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1996 FERTILIZER SITUATION:
PROGRESS, PROBLEMS AND PROGRAMS

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Summary

A number of problems in the fertilizer sector continue to hamper the intentions of the government to establish a competitive marketing system concurrent with increasing peasant agricultural productivity and food security. Fertilizer subsidies continue to come down, deregulated retail prices are going up while surplus grain stocks in high potential areas depress grain prices with the possibility of further discouraging farmers from using fertilizer on some crops.

Furthermore, attempts to convert Agricultural Inputs Supply Enterprise (AISE), the former monopoly marketing agency (AISCO), into a parastatal continue to require adjustments in order to allow a level playing field for involvement of private wholesalers. Most recently the converted parastatal, AISE, has been reported to be facing allegations of unfair business practices in the manner it and its retailers have competed against the private wholesaler Ethiopia Amalgamated Limited (EAL). A few representatives of the fertilizer donors have tentatively verified the accusations and committees appointed by the government have been sent to 4 areas to assess the extent of any improprieties that may have taken place. More recently the government tendered a new order through AISE without competitive bidding citing the number of complaints filed by EAL and the counterclaims.

Against this background, the World Bank and the government have embarked on a Fertilizer Sector Project designed to create policies, agencies and human resources for the promotion of peasant sector fertilizer use. Although fertilizer use and correspondingly crop production has gone up, a 1995 report to USAID found 41% of the peasant farmers have never used fertilizer. The report also indicated that as a result of the nutrient depleted soils and consequent low productivity, 65% of the peasant sector sell no grain, another 20% sell less than 2 quintals and 50% needed to buy grain for food. A portion of the Project includes a minikit program designed to introduce fertilizer to new users and low resource areas as well as better balancing of input plant nutrients.

A major concern addressed in this paper is the role of fertilizer in the alleviation of poverty among the rural poor. With small land-holdings, subsistence production and large families to feed, can fertilizer raise productivity consistently enough to better feed the peasant family and repay the un-subsidized fertilizer loans. Recent agroclimatic factors have substantially raised production, especially with fertilizer and improved husbandry, but the lack of infrastructures and market development has and could continue to cause wild swings in farm-gate cereal prices.

Introduction and background

One of the goals of the Government's Agricultural Development-led Industrialization is to increase crop production through the use of larger quantities of fertilizers and better balance of plant nutrients. Expanding the use of fertilizers appears promising for five basic reasons.[1]

1) Fertilizer use in adjacent countries has boosted production while use in Ethiopia stands at about 31 kg/ha (261,000 mt on 8.4 million ha.), one of the lowest of the Sub-Saharan. The low application rate and non-adoption of fertilizer among the peasant sector was a result of the non-farmer friendly policies of the previous government.

2) Small farmers now show a much stronger interest and readiness to invest in fertilizers than in any other technological input. Faced with increasing land pressures but more favorable market prices, farmers realize the potential of fertilizers for increasing production on their small, nutrient depleted holdings.

3) On-farm trials have demonstrated that even with the current production management and land race varieties, favorable and economic responses to fertilizer use are assured. Large increases in production in 1995 and 1996 are more likely due to favorable rainfall but response to fertilizer has been demonstrated even in adverse years.

4) Peasant sector demand for fertilizer has been growing steadily and is far from saturation. Although current demand is less than supply, this can be blamed on problems relating to distribution, credit and, possibly, to fluctuating local market prices. Development of these supporting services may be as critical in furthering the use of fertilizer and increasing production as that of extension work with farmers.

5) The infrastructure necessary for importing and distributing fertilizer is more workable than any other production input. Although requiring foreign currency and still not efficiently operated, transportation systems and application methodology are simple, functional and operating.

In summary, although farmers do not appreciate the fact that fertilizer comes from outside the country and is purchased on the open market, the USAID survey showed that only 31% reported it was too expensive and only 11% said it was not beneficial. Both the government and the farmers agree to the value and benefit of fertilizer in alleviating food insecurity and promoting the economic welfare of the country and its people. **Fertilizer use is of paramount importance to the future welfare of Ethiopia.**

Fertilizer facts

Fertilizer use, crop production and grain prices

Recent advances in fertilizer use and crop production may be counteracted by surplus grain production and concomitant fluctuating cereal prices (Table 1). In spite of rising retail prices for fertilizer, demand sales and crop production have gone up, supported in part by a favorable market trade and generally rising urban cereal prices. However, in a few surplus producing areas, as a result of widespread good rainfall in the 1995 and 1996 crop seasons, grain prices have fallen two to three fold. The current government agricultural extension program, which has encouraged good husbandry and purchased inputs by credit, would seem to be too much too quickly, at least

[1] Adapted from Fertilizer Marketing Survey-Main Recommendations. Kuawab Business Consultants report prepared for USAID/Ethiopia, October, 1995.

for these localized highly productive areas; and, at least for the moment, it has reduced the farmer's profit margin substantially when selling grain to pay for fertilizer.

Table 1. Recent trends in fertilizer use, fertilizer price, crop production and cereal prices.

	1989	1990	1991	1992	1993	1994	1995	1996
Grain Production (Mil Tons)	6.78	6.70	7.33	7.60	7.95	7.44	9.44	9.44+
Fert use (Mil Tons)	.119	.110	.114	.140	.084	.176	.197	.261
Price of DAP (Birr)	96.6	83.8	91.0	107.1	176.2	143.3	178.	200.
Teff Price (Birr) *	115	122	143	190	188	183	239	245
Wheat Price *	66	70	101	148	121	134	160	183
Maize Price	52	56	86	113	103	96	137	125

* Average of monthly Addis Ababa prices (mixed teff and mixed wheat) July to June.

However closer examination of the farmer's thinking changes the picture somewhat. In a survey compiling data from the crop years 1992-94, 65% of farmers replied they sold no grain, another 20% sold less than 2 quintals and 50% bought grain for food at some time during the year. However, only 12% of the fertilizer using farmers reported buying fertilizer to increase marketable grain; 44% indicated they use fertilizer because they needed more grain for consumption and 41% intended to consume and market the extra grain produced from fertilizer use.[2] This indicates that most farmers expect to pay for fertilizer with other sources of income, be it cash crops, small amounts of high value grain, sale of livestock, labor income or other sources.

Another question concerns the preferential use of fertilizer on teff and wheat, even though farmers are cognizant of the high production potential of fertilized maize (Table 2 and 3). It is known that maize is a mid- to lowland crop, barley a very highland crop, both of which are grown in subsistence oriented agro-ecologies for food security, not necessarily for sale/profit. However, wheat and teff farmers are more cash grain sellers and prices of these grains have been historically more stable. This price stability is related to the large consuming population who prefer these grains, the better storability of these grains, and, therefore, the farmer's better prospect of cost recovery. Thus maize farmers may have to diversify back to these lower-yielding market grains, a trend which is already evident this year in the western maize areas.

Also shown in Table 2 is the fact that even though prices of fertilizer have gone up and grain prices may go down, value cost ratios still show profitability even in areas of lower productivity. For instance, the economic optimum fertility rate for teff, 130 kg/ha DAP and 110 kg/ha Urea, gives 2 birr return for 1 birr spent below the cut-off price of 120 birr/quintal. This is because Ethiopian soils are so low in fertility that productive response to fertilizer remains good.

[2] KUAWAB Business Consultants. 1995. Fertilizer Sector Report submitted to USAID/Ethiopia. Addis Ababa.

(Sasakawa Global 2000 reports excellent yield response to 1 quintal of DAP and 1/2 quintal of Urea on barley in Eritrea this year even with only 250-400 mm of precipitation.) Nevertheless, the number of fertilizer users, their application rate and their adoption of the more cost effective fertilizer, Urea, has not changed substantially up to 1994 in spite of rising grain prices and increased credit availability (Table 4). This may be related to farmers' perception of fertilizer as too expensive in relationship to their cash flow. In general, because Ethiopian farmers are accustomed to being cash poor and do not operate with much capital they frequently cite the high cost of fertilizer as a reason for limited use. Although many factors enter into the decision to buy fertilizer (Table 5), the fact that land holdings, oxen ownership and volume of grain sales are the most significant determinants points to poverty as the cause of fertilizer non-use.

Resource poor farmers do not understand the higher prices (also for grain) brought about by market liberalization and currency devaluation. In fact, less than half the farmers surveyed compare the price of fertilizer to the price of grain or the value of the derived benefit. This is why credit and extension education is necessary to convince the farmers of the business opportunities they have. (Only 28% of farmers surveyed knew the MoA recommended rate of DAP application, 72% knew of only one type of fertilizer-DAP, and while, 67% knew the value of fertilizer in combination with improved varieties, only 6% reported using both.)

Table 2. Farmers perceived yield increase from application of 1 quintal of fertilizer, Value/Cost Ratio, Economic optimal application rate and Cut-off grain price for various crops.

Crop	Teff	Maize	Sorghum	Wheat	Barley	Finger Millet
Farmers Expected Yield Increase (kg/ha) *	387	703	340	486	510	368
MoA Expected Value/ Cost Ratio *	3.6	4.2	-	3.7	4.5	3.6
Economic optimal rate DAP/Urea**	130/ 110	165/ 80	65/ 60	120/ 120	100/ 100	
Cut-off grain price for Economic return opt @ VCR=2.0**	120	80	100	80	80	

* From KUAWAB Fertilizer Marketing Survey. October, 1995.
** Figures provided by National Fertilizer Input Unit.

Table 3. Patterns of fertilizer allocation among crops from the 6,147 farmers surveyed in 4 regions in 1994.

Crop	Extensive use of fertilizer		Intensive use of fertilizer		Applied rate of fertilizer	
	% crop area fertilizer	% share of fertilizer used	% users using recommended rate	% of annual crop production	DAP rate among users kg/ha	DAP rate overall users kg/ha
Teff	92.9	41.5	50.3	18	75	40
Wheat	85.5	18.1	55.6	11	83	46
Barley	75.7	14.7	50.9	15	76	36
Maize	59.6	14.7	53.9	22	81	34
Sorghum	38.3	1.9	46.7	17	70	9
FMillet	60.2	3.0	50.8	NA	81	18
Average	72.0		53.0		80	33

Source: Fertilizer Marketing Survey. KUAWAB Business Consultants. Report prepared for USAID/Ethiopia. October, 1995.

Table 4. Changes in number of farmers using fertilizer and average application rate compared over the years 1992-1994 among 6147 farmers surveyed in Oromo, Amhara, Tigray and Southern regions. [3]

	1992	1993	1994
DAP	2528 users 89.7 kg/ha	2633 users 89.1 kg/ha	3298 users 92.8 kg/ha
Urea	539 users 73.1 kg/ha	516 users 71.9 kg/ha	569 users 71.9 kg/ha

Source: KUAWAB Fertilizer Marketing Survey. October, 1995.

[3] KUAWAB Consulting Associates. 1995 Fertilizer Sector Report submitted to USAID/Ethiopia. Addis Ababa.

Table 5. Significance and direction of relationship of several variables to fertilizer purchase by the household from 6147 farmers surveyed in 4 regions (17 zones in 65 weredas in 195 PAs).

Variable	Fertilizer Purchase by HH	Explanation
Age of family head	S-	Younger headed families use significantly more than older headed families
Sex of family head	NS-	No significant difference between use by male or female headed families, although female headed families use less
Education of head	NS+	No significant difference, although the more educated families use more fertilizer
Number defendants	S-	Small families use significantly more than large families
Land holdings*	S+	Large holders use significantly more than small holders (i.e. more likely to use but may spread over greater area)
Oxen ownership**	S+	Land owners use significantly more than non-owners (i.e. more resources to accept risk = better land preparation including fertilizer use
Grain sales***	S+	Higher grain sales = significantly more fertilizer use (i.e. more working capital = more fertilizer use = more grain sales)
Years of fertilizer use	S+	More years of use = significantly continued use
Fertilizer knowledge	S+	More knowledge of fertilizer gives significant use
Extension education	S+	More education results in more use
Yield to expected	S-	Higher expectation of the farmer results in less use
Access to fertilizer	S+	Availability of fertilizer = significantly greater use
Distance to market	S-	Further from retail supply = significantly less use
Private vs Public	S-	Significantly less purchase at this time from private suppliers
Fertilizer price	S-	Significantly less purchased as price goes up
Fertilizer supply	S-	Significantly less purchased as supply is limited
Access to credit	NS+	not significant though more bought if credit is available
Access to bank	S+	Significantly more borrowed if bank is nearby

**Most important determinant in 8 out of 10 equations tested*
***significant determinant in 9 out of 12 equations tested*
****significant determinant in 8 out of 12 equations tested*

Source: KUAWAB Business Consultants. Fertilizer Marketing Survey. Report prepared for USAID/Ethiopia. October, 1995.

Fertilizer use by the resource-poor and food production security

Oddly enough, the cheapest grains, those relied upon as poor mans' food, are the ones that respond most to fertilizer use. Maize can respond up to 4 fold, sorghum, wheat and barley 2-3 times, but teff only up to 100% increased yield and pulses 25-50%. For the urban poor or those farmers who sell teff or wheat to buy maize or sorghum, low coarse-grain prices are beneficial to their food security. However, with the use of purchased inputs, more grain, whatever the crop, must be sold to repay the input loan. The price differential between teff/wheat, the staple food of the urban, and that of maize/sorghum is what the poor farmer must live on. **With land shortage and a low resource base, the farmer must choose between speculative production of high potential value cash crops with input costs or low value, low input food-security crops**. Stabilizing prices and national food supplies by subsidies is an incomplete and costly means of tackling food insecurity.

There are two major ways in which resource-poor farmers are thwarted even from using fertilizer. First with low holdings of land, oxen and pack animals, the farmer is not able to transport and utilize fertilizer to produce a marketable surplus. And, second, this low resource base reinforces the risk-aversion behavior of the subsistence farmer making it difficult for him to optimize output for repayment of fertilizer loans rather than maximizing family food security.

The problem of poverty induced food insecurity and a sustainable solution involves economic transformation from low productive agriculture. "As many as two thirds of Ethiopia's rural households are food deficit during part of the year. Simply introducing production stimulants by credit is not the solution when currently about 65% of the farmers typically sell no grain."[4] However those farmers who are land-short (39% have 0.5 ha or less), or those who experience unreliable rainfall, are precisely those who need the production stimulating inputs of fertilizer and drought tolerant varieties. **These households, the land-short and/or those in drought-prone areas, are the ones which are most vulnerable to the ups and downs of weather and prices!** If introduced to inputs, they will also need alternate cash or Employment Generating Schemes to be able to repay inputs and buy food in the down years.

Rather than writing off their loans or subsidizing inputs to the resource poor, it may be possible to devise "Fertilizer for Work" programs. There have been successful programs in other African countries utilizing earned credit. Farmers, either by work or sales, establish a line of credit toward future purchase of inputs. This encourages conservation of resources in good years for use in the unfavorable.

Problems in the fertilizer business

Credit administration and loan collection

While credit is recognized as essential for small-holder gains in productivity, processing the multitude of loans individually or through the insolvent service co-ops continues to be a problem. The following table shows the use of credit to buy fertilizer in some regions.

[4] Market Analysis Note #1. Grain Marketing Research Project. MEDAC. Addis Ababa. July, 1996.

Table 6. Fertilizer and credit use by region[5]

Region	Credit Available	Credit Disbursed	Fertilizer Sold	Percent of sales by credit
	(million birr)		Mts	
Tigray	-	-	6,950	
Amhara	101.6	56.9	74,016	38.4
Oromia	320.0	193.4	187,781	51.5
SNNPRS	100.4	35.5	32,080	55.3
Total	522.7		261,000	

The credit was turned over to the regions and loans were arranged by the Bureau of Agriculture either through the existing service co-ops or individually with the farmers. Although farmers have been and still are reluctant to borrow, the data show the considerable importance of credit for the purchase of fertilizer. (The banks refusal in 1993 to provide credit to service co-ops with outstanding loans resulted in a 22% reduction in fertilizer use while restoration of the loan system in 1994 brought a 49% increase in sales.)

Two different mechanisms were used by the Regional Agricultural Bureaus in 1996. In Amhara and Southern Regions, the banks were authorized to disburse the monies to the suppliers with the completed delivery notes listing the individual borrowers. In the case of Oromia and Harari, the region signed as guarantor of the loan and thus avoided the need to hire additional staff to process the individual loans.

There has also been considerable discussion over the issue of the timing of fertilizer loan repayments. There is obviously a need for repayments before processing the next year's loan application but it has also been argued that prices are usually lowest at the time of harvest and that this may not be the most opportune time for farmers to sell production for loan repayment. However, it should also be borne in mind that fertilizer loans are most often repaid with cash from other sources than sale of crops. The following table shows the percent recovery of fertilizer credit over time.

Table 7. Collection performance for 1994 and 1995 Development Bank loans.

Month	Cumulative % 1994 loan collection	Cumulative % 1995 loan collection
January	23	15
February	49	32
March	56	40
April	65	72
May	74	85
June	84	89
July	92	103
August	97	105
September	98	NA
October	99	NA
November	102	
December	106	

It should be noted that in 1995, the Regional Agricultural Bureaus made a concerted campaign, starting in April, to recover past loans before processing credit and delivering fertilizer for 1996.

[5] Compiled from data supplied by Commercial and Development Banks and fertilizer wholesalers.

It may be that if adopted as standard procedure, farmers would become more familiar with this system and loan collection will proceed more smoothly and consistently.

1996 fertilizer sales and prospective 1997 supplies

As mentioned previously, the 5-year agricultural sector plan envisions continuous increases in fertilizer demand, including prospective utilization of 350,000 tons in 1996. Because of the large stocks of grain on hand, cereal prices were depressed at planting time and fertilizer sales did not materialize as expected, reaching only 261,000 tons. For this reason the fertilizer demand forecasting procedure has been changed.

Table 8. Fertilizer stocks, sales and carryover for recent years

	Metric Tons	Public	Private
1996 procurement	340,000		
1995 carryover	61,000		
Total available 1996	**401,000**	245,000	155,000
1996 sales	261,000	188,100	71,900
1996 carryover	140,000	56,900	83,100
1997 donor commitments	200,000		
Available for 1997	**340,000**		
Projected demand for 1997	278,100		

Previously the individual Regional Bureau of Agriculture estimated demand based on their expected participation in extension fertilizer demonstrations and adoption of recommended practices. Under the new procedure, the National Fertilizer Industry Agency has developed a linear model of prior fertilizer use to project demand assuming continuation of current growth rates. Using these models, demand for DAP and Urea is expected to be 229,700MT and 48,400MT respectively in 1997, giving a total projected demand of 278,100Mt against an expected supply of 340,000MT.

The outlook for government non-intervention in fertilizer marketing as well as grain marketing in 1997 does not look promising considering that:

- the 1997 reduction in fertilizer will mean higher peasant sector prices;
- retail prices for fertilizer are scheduled to be deregulated at the retail level in 1997;
- the cost of interest and warehousing the carryover stocks will have to be recovered by both public and private fertilizer marketing agencies; and
- international prices for fertilizer are increasing.

The former state farms generally have full warehouses and, like the rest of the country, expect large harvests. As noted earlier, farmers may have already begun to switch cropping and fertilizer use to the more stable priced teff and wheat. It is possible that donors and the government will buy additional grain for Employment Generations Schemes, relief distribution or for the Food Security Reserve but, as in 1996, this will be a small percentage of the supply and will probably have little effect on market prices. The prospects for export are also limited because of high transport costs to the port and poor storage because of heat and humidity.

The fertilizer distribution system and development of the free market

The 1996 distribution system encountered several serious problems. The first relates to the allowance by the government of the cost build-up in relation to transport, interest and overhead costs for public vs private dealers (Table 9). While the government intends to create a 'level playing field' to encourage private competition, the special allowances accorded the public sector caused one company to drop out leaving only one private wholesaler. Although this dealer has found several cost cutting methods such as bulk shipping and bagging at the port, competitive transport prices, and elimination of central warehousing costs, they have not been able to compete with the parastatal, AISE. Because of the advantage AISE has in government support for transport, storage and overhead costs, **the sale to distant and remote market areas is not economical to private competition.**

In addition to this difference between private and public costs, a series of alleged actions on the part of AISE or its associates are claimed by Ethiopia Amalgamated Limited to be aimed at eliminating the competition from potential sales. Some of the allegations mentioned at the recent Fertilizer Workshop organized by the Ministry of Agriculture included:

- Denial of access to the market in several heavy use areas such as Ambo, Holetta, Itaye-Arsi and Alem-Gena.

- Temporary forced closure of storehouses and suspension of sales in Mojo and Dinsho by police action.

- Temporary holding of sales agents, threatening and then hiring from the company.

- Warning of farmers and service co-ops not to buy from the company and forced return of trucks making delivery to signed agreements of sale.

- Threatening store owners to cancel contracts with the company and then rent to AISE or affiliate.

- Use of letters signed by the wereda requiring credit holders to buy from AISE.

- Use of road passage tax and under weight, altered goods accusations to harass shipments.

The end result is claimed to have resulted in farmers getting fertilizer later than desired, not getting fertilizer at all, higher retail prices and larger than necessary carryover stocks, both for the wholesalers and for the country. It remains to be seen who will have to bear the cost of warehousing and accumulating interest charges and whether the surplus fertilizer can be sold next year at this years base price. However, the government has already initially issued to Ethiopia Amalgamated Limited. partial reimbursement of bank service overcharges for 1993-1996 and deferred payment of 75% of the value of 1996 carryover stocks.

More recently the government has assigned, from its own funds, 100,000Mt of fertilizer to be purchased through AISE without competitive bidding. A government spokesperson cited the need for getting the 1997 program started promptly while counter allegations against the private enterprise EAL were being settled. The complaints against Ethiopia Amalgamated included:

- consumer complaints of underweight and altered quality fertilizer;

- reluctance to service farmers in remote/distant places;

- the main motive of the private company is for profit;
- the fertilizer transport resources of EAL are restricted; and
- the EAL has filed so many complaints that must first be investigated.

Nevertheless, several issues have emerged concerning the competitive differences between private and public fertilizer enterprises. A new system of fertilizer enterprise capacity scoring has been devised for allocation of foreign exchange to importers.

In addition to EAL, Noble and Trustworthy is expected to enter the playing field and the re-entry of Ethio-Automotive is uncertain.

Still unresolved is the role of the Regional Agricultural Bureau and the extension agent in estimating fertilizer demands, in the fair dissemination of inputs and in collection of loans. The government has arranged for the Commercial Bank of Ethiopia to transfer the fertilizer credit to the regional governments to be used through the MoA extension service. **This mechanism of input repayment puts MoA agents back into the role they occupied during the previous Mengistu regime of being both agricultural agents and responsible for controlling and collecting financial resources from the farmers.** First, the development agents are responsible for soliciting participating farmers, arranging the loans and estimating the demand for inputs. Next, through the use of wereda stores, the agents control time and delivery of seed, fertilizer and pesticide inputs. And last, the responsibility for collecting loan repayments puts the agents in role of policeman and could undermine their primary function as development agents. If other mechanisms could be found, it might be better if the agents could remain the bearers of technological information to help the farmer adopt more and higher productive methodologies.

As much as possible business decisions and operations should be left to individual enterprise and business cooperatives among farmer groups. Farmers will need to decide how they want to adjust the crops to be planted and their input requirement depending on their perception of market demands. Revitalization of the former service cooperatives and peasant associations with orientation as businesses with hired, trained staff would allow better service and the possibility to purchase a variety of crop and animal supply inputs and not just fertilizer, growing and management of improved seeds and involvement in marketing. Collection of loans would be more effective if the peer pressure for repayment came from within the farmer's community rather than from the government's side. Finally, before enrolling resource poor farmers from marginal areas in fertilizer programmes the criteria to be used by bodies responsible for justifying loan defaults need to be set.

Programs for the future

The World Bank and the government have initiated a National Fertilizer Sector Project involving US$230 million over a 5 year period. The objective is to develop policies, institutions and human resources for promotion of peasant sector fertilizer use while converting to a free-market price and trade environment. Institutions created include the National Fertilizer Industry Agency, NFIA, which is already the focal point of issues but is more involved in advising government policy. A soil testing laboratory will be established which, along with the National Fertilizer Industry Unit, will recommend products and application rates. Finally the project will include a biofertilizer and a biogas generation component.

The project also includes distribution of fertilizer mini-kits to encourage adoption in non-use areas and to promote better balance of plant nutrients. About 25,000 farmers will receive an

introductory 10-kg packet of DAP and a 5-kg packet of Urea for a demonstration in traditional non-fertilizer using areas. The mini-kit will be administered by the extension agents to assure proper use and demonstration of advantages. In addition, about 50,000 farmers in fertilizer using areas will receive a 5-kg packet of Urea. Since Ethiopian soils are as much deficient in nitrogen as they are in phosphorus, Urea, being 45% nitrogen, is 1/3 less expensive than DAP (only 18% nitrogen) as a source of nitrogen. Therefore, this phase of the mini-kit program is to encourage the economical use of Urea as well as DAP to promote more balanced use of the two types of fertilizer in traditional fertilizer using areas. Also, this program is expected to compliment the other World Bank program, that of dissemination of improved seeds for peasant use.

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Table 9. Fertilizer cost build-up for Agriculture Inputs Supply Enterprise from port to consumer.[6]

	DAP		Urea
Basic CIF cost (average of tenders/with bags)	189.52	179.52	
Bank charges	3.00		3.00
Handling and clearing	3.44		3.44
Transport costs			
Port to central warehouse	25.79	25.79	

[6] Letter from Berhane Manna. August 23, 1994. World Bank Operations Officer, AFMET. Addis Ababa.

(831.8 km weighted average)		
Warehouse to market center (304 km radius)	9.43	9.43
Standardization fee	0.15	0.15
Unloading and loading (warehouse)	0.75	0.75
Rebagging, and wastage	0.52	0.52
Storage	0.46	0.46
Bank interest charges	2.50	2.50
AISE overhead	2.60	2.60
Market staff incentive	0.15	0.15
AISE wholesale margin	4.00	4.00
Dealer retail margin	7.00	7.00
TOTAL PRICE (without subsidy)	250.00	240.00