



*Ministero degli Affari Esteri*



**Technical assistance and support to fruit and vegetable growers in the Swat Valley (Pakistan) for the improvement of production and marketing in the horticultural value chain**

**TABLE OF CONTENTS**

<b>LIST OF ACRONYMS</b>	<b>3</b>
<b>BACKGROUND AND ORIGINS OF THE INITIATIVE</b>	<b>4</b>
<b>SUMMARY</b>	<b>5</b>
<b>ACTIVITIES and COMPONENTS</b>	<b>6</b>
<b>BUDGET SUMMARY</b>	<b>17</b>

**LIST OF ACRONYMS**

<b>ARI</b>	Agricultural Research Institute
<b>CBO</b>	Community Based Organization
<b>DGCS</b>	Direzione Generale per la Cooperazione allo Sviluppo (Italian Development Cooperation)
<b>FATA</b>	Federally Administrated Tribal Areas
<b>FSC</b>	Farmer Services Centers
<b>GIS</b>	Geographic Information System
<b>KPK</b>	Khyber Pakhtunkhwa (former NWFP – North Western Frontier Province)
<b>IAO</b>	Istituto Agronomico per l’Oltremare (Agronomic Institute for the Oversea)
<b>IDPs</b>	Internally displaced persons
<b>IPM</b>	Integrated Pest Management
<b>MAE</b>	Ministero degli Affari Esteri (Ministry of Foreign Affairs of the Italian Republic)
<b>MINFA</b>	Ministry of Food and Agriculture
<b>NGO</b>	Non Governmental Organization
<b>OP</b>	Operational Plan
<b>PARC</b>	Pakistan Agricultural Research Council
<b>PARRSA</b>	Provincial Rehabilitation, Reconstruction and Resettlement Authority.
<b>PHDEC</b>	Pakistan Horticulture Development and Export Company
<b>PPAF</b>	Poverty Pakistani Alleviation Fund
<b>PPP</b>	Private Public Partnership
<b>UTC</b>	Unità Tecnica Centrale (Central Technical Unit - Italian Cooperation for Development)

## **Background and origins of the initiative**

The initiative in question was born of the requests from Counsellor Alessandro Gaudiano (Head of Office V of the Italian DGCS) and Counsellor Pier Luigi Zazo (Office Manager UTC), expressed in letters dated 04.08.09 IAO Prot. n. 4934 and 01.09.09 n. 5256, for the identification of a development cooperation initiative to provide technical support to small-holders in order to improve the quality and the marketing of their products, to be carried out in the fruit and vegetable production sector and to be located in those areas of Pakistan with the greatest need to activate development mechanisms in order to stabilize the inhabitants.

Moreover, the initiative was also requested by the Government of the Islamic Republic of Pakistan.

In order to identify an initiative, a joint DGCS/UTC-IAO mission to Pakistan was carried out by Dr. Paolo Antonioni (DGCS/UTC, 15-22 September 2009) and Dr. Luciano Conticini (IAO, 13 – 20 September 2009), with the support of Dr. Raffaele Del Cima, Pakistan Coordinator of the project for the “Promotion of the production and marketing of olive oil in Pakistan”.

The Project was approved under resolution n° 130 in the Board of Directors’ 20/11/09 meeting and assigned for implementation to the Overseas Agronomic Institute, the technical and scientific branch of the Italian Ministry of Foreign Affairs, by decree n. 2009/335/005176/6 dated 15/12/09.

Once the MEF had approved the budget change by decree n° 18593 on 29/04/2010, recorded at the *Corte dei Conti* on 21/05/2010 and communicated to the IAO on 2/07/2010, the project entered the operational stage in July 2010.

The duration of the project shown on the financing proposal is of one year (twelve months).

Considering the difficulty of operating in the area, the activities might require more time, which can be quantified as soon as a more detailed analysis of the situation is available.

We would like to underline the fact that last August the whole of Pakistan, and in particular the area where the Project is to operate, was hard hit by floods which caused serious damage to the people, to the infrastructure and to all productive activities, thus making the initiatives to support farmers and the people of Swat even more important and indispensable.

We would also like to point out that the name of the Province where our Project will operate was recently changed by the Pakistani Government from NWFP (North Western Frontier Province), as appears in the financing proposal, to KP (Khyber Pakhtunkhwa) as it is referred to in this paper.

**Summary:**

"Technical assistance and support to fruit and vegetable growers in the Swat Valley (Pakistan) for the improvement of production and marketing in the horticultural value chain" is a project focused on the improvement of the economical and social life standards of the local population of the Swat Valley obtained through the modernization of the horticultural value chain. The main purpose of the initiative is **to generate an increase the income of small farmers along all the value-chain, from production to post-harvest (handling, grading, packaging,), processing and marketing.** The initiative will be financed by the Italian Ministry of foreign Affairs and will be implemented by IAO ion a period of approximately 12 months. **The allocated budget is 1.350.000,00 Euro.**

***Main activities and outputs:***

- ***An agro-environmental analysis*** is foreseen as a preliminary activity in order to give a picture of the project area and therefore better guide the following interventions. This study will foresees the gathering of structural, infra-structural, social and economic data for the creation of an inventory of the environmental resources, identification of the agricultural areas, crops distribution and characteristics. The surveys results will be mapped and organized into a **Geographic Information System (G.I.S.)** with the creation of an atlas of agro-environmental resources.
- ***Improvement of the fruit and vegetable value chain*** with actions addressed both to field production and post-harvests operations. For the first stage agricultural inputs will be provided such as agricultural tools, fertilizers, pesticides in order to enable farmers gradually returning to their villages to get back to normal production. For the second stage two modules for the improvement of storing, selectioning, packaging and processing will be provided.
- ***Promotion and marketing activities*** with the creation of "production regulation" for the improvement of horticultural production, processing and marketing. **Identification of varieties of genetic value** in order to preserve the local biodiversity and their promotion in national and international markets.
- ***Training*** addressed to progressive farmers and technicians on several subjects such as nursery and cultivation Techniques (eg. fertilization, pruning), crop protection (eg. Integrated Pest Management, organic farming), production of off - season vegetables.
- Creation of **small infrastructures** in order to optimize the use of the equipment supplied by the project
- ***Training*** about the existing **micro-credit** initiatives, technical assistance to farmers and support for the completion of the necessary procedures.

## **1.ACTIVITIES and COMPONENTS**

### *1.1 Activities for Result 1: The agri-environmental survey and G.I.S.*

Activities which are expected to be carried out at the start of the project:

1. Identification and census of the agri-environmental resources of the areas chosen for the project and their localization on maps;
2. Analysis of current systems of production, processing and marketing and definition of parameters likely to improve them;
3. Identification and census of water resources so that planning can be carried out in consideration of environmental risk factors

The analysis will cover all cultivated areas in Swat, giving precedence however to the area covered by the Project. The analysis will be completed in subsequent months and will constitute a tool for possible future developments of the Project's activities.

In detail, the activities to be carried out are summarized below:

- 1.1.1 - At the IAO with the support of information obtained by local experts contracted for the project (Stage I):
  - Ascertaining the existence and acquisition of ancillary information on the area of interest (maps and thematic maps, climate data, digital modeling of the terrain, technical and scientific reports and/or papers, and whatever else may be necessary);
  - Acquisition of satellite images of the areas of interest (Land-sat, Aster or Spot, possibly Quick-bird or some other high-definition source);
  - Geo - referencing of the satellite images and maps acquired;
  - Delimitation of the area of interest;
  - Census of the parcels or units of cultivation and definition of a suitable data set for describing their characteristics;
  - Production of preliminary maps;
  - Design of the database.

As far as the timing is concerned, the time necessary for the analysis is about one month for the area covered by the project.

- 1.1.2 - In the field, in the study area (activities carried out by local experts):
  - Verification of the basic cartography;
  - Collection of field data;
  - Acquisition of data available locally;

As far as the timing is concerned, the time necessary for the analysis is about one month for the area covered by the project

## ANNEX 1

- 1.1.3 - At the IAO in the second stage of the task:
  - Correction of the preliminary maps and writing the definitive key;
  - Registration of field data into the database set up in the initial stage;
  - Creation of the final version of the GIS;
  - Production of thematic maps and definitive maps;
  - Production of the final report in English;
  - Production of other documentation, publications etc.

At this stage, it is planned *a mission by an expert G.I.S agri-socio-economist* for the final validation of the data and to bring the task to completion.

As far as the timing is concerned, the time necessary for the analysis is about three weeks for the area covered by the project

The above analyses will be performed with the collaboration of research students and professors from Peshawar, who are familiar with the problems and the surveys carried out the past. In addition, for all the activities mentioned, we have planned:

- The support of the Research Department of the Agricultural University of Peshawar (specific consultancies, analysis of the entity and geographical distribution, etc.); and of other departments such as the Soil Survey of Pakistan, and Survey of Pakistan (information, cartography, etc.);
- Technical and scientific consultancies in Pakistan;
- The support of the IAO Geomatics Unit;
- 1 (one) mission by an Italian expert for the agri-socio-economic survey.

### **Human, material and financial resources**

- IAO Geomatics Unit;
- Pakistani consultants;
- Drawing up an agri-socio-economic geographic atlas of the area covered by the Project, to be done partly locally and partly in Italy: **30.000,00 Euros** (lump sum);
- An A2/A3<sup>1</sup> expert for the agri-socio-economic analysis (3 weeks): **9,031.00 Euros**;

---

<sup>1</sup> As per the financing proposal, the experts to recruit for consultancy missions are level A2/A3. Should it prove impossible to identify suitably qualified personnel, the option of recruiting experts from a higher level (A1) will be considered, without making any change to the budget. This classification (eg. A1) is a standard Italian system to refer to experience of the consultants to establish the salary.

***1.2 Activities for Result 2. Improvement of the production chain of some species of fruit and vegetables grown in the project area***

The outcome will be the enhancing of field production techniques for the various crops, selection by quality and characteristics and packing the produce for distribution to markets in the large towns.

The activities concern, then, both the in-field production stage and the post-harvesting operations.

For the field production stage, the FSCs will be supplied with means of production such as agricultural tools and machinery, for use by members and for training activities and demonstrations.

Other means of production such as fertilizers, pesticides, etc., which are already made available to members by the FSCs at reduced prices, will only be supplied in the quantities necessary for emergency actions and training activities and demonstrations.

In keeping with the participative approach perspective, the criteria and the manner of dissemination and distribution of the means of production will have to be defined with the extension department, in co-ordination with other emergency initiatives in favor of farmers in the area, among which we recall the PARRSA Early Recovery project (financed through the Italy-Pakistan debt conversion mechanism).

Support to the FSCs will also include the distribution of material and equipment to farmer members for field activities, for crop protection treatments, for harvesting products in the field and for packing them (containers, cases, bins, pumps for crop spraying, etc.).

The FSCs will also act as the hubs for all diffusion and technology transfer activities.

For the post-harvesting stage, two modular processing units for marketing fruit and vegetable products will be supplied, with characteristics which can be expanded or reproduced elsewhere. Each module will comprise a structure of about 600 sq.meters made by simple, locally-available materials, with easy access for loading and unloading produce, fitted with a clean water supply and a sufficient electricity supply for the operations of washing, lighting and cooling.

The structure will have a covered internal area (about 30% of the overall area) inside which the following will be built:

- the supervisory offices, with the possibility of a telephone connection,
- 1 (One) processing laboratory for fruit and vegetable produce;
- 1 (One) area for grading and packing;
- 1 (One) air-conditioned storage area;
- 1 (One) warehouse for materials;
- 1 (One) room for the emergency generator;
- Sanitation facilities.

The two facilities will be constructed on land made available to and/or belonging to the Agricultural Extension Department or the FSCs. The warehouses to be used for the facilities could be built *ex novo* (in compliance with current legislation) or using pre-existing structures, making all appropriate and necessary modifications.

The choice of location (sites and buildings) will be agreed between the IAO and the counterpart, after visits to the various structures available.

## ANNEX 1

The local counterparts should facilitate the issuing by the appropriate authorities of all necessary certification for the activities to be carried out, in line with currently applicable legislation on the subject.

The facilities could also be used for training activities (courses or training days), for direct sales at the local level of agricultural produce (farmers' markets) and for social meetings of the associations.

Both operational and administrative management of the facilities will be responsibility of the FSCs (Public-Private Partnerships), and their sustainability and maintenance will be assured by the income generated from marketing of the production. Of this income, a percentage will be used for running costs and maintenance of the facilities and machineries therein in good working order.

The facilities will be comprised of the following infrastructures and logistics:

- Office equipment (desk, chairs, binders, computer, telephone, fax machine, printer, scanner etc.);
- Smaller laboratory equipment (refrigerator, refractometer, scales, computers, fruit diameter gauges, penetrometer, thermometers, pH gauge, etc.
- 200 kg capacity floor-standing scales;
- Pick-up truck for transporting the produce from the farm to the centre;
- Refrigerated lorry for taking the produce to market;
- Fruit grading line comprising entry basin, brush cleaning, sorting table and packing;
- Stock of cardboard boxes of different sizes (single layer, telescopic, etc.);
- Fruit-drying line, in particular for apple and pear slices;
- Small-medium capacity line for processing fruit and tomatoes;
- Stock of containers and other small pieces of equipment (cans/jars, ladles, whatever else is necessary).

As concerns the procedures for managing the means of production and the infrastructures, including their running expenses, in the start-up phase, they will be covered by the project. Later, they will gradually be taken over by the FSCs, which can cover the costs either from membership fees or by making farmers who use their services (also including non-members), pay small fees proportionate to the services provided.

The completion of the facilities will be in successive stages, which will be executed in phases. Each phase will be completed within the allocated budget:

- Choice of land and any pre-existing structures made available by our counterpart and their adaptation and restructuring;
- Provision of the data needed to detail the technical characteristics of the planned plants and equipment; completion of purchasing procedures; despatch and start-up of the installations.

Moreover, the counterparts will expedite all the customs procedures for the materials which have to be imported by the project. For those activities the Donor plans two missions for Italian experts on growing techniques and one mission for an expert on handling and processing agricultural products.

## ANNEX 1

### Human, material and financial resources

#### Human Resources:

Two A2/A3 Experts (2 weeks each) on: Growing Techniques and one A2/A3 Expert on Techniques for handling and processing fruit and vegetables: **21,062.00 Euros**;

Rehabilitation and restructuring of existing infrastructures in order to make operational the plants/facilities described in the Project: **25,000.00 Euros**;

#### Vehicles:

The vehicles to be assigned to the two fruit grading centers (FSCs selected) have been defined according to requirements as 2 (two) pick-up trucks and 2 (two) refrigerated lorries for controlled temperature transportation of the products.

The costs of the 4 vehicles for logistics and transportation, includes their registration, insurance, maintenance and fuel according to the budget and not over the start-up period: **170,000.00 Euros**;

#### Setting up 2 (two) centers for storing / grading fruits and vegetables:

- Construction/rehabilitation of n. 2 buildings/warehouses (approx. 600 sq.m) and supply of 2 (two) fruit processing lines (complete set for *washing* and *brushing*, *grading*, *packaging*): **240,000.00 Euros**.

In addition to the land on which to locate the two centers, some buildings to be rehabilitated and used for this purpose could be added to make more suitable the entire system (e.g. Kabal - Swat).

In this way it is possible to reduce the number of structures to be built from scratch and any saving made can be reallocated and added to the funds already budgeted for the purchase of the grading line equipment.

#### Facilities and tools with which to equip the centres of selection:

- Expenses for Offices: furniture and equipment (pc, fax etc.): **20,000.00 Euros**;
- Expenses for laboratories: **6,400.00 Euros**;
- Stock of cardboard boxes for packing fruit: **30,000.00 Euros**;
- Processing line for jams, dried fruit slices, canning and other equipment: **40,000.00 Euros**;
- Generators: **20,000.00 Euros**;
- Cold storage rooms: **100,000.00 Euros**.

#### Transport<sup>2</sup> and hire of equipment

From Italy to final destination in Swat district: **20,000.00 Euros**

---

<sup>2</sup> The arrival destination has been changed considering that the equipment must be delivered to the Swat district and the costs relative to transport from the port of Karachi to the final destination will be covered by the Project.

## ANNEX 1

### Support to harvest and post-harvest activities

- Supply of means of production (seeds, fertilizers, pesticides and fungicides): **14,780.00 Euros**;
- Supply of small agricultural tools: **31,850.00 Euros<sup>3</sup>** ;
- Supply of harvesting equipment: **15,000.00 Euros**;
- Agricultural support – insect control (sprayers, masks, gloves etc) **30,000.00 Euros**;

### Support to ARI (station) Mingora - Swat

To offer support to agricultural research activities (which must go hand-in-hand with the extension and support activities for fruit growers), we have planned to support the district ARI located in Mingora (Swat - KPK), particularly in this initial phase, in the restoration of their variety collection of fruit species, purchasing stock and cultivars and valorizing local and/or spontaneous varieties.

Anyway, further actions to recover some destroyed buildings ( mainly greenhouses and nurseries) could be undertaken for strengthening the effects of the research.

- Restoration of the variety collection at the ARI ( Agricultural Research Institute) and purchase of rootstock and cultivars: **20,000.00 Euros**.

### 1.3 Activities for Result 3. *Promotion and Marketing of the Products*

The activities planned are:

#### 1.3.1 - Definition of production standards

The following activities are planned:

- Examination of the documentation resulting from the agri-environmental analysis and supplied by local experts;
- Identification of examples of Italian excellence and expertise in the sector (Regions, local administrations in specialized areas or growers' associations with production chain success stories);
- Writing the production standard guidelines, which will define the compulsory requisites and good growing practices to be applied by producers at every stage of production (from field cultivation to marketing).

The production standards guidelines produced by the Project may set the basis for the future introduction of a quality label for the main and most suitable fruit species grown in the Swat Valley.

The definition of the guidelines will be carried out through the collaboration of local experts, Italian fruit and vegetable-growing organizations of excellence, project consultants and the Italian coordinator, with the support of two interns working in Italy for a period of time to be agreed.

---

<sup>3</sup> These expenses have been reduced (or could be reduced according to beneficiaries) because since the project proposal was written, other Cooperation activities supporting farmers which focused on this activity have been undertaken in the Province and the market in these goods has picked up again; moreover the FSCs already offer farmers favorable conditions for the purchase of the means of production.

## ANNEX 1

### 1.3.2 - Consideration of particularly valuable varieties/species in the area

An important aspect related to fruit growing and later on for marketing is the availability of local varieties which constitute an integral part of the agriculture, history and culture of the area of interest for the Project. The conservation of agri-biodiversity, while maintaining both the typical crops of a territory and the heritage associated with them together with support in their marketing, is an essential element for the success and valorization of the products and their areas of origin.

This activity is particularly important, especially considering the growing international interest in native species, both in relation to their characteristics and properties and within the general orientation towards maintaining and preserving biodiversity at the worldwide ecosystem level.

The varieties or species identified will be kept in the variety collection set up and/or restored at the ARI, which will receive an amount of 20,000.00 Euros as mentioned at pag.10.

### 1.3.3 - Marketing, Promotion and Diffusion

30,000.00 Euros have been set aside for the valorization and promotion of particularly valuable species and specific agreements will be drawn up for these activities with organizations and structures deemed suitable, and which are agreed and approved in advance by DGCS/UTC (see point 11 of the cost analysis)

In addition, a website dedicated to the Project will be built and maintained. Technical publications, leaflets, explanatory brochures and video footage will be produced, whereas the results of the project will be announced both through the website and in the course of a closing seminar to be held at the conclusion of the Project.

## **Human, material and financial resources**

- Support for the marketing of products: **30,000.00 Euros**;
- Webmaster: **6,000.00 Euros** (Lump sum);
- Domain management expenses: **600 Euros** (Lump sum);
- Printing of technical manuals, explanatory brochures, information leaflets and production of video material: **9,500.00 Euros**<sup>4</sup>;
- Project closing seminar: **15,000.00 Euros**;

## 1.4 Activities for Result 4 - Training

### 1.4.1 - Training in Pakistan

- 16 (sixteen) courses will be run on the following subjects, using the Farmers' Field Schools (FFS) approach:
  - Nursery techniques;
  - Growing techniques (e.g. fertilization);
  - Crop protection(e.g. Integrated Pest Management, Biological pest control);
  - Growing vegetables out of season using plastic tunnels;

---

<sup>4</sup> This entry has been slightly reduced in order to reallocate funds needed elsewhere, but still keeping sufficient resources to ensure the achievement of objectives set.

## ANNEX 1

for a total of **400 growers trained directly**<sup>5</sup>

- 20 (twenty) traditional training session, using traditional teaching methods or those required on a case-by-case basis, covering the following:
  - Processing fruit and vegetables;
  - Improvement of harvesting and post-harvest operations (selection, cleaning, grading, packaging, etc.);
  - Managing the business and professional associations (including notions of access to Micro-credit);
  - Marketing fruit and vegetable produce;

for a total of **500 farmers receiving training**.

Any other subjects can be proposed by the farmers themselves, possibly as further specific technical requirements will emerge.

### Description of the actions

The training component has been illustrated more in detail and directed at the UTC needs identified from further information received. The original all-inclusive entry has been broken down and we have identified target groups, methodology of implementation of training activities and local actors able to administer them.

The **Training of Trainers (TOT)** courses will be run by provincial Institutions such as Peshawar University and will be offered to Agricultural Extension District Office staff in Mingora that will be responsible to train the farmers (for strengthening the already existing PPP policy and environment).

The Agricultural Extension District Office staff is made of approx. 50 technical and 50 administrative employees. All the technical employees will be able to take part in the courses, compatibly with their institutional roles and tasks, and will thus be able to be employed during the training activities, according to requirements.

*The training of the farmers is then done by the trained trainers.*

The farmers hosting the field schools, who will also be responsible for getting the other participants involved, will be given means of production (seeds, fertilizers, etc) plus a small cash contribution to be agreed in further detailed agreements and ToRs at district level.

The traditional training will be done by provincial institutions and project staff – both local experts and Italian consultants who may give technical and practical seminars on the new methodologies introduced.

If it will be possible to travel to Swat, due to safety and security matters, they will give on-the-job courses, as was done previously in other initiatives. The evaluation of those condition will be checked, from time to time, by the Pakistani competent authorities and will be a prerequisite to the release of NOCs.

---

<sup>5</sup> Because of the characteristics of the teaching method, the ripple effect will reach a much larger number of farmers.

## ANNEX 1

The *monitoring and evaluation* mechanisms for the training process can be done by the local co-ordinator or by the training organization consultants by preparing *ad-hoc* questionnaires and through the technical reports prepared by the Institutions charged to give the training.

Nevertheless, missions tasked to M&E could be planned and organized by the IAO.

### 1.4.2 - Training in Italy

Most of the trainings will be done in Pakistan and particularly in Swat, but it would be useful to offer more specific training to some *strategic Pakistani professionals*, who would be able to transfer the knowledge acquired to the project beneficiaries and to the represented Institutions.

The Pakistani *extension officers and progressive farmers* already have considerable experience in the fruit and vegetable sector, however it will be extremely important to go further in depth and update their competency, through a *study-tour* in Italy, in the following sectors:

- Fruit and vegetable nurseries;
- Research and production;
- Marketing;
- Processing;
- Organization and operational procedures of professional Associations.

This activity will be completed through **5 internships for 5 Pakistani** representatives of the agricultural sector, each of one month's duration.

During this period they will be directly exposed to a regional situation of the Italian fruit and vegetable sector, they will attend fairs and exhibitions of the sector and they will visit producers, growers' associations, research centers, etc.

At the end of the experience they will be, together with the Italian co-ordinator, to extend the benefit of their experience to the represented Institutions in order to *maximize the effect of technology transfer and cultural exchange*.

The method of selection of candidates will be public, agreed with the local partners and based on the examination of suitable curricula by a joint Italian-Pakistani commission made up of:

- The Italian co-ordinator;
- The Pakistani co-ordinator (if available);
- MINFA representative (provincial level - KPK);
- DGCS/UTC representative or alternatively an officer of the Italian Embassy in Pakistan;
- The Swat District Agricultural Officer.

The attention will be focused on young and motivated technical experts, who have close ties with their place of origin, a good knowledge of English coming from Institution which are strategically placed for the success of the project;

We could envisage the candidates being two representatives of the associations and/or producers, an extension worker from KP agricultural services, another from the agricultural services of the Swat District and a representative from the University which is involved in the Project.

## ANNEX 1

In exchange, technical experts from the hosting Italian Institutions and/or Universities will then make short trips to Pakistan (approx. of 15 days) aimed at ensuring the sustainability of the initiative and the correct application of the planning activities. Their trips will be scheduled in advance with the respective TORs (Terms of Reference) even though authorized only according to the condition of security and safety to be evaluated by the Italian and Pakistani competent authorities at the moment.

### **Human, material and financial resources**

#### Local Courses

- Training of Trainers (ToT) courses (Extension Department): **15,000.00 Euros**;
- Sum to be paid to the implement agency (University of Peshawar, Extension Department) for the training activities planned: **30,000.00 Euros**;
- Per diem payments to participants at the (traditional) courses on fruit and vegetable processing, harvesting and post-harvesting, management, marketing and production: **15,000.00 Euros**;
- Cash payment to progressive farmers / growers hosting FFS: **1,920.00 Euros (total amount)**;

#### International Expertise

- 1 (one) consultant in “Training techniques” : **7,031.00 Euros**;
- Study-Tour in Italy for 5 (five) Pakistani experts : **31,650.00 Euros**;

### ***1.5 Activities for Result 5 – Construction of minor infrastructure***

The project could also provide some small facilities or works, at farm or “*perifarm*” level, planned to remove any factors limiting the optimal use of the goods and equipment supplied by the Project, in the areas where the modules will be situated, to allow a rational and full utilization of the multifunctional-operating units for handling, processing and storage etc., supplied by the Project. For example, water and electricity connections, rehabilitation of short stretches of road, adaptation of pre-existing structures (e.g. storehouses, etc.).

This work will be done by the project, which will bear the relative costs, using local work force, and doing this has become even more important in view of the probable damage caused by the recent floods.

### **Human, material and financial resources**

Rehabilitation and adaptation of pre-existing structures in order to make the installations provided for in the Project operational: **25,000.00 Euros** (lump sum).

*1.6. Activities for Result 6. **Micro-credit***

In conformity with the content of the financing proposal, we do not consider a structured intervention for micro-credit feasible. Consequently, the initiatives that the Project proposes are training/information on already-existing tools, given within the training already planned on professional associations and managing the business (see point 1.4). The micro-credit activities will consequently be brought back under the training activity on professional associations.

**Budget Summery**

Expenses	Unit	Unit rate	Total cost (Euro)
<b>1. Coordination cost in Pakistan and Italy and remuneration of International consultants</b>		Lump sum	334.440,00
<b>2. Field experts (researchers, teachers, academics ecc.)</b>			
3.1. Support of local experts for data collection and marketing studies		Lump sum	20000,00
Subtotal			20000,00
<b>3. Creation agro-socio-economic atlas of the project area to be realize partly locally, partly in Italy</b>		Lump sum	30000,00
Subtotal			30000,00
<b>4. Purchase of supplies</b>			
4.1 Renovation of the existing infrastructure in order to make the Project supplies operative		Lump sum	25000,00
4.2. N. 4 vehicles for the transport of goods (No. 2 pick, No. 2 trucks for the transport of chilled fruit) includes registration, insurance, maintenance and fuel etc	4 vehicles	-	170000,00
4.3. Creation / Restoring of No 2 warehouses for the storage of fruits and vegetables (600 m2) and purchase of i n. 2 fruit selection lines ( washing brushing, calibration, and packaging)	2		240000,00
4.3.2. Office costs: furniture, equipment (PC, fax etc.).	2	10000,00	20000,00
4.3.3. Laboratories Cost	/	/	/
4.3.3.1 Refrigerator	2	400	800
4.3.3.2. Refractometer	2	350	700
4.3.3.3. Scale	2	1200,00	2400,00
4.3.3.4. Tool for fruit diameter measurement	2	150	300
4.3.3.5. Penetrometer	2	150	300
4.3.3.6. PH meter	2	450	900
4.3.3.7 Ground scale capacity 200 Kg	2	500	1000,00
4.3.4. Cardboards stock for fruit packaging	2	15000,00	30000,00
4.3.5. Processing lines for the production of jams, dried slices, canning and various equipment such as containers, even simple tools for production at household level	2	20000,00	40000,00
4.3.6. Generators	2	10000,00	20000,00
4.3.7. Cold rooms	2	50000,00	100000,00
4.4. Transport of the equipment (from Italy to Karachi)		Lump sum	20000,00
Subtotal			671400,00
<b>5. Support to farms and nurseries</b>			
5.1. Supply of inputs (seeds, fertilizers, pesticides)		Lump sum	14780,00
5.2. Supply of small agricultural tools		Lump sum	31850,00
5.3. Supply of tools for harvesting		Lump sum	15000,00
5.4 Various equipment for pest management (sprayers, gloves, masks, etc.), integrated pest management and organic		Lump sum	30000,00
5.5 Rehabilitation of the ARI varieties collection and purchase of graft holders and cultivars		Lump sum	20000,00
Subtotal			111630,00
<b>6. Training courses (see paragraph 3.4.4 )</b>			
6.1 Training courses for ToT (50 technicians from the 'Extension Department)			15000,00
6.2 Amount to be given to the counterpart (Peshawar University, Extension Department) for training activities		Lump sum	30000,00

## ANNEX 1

6.3 Per diem for participants to n ° 20 courses (traditional) on fruit and vegetable processing, harvesting and post harvest, farm management and associations, product marketing (500 farmers)	20	750	15000,00
6.4 Contribution to farmers hosting Farmer Field schools No. 16 courses (400 farmers involved)	16	120	1920,00
<b>Subtotal</b>			<b>61920,00</b>
<b>7. Internships in Italy for 5 Pakistani technicians</b>			
7.1 Fellowship (n. 1 month/p x 5)	5	1700,00	8500,00
7.2 Plain tickets	5	1300,00	6500,00
7.3 Insurance	5	150	750
7.4 Contribution to hosting institutions	5	1000,00	5000,00
7.5 Transport in Italy	5	600	3000,00
7.6 N. 3 missions in Pakistan of Italian technicians coming from the hosting Institutes or/and university 10 days each.	1 m/p	4000,00	4000,00
7.7 Plane tickets	3	1300,00	3900,00
<b>Subtotal</b>			<b>31650,00</b>
<b>8. Support to products marketing</b>		Lump sum	30000,00
<b>Subtotal</b>			<b>30000,00</b>
<b>9. Publicity, information and visibility</b>			
9.1. Printing of technical manuals, brochures, and videos		Lump sum	9500,00
9.2 Final workshop			15000,00
<b>Subtotal</b>			<b>24500,00</b>
<b>10. Project Web site</b>			
10.1. Fees for the Webmaster		Lump sum	6000,00
10.2. Website fees		Lump sum	600
<b>Subtotal</b>			<b>6600,00</b>
<b>11. Drafting of the operative plane, monitoring and evaluation</b>			
11.1. IAO missions			8000,00
11.2. Plane tickets	4	1300,00	5200,00
11.3 10 days mission of an expert on environmental sustainability	1	4000,00	4000,00
11.4. Plane tickets	1	1300,00	1300,00
11.5 Insurance	1	700	700
11.6. N. 2 Junior experts			8660,00
<b>Subtotal</b>			<b>27860,00</b>
<b>TOTAL</b>			<b>1350000,00</b>