**ASAP**

**SCOPE OF WORK**

**Evaluating Opportunities for Improvement of Tissue Culture Production Business, Including Formulation of Various Indoor Media from Raw Chemicals for Micropropagation Production**

**CNFA**

1. **BACKGROUND:**

The USAID Agricultural Support to Azerbaijan Project (ASAP) aims to increase incomes and employment in rural areas by delivering firm-level investment and technical assistance to agribusiness enterprises that wish to engage with commercial markets as private businesses. Implemented by CNFA, the five-year project was initiated in June 2014.

Fruit and hazelnut production in Azerbaijan are critical to the continued development of the non-oil economy. The development of the sector is currently hampered by an inadequate supply of healthy disease-free plants. Further problems are an over-reliance on imported plants, lack of access to higher value varieties, and the preservation of many valuable native varieties of apples, hazelnuts, pomegranates and other fruits. These value chain weaknesses can be resolved through tissue culture propagation.

This assignment would support capacity building of one or more existing operations and help prepare for the establishment of one or more new such operations in Azerbaijan. Tissue culture propagation (micropropagation) operations will increase the supply of healthy, disease-free planting stock. They will also reduce the dependency on imports, which often arrive in poor health and introduce new diseases and insects to Azerbaijan. Furthermore, Azerbaijan has some unique varieties of fruits and hazelnuts that are more valuable than foreign varieties. These laboratories will allow Azerbaijan to increase the supply of these varieties and thus help to preserve this valuable and unique plant heritage for future generations.

Expanded micropropagation capacity would have an extensive cross-cutting effect on the ASAP value chains. These include:

* Improved Tissue Culture production techniques
* Capacity building of labs to produce their own stock solutions to reduce their costs and to provide them with information on the manufacture of these solutions that may not be available to them at present.
* Improved access to planting stock, thereby facilitating more diversified production;
* Increased profitability to fruit and nut producers due to reduced disease and pest damage, increased yields, and improved quality produce; and
* Improved appeal to direct foreign investment from international firms such as Ferrero that wish to gain better access to planting stock through Azerbaijan nursery production.

Some companies are currently in the process of completing or expanding their tissue culture production operations and additional training would improve these operations while reducing their costs and providing them with more control over their production process.

1. **OBJECTIVES:**

* Evaluate the areas of operating facilities for areas of possible improvement;
* Meet with the key personnel to discuss additional needs in their technical capacity to assist in the planning, construction and operation of existing tissue culture laboratories and/or those under construction;
* Train interested operations in the manufacture of their own indoor production media; and
* Facilitate improved production autonomy and a reduction in costs due to having the ability to produce this indoor production media

1. **PRINCIPAL DUTIES AND RESPONSIBILITIES:**

* Evaluate the existing operational procedures and/or project proposal for technical quality;
* Meet with the existing or proposed key personnel and evaluate their technical capacity to assist in the planning, construction and/or operation of each relevant tissue culture laboratory;
* Travel to the various existing or proposed facilities to evaluate the suitability of those facilities for possible or current use as a tissue culture lab, as well as the quality of technical work that is being conducted there; and
* Submit a final report to ASAP regarding the findings of the consultant, including recommendations for improving the capacity of the candidate companies’ plans and their respective teams’ capacity to manage operations and procedures for producing the growth media required to produce the desired species.

1. **MEETINGS RELATED TO UNDERSTANDING AND PERFORMING THE WORK:**

The Consultant shall meet, but is not limited to meeting, the following individuals or groups of individuals in order to fully perform the work specified under this Consultancy:

* USAID staff
* ASAP staff
* Key personnel of candidate companies

Background on Tissue Culture Lab #1

A new in vitro laboratory was built and commenced operations in 2018. The lab is designed to propagate virus-free rootstock materials that will benefit the growing community in Azerbaijan. At present, the laboratory is used to produce various types of plants, such as almonds, pears, peaches, pistachios, and cherries, and has also produced thousands of virus-free stone fruit rootstocks for transfer to greenhouses within two months.

The consultant will provide technical assistance, including formulas for propagation of various plants, with a particular emphasis on the following fruits:

1. Pomegranate (Wonderful variety);
2. Date palm (Medjool variety);
3. Pistachio (UCB1 variety);
4. Spanish persimmons.

The lab would like assistance in obtaining mother stock of some new fruit varieties from overseas.

Background on other Tissue Culture Labs

There are at least two other in vitro labs that may require shorter visits and technical assistance from the selected consultant during the 7- to 10-day assignment.

1. **DELIVERABLES:**

* Written summary of the daily key meetings and findings
* Final report of findings on:
  + Technical capacity of candidate/existing personnel and recommendations on improving their capacity
  + Quality of the candidates’ written proposal and/or current facilities and operations with suggestions for improved quality and/or reduced cost through the production of the various companies’ ability and interest in manufacturing their own inhouse growing solutions
  + Recommendations to ASAP on follow-up assistance to further support the introduction, improvement, and expansion of micropropagation in Azerbaijan

1. **PERIOD OF PERFORMANCE:**

This assignment is proposed to take place over a 10-day period during the January-February time frame, with 7-8 days of direct work at/with the beneficiary in vitro laboratories’ management and staff.

1. **MANDATORY AND DESIRED QUALIFICATIONS:**

The Consultant must be an experienced Post-Doctoral level research scientist with extensive experience in the operation and management of micropropagation (tissue culture) laboratories. The focus of the experience should be in the propagation of woody fruit and nut trees. Experience with hazelnut and pome species is preferred.