for Agriculture Development for the period 2017-2022, and an important chapter of this document is biodiversity conservation. In this context, this project will directly serve this purpose in conservation and management of plant genetic resources as an important part of agrobiodiversity.

Based on development strategies, drafted by the Ministry of Agriculture and Rural Development, a special attention will be given to the inventory of all local natural resources, with the purpose to use them by farmers, not only to guarantee food safety, but to use these resources in the function of sustainable development, especially for the promotion of agro-tourism and other income-generating activities for farm families.

In this context, the work that will be done in the framework of this project, for the identification of local varieties of maize and beans, as well as their genetic improvement and on-farm production, will serve to local communities to provide more income, through production of selected seeds and diversification of the nutrition structure.

Project will also be in full compliance with the strategies and programs designed to strengthen food security in the country, during coming years. The project will take in to consideration the results and impact of other projects financed by UNDP, FAO, World Bank and other foreign Agencies working in Albania.

Referring to reports and analysis carried out by foreign institutions and agencies, climate changes in Albania during forty coming years will have a major negative effect on agriculture, due to increased temperature and changes in precipitation regime. (*Looking Beyond the Horizon . How Climate Change and Adaption Responses will shape Agriculture in EE and CA.....<http://dx.doi.org/10>*). In this context the project activities will respond to these negative effects which are foreseen in this documents.

## **2.8. Contribution to the implementation of the International Treaty**

The activities of this project will help to strengthen the mechanisms and policies provided in the International Treaty for PGRFA. The most significant contributions are expected to be:

- a) Most important local crop populations of maize and bean, which have potential uses, will be identified, characterized, pre-bred/bred and used by poor farmers in remote mountainous areas.
- b) Community awareness will be increased, in order to promote conservation of agrobiodiversity and plant genetic resources for food and agriculture.
- c) Implementation of this project will contribute to strengthen the cooperation and promotion of an efficient and sustainable use of plant genetic resources, giving due attention to the need for adequate characterization, evaluation as well as development and transfer of appropriate technologies.
- d) The project will contribute to strengthen the research, which enhances and conserves agrobiodiversity by maximizing genetic variation for the benefit of farmers, especially those who generate and use their own local varieties/populations.
- e) The implementation of the project will contribute significantly to promote plant breeding efforts, which, with participation of farmers, researchers, professors and experts, will strengthen the capacity to develop varieties adapted to social, economic and ecological conditions.
- f) The identified, improved and multiplied genetic material, will be exchanged with farmers, farmers groups, non-governmental organizations operating in the field of sustainable rural development, private seed companies, and other stakeholders, which are interested in the conservation and sustainable use of biodiversity.



Based on the above mentioned issues, the implementation of this project, will bring an added value and contribution to the enhancement of the relevant mechanisms and policies of the Treaty.

## **SECTION C: OPERATIONS**

### **3.1. Internal monitoring of performance**

Monitoring of the project results will be done by the Department of Plant Sciences and Technologies in collaboration with sector of projects and scientific research of the agricultural university of Tirana. Some of the methods that will be applied to the internal monitoring of the project will be:

- individual interviews with at least 20% of the total number of project beneficiaries. This will be applied in the 5 districts where the project is foreseen, to be extended.
- direct field surveys will be conducted, in the parcels where multiplication and selection of local crop varieties will be done. These surveys will be conducted in order to verify the quantity of selected and produced seed, which will be distributed to farmers in the remote poor areas.
- meetings and discussions with beneficiary farmer groups will be organized. In these meetings will be taken the opinions of farmers regarding the consideration they have for the project, how they appreciate the project, and how much they have benefited from it.

For the organization of individual interviews, the Department of Plant Sciences and Technologies will be responsible, while for field surveys, and discussions with farmers groups, the UBT project sector will be responsible. The frequency and methods of data collection is presented in the monitoring plan as below:

#### **Monitoring Plan**

<b>No</b>	<b>Methods of data collection</b>	<b>Frequency</b>	<b>Responsible institution</b>
1	Individual interviews	every six months	Dep. of Plant Sciences and Technologies
2	Field surveys	every year	Project office of the University
3	Meetings with beneficiaries	every year	Project office of the University & Project's staff
4	Meetings with local authorities	every year	Dep. of Plant Sciences and Technologies
5	Meetings with local experts and research staff of ATTC	every six months	Project's staff



### 3.2. Communication strategy and visibility

During the implementation of the project, a series of measures will be undertaken to make known for the public, all the project activities and results. For this purpose several methods will be used such as:

- Meetings with local communities, where the project will be implemented. In these meetings, farmers will be informed about the objectives, goals and project activities. Also, they will be informed about target crops and target beneficiaries of the project.
- Meetings with local authorities where the project will be implemented (municipalities, local offices of agriculture, environment, forests etc.). In these meetings, local authorities will be informed about project objectives, expected results as well as achievements and concrete results during the project implementation.
- Publishing and distribution of leaflets, brochures etc. These materials will contain data on local varieties, values they have, as well as methods and techniques used for *on-farm* cultivation and multiplication. In these materials, also, will be given information about the importance of biodiversity and genetic resources for agriculture and food.
- Different photos from project activities. For all project activities, many pictures will be taken to reflect the work done for the collection and evaluation of local germplasm, selection and prebreeding process of the local crops, as well as the on-farm cultivation and multiplication of these local varieties.
- Use of local media. (local television). During the implementation period of the project, some local activities will be transmitted in local media, in order to give information for all farmers of the region for many problems such as: biodiversity, agrobiodiversity, importance of local crops and utilization of them as a source for food security in the context of climate change.
- Communication with FAO will be done through different ways such as:
  - Submission of the Reports, according to the agreement signed by FAO and service provider ( Agricultural University of Tirana, Albania)
  - Midterm workshop, planned to be organized by FAO during 2020-2021
  - Making all the information generated by the project publicly available
  - All germplasm of crops, which is target of the project, will be available according to the terms and conditions of the Multilateral System of Access and Benefit-sharing

### 3.3. Partnerships and collaboration arrangements

The project will be implemented in partnership and strong collaboration with:

- a) *Agricultural University of Tirana*. This is the only public agricultural university, which is responsible for fundamental agricultural research in Albania. Department of Plant Sciences and Technologies belongs to this university and is responsible for plant breeding teaching. The department has two laboratories, one for biotechnology and the other for plant breeding and seed production. The lecturers of the department have a very high qualification on Plant breeding and management of Plant Genetic Resources for Food and Agriculture. The professors and students of the Department, will be involved in all project activities, but mainly in the breeding process, lectures in workshops and trainings etc.
- b) *Institute of Plant Genetic Resources*. This is a public institution and has about 4200 accessions under *ex-situ* conservation. A part of these genetic material ( maize & bean)



will be selected to be regenerated, characterized, and identified, and then to be used by farmers as planting material, on farm conservation. In addition, the gene bank staff is very qualified, especially for collecting, characterization and evaluation of the locally adopted crop varieties.

- c) *Ministry of Agriculture.* The Ministry has many experts employed in scientific research institutions which are directly responsible for agricultural research and management of active collection and field collection of Plant Genetic Resources in Albania. The staff is very qualified and has a long experience dealing with management of collections as well as with plant breeding. A part of this staff will be involved in project activities such as selection, breeding evaluation, characterization etc.
- d) *Private companies* which deal with seed production and distribution. In Albania there are many seed production and distribution private companies which deal with production and import of seeds. Some of them are interested in locally adopted crop varieties and could be engaged in the project mainly for seed distribution.
- e) *Farmer associations/organizations.* There are many farmer associations in Albania operating in rural development areas. Some of them have very good experiences with projects implemented in remote areas, poor community farmers, climate change issues etc. These organizations could be involved in the project contributing with their experiences on practices, methodologies, actions and interventions needed to face with negative effects of climate changes in the agricultural sector.

With regard to the establishment of contacts with these farmer organizations, we have had meetings with local offices of agriculture, which are operating in each district where the project will be implemented. We discussed with extensionists who are working in these offices and they gave us the lists of farmer associations which are operating in the region. Among these farmer organizations, we have contacted some of them which were interested to be involved in the project activities.

### 3.4. Project management team

The project management team will be composed by some selected experts as following:

1. *Project Coordinator.* This person is a professor of plant breeding, as well as plant genetic resources, in the Department of Plant Sciences and Technologies. He has a long experience in teaching, as well as in the field of conservation and management of plant genetic resources for food and agriculture. The coordinator also has a long experience in project management, which were focused on biodiversity conservation, collection and preservation of plant germplasm, plant breeding problems and production of selected seeds. The Project Coordinator has managed many projects funded by the World Bank, the European Union, FAO, etc.
2. *Project Consultants.* For the implementation of the project, three consultants will be engaged, who have years of experience in the field of collection, evaluation and conservation of plant genetic resources, important for agriculture and food. Two of these consultants have extensive knowledge and experience in the field of plant breeding, and are currently academic staff at the Faculty of Agriculture and Environment, at the Agricultural University of Tirana. Consultants will assist in the organization of workshops, trainings, preparation of collecting missions programs, preparation of the methodology for prebreeding programs, etc. Also, consultants will prepare different lessons, to be presented in training and workshop. They will be in permanent communication with field officers, and will directly control on the field the progress of the project activities.



3. *Field officers.* For the realization of the project activities, three field officers will be selected who will work mainly on terrain ( field ), in the villages where the project will be implemented. These field officers will be local experts with a long agricultural experience (25-30 years) who know very well the area and the community of farmers, and have very good knowledge of the local crop varieties and plant technologies. These experts will work under direct monitoring of project consultants. Field officers will also assist in organizing meetings with local authorities, and meetings with the farmer community in the area. Throughout the project implementation, they will follow the selection procedures, pre-breeding procedures, and the cultivation technology of the selected local varieties.
4. *Administrative staff.* It will be composed by two people who will be responsible for some project management activities and will assist the project coordinator, consultants and field officers in carrying out project activities. One of these two people, from time to time, will also do the work as the driver, to move to all the villages where the project activities extend. The other person will be an experienced financier, who knows very well the financial rules and national legislation, related to the financial management of the project. Also, these two people, will assist the project staff in organizing meetings, trainings, workshops, field activities, etc.

### **3.5. Sustainability and exit strategies**

The project will ensure sustainability of its outputs, by strengthening the capacities of national partners such as Ministry of Agriculture, Agricultural Technology Transfer Centres, Agricultural University of Tirana, national gene bank of Albania, farmer community organizations, private companies operating in agricultural sector etc.

Development of resistant new varieties and selected seeds to be used by farmers, will create a good base for farmers to use effectively these resources after the project termination.

The Government of Albania is developing medium term Program for Development of Mountainous Area, planning to use effectively all natural resources of those regions and to alleviate the poverty for family farms.

This project by providing new locally adapted crops, new technologies and practices for on farm conservation, trainings and workshops, publishing local information etc, is expected to stimulate the Government to consider and support these issues in the Development Programme mentioned above.

The project will have an impact on increasing the human and institutional capacities that will be able to continue their work in the future, even after the project will be closed. The experience gained during the implementation of this project, will help state institutions, experts and farmers also, to be able to design new development plans that focus on sustainable rural development, through effective use of biodiversity. Also, the experience gained during the implementation of this project, will serve as a good base for institutions and interested groups, to face in the future with the consequences of climate change in agriculture.

**SECTION D: APPENDIXES**

Annex:1 Information on the applicant

Annex 2: Logical framework

Annex 3: Workplan

Annex 4: Budget

Annex 5: Disbursement information

Annex 6: Other

By signing this submission form for full proposal, the applicant confirms that all the above statements, including the attached Appendixes, are true to the best of his/her knowledge. Any deliberately untruthful response will lead to the automatic exclusion from the further screening and appraisal process, and may lead to the denial of awarded grants from the Benefit-sharing Fund.

**Signature of contact person:**

  
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**Date and location**

  
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