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AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT PAPER FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE (IX APPROPRIATE BOX)
[X] ORIGINAL [ ] CHANGE [ ] ADD [ ] DELETE

PP

DOCUMENT CODE 3

2. COUNTRY/REGIONAL ENTITY/GRANTEE

3. DOCUMENT REVISION NUMBER

4. PROJECT NUMBER: 641-0074

5. BUREAU: A. SYMBOL: AFR; B. CODE: 1

6. ESTIMATED FY OF PROJECT COMPLETION: FY 78

PROJECT TITLE - SHORT (STAY WITHIN BRACKETS)

[Agric. Rehabilitation/Health Promotion]

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION

A. INITIAL MO. YR. 12 75 B. FINAL FY 76

9. SECONDARY TECHNICAL CODES (MAXIMUM SIX CODES OF THREE POSITIONS EACH)

011	112	350	323	551	

10. ESTIMATED TOTAL COST ($000 OR EQUIVALENT, $1= ____)

A. PROGRAM FINANCING	FIRST YEAR B. FX	C. L/C	D. TOTAL	ALL YEARS E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL	350		350	625		625
(GRANT)	(350)	( )	(350)	(625)	( )	(625)
(LOAN)	( )	( )	(--)	(--)	( )	(--)
OTHER U.S. 1. Title II	35		35	70		70
OTHER U.S. 2.						
HOST GOVERNMENT		65	65	--	140	140
OTHER DONOR(S)		30	30	--	65	65
TOTALS	385	95	480	695	205	900

11. ESTIMATED COSTS/AID APPROPRIATED FUNDS ($000)

A. APPROPRIATION (ALPHA CODE)	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE	FY 76 D. GRANT	E. LOAN	FY 77 F. GRANT	G. LOAN	FY 78 H. GRANT	I. LOAN	ALL YEARS J. GRANT	K. LOAN
AD	720	940	350	--	275	--	--	--	625	
TOTALS			350	--	275	--				
12. ESTIMATED EXPENDITURES			200		270	--	155	--		

13. PROJECT PURPOSE(S) (STAY WITHIN BRACKETS) [ ] CHECK IF DIFFERENT FROM PID/PRP

[To advance the recovery and rehabilitation of the Upper Region: thru sale and distribution of bullock plows; by a mass vaccination program for children under five; and by supporting a nutrition education/training program designed to assist children and mothers. By reducing their vulnerability to future droughts, the people will be better able to cope with any future adverse cropping seasons, and so forestall the development of repeated emergency situations.]

14. WERE CHANGES MADE IN THE PID/PRP FACESHEET DATA NOT INCLUDED ABOVE? IF YES, ATTACH CHANGED PID AND/OR PRP FACESHEET.

NA [ ] YES [ ] NO

15. ORIGINATING OFFICE CLEARANCE

SIGNATURE: Richard J. Hynes

TITLE: Richard J. Hynes
Actg.Asst. Director for Program
USAID/Ghana

DATE SIGNED: MO. 10 DAY 13 YR. 76

16. DATE RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION: MO. DAY YR.

AID 1330-4 (5-75)

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Project Paper

AGRICULTURE REHABILITATION AND HEALTH PROMOTION
Project 641-0074

Part I: Summary and Recommendation:

A. (See Facesheet)

B. Recommendations:

Summary Information:

Cooperating Country: GHANA
Project: Agricultural Expansion and Health Promotion, Upper Region Project 641--74
Nature of Funding: Development Grant (FAA Section 639A(b))
Amount of Funding: $625,000

Approval is requested for the obligation of $625,000 of funds made available under the Foreign Disaster Assistance Act of 1974 (Sahel Relief) for recovery and rehabilitation activities related to the Sahel disaster in the Upper Region of Ghana.

C. Description of the Project:

1. Purpose: The purpose of this project is to advance the recovery and rehabilitation of the people of the Upper Region of Ghana from the effects of the Sahel Drought. By reducing their vulnerability to such future occurrences, they will be better able to cope with an poor crops in subsequent years and so forestall emergency situations such as recently prevailed.

Three of the elementary deficiencies in the lives of the people which were most evident during the last year of the Sahel-related drought in the Upper Region will be addressed by activities organized under this project;

a. Through the provision of bullock plows and other forms of intermediate technology, to stimulate increases in small farmer production and income;

b. Through a mass vaccination program of all children in the Region, to significantly reduce the incidence of communicable disease among this most vulnerable group of the society;

c. Through support and expansion of nutrition training and education, to improve the nutrition status of the people but in particular that of children and pregnant and lactating mothers.

2. Implementation of the Project: The various sub-activities of the project will be implemented by the regular Ministries of the GOG and by private and voluntary organizations already operating in the Region.

Sale and distribution of the bullock plows, plow parts, cement for silos and other inputs will be jointly organized by the Ministry of Agriculture, the Christian Service Committee (CSC), and the Catholic Relief Services (CRS). The Ministry will sell approximately half the plows, and the PVOs the remainder plus the other inputs.

The mass vaccination program will be organized and implemented by the Ministry of Health through the Regional Medical Officer.

The nutrition education and extension program will be implemented through support of the Bawku Nutrition Center established by the CSC and partially supported by a number of other PVOs.

3. Project Outputs: Through the project approximately 1,000 new farmers will be introduced to bullock plowing. There is a chronic shortage of plows in the Region such that all knowledgeable observers in the Region contemplate there will be no difficulty in selling all available plows to farmers. Acquisition of sufficient bullocks to draw the plows might be a constraint. It is believed however that market mechanisms to meet the demand for bullocks will respond, once sufficient plows are available, with the traditional suppliers of livestock both in Ghana and neighboring countries providing animals.

The sale of plows by the voluntary agencies will capitalize a revolving fund to be used for subsequent PVO plow procurement and sale thus overcoming on a continuing basis a continuing inhibition to the expansion and extension of bullock plowing in the Region. A ready plow supply is seen to be the primary constraint addressed by this project and the one most easily and effectively overcome by AID inputs.

The sale of plows by the MOA will generate local currency to be utilized [illegible] other development activities (small dams, [illegible] forestation etc) on a one [illegible] basis. Such activities will include deve[illegible] and strengthe[illegible]g of the capacity of local blacksmiths and a[illegible]ns to produce in the Region a local supply of many types of simple agricultural implements and parts including plows, tools, carts, etc. Local artisans have the basic skills for taking on more sophisticated activities but lack capital equipment and materials which can be generated by the project.

Vaccination of the 220,000 children under five years in the Region against the most prevalent communicable diseases will significantly increase the resistance to disease of that vulnerable group. In association with malnutrition, the condition under which most of the children exist, the impact of diseases such as measles, diphtheria, whooping cough, tetanus, etc. is especially devastating and severe.

While Region specific statistics on the incidence of disease are not reliable, it is recognized with little question that mass vaccination programs such as that contemplated have significant long-term results in the reduction of rates of morbidity and mortality among children of marginal nutrition status.

The most significant and effective nutrition program in the Region is that established and operated by the Christian Service Committee in the Bawku District since 1972. Nutrition education and rehabilitation activities have been carried out financed by various PVOs including the German Evangelical Church and the British group, Oxfam. The Oxfam and German grants expire at the end of 1975. It is proposed that USAID grant funds for the continuation and expansion of the Bawku Center program to other districts of the Region. Training courses for nutrition workers both from the Ministry of Health and other organizations would be expanded, as would be the nutrition extension program in villages. New "nutrition compounds" would be established as centers for District nutrition activities as would nutrition education activities in schools.

4. The End of Project Status to be attained in the two-year life of the project will include the following conditions:

I-Production of the 1,000 farmers adopting bullock plowing will be increased at least 50%;

II-Losses in storage of the 500 farmers constructing improved silos will be reduced 20%;

III-Incidence of communicable disease among vaccinated children will be reduced 80%;

IV-The population receiving nutrition education and services will be expanded 100%;

V-A system for sustained procurement of additional plows by PVOs utilizing revolving funds will be established and functioning;

VI-Other local currency generated activities will include support toward the strengthening and expansion of indigenous production of basic farm tools and plows.

D. Summary Findings:

Numerous visits have been exchanged and discussions held between USAID staff and Regional and District officials responsible for both overall planning and implementation for specific sub-activities. The Regional Commissioner, District Planning officers, Regional and District Health, Nutrition, Agriculture and Forestry officials have all been contacted. Voluntary agency workers from the Christian Service Committee

and the Catholic Relief Service have participated actively in program planning, defining and clarifying the kinds of activities that should and could be undertaken to bring the most benefit possible from the limited resources available to the people of the Region under this program.

The Mission judges that the implementating organizations described have the capacity to carry out the activities contemplated for them, including adequately managing the physical resources to be provided, maintaining the requisite financial records and properly controlling project funds for which they will be responsible. All agencies involved are ready and able to commerce project implementation activities.

E. Project Issues:

Issues that have been raised in prior reviews of this project include the following all of which will be addressed in Parts II and III which follow.

I-Will the proposed project assist in recovery from the current drought and/or lessen the effects of future droughts.

II-How will the proposed revolving funds be organized and managed, and how is the sale of U.S.G. donated comrodities justified.

III-How can the farmers generate funds for the purchase of the plows. Should credit be provided.

IV-How will the vaccination program be organized.

Part II: Project Background and Detailed Description

A. Background

The northern fringe of Ghana—the Upper Region—extends deep into the Savanna Zone of Africa. While it lies outside of the Sahel proper, it shares many of its characteristics including a single short rainy season extending from May to October. Rains during that period are intermittent, variable and unreliable as to starting date, duration, distribution and quantity. In good years sufficient rain falls enabling production of sufficient quantities of millet, sorghum, groundnuts, rice, yams and beans. In many seasons, however, substantial areas have partial or near total crop failures due to late, intermittent or insufficient rainfall.

93% of the Region's population of 820,000 lives in rural areas. Until recently agriculture has almost entirely been carried on by small farmers cultivating 2 - 10 acres utilizing for the most part only hand tools. For the small farmer with the severe limitations imposed on him by the primitive technology available, yields on acreage cultivated have been barely sufficient for survival. A high proportion of families as a consequence suffer almost annually through a three to four month "hungry season" (May - September) during which they subsist on one scanty meal a day.

During the period of the Sahel drought from 1969 to 1974 the Savanna Zone of Ghana suffered many of the same problems which beset the Sahel itself. Scattered areas suffered near or total crop failures. The cumulative effect of the almost uninterrupted series of dry years was accelerated erosion, the drying up of perennial streams, loss of ground water, and seriously diminished crop yields.

Rainfall was particularly short during the 1973 growing season with resulting poor harvests in many areas of Northern Ghana, particularly in the central and eastern portions of the Upper Region. By March of 1974 it was estimated that more than 100,000 people faced total exhaustion of their food supplies weeks or months before the earliest crops would be available with the maturing of the early millet crop in August of 1974. A high proportion of these people were resident in the Bawku district while others were located in the Bolgatanga and Navrongo districts to the west. As the weeks went by the seriousness of the situation became steadily more apparent with the matter being brought to the attention of the Ghanaian authorities through various channels. A number of voluntary agencies responded to the food shortage and AID authorized the diversion of 375,000 pounds of CRS Title II food for distribution to the neediest people in the affected areas. The Government of Ghana after completing its own independent investigation of the situation distributed generous quantities of food at subsidized prices.

According to medical authorities resident in the area, large numbers of people did suffer sufficient privation especially during the 1974 "hungry season" (following upon several years of shorter than normal food supplies) such that they will continue to show the effects for some time. In particular children under five years were severely affected by the under-nourishment which complicates the almost universal malnourishment that prevails in the area. As a result many children were and remain severely underweight and more than ever vulnerable to such prevalent diseases as measles, tuberculosis, typhoid, etc.

The Mission recognizes that much basic research is required to design programs to overcome the many elemental problems of the region. It also sees the pressing requirement now to undertake activities to address some of the more obvious weaknesses and deficiencies in the environment in which the people live and the economy in which they labor. Funds from the Africa-wide Foreign Disaster Act (Sahel) will finance activities which can markedly improve the condition of the people participating in them in the short and medium term. Some programs will immediately solve problems (i.e., mass vaccination of children); others will be catalytic first steps of programs of significant impact but which will take some time to extend throughout the entire region (i.e., expansion of bullock plowing); while others will assure continued growth and expansion of proven successful programs with notable payoff and benefit (i.e., nutrition education).

Related Projects

To be implemented concurrently with this project, and also funded by Foreign Disaster Act (Sahel) funds, will be a closely related and complementary project, "Development Applications of Science and Technology-DAST" (Project No. 641-0069). Through this project USAID will assist the Council of Scientific and Industrial Research (CSIR) to develop medium and long-term approaches to the problems related to the drought in northern Ghana. The CSIR will carry out multidisciplinary research to determine the causes and possible solutions to increasing desertification in Ghana's Savanna Zone. The goal will be to lay the groundwork for longer term development programs in the region which will reduce the vulnerability of poor farmers to drought and changing climatic conditions.

The two projects together represent a concerted attack on related aspects of the same problem: "Agricultural Rehabilitation and Health Promotion" providing short and medium term assistance to stimulate increased agricultural production and improved health and nutrition status of the drought affect people; and "DAST" developing longer range programs to combat desertification to stimulate both the economic growth and social improvement of the poor people of the Region.

Two new USAID projects both of which are now in the final design stage will be supportive of programs funded by this project.

It is planned through the Agriculture Sector Loan of Project 641-0067, "Managed Input Delivery for Agricultural Services" (MIDAS) to import bullock breeding stock from Mali and Upper Volta for the production of bullocks for the Ghana plowing program expansion. Under Project 641-0069, "Farmer Association and Agribusiness Development" (FAAD) three voluntary agencies, the CSC, the CRS and Technoserve Inc. intend to implement subactivities in the project area which could be supportive in particular of the strengthening of local artisans and expansion of plowing schools.

B. Detailed Description

The final design Logical Framework Matrix is outlined below. A project whose genesis lies in a disaster relief effort does not lend itself as neatly to the logical framework discipline at the goal level as more conventional but the linkages do exist.

A-1. PROGRAM GOAL: the broader objective to which this project contributes:

Through short and medium term assistance to the drought affected districts of the Upper Region, to lay the groundwork for longer term development programs and activities in the Region which will permanently improve the condition of the people.

A-2. MEASURES OF GOAL ACHIEVEMENT: Verifiable Indicators:

a. Increased number of development activities and projects promoting economic and social growth, stimulated in part by U.S. encouragement as evidenced by this program;

b. A permanently increased availability of agricultural implements and support services such as plows, tools, plowing schools, etc;

c. A reduction in the infant and child mortality rate;

d. An expansion of nutrition programs throughout the Region;

e. Increases in productivity and income of small farmers, attributable to adoption of new techniques, intermediate technology and training.

A-3. MEANS OF VERIFICATION:

All indicators can be verified by records, reports and evaluations of activities in the Region by USAID, the GOG, the MOA, MOH, the CSC and CRS.

A-4. IMPORTANT ASSUMPTIONS:

a. The GOG, other donor countries and agencies, and PVOs will continue to recognize the need for and importance of development activities in the Upper Region and design and implement programs in the Region.

b. The PVOs will sustain newly introduced systems for supplementing the supply of plows and parts and continue (with the MOA) to operate plowing schools.

c. The MOH will be able to quickly mount and support the vaccination program.

d. The USAID supported DAST project will produce follow-on project proposals for development activities in the Upper Region supportable by USAID and other donors.

B-1. PROJECT PURPOSE:

a. To stimulate the recovery and rehabilitation of the rural population affected by drought in the Upper Region, reducing their vulnerability to their harsh environment, enabling them to better cope with subsequent years of poor crops thus forestalling future emergency situations.

END OF PROJECT STATUS:

a. Production of farmers adopting bullock plowing increased by at least 50%.

b. Losses of crops in storage by farmers constructing improved silos reduced 20-25%.

c. Incidence of communicable disease among vaccinated children reduced 80%.

d. Population in the Region receiving nutrition education and services expanded 100%.

e. A system for sustained procurement of additional plows utilizing the revolving fund established.

B-3. MEANS OF VERIFICATION:

All EOPS indicators will be verified by evaluations, reports and records of the MOA, CSC, USAID and MOH.

B-4. ASSUMPTIONS FOR ACHIEVING PURPOSE:

a. The CSC and MOA plowing schools can train 1,000 new farmers in plowing techniques over the life of the project.

b. The MOH immunization teams can be organized in an effective and timely manner.

c. The MOH Nutrition Division will coordinate its program and cooperate with CSC in a joint effort to expand nutrition services.

C-1. PROJECT OUTPUTS:

a. Distribution of plows, cement, jute sacks and carts to small farmers.

b. Vaccination against communicable diseases of all children under five in the Upper Region.

c. Nutrition program supported, with increased staff trained, and expanded services made available.

C-2. MAGNITUDE OF OUTPUTS:

a. 1,000 new farmers adopt bullock plowing.

b. 500 improved silos constructed.

c. 220,000 children vaccinated.

d. 70 Ghanaian nutrition workers trained.

C-3. VERIFICATION OF OUTPUTS:

All outputs to be verified by MOA, CSC, MOH, and USAID records, reports and evaluations.

C-4. ASSUMPTIONS FOR PROVIDING OUTPUTS:

a. Sufficient bullocks can be purchased and farmers trained.

b. Sufficient local credit can be generated by farmers for purchases.

c. The project will receive full support from the MOA, MOH, CSC and Regional and District officials.

D-1. PROJECT INPUTS:

a. Plows, cement, sacks, carts.

b. Vaccines, vehicles, ped-o-jets, coolers.

c. Nutrition program funding for training, supplies, equipment.

D-2. IMPLEMENTATION TARGETS:

a. Agriculture		$275,000
- 1,000 plows and parts	$205,000	
- Cement, jute sacks, carts	70,000	
b. Health:		285,000
- Vaccines	165,000	
- Ped-o-jets, spares, coolers	15,000	
- 9 Peugeot trucks and spares	60,000	
- Vehicle operating costs	45,000	
c. Nutrition:		65,000
- Support of Bawku Nutrition Center, 2 years	40,000	
- Nutrition staff training	15,000	
- Nutrition supplies, materials, equipment	10,000	
Total Program:		$625,000

D-3. VERIFICATION OF INPUTS:

Inputs verified by various grant agreements with the MOA, MOH and CSC.

D-4. ASSUMPTIONS FOR PROVIDING INPUTS:

a. Nigerian plows available; local plows can be manufactured in a timely manner.

b. Vaccine and related equipment can be procured in a timely manner.

c. Waivers for procurement of Peugeots, plows, cement and other off-shore items can be obtained without delay.

Part III: Project Analyses:

A-1 AGRICULTURE: There are 135,000 farm families in the Upper Region, almost all of whom are engaged in subsistence farming without animal or mechanical assistance. They produce but a minimal surplus for the urban or non-farm population utilizing as their basic tool the hand hoe. It is recognized that with sufficient family labor bullock plowing can generate a significant increase in land brought under cultivation and per capita production--on the order of 50% or more--and even more dramatic increases in per capita net cash income as the farmer moves beyond subsistence farming into production of a marketable surplus. The IBRD study of the Upper Region prepared in contemplation of its proposed Upper Region Rural Development Project estimates that cash income for a subsistence farmer producing sorghum and groundnuts would increase from virtually zero to ¢750/year.

Bullock plowing is not a recently adopted technique in the Upper Region. In the eastern part of the region bullock plowing was introduced at the turn of the century. Its rate of expansion was primarily determined by the availability of suitable bullock plows. During the 1950s its use was encouraged in a wider scale through the introduction of suitable plows manufactured in Nigeria. Bullocks were readily available and relatively inexpensive. The Government and the MOA then however dropped its interest and promotion of intermediate technology in favor of mechanization utilizing tractors. Spare parts for plows disappeared, importation of bullocks from neighboring countries ceased and the effort lapsed. In recent years however there has been a revival of interest in the technique, promoted in the first instance by various missionary groups and more recently also by the MOA. Enthusiasm and interest among the farmers to re-adopt plowing has been increasing as the demonstration effect of the success of farmers utilizing bullocks has become apparent.

Knowledgeable observers of the program in the Upper Region, both Ghanaian and expatriate, state the constraint slowing the widespread expansion of bullock plowing has been in the first instance the availability of plows and spares and to a lesser extent the availability of appropriate bullocks. The limited number of farmer training centers in the past has slowed extension of the new technique somewhat but this lack is now overcome for the most part and is not as significant as the scarcity of plows and spares.

The Plow Program:

The Christian Service Committee now operates seven plowing training centers in the Upper Region while the MOA has four with three more planned. Each center provides a four to six week training course to farmers (and their bullocks) in plowing techniques, soil

conservation, rotation of crops, etc. for 20 to 28 farmers at a time. Both the CSC and MOA confirm that lack of plows is the foremost problem they encounter in efforts to accelerate their programs, although seasonal shortages of bullocks have been observed recently.

In response to this constraint USAID proposes to make 1000 or so plows available for sale through the plowing centers to small farmers to stimulate the continued growth of this high payoff activity. It is seen as the simplest, most direct method of stimulating production and thus making a significant contribution to alleviation of the deficit food supply situation that too often arises with agriculture depending now as it does on a primitive technology.

Four brands of bullock plows are presently available in the north of Ghana. The German/Ghanaian Fertilizer Project uses the German Eberhart; the CSC has brought in the Nigerian manufactured Emcot; other merchants sell the Polish Gidle. Recently Agricultural Engineers Ltd. (AGRICO) of Accra commenced production of a plow similar to the Emcot which was successfully tested and evaluated by the Technology Consultancy Center of the University of Science and Technology at Kumasi. Immediately upon the conceptualization of the proposal for this project, USAID also purchased four of the AGRICO plows for testing at agricultural stations operated by voluntary agencies. Reports indicate that while the plows are somewhat cruder than those produced in Europe, they are judged quite satisfactory and have the unique advantage of having available for their maintenance an indigenous source of spare parts, a critical and vital element for the sustained success of any plowing program.

A small tod fabricator and blacksmith shop, Northern Engineers, might be a candidate for development of a local capability for the production of plows. Certain basic fabrication equipment such as metal benders, anvils, etc. are lacking in the shop but the workers have basic metalworking skills. There is also a traditional blacksmithing village in the a[illegible] which might be developed into an indigenous source of plow [illegible]d parts. These possibilities are not now developed but will be addressed during the life of the project.

Under both the "Farmer Association and Agri-business Development" project and the "Managed Inputs and Development of Agricultural Services" project subactivities to be designed will include the strengthening of local artisan capabilities. The FAAD project is presently in its final design phase and the CSC in particular intends to include assistance to artisans in its subactivity proposals for implementation within that project framework. Technoserve Inc., a partially AID funded PVO offering technical assistance to agri-business enterprises, is planning to open a new office in northern Ghana and may also under its planned FAAD subactivity provide supporting services for the development of local artisans, a task similar to activities it has undertaken successfully before in southern Ghana.

Sale of the Plows:

We have reached informal agreement with the Ministry that it will sell approximately 600 of the plows provided by the program. It was originally planned that the MOA would sell 800-900 of them but the Regional Director of Agriculture (RDA) - for the moment at least - wishes to limit his commitment to 600. The figure can be adjusted upward if conditions so warrant in thefuture. The remaining half will be sold by the CRS and CSC.

The MOA proposes selling its plows through its plowing extension stations, and district and regional offices. The RDA believes his agents are capable of collecting and accounting for the funds and seeing that they are delivered to Regional headquarters in Bolgatanga where they will be deposited into a special account. As the agents are already selling other inputs such as seed and fertilizer, this mechanism is not an innovation and can be established and implemented successfully.

Development Activities Funded with Local Currency:

The funds generated by MOA sales will be used for small development activities in the Region as jointly agreed upon by the MOA, USAID and perhaps the Regional Development Office. As presently conceived, the amount of money flowing into the special account from the sale of half the plows and parts will be relatively modest, on the order of ¢ 0,000. Details of the types of activities to be funded are not yet developed but could include reaforestation programs, wells, small dams, development of local artisan capabilities, etc. We hope to increase the number of plows moving through the MOA sales outlets thus increasing the local currency generations available for sub-activities.

The VolAg Plow Sales Program:

The program contemplated by the CSC and CRS differs somewhat from the above in that the proceeds from the sales of plows and parts will go into two separate revolving funds managed by the CSC and CRS. The funds will be used for purchase and subsequent resale of more plows, parts, and other inputs (cement and sacks) as outlined below.

Sales Only to Small Farmers:

Farmers who may participate in the plow sales programs will be limited to those cultivating an area of 30 acres or less. To insure equitable distribution of all inputs, the sales agencies will be expected to advertise availability of the items at prices established by mutual agreement between them and USAID. In an effort to inculcate in the minds of farmers that purchase of inputs is a normal cost of

doing business, there will be no donations. In all cases, the MOA and Vol Ags are to assure that access of the commodities is by small farmers only, and without the intervention of middlemen.

The VolAg Revolving Funds:

Monies generated by the sale of all inputs will be deposited into the central revolving fund of the CRS or CSC for purchase of additional inputs for subsequent resale on a continuing basis. It should be kept in mind that it is not a purpose of the project to displace such normal commercial channels that are present but to supplement them in an effort to overcome the obvious inefficiency and inequity of distribution that now exists. The small farmer is usually the last to receive resources and often pays the most for them when they are available.

At the termination of the project, the effectiveness of the operations of the revolving funds will be evaluated and a determination made whether they should be continued, modified or disbursed through one-time development activities by the CSC and CRS.

The revolving funds will be used to replenish stocks of Plows, parts, cement, sacks and carts and also for purchase of fertilizer, seeds and other needed inputs of small farmers. These items will be sold through the volag stations throughout the Region and at a number of volag small stores being constructed for this purpose.

Other Agriculture Program Elements:

a. Silos: In recent years increasing numbers of farmers have adopted improved storage techniques realizing significant reductions in storage losses - on the order of 20%-25%. Thus they realize both greater food availability for their families and the possibility of improved incomes through sales of their output when prices are more advantageous than immediately following the harvest. The CSC has been promoting the construction of these small silos using rammed earth blocks with interior and exterior cement plastering. The silos cost from 10-20 cedis depending on size with the principal cash outlay being for cement. The design is simple and can be constructed by the farmers themselves.

As with plows, the mere availability of cement is often the constraint inhibiting the expansion of the silo program.

b. Wells: Many small villages and farms in the Region lack an adequate source of water. Wells can be dug to provide a reasonably secure source of water for most of the year in many areas. A supply of cement for use in lining dug wells to stabilize them and improve water quality is required but, like many other basic inputs, has been in short supply in the area.

Therefore in an effort to overcome the constraint on expansion of silo construction and development of more reliable, sanitary dug wells, it is proposed to make available $30,000 through the program for the purchase in Ghana of cement. The CRS and CSC will sell the cement through its many stations, utilizing the proceeds for continued procurement of required inputs. The funds would be comingled with those generated by the sale of plows with the CSC and CRS funds of course being managed separately.

c. Jute Sacks: There is also an acute shortage of jute sacks available to small farmers in the Upper Region, creating one more problem for farmers to overcome when harvesting, storing and transporting their crops. As with cement, the normal marketing mechanisms do not seem able to provide this basic input in the Upper Region, far as it is from the source of supply. Through th project, therefore, it is proposed to make $30,000 worth of locall procured sacks available to the CSC and CRS for sale and distribution to farmers.

Bullock and Donkey Carts:

Bullocks and donkeys have always been present in the Region but traditionally have not been utilized for transport. In recent years demonstrations of the utility of specially designed carts for use with bullocks and donkeys have been carried out in a number of areas. Some farmers have already adopted and successfully applied this technique with considerable increase in their efficiency especially as their productivity increases through the use of animal powered land preparation techniques. Further demonstrations and increased availability of such carts can be expected to have a significant impact in spreading their use. The supply of additional carts would therefore be of great benefit to the Region by improving the ability of the communities where such carts are available to transport needed inputs to take produce to market with a minimum use of human labor.

It is proposed therefore that $10,000 worth of carts be procured and granted to the CSC and CRS for demonstration purposes leading to extension of them throughout the region. It is possible an indigenous source of production may be developed in the region stimulated through the FAAD project activities of CSC or CRS, or through the local currency generations of MOA plow sales. There is reason to believe that the systematic introduction of carts through the agricultural stations of the volags combined with great interest of the volag staff in developing wider utilization of the carts will have catalytic effect on the hoped for cart expansion program.

A Need for Credit?

The capital investment required of a farmer to purchase a plow, two bullocks, harness and other accessories is quite high compared to his own income and resources. On the other hand the total resources available through this program for the plowing extension activity are quite limited. By selling just the plows and parts, it is expected to reach initially 1,000 farmers, and in future years hundreds more through the revolving fund mechanism. The input which we can best supply the farmer at the present time and with existing capabilities and resources is the one in short supply, the plow. If credit is also to be made available from the project for credit purchases of bullocks, plows, parts and accessories, probably only 200 or so farmers could then be reached assuming ¢500 or more per farmer would be required.

About 300 of Ghana's 400 credit unions exist in the north, organized for the most part by missionaries. They have provided with some success a source of loan funds outside of regular institutional and traditional channels that can be and are used by small farmers.

Institutional, unsupervised credit mechanisms have a poor record. While the remark made to us by one knowledgeable missionary resident in the area that "a loan is a gift" may overstate the case, it is a fact that the conception of the responsibilities of a debtor to other than the traditional lender or local credit union is poorly developed. Within the narrow scope and limited goals of this project therefore it would seem counterproductive to try to institutionalize a credit mechanism in the Upper Region to assist 200 farmers. On the other hand if we can make plows more readily available where otherwise they are not, and through the revolving funds managed by the CSC and the CRS assure that a few hundred more plows a year will continue to be available through that institution, we will have filled a need on an ongoing basis.

We cannot pret to know how the traditional credit mechanism works; we do see though that plows, one-fifth of the total investment required when adopting bullock plowing, are readily purchased when they are available. Where credit unions do not exist the extended family system doubtless contributes to the generation of funds needed for large purchases. From two to four families live together in compounds, with four or five compounds grouped into subsections, about five of which form sections. A village consists of 10 to 20 sections and is headed by a chief. Families hold customary land cultivation rights granted by the section head with the desirability of the land and the intensity with which it is cultivated depending on its distance from the compound. It would appear within this village system credit is generated. It would

also seem reasonable to assume that a team of bullocks would work for more than one farmer, perhaps on some type of rental or traditional work sharing arrangement.

Whatever the facts are, the system exists now for the generation of the required capital. Some farmers have old, untrained bullocks which they have sold to finance the purchase of young, trainable animals. Most farmers, no matter what their financial condition, perceive the desirability of obtaining and utilizing bullocks and do so if they possibly can.

More sophisticated follow-on projects such as that contemplated by the IBRD in the Upper Region plan addressing the problem of capital generation and loans for all types of agricultural inputs including plows and bullocks. The new USAID funded MIDAS project will also contain a supervised credit component providing funds to small farmers for the purchase of plows and bullocks throughout Ghana's Northern and Upper Regions. A spinoff from our proposed plow sales program will be much needed knowledge concerning the questions of credit, its generation and availability as well as the demand for and availability of bullocks.

Therefore USAID proposes the gramting of $135,000 for the purchase of plows for resale to farmers and $70,000 for the purchase of required plow spare parts for similar resale.

A-2 HEALTH:

1: The Program: A limited infrastructure exists in most districts of the Upper Region to make possible the administration of a mass vaccination program which would reach the 220,000 children under the age of five. In some areas additional staff may be required and voluntary agencies have indicated such supplementary staff could be made available. The Regional Medical Officer believes training of required supplementary staff is not a serious problem.

The RMO plans to field seven immunization teams. Three new teams will have to be established in the Lawra, Tumu and Sandema districts while health teams presently functioning in the Bolgatanga, Wa, Navrongo and Bawku districts will do immunization work there. The RMO also plans to provide vaccinations at eleven MCH centers utilizing nursing teams at those centers already.

The vaccination program will require two seasons to assure maximum coverage of the target group. Efforts will be made the first year to reach 60% of the population with the balance the second year plus new births. Vaccines will be administered by ped-o-jets for BCG (for tuberculosis), DPT (diptheria, whooping cough and tetanus), polio, measles, and menengitis.

The record system in use by the medical field units of the MOH permits identification of individuals vaccinated with some assurance of accuracy. This system is especially well developed in the Bawku District where 35% of the children reside, and would be extended with the help of the knowledgeable expatriate Bawku District Medical Officer to full utilization in other districts.

The vaccination program proposed is judged by the Mission to constitute an adequate bridge until longer term health programs contemplated to be implemented under the IBRD financed Upper Region Rural Development Project are implemented. Sustained mass vaccination programs are expected to be included in the IBRD project.

2: Procurement of Health Activity Commodities: Physical resources available to the MOH for the vaccination program are quite inadequate. The Ministry has two five-year old vehicles for the program, no portable ice boxes, one electric refrigerator and two kerosene refrigerators for the whole Region. Clearly these are hopelessly inadequate to implement the contemplated program.

To make implementation possible will require procurement of at least nine vehicles, plus spare parts, and provision of operating funds. Because procurement of U.S. vehicles for use in Ghana takes at a minimum nine months and as there is literally no mechanical

expertise available in the Upper Region for maintenance or repair of US vehicles, not to mention spare parts, the Mission judges the most appropriate vehicle for the program would be simple Peugeot pick-ups with canvas caravan tops. Peugeot is the most popular vehicle in Ghana by registration count, with parts and repair facilities readily available, even in the Upper Region. Peugeots can also be obtained in the Upper Region within four to five weeks of ordering from Ouagadougou, Upper Volta to where they are transported from Abidjan, Ivory Coast. As availability of transport is absolutely critical to the implementation of the project, a waiver for non-U.S. vehicle procurement is essential.

Maintenance of the cold chain will require both kerosene refrigerators (some of the health posts do not have full-time electricity), electric refrigerators and cooler chests for use in the trucks. While electric refrigerators of U.S. manufacture can often be obtained locally, waivers may have to be sought for kerosene refrigerators and cooler chests.

All vaccines except that for meningitis will be procured in the U.S. and shipped by air. The MOH has a well established mechanism for ordering, receiving and storing vaccines that was developed over the years during implementation of the AFR/RA Measles and Smallpox vaccination program. In a similar manner the requisite ped-o-jet vaccination and injection equipment will be procured in the U.S. and shipped by air. Menengitis vaccine must be procured in France as it is not yet available for sale by U.S. drug manufacturers.

The vaccines for the two-year program will cost $165,000 to be funded by program grant. The nine vehicles and required spare parts will cost $60,000; the operating expenses for the vehicles during the program will require $45,000 while the ped-o-jets, spares and refrigerators will cost $15,000. All items will be grant funded.

A.3 N[illegible]TION:

Th[illegible] is a high incidence of malnutrition in the Up[illegible] Region, particularly in women and young children. Maternal deaths, low birthweights and poor lactation are common. Approximately 30% of the preschool population is under-weight with mortality in this group at about the same level. It has been estimated through research at the Bawku Nutrition Center that in many families only 60% of energy requirements are being met by the end of the dry season which coincides with the planting season, the period of traditional heavy work load.

While the vaccination program outlined above will significantly combat the high infant and child mortality brought about by these conditions of poor nutrition, extension of a nutrition and basic health education program such as already established at Bawku will go a long way in improving the nutrition status of the Region.

The Bawku Center. For the past three years the Bawku Nutrition Center has been in operation implementing a program of nutrition and health education, agricultural services, nutrition rehabilitation and nutrition worker training. The center operated three mobile clinic teams which serve fourteen stations in the District. The teams provide weekly or fortnightly child welfare clinics which reach about 1200 children a week at the field stations which are permanently staffed with a nutrition field worker. Supplementary foods are also distributed through the stations if required during the hungry season.

During the rainy season (November/April) three field workers are engaged in a nutrition extension program in villages all over the District. The program includes puppet and slide shows, house visits, cooking demonstrations and participation in agricultural meetings. They also carry out some nutrition education in schools. It is planned to expand the latter activity this year by providing a short course for teachers, providing more nutrion-oriented entertairments, strengthening the school vegetable garden program.

The nutrition rehabilitation center can care for about 400 malnourished children each year. It utilizes Title-II foods (fortified sorghum, NSB and oil) plus local foods both purchased and grown at the center.

TRAINING: The center provides nutrition training to a wide variety of government and missionary supported nutrition workers, both paid and volunteer. Under the proposed program it is hoped to train about forty new nutrition workers* who will be used to staff two new "nutrition compounds"--stellite nutrition centers--, expand the mobile team effort in its school extension program, and expand a number of missionary supported nutrition activities. Agriculture extension workers will be given training in the nutrition aspects of their work and regular nurses in the various regional medical facilities will be given practical nutrition training enabling them to better diagnose and treat nutrition problems and educate patients and their families on nutritional practices and requirements.

FUNDING: At present the Bawku program is funded by a Dutch development group, a German missionary organization and Oxfam through the CSC. The German and Oxfam fundings terminate at the end of 1975. It is the costs they presently cover that are proposed for USAID funding. The new Director of the Center starting in 1976 will be a British VSO volunteer.

*each year

Funding requirements for operation of the Bawku center and its related nutrition extension and training activities are as follows:

1.	CY'76 and '77 operational budget for Bawku center	$40,000
2.	Additional nutrition worker training:	13,000
3.	Supplies, materials and equipment including one vehicle:	12,000
		$65,000

It is proposed that a grant be made to assure the continuation of operations of the Bawku center for the next two calendar years. The most critical element event in the approval process of this project is that approval be granted prior to the end of CY 1975 so a grant agreement assuring the uninterrupted continuation of the program may be negotiated by January 1, 1976.

By the end of 1977, it is hoped that the Nutrition Division of the Ministry of Health will be in a position to take over full funding of the Bawku program. The national nutrition program of the GOG is only now under development with priorities, targets and programs to be clearly defined. USAID antitipates participating in the national nutrition program though its project currently under development "Nutrition Improvement" Project 641-0071.

B-1. Financial Plan/Budget Tables:

Life-of-Project Costs

Agriculture Rehabilitation and Health Promotion Project 641-0074 ($000)

I. Agriculture:		**$275**
- Plows-Ministry of Agriculture (600 plows)	80	
Voluntary Agencies (400 plows)	55	
- Plow Spare Parts-Min. of Agriculture	42	
Voluntary Agencies	28	
- Cement for silos and wells (Vol. Agencies)	30	
- Jute Sacks (Vol. Agencies)	30	
- Bullock and Donkey Carts (Vol. Agencies)	10	
II. Health (via Upper Region MCH)		**285**
- Vaccines (for 220,000 children) (BCG, DPT, Measles, Meningitis, Polio)	165	
- Ped-o-jets, spares, and equipment	15	
- 9 Vehicles (Peugeot pickups)	50	
- Vehicle spare parts	10	
- Vehicle operations costs	45	
III. Nutrition (via Upper Region MOH structure)		**65**
- CY-76 and CY-77 operational costs Bawku Center	40	
- Nutriti orker staff training	13	
- Supplies, materials and 1 vehicle	12	
Total Cost		**$625**

ALTERNATIVE BUDGET
Life-of-Project Costs ($000)
Agriculture Rehabilitation and Health Promotion
Project 641-0074

I. Agriculture:		$195
- Plows-Ministry of Agriculture	63	
Voluntary Agencies	42	
- Plow Spare Parts-Min. of Agriculture	30	
Voluntary Agencies	20	
- Cement for silos and wells (Vol. Agencies)	15	
- Jute Sacks (Vol. Agencies)	15	
- Bullock and Donkey Carts (Vol. Agencies)	10	
II. Health (via Upper Region MOH)		265
- Vaccines (for 220,000 children) (BCG, DPT, Measles, Meningitis, Polio)	160	
- Ped-o-jets, spares, and equipment	15	
- 8 Vehicles (Peugeot pickups)	45	
- Vehicle spare parts	10	
- Vehicle operations costs	35	
III. Nutrition (via Upper Region MOH structure)		65
- CY-76 and CY-77 operational costs-Bawku Center	40	
- Nutrition worker staff training	13	
- Supplies, materials and 1 vehicle	12	
Total Cost		$525

Part III: Implementation Plan

A. Implementation Schedule

Event	Target Dates	Action Agent
1. PP approval	12/1/75	AID/W
2. Signing of ProAg for Bawku Nutrition Grant	12/30/76	USAID/RMOH
3. Signing of MOH Vaccination ProAg	1/20/76	USAID/ RMOH
4. Ordering of Vehicles, Vaccines and Equipment	1/30/76	USAID/RMOH
5. Signing of ProAg w/MOA for Plowing Program	2/28/76	USAID/MOA
6. Signing of Grant to CSC and CRS for Plow and inputs Sale Program	3/20/76	USAID/CRS and CSC
7. First Order for Plows placed	3/30/76	USAID
8. Start of Vaccination program	4/1/76	RMOH
9. First proposals for Use of Local Currency Developed	6/30/76	USAID/MOA
10. Evaluation of 1st Year's Program Activities	1/30/77	USAID - MOH/MOA CRS-CSC
11. Continuation of Project Activities; Signing of new Project Agreements	2/77	USAID - MOA/MOH CRS-CSC
12. Continuation of Development of Local Currency sub-activities	2/77	USAID/MOA
13. Conclusion of Nutrition Grant	12/31/77	
14. Termination of MOA plow procurement	12/31/77	
15. Conclusion of Vaccination Program	6/30/78	
16. Final Project Evaluation	6/30/78	

A. Implementation (Cont'd)

Detailed implementation arrangements of course remain to be developed. Numerous discussions have been held between USAID and the various implementing agencies of this project as described earlier in this paper. The Regional Director of Agriculture, the Regional Medical Officer, the Bawku District Medical Officer, the Director of the Bawku Nutrition Center are all cognizant of what this project involves and the responsibilities that will be placed on them for the most part to see that it is effectively and efficiently implemented. The Mission has confidence in them that they will meet our expectations. Mission project officers and technicians will of course monitor project activities; with the site being some 500 miles from the USAID office such monitoring will by necessity be on a periodic basis.

The Mission will consult closely with the Area Auditor General who is resident in Accra concerning specific arrangements to be developed in the establishment of the two revolving funds and the counterpart fund. As his office is closely involved in monitoring many similar programs in the Sahel already in operation, he has much valuable experience to offer concerning operable working arrangements.

B. Role of Women in the Project

Women form a significant proportion of the farmers and are also responsible for almost all marketing of the holdings production. As a consequence, Ghanaian women will be involved in every aspect of this project. It is anticipated that such involvement will include access to all agricultural equipment and supplies to be purchased under the project as well as active and continuous participation in the analysis, planning and management and research activities of the health and nutrition aspects of this activity. In addition, USAID/Ghana will make every effort to ensure that women are considered for participation in the training activities to be carried out under this project.

C. Project Evaluation

Evaluation of this project will be carried out at the end of Year One to determine the completion of physical accomplishments, i.e., arrival and distribution of plows and other commodities, the management of the various funds established by the project, and to determine, over the longer term, the effects of the various inputs on food production, nutrition and health in the Region. An evaluation will also be made at the completion of the project.

With respect to baseline data for the evaluation, the Regional representatives for the Ministry of Health and the Ministry of Agriculture should develop as complete data as possible thru means at their disposal on current agricultural production and disease prevalence in the Upper Region. The Northeast Ghana Savanna Research Project may also provide useful baseline data for an evaluation report. The basic fact that disease and chronic food shortages are the norm of life in the Upper Region is well established. The project need not be deferred by a requirement to more exactly quantity the poor [illegible]ons existing in the Region though every effort will be ma[illegible] establish evaluable baseline data.

In addition, the evaluation process will include an annual project evaluation (PAR), assessing progress towards the outputs, purposes and goals set forth in the logical framework with special emphasis on fulfillment of conditions specified in the "End of Project Status."

Annex A

Procurement Source Authorization

Summary Information

Cooperating Country: Ghana
Authorizing Document: Project Paper (attached)
Project: Agricultural Expansion and Health Promotion - Upper Region
Nature of Funding: Development Grant (FAA Section 639A(b))
Description of Goods: Vehicles, spare parts, vaccines, plows, cement, sacks
Approximate Value: $400,000
Probable Source: Geographic Code 935 Countries including Ghana

Discussion: Achievement of the objectives of the Agricultural Expansion and Health Promotion project will require procurement of equipment and materials and supplies, including 10 Model 404 Peugeot pickups and parts for logistical support. The Agricultural Expansion and Health Promotion project will be carried out in the extreme northeast section of Ghana, along the border with Upper Volta, and will therefore require extensive vehicular support for the vaccination program. Additional justification for procurement of these vehicles include the following: (a) few U.S. manufactured vehicles are in use in the northern part of Ghana, with the result that spare parts are nearly unobtainable and few people have knowledge or experience in the maintenance of such vehicles; (b) Peugeot 404 pickups are obtainable with no more than two months lead time in Ouagadougou and can be picked up there and delivered to the project area; (c) time is of vital importance to this project and awaiting delivery of U.S. vehicles with an estimated minimum lead time of nine months would seriously delay the program.

The project is being funded entirely by funds authorized under section 639A(b) of the Foreign Assistance Act of 1961, as amended. That section expressly provides that assistance to the drought-stricken nations of Africa may be provided "notwithstanding any prohibitions or restrictions contained in this or any other Act....". While some of the required new equipment and supplies can and will be obtained in the U.S., the requirement of U.S. procurement in the case of several anticipated requirements, particularly vehicles and selected analytical instruments, would constitute a severe restriction against extending the kind of assistance necessary here.

Compliance with FAA Section 636(f) (procurement of U.S. manufactured motor vehicles) would constitute an especially severe restriction. The circumstances and location of the field work for the study require rugged pickups with locally available spare parts and maintenance.

This same situation is expected to hold true for certain other minor items and supplies needed for the project. That is, spare parts and servicing may be needed in-country. Also, as noted, delivery lead-time for U.S. equipment may be prohibitive and create an untenable burden on the project. Selection and procurement of such non-U.S. equipment shall be on an item-by-item basis and shall be as jointly agreed by the Government of Ghana and USAID/Accra.

The project also requires the procurement of $65,000 of meningitis vaccine. This type vaccine is not yet sold in the United States but can be procurred in France. The incidence of meningitis is high in the Upper Region and it is judged that vaccination of the 220,000 children under five in the Region with the vaccine will bring about a significant reduction of this disease in the target group. Therefore authorization for procurement of this vaccine from France or other available sources is requested.

Authorization for procurement of cement and sacks produced in Ghana as well as plows and parts locally fabricated is also requested. While it is hoped to be able to utilize locally produced plows, it is probable that the local fabricator will not be able to meet the demand. Therefore procurement authorization is requested for Emcot plows and parts produced in Nigeria. These latter plows are readily available, are well known and utilized in the Region, and can be procurred with a short lead time, a critical element in project implementation.

Authorization is thus requested for procurement of vehicles, vaccine, selected equipment, plows and parts, cement and sacks from countries included in AID Geographic Code 935 (including Ghana) in a total amount estimated not to exceed $400,000.

Commodity Waiver Requirements

	Probable Source	Cost ($000)
1 - 10 Peugeot pickups	(France)	55
2 - Vehicles Spares	(France)	10
3 - Meningitis Vaccine	(France)	65
4 - Plows & Spares	(Nigeria)	100
5 - Cement and Sacks	(Ghana)	60
6 - Plows & Spares	(Ghana)	100
7 - Miscellaneous local procurement	(Ghana)	10
		400