Accelerating Production Input Availability and Agricultural Service Provision in South Kivu, DR Congo

Prepared for the DRC Agricultural Transformation Agenda (DRC-ATA) Program by the African Agricultural Leadership Institute (AALI). DRAFT 5, 23 January 2025. Contact PL Woomer (email: plwoomer@gmail.com), SM Amato (email: s.amato@aa-li.org) or N. Sanginga (email: N.Sanginga@aa-li.org)

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1. Summary

This project will develop, pioneer and operate a unique private sector engagement that accelerates access of the farming community in South Kivu, DR Congo to proven yet sparsely available agricultural technologies.

Poor access to fertilizers and improved seed as well as the use of traditional farming tools inhibit smallholders' farm productivity and perpetuate a host of social ills, foremost among them are extreme poverty and food and nutritional insecurity. These are consequences of disrupted supply chains of agri-inputs, market by both the absence of professionalized agro-dealers and whole-sellers, leading to high costs and lack of competitiveness of the sector resulting in dependency on food imports.

The African Agricultural Leadership Institute will engage private sector actors to establish and operate Agro-Inputs and Service Centers for efficient delivery of technologies and related inputs in different regions of the country. In South-Kivu province, AALI has identified and mobilized a private company (NEEMA), willing to invest in the establishment of the first pilot center at Kashusha to serve as a depot and staging area for proven agricultural technologies, in particular fertilizers, improved crop seeds and small-scale farming machinery. In collaboration with collaboration with the AALI Youth Brigade, the Agro-Inputs and Service Centers will also provide services related to agro-dealer and extensionist training, grain marketing, digital advisories, and contract mechanization. This effort will lead to the establishment of a network of satellite agro-dealers and linkages with and services to other investors and major government agricultural development programs aiming to subsidize the costs of inputs. This project requires an investment of US $789 k over two years.

2. Background

The agricultural sector serves as a pillar of the economic revitalization of DR Congo. Past efforts that did not consider agriculture have had little impact upon widespread poverty and food insecurity. Domestic agricultural production does not meet national food needs, requiring over US $3 billion in annual food imports. Agriculture remains the country's most important economic sector because it employs more than 70% of the population; yet two-thirds of the farming population lives on less than $1 a day, at least 70% face food insecurity, and about 27 million people suffer from chronic malnutrition.

One of the major reasons for stagnant agricultural productivity in the country is the slow adoption of modern agricultural technologies due to poor access to quality inputs at affordable prices. FAO estimates that fertilizer consumption in DR Congo is only 2 kg per ha of arable land, a level insufficient to sustain yields and soil health. As a result, the government initiated the Agricultural Transformation Agenda (DRC-ATA) aimed at repositioning agriculture to become an engine of economic growth. It seeks to modernize agriculture to make it more productive, efficient and competitive; an agenda supported by the government but led by the private sector. This mechanism intends to double the amount of food produced by investing in production systems, mechanization, value-added processing, and access to markets.

Based on lessons learned from challenges timely supply of quality inputs at competitive cost during the initial phase of implementation of the program (Appendix 1), AALI as technical partner, decided to develop, pioneer and operate innovative private sector engagements that accelerates access of the farming community. In this view, DRC-ATA focuses upon agricultural value chains, regards small-scale agriculture as a business not an impoverishing lifestyle, and develops strategic partnerships to stimulate market-driven investment. This approach leads to wealth generation and employment creation, including among youth and women. Critical to this strategy is greater availability and affordability of farm inputs and machinery.

3. Theory of Change

Improved access to production inputs and farm machinery is required for agricultural transformation to take root across DR Congo. Current supplies of these inputs and equipment are highly fragmented, over-priced and often reliant upon outdated technologies, and this constraint requires innovative solutions. We propose a novel approach to Public-Private Partnership in South Kivu where investors establish supply depots that are closely linked to national strategies and funded development programs designed to establish food and nutritional security. These depots are designed by the African Agricultural Leadership Institute, constructed by private investors, initially stocked with key production inputs and farm machinery through funds from those development programs, operated as a joint venture between the investor and AALI, and demand is generated through the outreach campaigns of those Programs. In this case, a private partner invests in the building the depot that becomes the NEEMA Agro-input and Service Center. AALI and Youth Brigadiers operate the Center and establishes a range of support and training services.

CCP-PNAA, through collaboration with DRC-ATA allocates funds for the initial production inputs and small-scale machinery. The depots serve as hubs that service networks of smaller satellite suppliers, including local agro-dealers. Within each hub, AALI operates a training center that specializes in skillsets related to production inputs and equipment handling and marketing, including the packaging of customized technology bundles. These Centers also provide contract services and link their clients to advisory digital services. After three years of assisted operation, the are expected to Depots operate as fully commercialized entities, but continue to be linked to national development programs as contracted suppliers and service providers. This effort is intended for expansion and replication across DR Congo. In this way, the chronic under-provision of agricultural inputs, equipment and service provision is corrected, reaching into increasingly remote smallholder farming communities.

At the long-term impact level, this project aims to increase competitiveness of DRC agriculture sector, substitute foods importations and contribute to food security. This impact will be achieved through significant improvements in terms of the level of yields and production volume of farmers thanks to better access to a wide assortment of key agricultural technologies and services through reliable and affordable commercial channels. This involves a series of interventions focused on improving commercialized access to quality inputs as well as technical and business skills at competitive costs.

It passes through: (i) establishment of an agricultural supply depot and agro-dealer training facility, (ii) implementation of more effective trade and importation arrangements, (iii) provision of training services leading to a network of skilled operators and agri-business persons, and (iv) expansion of the model across the country. Achieving the impact of the project is based upon a few major assumptions, including political by-in, government willingness to finance the agricultural sector, the predisposition of small producers to collaborate with private actors, and favorable climatic conditions.

4. Overall Goal

The goal of this project is to develop a novel private sector-led partnership action led by the African Agricultural Leadership Institute (AALI) that provides the agricultural community in South Kivu with a wide assortment of key agricultural technologies and services not previously available through reliable and affordable commercial channels, and to expand and replicate this model across additional Provinces and development programs.

5. Specific Objectives

Objective 1. To assess the supply chain of farm production inputs and services in South Kivu and devise a strategy for improved commercialized access that is linked to demand created by emergent agricultural transformation programs (Planning Ahead).

Objective 2. To provide technical support to the private sector to establish and operate an agricultural supply depot and service facility that increases the understanding, availability and affordability to numerous proven agricultural technologies through Service Delivery Models (SDM) involving agro-dealers and the AALI Youth Brigade (Go Depot).

Objective 3. To mobilize more direct commercial access to fertilizers, seeds, machinery and other production supplies through more effective trade and importation arrangements, and to align these imports and services with the emergent agricultural development programs planned for DR Congo in line with its national Agricultural Transformation Agenda (More is Better).

Objective 4. To develop a model and mechanism for agricultural depot operations in South Kivu that can be replicated by others elsewhere, and to provide certified, on-site training services leading to a network of skilled operators and agri-business persons, including women and youth (Replicate and Expand).

6. Activities by Objective

Objective 1: Planning Ahead. Plan for the Project, identify its targeted technologies, related inputs and skills requirements, actual and potential suppliers and partners, distribution strategy, as well as design and prepare the location for Depot operations.

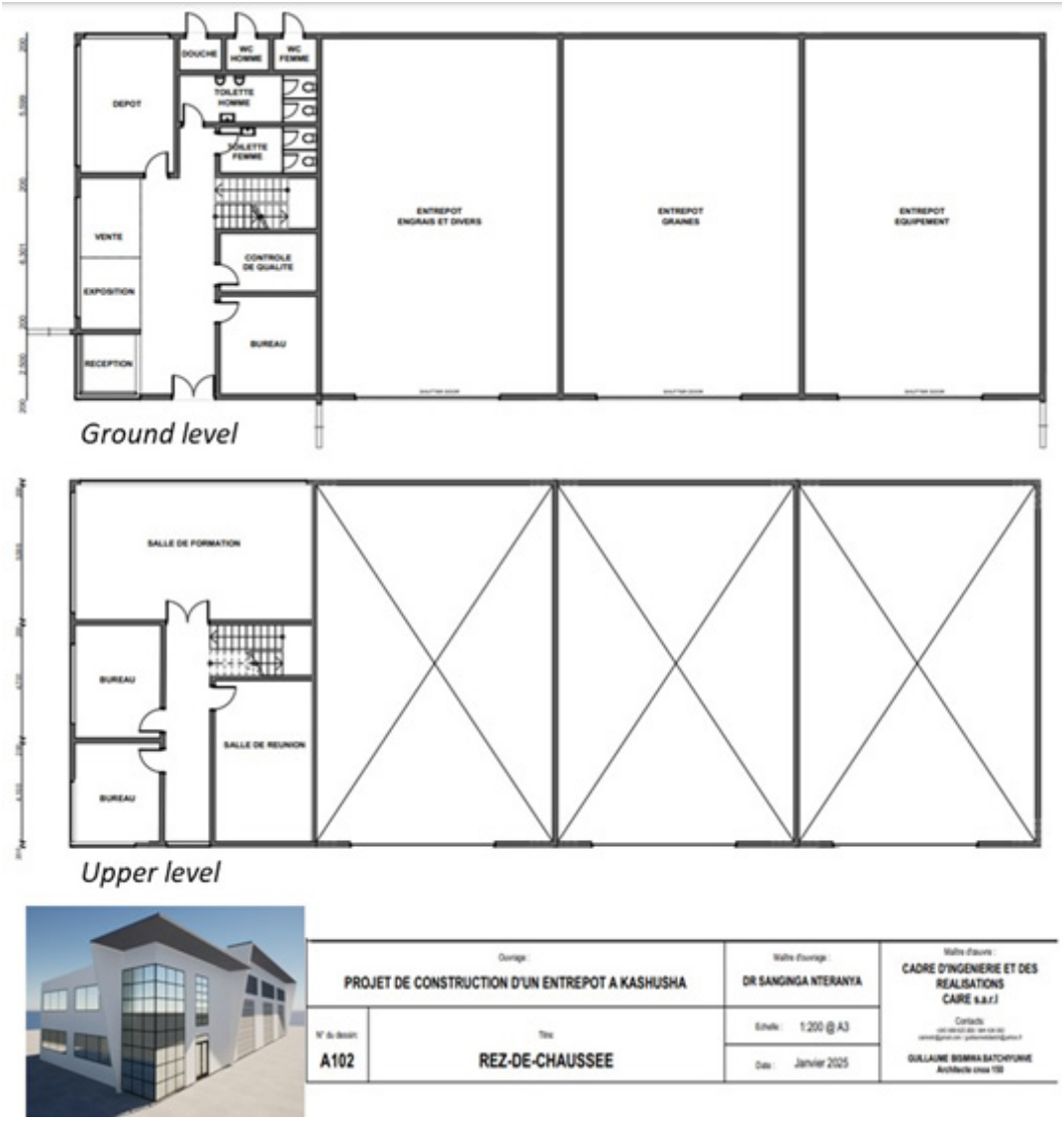

Figure 1. A preliminary design of the facility constructed in Kashusha, South Kivu to support this project. It does not require investment through this proposal.

Activity 1.1. Conduct a Project Launch. Recruit and assign Project staff. Organize a Project Planning Committee to assess the location and capacities of the Depot, the technologies it invests into, and the best suppliers of those technologies. Conduct a market assessment to better understand the supply and demand for agri-inputs and guide the development of a marketing strategy including service delivery (Appendix 2).

Activity 1.2. Identify and acquire a Depot site, develop architectural and engineering plans for the facility, obtain all regulatory clearances for its operations, prepare the site for occupation and rent the depot facility. A preliminary design of the facility developed by G.B. Batchiyunve (Architect) appears as Figure 1.

Activity 1.3. Identify project partners including suppliers and transporters of input products and equipment, and the government and non-governmental agricultural development programs in need of Go Depot production inputs and accompanying services.

Objective 2: Go Depot.

Activity 2.1. Rent and occupy the Depot and its adjoining administrative and training facilities. While waiting for NEEMA to construct the Depot, it may be necessary to construct a temporary facility in stages starting with the "greenhouse-style" deport warehouse and an adjoining converted freight container office.

Activity 2.2. Arrange for the first consignment of production inputs and farm machines. Purchase and import fertilizers in quantity from Kenyan suppliers, purchase seed from both neighboring countries and local suppliers, and import a selection of key farm machinery directly from manufacturing countries.
Activity 2.3. Initiate sales operations, advertise depot and service offerings, hold a grand opening, repackage and bundle technologies for use by small-scale farmers and contracting agricultural development projects, assemble and assemble first cohort of trainee interns. Develop and implement distribution strategies involving local agro-dealers and service providers through the Youth Brigade and outreach campaigns.

Objective 3: More is Better.

Activity 3.1. Import consecutive consignments of fertilizers based upon best bids by suppliers and transporters including DAP, urea, Triple 17 and others. Suggested quantities in Year 1 are 120 t DAP, 60 t urea, 60 t Triple 17, and 60 t of Minjingu Rock Phosphate. Link these fertilizers and quantities to demands from government development programs.

Activity 3.2. Acquire maize (60 t), bean (20 t), soybean (20 t) and assorted vegetable seed (e.g. onion and cabbage). These seeds may require chemical treatment and repackaging. Also arrange to market cassava as cuttings (bundled stems) and SAH plantlets. Whenever possible, link these efforts to local seed producers, multipliers and companies.

Activity 3.3. Travel to China to identify the best suppliers and transporters of small-scale farming equipment, particularly tillers (100), sprayers (100), multi-threshers (60) and mills (60). Also include a cross-section (e.g. 5 each) of other machines (e.g. planters, power weeders, stover and forage choppers, irrigation systems, pelleters, etc.) to assess their demand. Import, assemble, advertise and market these machines, and arrange for rental and contract service provision by Brigadier Chapters.

Activity 3.4. Establish a display area and retail outlet within the administrative wing of the depot. Appoint a sales person and cashier. Conduct counter sales and maintain a record of sales and customers.

Objective 4 : Replicate and Expand Operations.
Activity 4.1. Develop, publish and post guidelines on how best to develop a multiple-function agricultural depot and how to modify its design and operation to suit different purposes. Include assistance in replication and expansion among the facilities service offerings.

Activity 4.2. Prepare expansion plans for use within the AfDB ADP-DRC and other similar Programs (e.g ADL-145T Tier 1 and Green Corridor Initiative). Prioritize expansion to Lubumbashi and Greater Kasai within the DRC-ATA Program. Modify the approach for application within the AALI Award of the Presidential Concession.

Activity 4.3. Identify additional private sector parties interested in investing in this novel partnership model, and prepare additional proposals, including those with links to International Financial Institutions. Include this model into the portfolio promoted by the AfDB Feed Africa Special Envoy.

7. Time Frame

A timeframe for the two-year project organized by Objective and Activity appears in Table 1.

8. Outcomes and Impacts

The longer-term impact of this project is to increase competitiveness of DR Congo's agriculture sector, substitute foods importations and contribute to food security. This passes through significant increases of yields and production volume of farmers thanks to better access to a wide assortment of key agricultural technologies and services through reliable and affordable commercial channels. More specific outcomes follow.

1. The establishment of a major agro-inputs depot in South Kivu and satellite distribution centers in six administrative Territories, leading to farmer's greater access to these production inputs and farm machines.

2. The mobilization of at least 270 tons of fertilizer and 105 tons of crop seed for use by farmers participating with DRC-ATA Outreach Campaigns within South Kivu, resulting in about 6,400 tons of additional maize and legumes.

3. The introduction of seven different small-scale farming machines (hand tractors, weeders, sprayers, maize shellers, multi-threshers, flour mills, and feed pelletizers) to the farming community and the marketing and distribution of 315 of those machines.

Table 1. Time frame for the NEEMA Agro-Inputs and Service Center arranged by Objective and Activity.

Objective	Activity	Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Planning ahead	1.1. Launch project & conduct detailed planning	X							
	1.2. Identify, obtain & prepare depot location	X	X						
	1.3. Identify partners, suppliers, & transporters	X	X	X	X				
2. Go Depot	2.1. Establish & promote facilities & services	X	X						
	2.2. Receive first & subsequent consignments		X						
	2.3. Initiate sales and conduct grand opening		X	X					
3. More is better	3.1. Import, repack and market fertilizers		X	X	X	X	X	X	X
	3.2. Purchase, process, package & market seeds		X	X	X	X	X	X	X
	3.3. Import, assemble & market machinery			X	X	X	X	X	X
	3.4. Establish & operate retail & satellite operations			X	X	X	X	X	
4. Expand & replicate	4.1. Develop, publish and post Center guidelines					X			X
	4.2. Prepare & promote expansion plans					X	X	X	X
	4.3. Identify and assist additional private sector investors					X	X	X	X

4. The establishment for four different services offered to at least 9000 households of the farming community of South Kivu related to agro-dealer training, grain marketing, digital advisories, and contract mechanization.

5. Greater performance of the Farmer Outreach Campaigns of the DRC-ATA in South Kivu, its expansion to four additional Provinces, and subsequential adoption by the PDA-DRC, PDL-145T and Green Corridor Initiatives.

9. Risks and Mitigation

Risk 1 : AALI was originally designed as a non-governmental service and advisory organization that is not well suited to operate commercial enterprises, and as such its pioneering depot and satellite operations may be non-competitive.

Mitigation : AALI is initiating a Public-Private Partnership division that operates independently from the rest of its operations that is specifically intended to stimulate the promotion of proven agricultural
technologies; also, some AALI staff have decades of experience in the promotion of agricultural technologies.

Risk 2 : The absence of several agricultural technologies in DR Congo may be the result of its landlocked position and the excessively high cost of freight transportation and their related transaction al costs. Mitigation: AALI is making a systematic approach to identifying the best manufacturers and suppliers of different needed agricultural technologies and the most competitive freight forwarders. In some ways, it will displace middlemen who seek exceptionally large profits.

Risk 3 : Unfavorable government policies, bureaucratic inefficiency and official corruption that makes DR Congo a difficult environment for investment in agricultural technologies will continue, and impede pr prevent the progress of this project.

Mitigation : This project in part represents an investment by the highest levels of government (e.g. CCP-PNAA) and this relationship will lead to good will by local authorities and their full cooperation.

Risk 4 : Civil disorder and insecurity will inhibit the progress of this project and pose a risk to those attempting to implement it. Mitigation: The project will only operate where it is safe and reasonable to do so, selecting areas under the firm control of the central government and it concert with local security officers. The principles of advantage described in the Green Corridor Initiative will guide locational decisions.

Risk 5 : The project may invest in the wrong technologies, or fail to assemble the technology bundles required by and affordable to the smallholder farming community. Mitigation: The technologies selected for investment will be guided by the successful efforts of the IITA DRC-ATA Program and the AfDB Technologies for African Agricultural Technologies Program. It will offer and bundle technologies with proven efficacy, and in quantities affordable to a wide range of stakeholders.

10. Budget

The total budget to AALI is US $789,013 over two years. 75% of these funds are spend in Year 1 to staff, stock and operate the Warehouse and Service facility. A summary budget by budget categories and years appears in Table 2. A more detailed budget appears in Appendix 3. Information on the budget categories follows.

Personnel : A fulltime General Manager in Year 1, 3-month Sales, Depot and Service Managers in Year 1, also assumes that revenues in Year 2 cover 50% of Center salaries. (11% of Total Direct Costs).

Consultants : Provides for casual laborers and modest stipends for Service trainees in Years 1 and 2 (2% of Total Direct Costs).

Facilities : Includes site preparation and construction of temporary facilities in Year 1, and warehouse rental in Year 2 (5% of Total Direct Costs).

Capital Equipment : Includes purchase of a delivery truck, motorized forklift and other equipment (e.g. scales, office and communications equipment) (6% of Total Direct Costs).

Travel & Transport : Includes shipment costs, entry fees, travel to suppliers, and local milage costs (7% of Total Direct Costs).

Supplies: Includes purchase of fertilizers, seeds, and farm machinery, (63% of Total Direct Costs). Other Direct Costs: Mostly warehouse, office and training supplies, (1% of Total Direct Costs).

Sub-awards : Includes funds allowing participation by the Youth Brigadiers and IITA Specialists, including SAH advisory, (5% of Total Direct Costs). Indirect Costs: Includes support to security and cleaners, and utilities (8% of Total Direct Costs)

Appendix 1. Photographs supporting this proposal based upon a mission to agro-dealers and their wholesale suppliers in Nairobi, Kenya.

Category	Year 1	Year 2	Total
Table 2. Project budget (in US$) over two years. See Appendix 2 for more detailed budget.			
Personnel	*30,450*	*47,700*	*78,150*
Consultants	*4,800*	*7,200*	*16,800*
Facilities	*25,000*	*13,760*	*38,760*
Capital Equipment	*41,800*	*5,536*	*47,336*
Travel & Transport	*36,538*	*11,609*	*48,147*
Supplies	*390,500*	*72,675*	*463,175*
Other Direct Costs	*1,600*	*3,600*	*5,200*
Sub-awards	*16,500*	*16,500*	*33,000*
TOTAL DIRECT COST	*547,188*	*178,580*	*730,568*
Indirect Cost	*43,775*	*14,286*	*58,445*
TOTAL BUDGET	*590,963*	*192,867*	*789,013*

Nairobi-based wholesalers & storage depots visited during the AALI Mission

Appendix 2. Prices and suppliers of materials for the NEEMA Agro-input and Service Center. These costs result from various vendor quotations and prices posted in electronic catalogs, and are indicative not final.

Item	Type	Location	Supplier	Price ($)	Unit	Quantity	Cost ($)
Fertilizer	DAP	Nairobi	OCP Africa	760	ton	120	91,200
Fertilizer	DAP	Bukavu	Ets Agribusen	1,100	ton	120	132,000
Fertilizer	Urea	Nairobi	Elgon (K) Ltd	578	ton	60	34,680
Fertilizer	Urea	Bukavu	Ets Agribusen	1,000	ton	60	60,000
Fertilizer	Triple 17	Nairobi	Elgon (K) Ltd	631	ton	60	37,860
Fertilizer	CAN	Nairobi	Elgon (K) Ltd	444	ton	60	26,640
Fertilizer	Minjingu RP	Arusha	Minjingu MFL	430	ton	60	25,800
Seed	Maize hybrid	Nairobi	WSC	2.70	kg	40000	108,000
Seed	Maize hybrid	Bukavu	Agriforce	2.50	kg	40000	100,000
Seed	Soybean	Nairobi	SeedCo	3.00	kg	20000	60,000
Seed	Soybean	Bukavu	DRC-ATA	3.00	kg	20000	60,000
Transport	NBO-Bukavu	Nairobi	Glogistik Ventures Lt	227	$/ton trip	30	6,801
Equipment	Tiller 12 HP	Nairobi	Ikonic	870	ea	100	87,000
Equipment	Tiller 12 HP	China	Taizhou JC	459	ea	100	45,900
Equipment	Tractor 25 HP	Nairobi	Kubota	5,814	ea	12	69,767
Equipment	Tractor 25 HP	China	Yantai Lansu	985	ea	12	11,820
Equipment	Power weeder	Nairobi	Ikonic	340	ea	100	34,000
Equipment	Power weeder	China	Taizhou JC	219	ea	100	21,900
Equipment	Power sprayer	Nairobi	Ikonic	160	ea	100	16,000
Equipment	Power sprayer	China	Taizhou JC	85	ea	100	8,500
Equipment	Maize sheller	Nairobi	Ikonic	280	ea	60	16,800
Equipment	Maize sheller	China	Zhengzhou	259	ea	60	15,540
Equipment	Multi-thresher	Nairobi	Ikonic	320	ea	60	19,200
Equipment	Multi-thresher	China	Zhengzhou	350	ea	60	21,000
Equipment	Flour mill	Nairobi	Ikonic	1,100	ea	60	66,000
Equipment	Flour mill	China	Zhengzhou	299	ea	60	17,940
Equipment	Feed pelleter	Nairobi	Ikonic	1,500	ea	5	7,500
Equipment	Feed pelleter	China	Zhengzhou	550	ea	5	2,750
Equipment	Palm oil mill 1	China	Huatai	9,998	ea	1	9,998
Equipment	Palm oil mill 2	China	Huatai	32,000	ea	1	32,000
Equipment	Fork lift	China	Quingdao	2,800	ea	2	5,600
Equipment	Pallet lift	China	Taixing	123	ea	4	492

Appendix 3. Detailed budget for the AALI components of the NEEMA Agro-Input and Service Center.

Category	Item	Year 1	Year 2	Total
Personnel	General Manager	13,200	13,200	26,400
	Sales Manager	5,250	10,500	15,750
	Warehouse Manager	5,250	10,500	15,750
	Training Manager	6,750	13,500	20,250
	Sub-total	***30,450***	***47,700***	***78,150***
Consultants	Casual labor	2,400	2,400	4,800
	Interns	2,400	4,800	12,000
	Sub-total	***4,800***	***7,200***	***16,800***
Facilities	Site preparation	22,000	1,760	23,760
	Warehouse rental	3,000	12,000	15,000
	Sub-total	***25,000***	***13,760***	***38,760***
Capital Equipment	Delivery truck	32,000	3,840	35,840
	Forklift	5,800	696	6,496
	Other	4,000	1,000	5,000
	Sub-total	***41,800***	***5,536***	***47,336***
Travel & Transport	Shipping	27,000	6,750	33,750
	Local travel	3,300	3,300	6,600
	Import fees	6,238	1,559	7,797
	Sub-total	**36,538**	**11,609**	**48,147**
Supplies	Fertilizers(topdress)	74,000	18,500	92,500
	Fertilizers (preplant)	28,500	7,125	35,625
	Fertilizers (NPK)	37,000	9,250	46,250
	Seeds (maize)	97,200	24,300	121,500
	Seeds (legumes)	54,000	13,500	67,500
	Equipment (tillers)	45,900	0	45,900
	Equipment (sprayers)	8,500	0	8,500
	Equipment (shellers)	12,950	0	12,950
	Equipment (mills)	14,950	0	14,950
	Others	17,500	0	17,500
	Sub-total	***390,500***	***72,675***	***463,175***
Other Direct Costs	Warehouse Costs	400	1,200	1,600
	Office Costs	600	1,200	1,800
	Training Costs	600	1,200	1,800
	Sub-total	***1,600***	***3,600***	***5,200***
Sub-awards	AALI (Brigadiers)	9,000	18,000	27,000
	DRC-ATA (IITA)	7,500	9,000	16,500
	Sub-total	***16,500***	***16,500***	***33,000***
TOTAL DIRECT COST		***547,188***	***178,580***	***730,568***
Indirect Cost	***8% of Direct Costs***	***43,775***	***14,286***	***58,445***
TOTAL BUDGET		***590,963***	***192,867***	***789,013***