



RWANDA NATIONAL STRATEGIC GRAIN RESERVE OPERATIONS AND PROCEDURES MANUAL

SEPTEMBER 16, 2013



PART 1. Background

The National Strategic Reserve (NSGR) has been introduced in Rwanda to address potential shocks to food supply that the market or other government programs cannot or have not adequately addressed, thus helping to improve food security, while simultaneously avoiding market distortion of any kind. The principal objective of NSGR is to cope with food emergencies. It is a tool for emergency response and the Government of Rwanda's humanitarian obligations. It reports directly to the Ministry of Agriculture and Animal Resources (MINAGRI).

The Government is responsible for the cost of maintaining the NSGR, and it is not required to earn a profit but should be run efficiently so as to minimize losses. In the absence of an emergency, there will be regular rotation of stocks. Following an emergency, the Government will commit financial resources to rebuild the reserve. In order to achieve this objective, the following sub-objective will be pursued:

- Rwanda National Strategic National Grain Reserve functioning under sound principles and transparent management

To facilitate meeting this objective, the Ministry of Agriculture and Animal Resources has put in place this Operations and Procedures Manual for the NSGR.



PART 2. Rationale and Objectives of the Reserve

2.1. Ownership of the Reserve

The NSGR is under the ownership of the Government of Rwanda. It is operated by MINAGRI on their behalf. As such, all documents relating to the operations and procedures, and the activities, of the NSGR are public documents. In addition, the NSGR falls under the Rwanda Public Law on Public Procurement no. N° 12/2007 of 29/03/2007 passed by the Rwanda Public Procurement Agency (RPPA). In the event of any discrepancy between these Operations and Procedures, the Law on Public Procurement will take precedence.

2.2. Role of the Reserve

As stated in the directive of the Rwandan cabinet to establish the NSGR, the reserve was established to ensure the availability of food stocks in the event of emergencies. As such, the objective of the NSGR is:

- To effectively and efficiently provide food commodities to support emergency response, food security, and GOR humanitarian obligations that impact the availability, access and utilization of food on the part of all of Rwanda’s citizens, and other persons resident on Rwandan territory.

The NSGR will be run on a non-commercial basis, with the Government of Rwanda assuming responsibility for both:

- Ongoing operational costs, including procurement of new stocks and losses on disposal, and
- Ongoing and occasional maintenance costs.

While the activities of the NSGR may impact on domestic production or marketing activities, the MINAGRI will certify annually the degree if any that these activities did or did not result in a *substantial* disincentive or interference with these activities. If MINAGRI finds a substantial disincentive or interference with domestic production or marketing activities, the NSGR Steering Committee will undertake a full review of operations and procedures and amend them to mitigate this impact.

2.3. Management of the Reserve

The management of the NSGR is under an inter-ministerial Steering Committee, which will include all government stakeholders in the activities of the NSGR (see below: **3.1 Management Structure**). The Steering Committee will meet on a bi-annual basis to review the activities of the NSGR, at a date following disposal and procurement activities (see below: **3.6 Procurement Process** and **3.8 Stock Disposal and Recycling**) to review compliance with its objectives. At the meetings of the Steering Committee, all members of the committee will have the opportunity to review these Operations and Procedures and present amendments to them, to be adopted upon a vote by all members.



PART 3. Operational Procedures of the Reserve

3.1. Management Structure (also see below “Management Structure Options”)

The management of the NSGR will be under a Steering Committee, chaired by the Permanent Secretary (PS) of the MINAGRI *or their designate*, and including appointed representatives of:

- The Office of the President
- The Ministry of Trade and Commerce
- The Ministry of Finance
- The Ministry of Disaster Management
- NSGR Operations Manager
- NSGR Engineering Manager

The Steering Committee will meet on a bi-annual basis at a date within three months following the bi-annual procurement and disposal activities of the NSGR. At the Steering Committee meetings, the Steering Committee members and NSGR staff will present the following reports:

1. NSGR Operations Manager – **Six-Month Operating Budget** (see below) and **Summary of Activities** (see below)
2. NSGR Engineering Manager of the NSGR – **Six-Month Maintenance Budget** (record of past period and budget prediction for subsequent period)
3. PS MINAGRI – **Annual Impact Assessment** (see below)

The **Six-Month Operating Budget** will be determined through:

1. Estimation of NSGR stock requirements, based on population of Rwanda, and stock requirements to cover a **Basic Ration** for ten percent of population for a period of three months (see below: **Size of Reserve**)
2. Estimation of current stocks less stocks scheduled for disposal during subsequent period

The **Summary of Activities** will include record of past period purchases and disposals, sales and performance of pre-registered buyers and sellers, current inventories, stock quality issues including infestation, moisture loss, loss of quality etc., staff issues, summary of planned procurement and sales for subsequent period (along with budget prediction for subsequent period). In the case of a stock release to address an emergency humanitarian response the Operations Manager will report on speed of dispatch of commodity from silos to disaster site efforts).



On an annual basis, the MINAGRI will commission an **Annual Impact Assessment** of the NSGR on domestic production and marketing activities. The assessment will compare stock procurement and disposal prices with usual marketing prices for these commodities prior, during and immediately after the NSGR activities. It will also assess the impact of procurement and disposal on production, storage, and transport markets. The Annual NSGR Impact Assessment Team will be selected through an open Tender for Services. The Annual NSGR Impact Assessment will utilize public documents, external documents, and interviews, determine any negative impact on production and marketing, and make recommendations to the Steering Committee on how to reduce impact.¹

3.2. Size of Reserve

The population it serves determines the size of NSGR stocks. The NSGR shall hold sufficient stock to cover the emergency needs of ten percent of the population of Rwanda for a period of three months in line with guidelines established by the United Nations (UN) Food and Agriculture Organization (FAO) and World Food Programme (WFP). The stocks of the reserve will provide for a **Minimum Ration** of cereals, and legumes and pulses, for this portion of the population as follows:

1. Cereals – 2kg per household per day
2. Legumes and Pulses - .75 kg per household per day

The Steering Committee of the NSGR will review and approve the size of stocks required to be held based on this formula, and against existing stocks and stock rotations, at each of its bi-annual meetings in order to determine stocks needs (procurement and sales) of the NSGR for the succeeding period (see below: **Annex One: 2013 NSGR Stock Calculation**).

3.3. Composition of the Reserve

The NSGR stock is composed of cereals, and legumes and pulses. NSGR stocks will be procured according to East Africa Community (EAC) standards. These are specified as follows:

- Cereals: maize, no. 2 or better, maximum moisture content: 13.5 percent
- Legumes and Pulses: no. 2 or better, maximum moisture content: 11 percent

The NSGR Steering Committee shall review the composition of the reserve at their bi-annual meetings to determine if additional types of commodities are available that meet the stock needs of the NSGR.

¹ During the initial two years of operations, the NSGR may request assistance of external advisers to build the capacity of local consultants and enterprises to undertake these assessments.



3.4. Storage Arrangements

The NSGR stocks will be stored in the NSGR silos and warehouses in sites around the country. The utilization of the capacity of these silos and warehouses will be based on operational efficiencies. During the bi-annual Steering Committee meetings, the **Six-Month Operating Budget** (see above: **Management Structure**) and **Summary of Activities** (see above: **Management Structure**) by the Operations Manager will detail stock levels at the silos and warehouses in use, as well as purchase and disposal needs by site.

3.5. Location of Satellite Reserve Stores

All terms of procurement of NSGR stocks will be based on seller delivering to the site and all disposal of NSGR will be based on the buyer collecting from the site.

The NSGR has at its disposal two silos located at Kigali and Nyagatare (under construction) and two viable warehouses at Kicukiro and Nyanza, to use in stock storage, providing a total of 39,000 MT of storage capacity against a current need of less than 35,000 MT (warehouses below 2,000 MT are not cost effective for “normal” on-going NSGR operations).

Table 1: Viable Silos and Warehouses for NSGR Storage

Warehouse	Capacity (MT)
1. Kigali	23 000 (20,000 MT in Silos and 3,000 in Warehouses)
2. Kicukiro	2 500
3. Nyanza	3 500
4. Nyagatare	10 000 (under construction)
TOTAL	39,000

Source: MINAGRI

In order to minimize operational costs and promote management efficiency, the NSGR will maintain its stocks disbursed between the two silos at its disposal, at Kigali and Nyagatare. The silos will hence comprise the point of delivery and purchase for stock procurement and disposal. The three warehouses will be utilized only for forward positioning of stocks in the event they are required for emergency response.

3.6. Procurement Process

In general, the procurement and disposal operations of the NSGR will follow the same basic principles and procedures. In order to minimize market impact of procurement and disposal operations, these procedures will seek to generate the maximum competition possible between sellers in the case of procurement, and buyers in the case of disposal, and will seek to meet the RPPA objectives of open and transparent public procurements.



Pre-Registration: Sellers and buyers will be pre-registered for participation in NSGR tenders, and maintain accounts with the NSGR. The NSGR will make every effort to pre-register the largest possible number of sellers and buyers for participation in Procurement and Disposal Tenders, as follows:

- Individuals – individual sellers and buyers, both foreign and domestic, will be registered according to national identification documentation, or official foreign passports
- Companies – legally constituted companies will be registered according to their Rwandan business licenses
- Cooperatives – cooperatives will be registered according to their cooperative registration

The pre-registration process will be open to all individuals, companies, and cooperatives on an on-going basis. **Registration must be renewed annually.** Information on the registration process will be made available through public announcements. Registration requirements will include:

- Acceptance of the terms of sale and purchase, as outlined in these Operations and Procedures
- Payment information to sellers and from buyers
- Contact Information i.e. phone number, email address, physical address

The NSGR will maintain a database of accounts of pre-registered sellers and buyers for use in procurement and disposal operations, including an ongoing record of delivery and purchase performance of buyers and sellers. Registered sellers and buyers found to be in default of delivery and purchase agreements will be liable for monetary damages in the event that their failure to perform has resulted in additional costs to the NSGR in carrying out its procurement and disposal operations.

Defaulting sellers and buyers will be liable for the suspension of their registration, and disbarment from participation in future NSGR tenders until such time as they have reconciled costs associated with past performance failure. The costs of performance failure will be determined by the NSGR in advance of tenders, and will be based on prevailing storage costs. The NSGR will reserve the right to use the full extent of the law to recoup monetary damages that arise from performance failure.

The NSGR will make every effort to solicit registration of sellers throughout EAC countries (Burundi, Democratic Republic of Congo, Kenya, Tanzania, and Uganda). In addition to enhancing competition of tenders, international registration of sellers will ensure access to commodities in the event of a national food deficit. Although under normal conditions, tenders will be announced nationally, in the event of a national food deficit, the NSGR will retain the option of international (EAC-wide) announcements of tenders. However, all tenders will be open to sellers and buyers regardless of national origin.



The NSGR will carry out Procurement Tenders on a bi-annual basis, through a tender process open to all pre-registered sellers. Procurement Tenders will be announced through public announcements 15 days prior to award dates in newspapers and on the NSGR and MINAGRI websites, and will be timed for delivery 30 days following harvest dates so as to allow for ample time for drying of commodities. Given the timing of harvest, and in order to promote predictability and hence planning on the part of sellers, Procurement Tenders will be scheduled as follows, pending review of actual annual harvest dates:

- Procurement 1: January 1st for award on January 15th
- Procurement 2: May 1st for award on May 15th

Procurement Tenders will announce the **Total Procurement Size**, and bids will be accepted for offers of deliveries between a minimum of 50 MT (offers below 50 MT are not economically viable, and hence will not be accepted), and a maximum of the **Total Procurement Size**, for commodities specified as:

- Cereals: maize, EAC no. 2 or better, maximum moisture content: 13.5 percent
- Legumes and Pulses: EAC no. 2 or better, maximum moisture content: 11 percent

Terms of sale of commodity to the NSGR shall be to point of delivery i.e. specified NSGR silo. As such, sellers will be required to arrange delivery to the specified facility, and are expected to include all transport costs in bids.

Bidders will be required to deliver their bids in sealed envelope to the designated office of the NSGR by 12pm on the date of award. Late bids will not be accepted under any circumstances. In order to be considered, all bids must include (see below: **Annex Two: Sample Bid Form**):

- Bidder's Registered Name
- Bidder's Registered Account Number
- Indication that the bid is for SALE of commodities
- Total bid size in MT (minimum: 100 MT, maximum: **Total Procurement Size**)
- Commodity and Specifications (note that bidders will be required to submit separate bids for multiple commodities)
- Bid price per MT in Rwandan Francs (Rfr)
- Authorized Signature of Registration Number Holder

At 12pm on the Award Date, a Tender Committee will assemble to open all bids and determine awards. The Tender Committee will be chaired by the NSGR Operations Manager, and will include the following NSGR staff:



- Deputy NSGR Operations Manager
- NSGR Engineering Manager
- Deputy NSGR Engineering Manager

Awards will be publically announced on the award dates, and awards be based on a **stop-out** pricing system, as follows:

- On the date of award, all bids are opened at the set time and date in a specified location open to the public. The offers are arranged from lowest to highest price per MT
- NSGR will accept bids to highest price up to the point where total sum of bids accepted meets the **Total Purchase Size** (total MT to be purchased), i.e. the **stop-out price**. All bidders whose bids are accepted will be notified that they have sold at the **stop-out price**.²
- Bidders whose Offers are selected will be notified via their account Contact Information of the acceptance of the bid, and the NSGR intent to purchase at the **stop-out price**.

In the event that the bid that clears the **Total Purchase Size** exceeds the total size, the clearing bid will be accepted up to the total tonnage of the purchase size.

Bidders whose offers are accepted will be given 60 days to make delivery in full. Bidders will be paid via the Payment Information provided with their account registration, based on MT delivered up to the total offer accepted. MT delivered will be calculated as follows:

- Commodity not meeting offered specifications (other than moisture level) liable to be rejected at point of delivery
- Moisture content to be verified upon delivery, and total MT delivered adjusted downward for water weight above 13.5 percent
- Seller liable for any drying charges incurred by the NSGR on grain delivered with moisture levels above 13.5 percent

² i.e. a bidder who places a bid at a price less than the **stop out price** will be awarded and paid the **stop out price**. Under this system, this bidder will receive a price higher than offered, however all winning bidders *will be paid the same price*. On the other hand, if a bidder defaults, damages will be based on the **stop out price**.



3.7. Stock Maintenance and Quality Control

Arrangements for Stock Maintenance and Quality Control will be detailed in a separate manual developed by the NSGR Operations Director. These arrangements will be based on first in, first out (FIFO) principal, and a storage life of two years for all stocks, or annual rotation of 50 percent of stocks.

3.8. Stock Disposal and Recycling

As with Procurement Tenders, the NSGR will carry out Disposal (sales) Tenders on a bi-annual basis, through a tender process open to all pre-registered buyers. Disposal Tenders will be announced through public announcements 15 days prior to award dates in newspapers and on the NSGR and MINAGRI websites, and will be timed for buyers to take delivery 30 days prior to harvest dates. Given the timing of harvest, and in order to promote predictability and hence planning on the part of buyers, Disposal Tenders will be scheduled as follows:

- Disposal 1: December 1st for award on December 15th
- Disposal 2: June 1st for award on June 15th

Disposal Tenders will announce the **Total Disposal Size**, and bids will be accepted for offers of purchases of disposed stocks of between a minimum of 100 MT, and a maximum of the **Total Disposal Size**, for commodities specified as follows:

- Cereals: maize, EAC no. 2 or better, maximum moisture content: 13.5 percent
- Legumes and Pulses: EAC no. 2 or better, maximum moisture content: 11 percent

In the event that a dispute arises regarding the quality of disposed commodities, the NSGR and buyer will agree to settle quality disputes through testing by the Rwanda Bureau of Standards (RBS). In the event that RBS testing finds that the commodities do not meet specifications as tendered, the buyer will be relieved of obligations to complete the purchase, and will have any deposited funds returned in full. In the event that RBS testing finds the commodity meets specifications as tendered, the buyer will be liable for the entire value of the sale, plus storage charges as determined by the NSGR for days past date to take delivery.

Terms of purchase of disposed commodities from the NSGR shall be at point of taking delivery i.e. specified NSGR silo.

Bidders will be required to deliver their bids in sealed envelope to the designated office of the NSGR by 12pm on the date of award. Late bids will not be accepted under any circumstances. In order to be considered, all bids must include (see below: **Annex Two: Sample Bid Form**):



- Bidder's Registered Name
- Bidder's Registered Account Number
- Indication that the bid is for PURCHASE of commodities
- Total bid size in MT
- Commodity and Specifications (note that bidders will be required to submit separate bids for multiple commodities)
- Bid price per MT in Rwandan Francs (Rfr)
- Authorized Signature of Registration Number Holder

At 12pm on the Award Date, the Tender Committee will assemble to open all bids and determine awards. The Tender Committee will be chaired by the Permanent Secretary (PS) of the MINAGRI *or their designate*, and include appointed representatives of:

- The Ministry of Trade and Commerce
- The Ministry of Finance
- The Ministry of Disaster Management
- NSGR Operations Manager

Awards will be publically announced on the award dates, and awards be based on a **stop-out** pricing system, as follows:

- On the date of award, all bids are opened at the set time and date in a specified location open to the public . The offers are arranged from highest to lowest price per MT
- NSGR will accept bids to lowest price downward to the point where total sum of bids accepted meets the **Total Disposal Size** (total MT to be sold), i.e. the **stop-out price**. All bidders whose bids are accepted will be notified that they have sold at the **stop-out price**.³
- Bidders whose Offers are selected will be notified via their account Contact Information of the acceptance of the bid, and the NSGR intent to sell at the **stop-out price**.

³ i.e. a bidder who places a bid at a price higher than the **stop out price** will be awarded and purchase at the **stop out price**. Under this system, this bidder will purchase a price lower than offered, however all winning bidders *will purchase at the same price*. On the other hand, if a bidder defaults, damages will be based on the **stop out price**.



In the event that the bid that clears the **Total Disposal Size** exceeds the total size, the clearing bid will be accepted up to the total tonnage of the disposal size.

Bidders whose offers are accepted will be given 30 days to take delivery in full. Bidders will be required to make payment in full to the NSGR account prior to taking delivery.

3.9. Releases and Conditions for Triggering Releases

The NSGR will make releases of commodities from its facilities under three circumstances:

- Notification of a localized emergency requiring use of food stocks by the Ministry of Disaster Management. In the event of notification of a localized emergency, the Ministry of Disaster Management will specify the types and tonnages of commodities required, and notify the NSGR of the point of collection i.e. the specific silo where Ministry of Disaster Management will take delivery.
- Upon the declaration of a national disaster (an emergency affecting more than 100,000 persons) by the Office of the Presidency, the NSGR will place its stocks at the availability of the Office of the Presidency for programming at its discretion.
- Scheduled stocks purchases and disposals via tender.

3.10. Financing of the Reserve

The reserve shall be funded through an annual budget allocation from the Ministry of Finance through the Ministry of Agriculture. The budget allocation will be based on the following:

1. Annual Operating Budget (predicted procurement costs less past year disposal revenues) developed by the NSGR Operations Manager
2. Annual Maintenance Budget developed by the NSGR Engineering Manager



Annex One: 2013 NSGR Stock Calculation

Estimated Population (Rwanda 2013) ⁴ :	12,012,589
Estimated HHs (est. HH size of 4):	3,003,150 HHs
Maize requirements for 2013 stocks:	$3,003,150 \times 2\text{kg} = 6,006,300 \text{ kg} / 1000 = 6006.3 \text{ MT}$
Legumes and Pulses requirement for 2013:	$3,003,150 \times .75\text{kg} = 2,252,362.5 \text{ kg} / 1000 = 2,252.5 \text{ MT}$

⁴ Source: 2013 CIA Factbook: Rwanda



Annex Two: Sample Bid Form

NSGR Bid Form	
Bidder's Registered Name:	
Bidder's Registered Account Number:	
This bid is for (circle one) PURCHASE SALE	
Of sale/purchase of total of (MT): _____	
Commodity and specifications: _____ <i>(note the separate bids are required for multiple commodities)</i>	
At price of (sell/buy) of _____ Rwandan Francs (Rfr) per MT	
Authorized signature of registration number holder: _____	
I hereby indicate acceptance of all terms and conditions related to purchase and sale from the Rwanda National Strategic Grain Reserve.	



Annex Three: Price Support Function Considerations for the NSGR⁵

1. Background

According to the Government of Rwanda (GoR), the main purpose of the Strategic Grain Reserves (SGR) will be to serve as an emergency reserve for the general population “to effectively and efficiently provide food commodities to support emergency response, food security, and GOR humanitarian obligations that impact the availability, access and utilization of food on the part of all of Rwanda’s citizens, and other persons resident on Rwandan territory.” This approach is described in significant detail in the main body of the NSGR Manual.

In addition to this emergency objective, the GoR can also use a strategic grain reserve system to smooth prices in cases of increased supply, in order to prevent farmers from incurring economic losses should they take on maize farming. Maize production has recently been encouraged by the GoR for food security reasons even though, at present, Rwandan maize is at a competitive disadvantage compared to other maize in the East African region. The GoR has an implied social contract with its farmers; if farmers adopt maize production, they should not see themselves as being worse off for the effort. This “guarantee” or “insurance” can be provided by the government in a number of different ways. Governments can subsidize inputs (seeds, fertilizer), they can introduce and incentivize adoption of new technology, and/or they can set price floors to ensure that farmers get a minimum amount for their product if prices drop too low. This also takes product out of circulation, therefore reducing supply and driving prices up in the private market.

By setting a price floor, the GoR can encourage more farmers to adopt maize in these early stages when risks are highest. The demand for staple crops is inelastic meaning that in order for consumers to increase their consumption, a large price reduction must be offered. This can be very discouraging to adopting farmers who may abandon a new crop even if increased productivity is socially desirable and returns will increase farther down the road.

2. Lessons Learned Globally

⁵ *Disclaimer: ACDI/VOCA, CARANA Corporation and the author of this NSGR Manual recommend against the inclusion of any price support mechanism for the Rwanda NSGR. Bruce Smith, USAID PHHS Project Deputy Chief of Party, and CARANA Corporation provided the information and considerations included in this annex.*



According to research carried out by the Institute for Agriculture and Trade Policy, food reserves have been able to lessen the unwanted consequences of unstable agricultural markets by smoothing prices for both consumers and producers. As a result, we have seen an increase in the development of strategic grain reserves in recent years following the 2007-2008 global food crisis. African and Asian countries, in particular, have begun to set up new grain reserve systems with both price support and emergency objectives.

Reserves have created a guaranteed market that encourages investment in agricultural production and price smoothing, but have also resulted in failure when not managed effectively. General lessons learned globally are as follows:

1. Reserves cost money; if a reserve is poorly managed, it can exacerbate food security problems
2. Economic orthodoxy is against market interventions, and any market interventions result in some inefficiencies
3. There is no simple blueprint for a generic reserve; reserve systems are based on land distribution, dietary choices, transportation and storage infrastructure, and connections to the regional and global market).
4. Reserves depend on transparent and accountable governance.
5. Grain reserves need to work with big agribusinesses to make them effective ⁶

SGR and price support models have worked relatively well in certain parts of the world, particularly in the U.S. and EU. In the U.S., for example, the target prices for corn and wheat effectively result in a "floor price" for corn-belt agricultural land that protect farmers and encourage production. Indonesia ran an efficient food reserve system between 1975 and the 1990s by controlling only around 10% of the country's rice market. Stable prices gave farmers the confidence to make investments in increased productivity and improved food security by reducing the number of people suffering from malnutrition from 24% in 1981 to 13% in 1997. The established price bands were also wide enough to promote private activities and were set with reference to the storage and distribution costs incurred by the private sector. The band continually widened as the country reached self-sufficiency in rice. ⁷

India has also developed a reserve system that functions well. Their strategic grain reserves ensure food security for those less well-off through a targeted subsidy and redistribution program. The Government of India was able to carry out a huge purchase of rice and wheat in 2008 during the global food crisis which enabled the government to release sufficient stocks into the market to stabilize prices.

⁶ Sampson, Kristin. "Why We Need Food Reserves". *Institute for Agriculture and Trade Policy*

⁷ Crola, Jean-Denis. "Preparing for Thin Cows: Why the G-20 should keep buffer stocks on the agenda". *Oxfam*.



Although price stabilization reserve systems work moderately well in some countries, even then, they create some market distortions. Unfortunately, price support models have been less successful in developing countries due to insufficient funding, poor management and significant market distortions. Some of these challenges can be drawn from the India model:

1. *Extremely costly:* In India, the government makes up the difference between economic costs and the issue prices (prices paid by those receiving the subsidy).
2. *Political interference:* Floor prices continue to rise, not for economic reasons, but because it would be too political to decrease the floor.
3. *Decrease in production and increase in prices of other essential crops:* In India, price support to the cereals sector has led to a reduction of the growing of other essential crops including pulses, oilseeds, fruits and vegetables, which has driven prices of these crops upwards.
4. *Increased waste:* Open ended purchases in India have driven up procurement and recently driven stock levels extremely high, leading to waste of 10% after an inability to adequately store the grains.
5. *Negative effect on natural resources:* due to the growth of production in cereals throughout India under this system, they have maximized their productive capacity and as a result, depleted water resources and reduced soil fertility.
6. *The trader benefits, but not the farmer:* There have been cases where traders will buy up the cereal crops at the market price when prices are lowest and then store them until the government issues tenders, therefore increasing trader profits and harming farmers.

3. Price Support Methodology

Despite some of the concerns with a price support scheme, the GoR could use the SGR to encourage adoption and production of maize, and therefore farmer investment in maize inputs and technology. To achieve this, the SGR must buy at a price that reduces the risk to farmers in adopting maize production by eliminating economic loss by the farmer. It also means that when selling SGR stocks, either as part of the regular rotation process or as response to an emergency, it must minimize the impact on farmers who would benefit from high prices. The SGR should also slowly reduce its role as price guarantor as farmers improve their efficiency and production grows.

3.1 Floor Price Determination

The SGR should make sure not to pay high prices that reward inefficient farmers. The objective of the floor price will be to set it at a level that allows efficient farmers to break even (cost of inputs + technology+ labor = price floor), and allows the government to buy up reserve stocks when production is highest and prices are lowest. Both break-even and market prices will be tracked on an ongoing basis so that buying is triggered when the market price falls below the break-even price.



In setting this break-even price, the GoR will also need to take note of regional export and import prices. Floor prices should be set at a comparable level to the price to export (export prices minus the cost of getting the product to export markets). This is necessary since commodities are exported when production surplus causes domestic prices to fall below prices in surrounding countries. Although the GoR will not want to disincentive exports to neighboring countries, it will need to purchase enough grain to fill its reserves, and therefore be competitive with export prices. The reserve floor price will also be driven by an upper limit, which will be slightly below import prices, so as not to incentivize more imports in maize into the country. Import prices can be defined as the cost of the staple in the nearest surplus market plus the cost of getting the surplus to the home market⁸.

In the case of beans, Rwanda has a comparative advantage and can easily dispose of surplus beans in the region at prices higher than local prices. As a result, beans should be excluded from the price support mechanism (if these exports are not occurring then MINAGRI must address this problem rather than using the SGR to increase prices). Rwandan maize is a high cost crop in the region with few opportunities for export

3.2 Other price considerations:

The following are a list of issues that should be considered when designing the support, or strategic, elements of SGR's price support operations:

- The costs of production and standard deviations of those costs among adopting farmers for targeted crops
- The size of the marketed crop and the share of the crop going to the wholesale market
- Wholesale demand for the targeted crops
- Seasonal variations in price
- Import and export parity prices
- The degree to which buying point prices can exceed import parity prices due to information gaps limiting sales to those points
- Price impact of SGR purchases or sales
- Costs of operating the SGR
- Budget for SGR operations
- Independence and governance structure of the SGR

3.3 SGR Sales

⁸ The East African Grain council can supply this data on request.



SGR sales will follow the methodology outlined in the main body of the manual.

3.4 Buying Channels

As observed in the India model, buying only through traders can increase the returns to traders and minimize any returns to farmers since traders can reap all of the advantages of a price floor by netting the entire difference between the market price and the SGR floor price. The GoR should focus on buying from its regional warehouses and encourage contracts with cooperatives over traders.

3.5 SGR Capacity

The SGR has 39,000 MT of storage capacity against a current need of less than 35,000 MT. This allows for some flexibility in volumes depending on the prices and availability of grain. When prices are high, the reserve could be filled to around 75% capacity, or 29,000 MT. When prices are low, the government can buy up to the maximum, 39,000 MT or 111% capacity.

3.6 Phasing out of a price support system

The GoR should be transparent about the cost of the intervention and the period of time over which this intervention is expected to be necessary⁹. In other words, a plan should be in place, from the beginning, with milestones that will be used to trigger the transformation of the SGR to a single purpose role as an emergency reserve.

4. Steps for Developing the Price Support Tool

4.1 Step 1: Calculating the “Incentive Price”

Two steps are required to develop the price support tool; the first is to calculate the floor price and second is to estimate the purchase quantities necessary to support the floor price.

4.1.1 Decision rule:

⁹ There are very few, if any, cases yet in Africa where the efforts at price stabilization have been cost effective or sustainable. The procedures which follow reflect lessons learned from those failures in an attempt design procedures to maximize the chances of success. For a review see Jayne *et al* 2009 *Patterns and Trends in Food Staple Markets in East and Southern Africa* Michigan State University <http://aec.msu.edu/fs2/gisama/index.htm>



In order to keep farmers from being discouraged as prices fall due to supply increases (either because of increased adoption or improved productivity via technology and inputs); the SGR will buy at prices that pay farmers a satisfactory return on their expenditures.

4.1.2 Data needs:

Although the ideal scenario would be to analyze data on a provincial basis in order to permit more flexible pricing, the price calculation will need to be determined based on a country-wide average due to the size of Rwanda, the fact that sales channels are difficult to disaggregate by region (the main market is Kigali), and ease of calculation.

Below are the variables required for calculating the price of a break-even ratio of revenue to costs. These can be taken from the Post Harvest Handling and Storage (PHHS) Project's maize survey data:

- Average production of maize per ha
- Average sales per ha
- Average fertilizer cost per ha
- Days of Labor and cost per day
- Total technology costs

4.2 Step 2: Adjusting SGR purchases to reduce supply to raise price to the incentive level

4.3 Decision rule

The SGR should reduce supply on the market in order for prices to move up to the desired level. This should be done through the existing wholesale network. The SGR must have the financial resources necessary to buy the required quantity and be able to store until future price increases permit disposal.

4.4 Data needs for calculating amount to purchase

- Expected harvest and sales to the wholesale markets
- Expected wholesale demand
- Sensitivity of price to SGR purchases
- Wholesale prices around the country
- Maize prices in the region (and hence import and export parity prices)

5. Administrative Process



The SGR Technical Committee is responsible for necessary data collection. The Committee receives input from the MINAGRI Statistics Department, The World Food Program, FEWSNET and the East African Grain Council in order to provide demand and supply estimates to the Board.

In January and June of each year the technical committee could present an evaluation of the last season's operations in which the costs of operating the SGR are presented as well as an evaluation of the effectiveness of the operation at supporting prices. Any suggested improvements are presented at this time.

The technical committee presents the recommended purchases and timeframe to the board on which sit representatives from processors and traders. There must be agreement on the purchase plan. The Board must also be assured that adequate budget exists.



PART 4. ANNEXES FOR REVEIW

4.1. Management Structure Options (to be removed in FINAL COPY)

This section presents three Management Structure Options for the administration of the Rwanda NSGR, and also describes the major Advantage and Disadvantages of each. These options range from a highly “decentralized” decision-making and approval structure (Options One – **Inter-Ministry Steering Committee**) to a “centralized decision-making and approval structure” (Option Three – **NSGR Steering Committee**). The ownership of the Rwanda NSGR is held constant under the Ministry of Agriculture (MINAGRI) in line with the cabinet directive creating the facility, which states that “It reports directly to the Ministry of Agriculture and Animal Resources (MINAGRI)”. Pending a final decision on Management Structure, this section is to be removed, and the selected option will replace PART THREE, Section 3.1.

Option One – Inter-Ministry Steering Committee

Advantages: Greater degree of stakeholder engagement ensures higher level of buy-in from all relevant sections of government.

Disadvantages: Greater degree of stakeholder engagement entails higher management burden on all relevant sections of government

The management of the NSGR will be under a Steering Committee, chaired by the Permanent Secretary (PS) of the MINAGRI *or their designate*, and including appointed representatives of:

- The Office of the President
- The Ministry of Trade and Commerce
- The Ministry of Finance
- The Ministry of Disaster Management
- NSGR Operations Manager
- NSGR Engineering Manager

The Steering Committee will meet on a bi-annual basis at a date within three months following the bi-annual procurement and disposal activities of the NSGR. At the Steering Committee meetings, the Steering Committee members and NSGR staff will present the following reports:

Option Two – “Ministry-Led” Steering Committee

Advantages: Moderate degree of stakeholder engagement entails moderate management burden on all relevant sections of government. Essential stakeholders engaged.



Disadvantages: Moderate degree of stakeholder engagement results in moderate level of buy-in from all relevant sections of government. Peripheral stakeholder omitted from engagement.

The management of the NSGR will be under a Steering Committee, chaired by the Permanent Secretary (PS) of the MINAGRI *or their designate*, and including appointed representatives of:

- The Ministry of Finance
- The Ministry of Disaster Management
- NSGR Operations Manager
- NSGR Engineering Manager

The Steering Committee will meet on a bi-annual basis at a date within three months following the bi-annual procurement and disposal activities of the NSGR. At the Steering Committee meetings, the Steering Committee members and NSGR staff will present the following reports:

Option Three – **NSGR Steering Committee**

Advantages: Low degree of stakeholder engagement entails low management burden on relevant ministries

Disadvantages: Low degree of engagement entails low buy-in from relevant ministries.

The management of the NSGR will be under a Steering Committee, chaired by the Permanent Secretary (PS) of the MINAGRI *or their designate*, and including appointed representatives of:

- NSGR Operations Manager
- NSGR Deputy Operations Manager
- NSGR Engineering Manager
- NSGR Deputy Engineering Manager

The Steering Committee will meet on a bi-annual basis at a date within three months following the bi-annual procurement and disposal activities of the NSGR. At the Steering Committee meetings, the Steering Committee members and NSGR staff will present the following reports: