DRAFT REPORT

AFGHANISTAN

UNO/AFG/002/UNA

Purchase of Fruit Trees and Poplars
for the 1989/90 Planting Season

Consultancy on Fruit Trees
by

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Food and Agriculture Organisation
of the United Nations
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2. SUMMARY AND RECOMMENDATIONS

- Fruit trees should be purchased to refurbish orchards damaged or destroyed by the war in Afghanistan.

- The trees should be supplied to NGO's to distribute within Afghanistan.

- Trees should be of a high health standard.

- Growers in Afghanistan should be encouraged to use fresh planting sites to avoid specific replant disease.

- F.A.O. should arrange the purchase and delivery of the trees to the NGO's in Quetta and Peshawar and should complete this in one operation.

- NGO's should arrange for immediate action to be taken on delivery of trees.

- Contract growing should be encouraged for improved types of fruit trees.

- Training should be given at two levels for farmer growers and senior farmer/growers.
The refurbishing programme should continue as long as there is a need and include modern varieties and small demonstration orchards in Afghanistan.

Every encouragement should be given to Afghan nurserymen to increase quality tree production.

Funds of US Dollars 148,000 should be made available for the 1989/90 planting season.

3. INTRODUCTION

The consultant arrived in Islamabad, Pakistan on July 28, and departed 14 August 1989. The terms of reference for the consultancy were:

- Identify sources of supply of suitable fruit tree material and arrange for purchase and delivery to Afghanistan at the appropriate time.

- Liaise with Pakistani authorities re-export procedures, if any.

- Liaise with NGO's and appropriate Afghans regards:
  (i) areas to be supplied with trees;

  (ii) varieties and quantities and types of trees required;
(iii) establish preparation work to be done, logistic procedures for supply, delivery and distribution of trees and for all technical requirements;

(iv) establish procedures for purchase and payment;

(v) arrange timing of second mission at the most appropriate time to oversee the programme of delivery, etc.

Make an appraisal of the agricultural potential for fruit development of selected regions and make proposals for mid-term programmes of assistance. Prepare project document in UNDP format.

Adhere to reporting procedures of F.A.O.

Following discussions with Dr. A. Wakil and evaluation of nurseries in the Swat valley, NWFP and Quetta, Baluchistan the consultant:

- Identified suitable sources of fruit trees in Quetta and district.

- Identified unacceptable levels of phytophthora in nurseries in Swat.
Contacted NGO's in Quetta and those in Peshawar through their agricultural sub-committee to determine their requirements in numbers and varieties for the 1989/90 growing season, these figures to be available by 30 September 1989.

Discussed the technical aspects of purchasing trees, packing and delivery and possible planting problems with the Task Force appointed by the NGO's Agricultural Sub-Committee in Peshawar.

Discussed and received tentative agreement from Save the Children (USA) and ILO for the training of Afghan fruit growers at two levels:

(i) Elementary Planting and Maintenance Skills.

(ii) Identification of pests and appropriate control measures.

- Prepared a time table of activity.

- Prepared a report and discussed in field prior to departure.

During the consultants visit to Pakistan excellent cooperation was given by Mr. A. Fitzherbert, Programme Coordinator and his staff, Dr. A. Wakil, CTA, VITA Peshawar, Alamzeb Khan, Regional Manager Agricultural Development Bank Peshawar and Secretary of Agriculture, Government of Baluchistan.
4. MAIN FINDINGS AND CONCLUSIONS

4.1 Justification for Fruit Tree Project

Various missions to Afghanistan and in particular those of Operation Salaam have reported extensive damage to fruit orchards with damage ranging from neglect to total destruction.

Before, and even to some extent during the war the export of fruit played a considerable part in the economy of Afghanistan. Fruit represents a source of income for farmers and is an essential element in re-establishing the economy of many areas particularly, Kandahar, Zabol, Ghazni, Paktiha, Paktia, Mangarakar and Kunar.

4.2 Choice of Varieties

Many of the areas of eastern Afghanistan and adjacent areas of western Pakistan have common varieties of fruits some traditional some relatively modern e.g. Kish Misch grape, Charmaz apricot, Red Delicious and Yellow Delicious apples. Initially supplies of fruit trees will be from Pakistan and will be governed by what is commercially available. In the mid-term and long-term contract growing can be carried cut in Pakistan to provide more specific needs in Afghanistan e.g. Red Delicious on MM106 rootstocks. The contract raised trees could also be grown in Afghanistan when acceptable nurserymen are identified.
In the absence of an established fruit development station in Afghanistan full use should be made of the FAO Project PAK/83/004 Fruit Development in Baluchistan where much of the information being generated is highly relevant in Afghanistan. A number of small demonstration orchards, managed locally would be helpful in Afghanistan as focal points for training and demonstrating improved varieties.

4.3 Plant Health

Normally the movement of plants between countries is governed by International Phytosanitary Agreements but these are not presently enforced in Afghanistan. Afghan horticulturists involved in assistance programmes are concerned at the uncontrolled purchase of trees in Pakistan for distribution in Afghanistan and would like to see this co-ordinated in order to monitor health standards. This is particularly important where apple trees from Swat valley are concerned. There is widespread incidence of Phytophthora Spn root rot in apple trees in nurseries in Swat with tree fatality ranging from 1-50%. The disease is soil borne and could be carried on roots of trees. Trees from Swat would be suspect for importing into Afghanistan. The disease has not been found in Quetta.

Where trees are used to replace dead or damaged trees there may be a problem with Specific Replant Disease. This manifests itself in poor tree growth and slowness to crop. The simplest method to avoid
this condition is to refill the planting hole with fresh soil and not that removed from the original tree site.

4.4 Ordering, Lifting and Transporting of Trees

4.4.1 Ordering - In this pilot project the orders from the NGO's will not be known until the end of September 1989 and no order can be placed with a nurseryman until the combined NGO, orders have been received. A preliminary growing season inspection has been done by the consultant in a number of nurseries in Quetta. This will be followed by a further growing season inspection by the chairman and one member of the Task Force.

When the orders are received from the NGO's and have been screened for acceptability by the Task Force the consultant will return to Quetta November/December and place firm orders with the nurserymen.

4.4.2 Lifting - If the weather is suitable the trees will be lifted at the end of November or beginning of December sorted into orders and transported to the NGO's. This phase will depend on the weather and soil conditions at the nursery and planting site and will require close communication between nursery, Task Force and NGO's. Staff at the FAO Project PAK/83/004 have offered assistance at the Quetta nurseries.
4.4.3 Transporting - This will be done by UNILOG for orders to be taken to Peshawar. For Quetta orders consignments can be collected directly from the nurseries. At the time of writing it is not known whether the orders will be in thousands, tens or hundreds of thousands. UNILOG will however require advance notice of transport requirements.

At this stage the consultant should be present to ensure the trees are properly handled.

It is desirable that all the orders should be transported together from Quetta to Peshawar. If planting conditions are not suitable at higher altitudes in Afghanistan the trees may have to be lined out at a lower altitude.

The roots of the trees must not be allowed to dry out.

4.4.4 Payments - Will be carried out at the time of receipt of the plants by the project representative and should preferably be through a bank such as the Agricultural Development Bank.

The prices to be paid should not vary greatly from those recommended by the Department of Agriculture of the Government of Baluchistan.
4.5 **Contract Growing**

For mid-term tree production a request has been made by the Task Force for a supply of semi-vigorous MM106 and vigorous MM111 apple rootstocks. These would be layered to produce more rootstocks some of which would then be budded to produce trees while the remainder would be layered to continue the production of rootstocks.

This will require the importation of rootstocks in numbers to be advised by the Task Force after they assess fruit tree demand in October. Approximately 80% of the rootstocks would be planted in Pakistan and 20% in selected nurseries in Afghanistan. Contracts would be agreed similar to those used by the project and wheat seed producers.

There may be advantages in importing the rootstocks and any necessary budwood through PAK/83/004.

4.6 **Training**

It is assumed in the first exercise that in the refurbishing of orchards there will be growers available with previous experience of fruit tree planting and maintenance.
There will also be a generation with no practical experience and training will be made available to them at two levels:

4.6.1 Farmer/grower level where training will be concerned with the practical skills of planting, pruning, spraying and irrigating.

4.6.2 Senior farmer/grower with the above training but with the addition of training in fertiliser application, pest and disease identification and control measures, harvesting and packing fruit.

In Quetta ILO have agreed in principle to undertake training at both levels. Save the Children (USA) in Peshawar have previous experience in this form of training and may be able to help them. NGO's have been asked to indicate numbers of farmers/growers they would like to nominate for training.

4.7 Mid-Term and Long-Term Requirements

The emphasis for the 1989/90 growing season is on the refurbishment of orchards damaged or destroyed by the war. In the first instance the only trees and varieties available are in Pakistan where cooperation has been generously given at all levels. The chairman of the Task Force Dr. Wakil, a fruit specialist, is concerned
that Afghanistan should not be left behind in the developments of fruit growing e.g. new varieties, and new techniques of growing, and requests small inputs of selected material to be put in the hands of approved nurserymen and growers in Afghanistan.

This would be complementary to their increasing role as suppliers of fruit trees from within Afghanistan.

4.8 Orchard Refurbishing Time Table

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td><strong>August</strong>&lt;br&gt;Inspection of orchard Swat and Quetta&lt;br&gt;Request to NGO's for orders&lt;br&gt;Request to NGO's for training nominees</td>
</tr>
<tr>
<td></td>
<td><strong>September</strong>&lt;br&gt;Task Force to inspect nurseries in Quetta</td>
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<tr>
<td></td>
<td><strong>October</strong>&lt;br&gt;Task Force to monitor NGO's orders to ensure credibility</td>
</tr>
<tr>
<td></td>
<td><strong>November/December</strong>&lt;br&gt;Consultant returns&lt;br&gt;Reviews orders, lifting and transporting with Task Force and NGO's to establish working time scale.</td>
</tr>
</tbody>
</table>
Discuss requirements with UNILOG. Travel to Quetta to confirm orders, arrange lifting, packing and transporting.

Arrange payment
(Technically there is no reason why trees cannot be lifted and despatched immediately in November/December. It would also be desirable logistically and financially. The weather is the over-riding factor).

1990
February
Trees planted in Afghanistan

Rootstocks received from abroad planted in Pakistan and Afghanistan.

Training commences at Quetta and Peshawar.

March
Task Force report to NGO Agriculture Sub-Committee.

Discussion with FAO Coordinator re-future programme.
August

NGO's to submit orders for trees and nominees for training.

Trees reserved at nurseries.

November/December  As before.

4.9 Plant Export Procedures

The project will not be involved in the direct export of plants which will be handed over to the NGO's in Pakistan.

5. Recommendations

- Trees of a number of fruit varieties common to Afghanistan and Pakistan should be purchased to refurbish damaged or destroyed orchards in Afghanistan.

- The numbers and varieties should be supplied by the NGO's.

- Fruit trees should not be purchased in Swat because of disease problems.
Fruit trees should be purchased in Quetta and district where there is no evidence of major disease problems.

Growers in Afghanistan should be warned about the possible danger of retarded tree growth where apple trees are planted where apple trees previously grew. Fresh soil should be used in planting to avoid the effect of specific replant disease.

Weather permitting trees should be lifted, sorted in orders and transported in one operation. Payment to be made by FAO on receipt of the trees from the nurseryman.

On receipt of the trees the NGO’s should transport them immediately to the planting site and either plant them or line them out.

Contract growing should be arranged for approved types of plants MM106, MM111 apple rootstocks, Spur Red and Golden Delicious apple trees both in Pakistan and Afghanistan.

Training should be given at two levels for farmer/growers and senior farmer/growers, these to be nominated by the NGO’s.
The orchard refurbishing programme should be continued as long as there is a need and should include aspects of modern fruit development not yet practised in Afghanistan.

A number of small demonstration orchards should be established in Afghanistan.

Every encouragement should be given to Afghan nurserymen to increase quality tree production.

Funds be made available to cover costs:

<table>
<thead>
<tr>
<th>Description</th>
<th>US Dollars</th>
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<tr>
<td>Purchase of Fruit Trees</td>
<td>115,000</td>
</tr>
<tr>
<td>Purchase of Imported Rootstocks/Budwood</td>
<td>9,000</td>
</tr>
<tr>
<td>Training</td>
<td>9,000</td>
</tr>
<tr>
<td>Consultant 1.5 m.m.</td>
<td>15,000</td>
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</table>

148,000

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ANNEX I

FRUIT VARIETIES AVAILABLE IN PAKISTAN

APPLE

Red Delicious/sucker rootstock
Golden Delicious/sucker rootstock
Kashmiri/sucker rootstock
Mashadi/sucker rootstock
Khandari/sucker rootstock

APRICOT

Charmaz
Narai
Sardai
Peshras

ALMOND

Kaghzi - thin shelled
Mongphali - thin shelled
Dusmali - thin shelled
Katha - thick shelled
PEACH
Red Haven
Ebberta (No. 6)
Shapasand (clingstone)

GRAPES
Kishmish
Shandkhani
Haita

POMEGRANATE
Kandhari
Bedana
Ghallari

PLUMS
Santa Rosa
Harris Monarch

CHERRY
Iranian Black
ANNEX II

AGRICULTURE SUB-COMMITTEE OF NGO'S (PESHAWAR)

TASK FORCE

Dr. A. Wakil, VITA, Chairman

Dr. Ehsanullah Ehasan, IRC

Dr. Siddique Mohammad Ali, Lajnat al Birr (Islamic Charity Committee)
ANNEX III

PEOPLE/ORGANISATIONS CONTACTED

Dr. Im Tazaj Hussain, Ministry of Agriculture, Islamabad

Dr. Abdul Wakil, CTA, VITA, Peshawar

Mr. W. Holman, Deputy Executive Coordinator (ACBAR), NGO’s Peshawar

Mr. Jan Goodwin, Programme Manager, Save the Children (USA)

Mr. Ian Gibson, CTA, Malakand Fruit and Vegetable Project

Mr. D. Parsons, Horticulturist, Malakand Fruit and Vegetable Project, Swat

Mr. Sultan M. Khan, Regional Manager, Agricultural Development Bank, Mingora

Singotto Nursery

Madyan Nursery

F & VDP Nursery, Matta

F & VDP Nursery Kazehelah
Liaquat Ali Khan Nursery, Matta

Sher Nawab Nursery

Dr. Azam Gul, Agricultural Survey of Afghanistan, Peshawar

Mr. S. Poonegar, Chief Secretary, Government of Baluchistan

, Secretary of Agriculture, Quetta

Mr. C. Zulfikar, Director General of Agriculture, Quetta

Mr. Nek Mohammad Tareen, Project Director, PAK/33/004, Quetta

Mr. S. Pridhan, Officer-in-charge, PAK/83/004, Quetta

Mr. D. Fast, Mercy Corp International

Mr. D. Wall, Mercy Corp International

Mr. W. Baumann, Agronomist, UNDP, Quetta

Mr. Sultan Aziz, NGO Coordinator STC (USA), Quetta

Mr. Mohammad Abrar, Regional Technical officer, ADB, Quetta
Mr. M.P. Mulcahy, CTA, ILO Project, Quetta

Mr. Haji Habib-ullah, Representing Sariab Nurseries

Sariab Nurseries, Quetta

Nurseries: Deciduous Fruit Development Centre

Nurseries: Government Model Farm

Experimental Orchards (apple sucker stock) and nurseries:
    Khan Meterzi, Balleli and Kuchlak, Quetta.
ANNEX IV

TERMS OF REFERENCE

2nd Visit Consultant

Duty Station: Islamabad, Pakistan  Duration: 3 weeks

1. Consult with Task Force of Agricultural Sub-Committee of NGO's in Peshawar and confirm fruit tree orders.

2. Obtain nominations for training at two levels for fruit growers from NGO's.

3. At Quetta, place orders for fruit trees with nurserymen and if weather suitable supervise lifting, sorting, packing, transporting and paying for trees.

4. Supervise deliveries to NGO's in Quetta.

5. Agree and initiate training courses with ILO Quetta and Save the Children (USA), Peshawar for nominated.


7. Discuss future strategy with Project Coordinator and Task Force. Prepare a report according to FAO reporting procedures.
IRC/FAO Afghanistan Fruit/Reforestation Tree Extension Program
Jan. 1990 Update

Province: Paktia
Beneficiaries: 22,900 families
Starting Date: Dec. 12, 1989.
Ending Date: On-going

Objectives:

A. Increase local food, fuel and timber production and to enhance income generation. The project is intended to facilitate the repatriation of the displaced population of Paktia Province.
B. Establish 3 Paktia district fruit/reforestation tree nurseries for propagation purposes.
C. Train 6 district level nursery technicians in propagation and management techniques. Nursery technicians are to help meet the fruit and reforestation needs of motivated farmers their respective districts.

Implementation:

The IRC/FAO fruit tree project culminated in delivery (through UNILOG) of 27,000 thousand fruit trees to a staging site in Danda Patan on Dec. 12, 1989 (appendix I). The trees are currently cared for by both the Shura and IRC technical staff. The trees will be distributed to individual farmers in March, when appropriate weather conditions allow for planting.

The project has been modified so as to incorporate a reforestation and a nursery component. IRC technical staff feel that establishment of 3 district level nurseries in Danda Patan, Mosa Khel and Jani Khel will improve chances of overall program success. The nurseries will consist of 100 fruit trees to be planted per jerib for propagation purposes. Nurseries will consist of 3-4 jeribs on land already arranged by the respective shuras. These trees will be obtained from the initial allocation of 27,000 at the Danda Patan staging site. The rational for using these cutting is due to the physiological scarification requirement for stone fruit seed germination. Stone fruit seeds need to be exposed to low temperatures for 2-3 months prior to germination. To propagate stone fruit seeds would require waiting until next winter season. It was decided to use the prepared stone fruit cuttings to expedite the establishment of 3 propagation nurseries.

IRC technical staff also feels that extension of 1 or 2 trees per family will not have a very profound impact. Demonstration nurseries will provide training in fruit tree propagation and management techniques to motivated farmers willing to spend time
at such facilities. Tree cuttings and rootstock will be more readily available at affordable prices. This program modification will divert only a small percentage of the total number of FAO cuttings, but will insure a highly visible example of a functioning fruit tree nursery.

A reforestation tree component will also be incorporated to meet current and future fuel and timber needs. Reforestation trees will include: popular, leucaena and acacia. A fruit/reforestation tree proposal modification will be sent to FAO for review.

Recommendations:

To date there are no major problems to report. The FAO fruit tree cuttings were successfully transplanted at the Danda Patan staging site with little difficulty. Transportation was timely and labor was adequate. Upon review of the initial objectives, the modifications as proposed will improve chances for overall program success.