

# **Terms of Reference; “Tarnak Farm” Rehabilitation Master Plan Designer.**

**Developed by MAIL-Kabul**

**Reference Code: MRRD-1048/NABDP-581/UNDP Core-76/Co/KBL/89**

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## **Background:**

Agriculture is the backbone of Kandahar’s economy and farming is therefore the main skill of a majority of the Kandahar workforce. Agricultural production however remains in most rural districts well below its potential. The province’s poor agricultural production is a manifestation of outdated, inappropriate or poorly implemented agricultural practices. The years of warfare have not only destroyed crops, livestock and traditional knowledge and skills, but also educational institutions. Knowledge and education transfer, via formal vocational education including practical learning and demonstrations as well as methodological and theoretical updates on current trends in agriculture, is therefore considered to be a viable and relevant way of improving both agricultural production and productivity at the grassroots level in Kandahar province.

Since 2006, the Canadian International Development Agency (CIDA) has entrusted the National Area Based Development Program (NABDP) -one of the national programs designed to strengthen and diversify rural licit livelihoods in 4 districts of Kandahar Province. While the first phase (2006-2008) mainly concentrated on developing infrastructures, the second phase (2008-2010) will focus on an wider range of integrated activities still comprised of livelihood projects (agriculture and infrastructure), but with a strong component aiming at building and strengthening sustainable institutions able to support licit livelihoods: establishment of a Comprehensive Agricultural research and demonstration farm in “Tarnak” for the Ministry of Agriculture Irrigation and Livestock (MAIL)relevant provincial departments. This multi-disciplinary and integrated project has also the specificity to be connected with Agricultural Training Institute to develop provincial synergies between the two essential ministries (MAIL and MRRD) in national and provincial level.

The Tarnak Farm, located in Dand District about 15 km to the south of the city consists of 960 ha (4800 Jeribs) of prime irrigated agricultural land. The farm has a 50-year history and served as one of the production centers of the Improved Seed Enterprise, a government-owned entity administered by MAIL, until early 1990’s. The Tarnak Research Farm which had served as a major research, production and seed multiplication centre in the 1970’s and 1980’s represents the main *agro-ecological zone in the south-west of the country*. The farm

has potential surface irrigation from the Tarank Canal and tube wells. The potential crops are cereals, forage crops and annual and perennial horticultural crops. The easy access to markets, road accessibility, soil quality, adequate water supply, security and good transport infrastructure make Tarnak a very attractive site in which to invest. Wheat and barley is currently grown on the farm and about 12 ha (63 Jeribs) are under grape production. Two hundred hectares of land are leased to local farmers. The farm has the potential for production of improved wheat seed not just for the province of Kandahar but for much of the southwest agro-ecological zone (covering a large part of the RC-South), vegetable production around the year (for supplying the cities of Kandahar and Waish-Spin Boldak), grapes (fresh and as raisins) and other fruits.

Since there is an urgent need for to improve all aspects of agricultural development in that agroecological zone and related extension and research activities in the region, the rehabilitation of the infrastructure at the Tarnak and revitalization of its associated activities is the prime priority of MAIL, the provincial government in Kandahar and the people of the southwest zone. There are two major activities that need to be done in Tarnak farm, first is rehabilitation of the infrastructural facilities and secondly establishment of agro-technical activities to develop for the research and transferring the technology to target group. Currently, there is no power supply to the farm, the canal and water distribution network need repairs and most of the buildings have been destroyed. Some buildings may serve as a foundation for future processing, storage and administrative purposes.

Economy of scale will be gained as the Tarnak farm will be established on the model of recently rehabilitated “Badam Bagh” in Kabul, using the gained experience as well as the master plan of the most updated agriculture techniques which has recently been -and is still being- developed, approved and accredited under the formal and official MAIL process.

Some high value alternative crops and techniques are expected to be taught in demonstration plots at the Kandahar Tarnak farm and to be opened for any relevant stakeholders in agricultural education at the Regional and provincial level, farmers and DDAs from the four target districts of the IALP-2 (i.e. Arghandab, Arghistan, Daman and Dand) will also benefit from the most updated agriculture techniques taught at the Tarnak Farm. Overall, the Tarnak Farm will build the capacity of the farmers, MAIL’s staff and young generation in Kandahar in order to directly contribute to strengthen and diversify rural licit livelihoods, which is the overall objective of the IALP-2.

### **Objective of Solicitation:**

MAIL and CIDA seek applications from organizations who are interested in receiving a grant to design the Tarnak Farm. The following summary and analysis of the MAIL proposal is intended to inform the interested firms and companies to design the master plan of the Tarnak farm.

**Project Goal:** Sustained national agricultural economic growth to reduce poverty and poppy reduction

**Overall Objective:** To enhance the level of agricultural production and productivity by introducing new information, skills, and appropriate technologies in South west agro-ecological zone by a combination of different interventions, including improved farming systems, “dry land farming” and irrigation, adoption of best agronomic practices, and greater availability of improved agricultural inputs.

Overall objective of the project aims at rebuilding the capacity of the region’s agriculture research and extension system to generate location-specific agricultural research technologies, in close consultation with local institutions and farmers, and develop a delivery system for these technologies. The project will have two major components - research and extension, via increased production and improvement of the productivity per unit of land of the main cereals and horticultural crops. The Tarnak Research Farm should be one of the largest agricultural research stations in Afghanistan and MAIL has decided to rehabilitate only *one of the seven* strategic research stations (one in each agro-eco-zones) and develop Tarnak as a “*Center of Excellence*” for agricultural research and extension. Tarnak is the government’s choice for this purpose.

**Specific Objectives:**

- To enhance the level of production and productivity of priority food and cash crops
- To rebuild the region's capacity to take up effective agricultural research, training and extension responsibilities.
- To develop farmer need-based technology generation and decentralized agriculture extension systems.
- To make the region fully competitive on licit markets as alternative to poppies.

**Project Components:**

- 1- Rebuild the farm’s infrastructure,

2- Rehabilitate the farm's agricultural research and extension capabilities as a "Center of Excellence" for the whole southwest agro-ecological zone of Afghanistan.

3- Reestablish new network for agricultural information and knowledge system together with all other possible stakeholders and partners including Agricultural training Institute, University of Kandahar and University of Agriculture (to be established by MAIL with Indian Govt.)

**The research component:**

- focus on *adaptive research* in priority crops such as wheat.
- build the capacity of the research personnel through training and exposure visits.
- support the operational costs for research activities and station management for a period of 3 years.
- develop mechanisms that will ensure participation of private sector and farmers in research priority setting, planning, implementation, monitoring and evaluation, and follow *pluralistic approach for technology transfer*.
- involve some research on other cereals and horticulture crops.
- establish *information systems* to ensure better management of available information resources and better flow of up-to-date scientific literature and knowledge among different stakeholders
- invest in *IT infrastructure* to facilitate communication, storage and analysis of research data.

**The extension component:**

- establishment of "Agricultural and Rural development Technology Park" compound to introduce all related new and appropriate technology to all possible visitors.
- development of technical and institutional capacity by rehabilitation of the infrastructure at the farm and establishment of regional training centers, private service providers and extension services.
- training (field demonstrations, field days, etc.), integrated pest and nutrients management, water use efficiency, sprinkler and drip irrigation technology, post-harvest management, preparation and publication of farmer need-based extension materials.
- soil quality testing services to the farmers and the private sector

-maintain regular fertilizer and pesticides quality monitoring system in support of the Plant Protection and Quarantine Dept of MAIL.

The public extension system will coordinate its activities with various service providers such as other research stations, fertilizer and pesticide whole salers/retailers, I/NGOs, various agriculture traders, private seed/seedling producers at regional, provincial and district levels.

The project will: (i) delineate the role of the public and private sectors; and (ii) pilot some innovative service delivery systems and build upon them for improved efficiency, effectiveness and sustainability.

### **Major Activities**

- Establish the “*Agricultural and Rural Development Technology Park*” to introduce all possible appropriate technology for agricultural enhancement in south west agro ecological zone of Afghanistan.
- Rehabilitate the agricultural research station and the extension services.
- Ensure availability of qualified research scientists and extension workers through training and by *adoption of participatory approach* for research and extension.
- Release of high yielding pest and disease resistant varieties, along with associated best agronomic practices by agro-climatic suitability.
- Establish *nucleus nurseries* at research station level and promotion of private commercial nurseries at regional, provincial and district levels.
- Promotion of private seed enterprises. (*linkage with the CADG Proposal under IALP-II*).
- Identify appropriate *post-harvest technologies* for reduced losses and improved product quality.
- Improve coordination among the service providers (input and technology suppliers, and traders) at provincial and regional levels.
- Implement agricultural research and extension programs in collaboration with the stakeholders and farmers, based on a holistic cropping system approach.
- Establish an appropriate *research information system* and IT infrastructure.

### **Implementation Strategy and Mechanism:**

The project will complement, strengthen and further develop specific donor programs (ie. KLIP, IALP, Dahla, USAID and DFID-funded programs in Kandahar and Helmand, etc) that are supporting the development of agriculture and rural communities in the southern region through the following *mechanism*:

#### ***Decentralized research***

-Research will focus on local problems and opportunities, and the researchers will work closely with the clients

-Tarnak *will have full authority to carry out research on local needs*, based on their approved annual plan and budget.

-The regional priorities will be determined in consultation with the Dept of Research at the central level, the National Agriculture Research and Development Board, the provincial advisory board and the provincial extension office.

### ***Pluralistic research approach***

-Research will be carried out not in isolation but in collaboration with stakeholders such as universities, private firms, I/NGOs and farmer organizations.

-Partnership with Kandahar University is important to strengthen the agricultural education base in the southwest zone, as they train future research staff and have the potential to use existing staff and facilities (laboratories, research/demonstration farm) to carry out research at marginal additional cost.

-Private firms and farmer organizations will be encouraged to contribute to adaptive research.

-International organizations such as FAO, CYMMIT, ICRISAT and ICARDA could be valuable sources for on-the-job training of the national staff to carry out quality research.

-In addition to participatory need assessment and planning at field level, different levels of advisory boards will play a crucial role in this direction.

### ***Focused research areas***

Although the long-term goal is to pursue research activities on a number of cereal crops, perennial horticulture, livestock production, grain legume and commercial crops, the immediate priorities will be wheat crop for food security and dry land farming system with particular focus on “on farm irrigation” and several perennial horticultural crops (ie., grape and pomegranate) for regional and thus national economic growth.

### ***Research planning, monitoring and evaluation***

The project will establish an agriculture research planning, monitoring and evaluation system, which will necessarily follow a seasonal pattern. Overall monitoring and evaluation of the project activities and progress will be carried out by the National Seed Board, the Research Dept and Extension departments at MAIL-Kabul and the FAO experts on a periodic bases.

### ***Training of extension staff***

-The project will conduct a series of 15-day training for a total of 75 MAIL extension agents and the private service providers on (i) planning and implementation of farmer field trials and demonstrations, and their monitoring and evaluation, and (ii) on advanced technologies.

### ***Field days***

-Field days will be organized at Tarnak in each cropping season for the agriculture service providers (government and private) and progressive farmers with the main objective of developing demand-led research and extension support system.

-The field days will involve: (i) sharing research outputs and receiving feed back from the users; and (ii) addressing the problems identified by farmers through discussions and demonstrations.

### ***Exposure visits for research staff***

-Periodic exposure visits for the research staff will be organized to regional research institutes in countries such as India, Iran, Syria, Turkey, and possibly Canada (universities, Agriculture & Agri-Food Canada research stations, the Canadian Wheat Board, etc, although visa for Afghan nationals has been a real challenge).

-The research staff will also have opportunities to participate in national/regional/international seminars and conferences to share experiences, establish linkages and build their confidence in agricultural research.

### ***Project partners***

-The project partners will be MAIL, FAO and possibly CYMMIT, ICRISAT and ICARDA. The regional research centers/institutes in India, Iran, Syria and Turkey (Bahri-Dagdas International Agriculture Research Centre in Qonya) may have a role in capacity building of MAIL research and extension staff.

The project will link up with Kandahar University and the departments of Plant Protection, Research, Extension and Planning at MAIL-Kabul.

-The project will recruit qualified and trained staff from within MAIL, to begin with, and outside MAIL, based on competence. However, FAO will be considered as a partner as it will be involved in project implementation.

-The project partners will support the active participation of the major stakeholders in the research areas under the project Steering Committee.

-The project partners will also encourage a close relationship with staff of the relevant training institutions, actual and emerging commercial agro-input companies, business associations (such as input dealers) and commercial farmer groups.

### ***Rehabilitation of physical structures***

The proposal to rehabilitate the research station will take into account construction of new office buildings, establishment of laboratories for soil, water and plant analysis, construction of green houses, training center/conference room, replacement of power pumps for irrigation purpose, farm compound fencing, development of drinking water facilities and establishing communication (computers and internet facilities) and library facilities. In addition, a **central gene bank** will be established at Kohkaran Research Station.

### ***Farm machinery and vehicles***

The research station has to be supplied with tractors, combine harvesters, plot harvesters, threshers, cultivators, ploughs and discs and farm implements.

The station will need minibuses for staff transport, and pickups and motorbikes to facilitate research operations.

The station will be equipped with minimum numbers of computers, printers, photocopiers, multi media, overhead projectors, camera, etc.

### **Measures to Ensure Sustainability After Completion of Project:**

After completion of the project, the Government of Afghanistan will continue developing the physical and human resources at Tarnak for future needs of the country and will continue to provide adequate funding for its operation and maintenance. The Tarnak Research Station, as part of the Afghan agricultural research system will be guided by the following operational strategies:

***-Equip the research stations with minimum competent staffing***

***-Accountability:*** Participatory planning and evaluation, and clients' representations at various levels of advisory boards will lead the research station/researchers to be accountable to clients.

***-Resource sharing:*** Some of the facilities such as, the soil laboratory at Kohkaran and the planned seed testing laboratories at Tarnak will be utilized to test plant/soil samples based on farmers' request. The private sector will also have access to these facilities on cost-sharing basis. Such an arrangement will help improve efficiency and reduce investment and cost of operation.

***Cost recovery measures:*** In addition to government financing, the revenues/proceeds generated by the station's resources will be used for cost recovery. The research station will have a mandate to make efficient use of its resources such as

- land use for research and commercial purposes
- sale of research products such as seeds and seedlings at cost price
- provision of lab facilities and its services to private sector, on a cost recovery basis.

Applicants are encouraged to ask for further information about MAIL and CIDA's regulations pertaining to the marking under assistance awards. Specific guidance on the Submission Requirements for the branding plan and marking plan will be given to those applicants that have been selected for award.



## SELECTION CRITERIA

The criteria listed below will serve as the basis upon which applications submitted will be evaluated.

A committee of no less than 3 people will be convened to form the evaluation committee. Members of the evaluation committee could include CIDA MAIL, NADBP and/or employees of the government of the Islamic Republic of Afghanistan.

Applicants should note that these criteria: 1) serve as the standard against which all applications will be evaluated, and 2) serve to identify significant matters that Applicants should address in their applications.

<b>Criteria</b>	<b>Point</b>
<b>Experience</b> Experience in designing master plan and a commercial farming operation	<b>25</b>
- Project Management capability (personnel and organizational structure)	<b>10</b>
<b>Technical Responsiveness</b>	<b>5</b>
- Proposal established a clear linkage between activities and grant results and objectives	<b>15</b>
- Realistic and reasonable time lines	<b>10</b>
- Appropriate allocation of resources	<b>10</b>
<b>Sustainability</b> - Proposal includes a very clear description of the sustainability measures which are attainable. - The cost share proposed by the applicant will be included in evaluating the sustainability of the activities in the proposal. - Provision for a follow-on sharing of information and monitoring of the progress of the program at least one year after the grant period expires between proponent and firms-beneficiaries.	<b>15</b>
<b>Coverage</b> -- all related areas of agriculture and subsectors.	<b>5</b>
<b>Cost efficiency and realism</b>	<b>5</b>
<b>TOTAL</b>	<b>100 points</b>

**Company/organization that would take this job, we need to have clear output as part of their deliverables and an assurance on the following areas;**

1. Agricultural development and extension initiatives in line with the three NADF pillars. This should form the basis of the farm's development plan
2. Economic viability is a key outcome; 960 hectares of prime agricultural land should be able to produce a profit, whilst at the same time providing research and extension services
3. Consistency with nationally recognized agricultural development approaches
4. Reduce the project delivery gaps for MAIL
  - Research and extension to promote farmer self sufficiency
  - Carbon/holistic based as well as commodity based production research and extension
  - Development of sustainable economic models for private sector development
5. Enable and facilitate the inclusion of locally skilled agricultural trainers
6. Local community, cooperatives and NGO involvement and interaction
7. Link and coordination with MAIL Provincial office; clear definition of roles and responsibilities