

Concept Paper



Strategic Grain Reserve: Infrastructure for Food Security

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I. Background

Afghanistan is a chronic food deficit country. Even in years of good rainfall and inputs, Afghanistan is able to produce only about 90 percent of its domestic food requirement. During a good agricultural year, the annual deficit in cereal was estimated at 400,000 to 500,000MT and in a drought year the deficit reaches over one million metric tons (MT) of cereal. Imports and emergency food aid reduce the deficit.

Natural and man-made calamities are frequently affecting agricultural activities of regions or localized communities, and these in turn negatively influence the food security situation in the country. Among other things, people who under a normal situation were able to produce and achieve access to basic food needs were adversely affected; as a result they become transitory food insecure. Depending on the magnitude of disruption to the normal means of livelihood, some people's vulnerability would be for a single crop season and for others could be for more than that. The transitory food insecure people need assistance and operationalizing Strategic Grain Reserve (SGR) will prevent this group of people from falling into a very poor food consumption (chronically food insecure) level. Once the situation normalizes, and if the assets and economic fabric of the affected people are preserved, usually they would make speedy post-disaster recovery and achieve food security.

The Strategic Grain Reserve (SGR) will contribute to a reduction in food insecurity through a four-pronged approach:

- (a) Providing emergency food assistance to transitory food insecure;
- (b) Supporting communities and farmers with storage facilities;
- (c) Assisting producers secure a minimum price for their produce at harvest time; and
- (d) Providing domestic consumers price support (market intervention) to procure food at a reasonable price.

This concept paper will only address the first of the approaches to develop the infrastructure to provide emergency food assistance by focusing on the rehabilitation /construction of infrastructure and operations of the reserve system. The other three approaches will be addressed in a separate concept entitled Strategic Grain Reserve: Establishment of the National Strategic Grain Reserve Authority (NASGRA)

II. Overall Goal – Strategic Grain Reserve (SGR)

The Strategic Grain Reserve will store 200,000MT (by 2013) as a reserve stock with the potential to assist about 2.5 million people in times of natural and man-made calamities for six months at 80kg/person. This reserve stock is less than 3% of the total cereal requirement and will not intend to cope with the entire emergency. It will serve as a buffer stock during the lead time required for arranging the availability of alternative supplies. The people to be assisted are transitory food insecure and who normally were

able producers and/or had access to basic food needs. Due to risks like drought, floods, land slides, earthquakes, war and civil strife - or because of being returnees or Internally Displaced People (IDP) - they need support of SGR to mitigate the unwanted risk. Once the situation normalizes, they would be able to make speedy post-disaster recovery.

III. Project Outputs and Associated Activities

This concept note covers the rehabilitation and development of needed infrastructure to support the establishment and operation of a formal strategic grain reserve, and the technical training to properly manage and operate the facilities. The infrastructure consists of existing government-owned silos that are in disrepair; a series of warehouses that are in need of some renovation; and construction of several new warehouses that are in perpetually grain deficit areas. The training component will also include an assessment of current staffing to determine if there is qualified staff, and what new managers and technicians must be recruited.

3.1 Component A: Infrastructure

Afghanistan does not have adequate infrastructure to react to emergency needs of its population when food security emergencies arise due to drought, or any other reason. Therefore, it is an imperative of the government to provide the infrastructure necessary so that the government with the assistance of NGOs and donors can effectively react to food security emergencies in the future.

The total capacity of the existing five silos in the country is 170,000MT. The warehouses that could be used until the silos are rehabilitated and/or replaced have a combined capacity of 50,000MT. In addition, the Government intends to construct five new warehouses with a total capacity of 13,000MT.

3.1.1 Renovation and Revitalization of key grain silos

These silos that are found largely in high production areas, except for Kabul, will be the backbone of the strategic grain reserve. In 2008, a full assessment was conducted of these facilities by FAO in their preparation of “A Project Proposal for the Implementation of a Strategic Grain Reserve in Afghanistan.” From this study comes a complete analysis and costing of what is needed to make these facilities fully functional. Below is a table that identifies the silos, with the capacities of each, the rough cost of renovation, and a costing of the equipment that is needed. Under Component B on training will be a list of necessary personnel needed to manage the operations of the silos.

Capacity of storage silos is as follows:

a) Kabul silo	50,000MT
b) Mazar silo	40,000MT
c) Puli khumri silo	40,000MT
d) Hirat silo	20,000MT

e) Kandahar silo	20,000MT
Total	170,000MT

Although age (23 – 50 years), poor maintenance and services, and insurgent activities adversely affected both machineries and building of silos, overall conditions in them can be summarized as:

- Condition of equipment is bad
- Condition of building is fair
- Staff need intensive training to operate silos

Assessments made during the FAO study indicate that the silo buildings can be rehabilitated for a cost of US\$698,700, while equipment for the silos could be replaced at a cost of US\$6.01 million - a total of US\$6.71 million. Other options were investigated, such as rehabilitating the equipment, which would have cost US\$2.4 million less, but this was rejected as being more complex and time consuming than installing new equipment, and due to the fact that much of the current equipment is near the end of its useful life. New equipment is expected to serve for the next 20-30 years.

3.1.2 Renovation of existing warehouses for immediate usage

The list of warehouses in Table 1 below have been used recently, and can be renovated in short order with modest inputs. These are functionally taking the place of the main grain silos while they are renovated in the course of the next year. It is expected that the full operations of these warehouses will be critical in storing an anticipated good wheat harvest in 2009, and begin to stock the grain reserve with domestic wheat.

The FAO study in 2008 identified several warehouses in Mazar, PuliKhumri, Kunduz and Kabul as suitable for renovation and use. The identified warehouses had been used to store grain and other commodities. Currently some of the warehouses are either rented, not being used at all, or in different stages of repair. The warehouses shown below need to be repaired immediately and equipment for grain quality inspection and grain handling must be available in them. When repaired, their storage capacity would be 50,000MT. These warehouses will remain part of the Strategic Grain Reserve in the future.

Table 1: Warehouses, their Number, Capacity, Location and Cost of Rehabilitation

Province	Number	Capacity of Each (MT)	Total Capacity (MT)	Rehabilitation Cost (USD)	Owner
Mazar-I-Sharif	1	2000	2000	5,000	Silo
	1	3000	3000	5,000	Silo
	2	2000	4000	10,000	MAIL
	1	3000	3000	5,000	AFC
	2	2000	4000	10,000	MoCI
	2	400	800	-0-	Coop
Total Mazar	9		16,800	35,000	
Pul –i-khumri	6	1000	6000	21,000	MAIL
	1	2000	2000	3,000	Silo
Total Pul-i-Khumri	7		8000	24,000	
Kunduz	1	2500	2500	4,000	MoCI
	1	2000	2000	4,000	MoCI
Total Konduz	2		4500	8,000	
Kabul	2	2500	5000	10,000	Silo
	1	6100	6100	40,000	Silo
	1	4000	4000	6,000	MoCI
	1	2000	2000	4,000	MoCI
Total Kabul	5		17,100	60,000	
Herat	1	3600	3600	3,000	Silo
Sub Total	24		50,000 MT	\$130,000	
20% Contingency				\$26,000	
Grand Total				\$156,000	

Source: FAO SGR Report from April 2008

3.1.3 Construction of new warehouse facilities for perpetually grain deficit areas

In addition, the Government intends to construct five new warehouses with a total capacity of 13,000MT in Paktia (cereal surplus province), Daikundi, Nooristan, Paktika and Bamyan (deficit provinces). The total cost of the construction is estimated at \$1.2 million. One of the warehouses is in a surplus producing province (Paktia) while the other four are in perpetually grain deficit provinces. The purpose in the latter four is to position emergency grain for the most vulnerable part of the population, and for times of the year when grain supplies are depleted, and transport may not be possible.

Table 2: Construction costs of New Warehouses

Province	No. of Warehouses	Capacity in MT	Estimated Cost USD	Size in meters	Owner
Paktia	1	5,000	360,000	80x24	GoA
Daikundi	1	2,000	150,000	50x15	GoA
Nuristan	1	2,000	150,000	50x15	GoA
Paktika	1	2,000	150,000	50x15	GoA
Bamiyan	1	2,000	150,000	50x15	GoA
Total	5	13,000	960,000		
20% Contingency			192,000		
Grand Total			\$1,152,000		

3.2 Component B: Assessment and Training

Proper management of the silos and warehouses is critical, especially in light of significant new investments in equipment. Currently, there are rather over-sized staffs at some of the silos (approximately 400 workers each in Kabul and Mazar) despite a low level of functionality. This component will seek to assess what is there in terms of human capacity, and then develop appropriate training for managers and technicians. The assessment will also identify positions for which there is no currently suitable staff available, so that recruitment can begin.

3.2.1 Assessment

The FAO study in 2008 did an excellent job of fully assessing the facilities, and also determining the needs to properly run each silo. The study identified a core staff of about 38 that is required to run each silo, as well as the key management staff mentioned above. However, the sensitive subject of what human resources are currently available, and what needs to be recruited has not been done, and is a necessary precursor to beginning training activities. Ideally, as many of the current staff as possible should be retained for non-skilled positions, and if possible for management positions. Effective management capability is critical to the success of the SGR.

Therefore, one of the first tasks in this project will be to form an assessment team to determine the capabilities in the silos, and also in the warehouses that will be used short term. For the warehouses, key staff is far less complex than for the silos, but it would be a good exercise to make sure there are no gaps once the warehouses are renovated. Again, recruitment for staff of the some of the warehouses may be needed, as some are currently not in use.

3.2.2 Training

The staff of the Silo Management would need short- and long-term training. Local training programs will be the key of the training program, but occasional out-of-country training/study tours will be needed for which donors' input will be essential. In particular, training in procurement of grain from the international markets, and in logistics is required. Training in large-scale silo management will also be needed, for which a country in Asia is preferable.

A Silo manager will require short term course in areas such as post harvest technology of grains. Short visits to other silos and grain terminal installations and equipment supplier will widen the Silo Manger's scope in the business and ultimately improve productivity and the performance of the silos. In addition, short in-country courses designed specifically for silo managers, maintenance supervisors, silo supervisors and produce inspectors and others are other effective ways to impart knowledge and skills to the staff charged with the responsibility of managing and operating the silo. Such courses are recommended to be carried out on existing silo premises.

Produce Inspectors/Graders must be formally trained persons. There is a lack of trained graders; therefore, graders' training outside the country could be arranged. From time to time, it is important that Produce Inspectors attend short refresher courses that help expose them to changes in technology.

The Maintenance supervisor: A good initial entry point for the maintenance supervisor and the members of the maintenance team is participation in the installation or rehabilitation of the plant under the supervision of the supplier's/manufacturer's engineers. A brief overseas training course at the manufacturer's premises, especially for the main electrical and mechanical supervisors, is always desirable and beneficial. To this effect, it is essential to negotiate with the supplier/manufacturer to secure this type of training.

Silo Supervisor has formal education and on the job experience and will not require specialized training. However, exposures to short leadership courses available locally or in a neighboring country can help improve the Supervisor's skills and productivity

Records: Qualified clerical staff must be deployed at the weighbridge as weighbridge clerks. Another clerical cadre of staff needs to be recruited for preparation and processing of the receipt, dispatch of documents, and returns.

IV. Proposed Implementation Strategy

Rehabilitating and constructing the SGR infrastructure, and developing the human capital to manage it is a multifaceted task, that may need to be carried out by several entities. In addition, given the current assessment indicating a fairly large harvest in 2009, storage capacity in the near term will be come a necessity. Thus, the implementation strategy will outline priorities

4.1 Priorities

Component A: Infrastructure

First priority: Warehouse renovations

Start date: immediate (April-May 2009)

Operational date: August 2009

The warehouses need minor renovations to be useable this summer. The Provincial Agriculture Departments can easily contract with local contractors to do the renovations, and nearly 50,000 MT of capacity can be made available for use this year. Initial purchases of local wheat can be made for the SGR.

Second and Third Priorities: Silos and New Warehouses

Start Date: June 2009

Operational date: November 2009 (new warehouses); June 2010 (silos)

It is anticipated that the silos will take 8 months to a year to renovate and refurbish with new equipment. The silos should be operational to begin buying local wheat from the 2010 harvest. The new warehouses could be completed in 3 to 4 months, and should be ready to be stocked with wheat in October or November, which is before these areas are inaccessible due to snow.

Component B: Assessment and Training

First Priority: Assessments

Start Date: June 2009

Finish Date: August 2009

The assessments of human managerial capacity should be done as early as possible, as it will have a role on recruitment efforts, and training implementation. It is expected that a team can complete the assessments in the space of a month or two, and identify immediate needs in the warehouses, and begin recruitment procedures for other required positions in silos and new warehouses.

Second Priority: Training

Start Date: Management – January 2010; Technical – April 2010

Finish Date: June 2010

Training for managerial staff for silos will take place beginning in January. It is anticipated that any needed recruitments would take place from October to December. For some of the technical positions, training will start after much of the equipment has been installed which should be by April to June of 2010, so that trainees will be able to start using actual equipment shortly after the training is completed.

4.2 Implementation Mechanism

This project will require a significant investment in order to establish and operationalize the public grain storage infrastructure of Afghanistan. It is proposed that a management consultancy be contracted under the guidance of the MAIL Program Implementation and Coordination Unit to provide top notch engineering advice and to manage an ambitious training program. It is anticipated that management of the Strategic Grain Reserve and its infrastructure will come under the auspices of the National Strategic Grain Reserve Authority (NASGRA) which will be operational by the summer of 2010.

V. Inputs Required and Costing

5.1 Component A - Infrastructure

Type of Storage	Capacity (MT)	Date of Completion	Cost (USD)
Silos Renovated	170,000	June 2010	\$6,710,000
Warehouse renovated	50,000	August 2009	\$156,000
New Warehouses constructed	13,000	October 2010	\$1,152,000
Total	233,000 MT		\$8,018,000

5.2 Component B – Training

Type of Training	Cost in USD
Study Tours	72,000
Management Training	10,000
Specialized Training	20,000
Training Contingency	30,000
Assessment	80,000
Total cost of training and assessment	\$212,000

Managerial Training

Each of the three lead supervisors (silo manager, silo supervisor, maintenance supervisor) in a silo will receive the following training:

Study tour abroad – 2 weeks

\$6,000 each x 3 people per silo x 4 silos = \$72,000

Management Training – 2 weeks each (silo manager, silo supervisor, maintenance supervisor)

3 per silo x 5 silos = 10 trainees for 2 weeks of training in Kabul - \$10,000

(Note: Some of the warehouse managers may be included. In general a training course for up to 25 people costs \$10,000, so more can be added to the Management training for minimal or no cost.)

Specialized Training

Produce inspectors and graders

5 per silo x 4 silos = 20 trainees for 2 weeks training in Kabul - \$10,000

Record keepers and bookkeepers – records and data base management

3 per silo x 4 silos = 12 trainees for 2 weeks training in Kabul - \$10,000

Training Contingency

Additional managerial and specialized training will likely be required, and it is estimated that an additional \$30,000 should be included for these contingencies.

Assessment Team

A team will need to be contracted to design a set of questionnaires and “tests” based on which the capacity needs assessment and the learning needs assessment can be performed. This will ensure that the key people with management, record keeping, and technical (mechanical) skills are identified, and the process would also identify candidates that could become produce inspectors and graders. There should be a team of an international management/human resources leader, and several local staff for translation and interviewing of silo personnel. The assessments should be done within 2 months, with a final report of individuals that are suitable for their positions in the silo management, and where positions will need to be recruited. An evaluation should be also be done of the level of training that will be needed to reach a functional level for the various positions in the silos.

Estimated cost of Assessment Team: \$80,000

International staff – 2 months @ \$18,000 = \$36,000; 2 english speaking, college grad local staff - \$2,500 per month each = \$10,000; internal transport of 2 cars at \$2,000 per month = \$8,000; Lodging, MI&E at \$100 per day for 60 days for international staff = \$6,000; Lodging, MI&E at \$100 per day for 40 days for two local professional staff = \$8,000; \$12,000 for miscellaneous, including office supplies, and international travel.

5.3 Management Consultancy

To ensure that the tight time schedule is met, and the quality of renovations and installations is met, a one year management consultancy is needed to ensure that proper specifications and purchases are made, and that the ambitious training schedule is met. The time frame will be for one year, and will go from June/July 2009 through July 2010.

The consultancy would consist of the following key staff:

- An international manager/engineer (for structures)
- 2 local engineers
- Half time international agricultural engineer (for equipment)
- Half time international training designer
- Full time local training coordinator
- Full time local HR coordinator to assist with recruitment

Based on the cost of small projects based in Kabul, we estimate the cost to be approximately \$70,000 per month, or \$840,000 per year, which doesn't include overhead.

5.4 Total Estimated Cost for Strategic Grain Reserve: Infrastructure for Food Security

Infrastructure	\$8,018,000
Training and Assessment	\$206,000
Management Consultancy	\$840,000
Total	\$9,064,000