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**FINAL REPORT**

**ASSISTANCE TO MINISTRY OF ECONOMIC PLANNING**

**REPUBLIC OF GHANA**

**By**

**Frank E. Pinder  
Consultant**

**April 1978 - February 28, 1979**

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FORWARD

Dr. R.K.A. Gardiner, former Commissioner of Economic Planning, who resigned April 30, 1978, requested USAID to continue the services of the consultant for an additional 120 working days. This request was agreed upon by the signing of Contract Number 641-78-04 on March 31, 1978 followed by the arrival of the consultant at post three weeks later. The contract was later amended and extended for an additional 30 working days to accommodate the completion of assignment including the drafting and finalization of report and phasing out assignment. Dr. Gardiner was succeeded by Dr. Joseph Abbey, former Government Statistician, on May first.

The change of command did not affect the assignment of the consultant since he was requested by the incoming commissioner to continue his services to the Ministry of Economic Planning pursuant to terms set forth in the original agreement. As a result the professional working relationships continued as in the past since the change did not retard nor slow down the program of work. This continuity made it possible for the consultant to function without any unnecessary interruptions.

The consultant arrived at post on April 18 and immediately thereafter went into a series of conferences with the then Commissioner of Economic Planning, Principal Secretary and Senior Staff, Director of USAID and staff and the American Ambassador.

In accordance with the agreement three trips were made to Ghana (April and September 1978 and February 1979) during which time attention was directed to the agricultural sector of the Five Year Development Plan including MIDAS, with emphasis on increased food production. Two or more visits were made to each of the nine regions as will be noted in the report and conferences held with regional officials on all levels including commissioners, staff members of corporations, boards and universities, agricultural officers, businessmen, farmers, missionaries, chiefs and aid donors.

It was noted throughout the regions as well as in the Ministry of Agriculture that accurate information on agricultural production is somewhat sketchy and as a result the consultant did not attempt to give any quantitative figures on food production for the period under review. However, the optimistic outlook set forth herein is based primarily upon conferences, observations and field visits to the nine regions that enabled him to make a reasonable assessment of the potential food outlook for 1978.

#### FOOD SITUATION

The short fall in the food supply for 1978 will not be as bad as last year. Rains were good throughout the major food producing regions which will help reduce the short fall by a sizable margin. Food imports for 1977 including aid,

amounted to approximately 350,000 tons as compared to an estimated 281,000 tons required for 1978. The reduction is a result of this year's rains which appeared at the most propitious time and it is hoped the 1978 food import estimates can be reduced further and enable GOG to save a considerable amount of foreign exchange.

There still remains, however, a number of problems to be solved before Ghana can become near self sufficient in food production. Foremost among these are adequate agricultural services, trained manpower, inputs such as storage, marketing, seeds, fertilizers, supervised credit and an adequate distribution system. It might be well to point out that work is gradually getting under way in resolving most of these problems and some progress is expected to be achieved under the MIDAS program jointly sponsored by a USAID-GOG technical assistance agreement. Based upon past performances, however, the latter problem (distribution) is of utmost concern to GOG and USAID in that the distribution of locally grown foodstuffs as well as emergency and food imports have been badly handled in the past and leaves much to be desired in this area. A prime example is the mishandling of the 1977 emergency foods that evoked considerable criticism abroad and made it necessary for one donor country to cease distribution until a proper system could be worked out. In spite of the remedial measures taken by GOG to avoid such occurrences in the future, these events had a tendency to spark off unfavorable publicity in the foreign

press that hurts recipient countries most likely to receive food aid in the years ahead. In this connection, it is strongly recommended that donors not compete in the emergency food area, but do everything possible to coordinate their efforts and encourage local production. In case of an emergency, the absorptive capacity as well as need of host country should be given top priority. This will help reduce over-supplies, theft, deterioration, smuggling and in the meantime encourage the local expansion of foodstuffs. It was observed that a number of people in Ghana were crying "wolf" in 1978 long before the animal arrived on the scene and fortunately he did not even appear on the horizon. This alarm was due to a small segment of the population who were beginning to think of emergency foods in terms of a giveaway program rather than a stop gap measure by donors who are committed to eliminating famine at home and abroad. It is feared that such impressions, if not discouraged, could slow down local production and meanwhile food aid used as a political tool or <sup>can</sup> become a major racket.

It is imperative that USAID and other donors work closely with GOG responsible officials toward minimizing the problems that plagued emergency food distribution in 1977 by carefully monitoring and supervising the distribution of food in the most needy districts of the Northern and Upper Regions. The six targeted districts included in the USAID exercise were the Northern Region's Yendi and Gambaga

Districts and the Upper Region's Bawku, Bolgantanga, Tumu and Lawra Districts.

Another disturbing problem facing GOG is dealing with those in the business of trafficking, hoarding and the smuggling of food. These common occurrences are well known and often mentioned in the daily press. As these problems continue to mount on such a major scale unabated, they will propel GOG into becoming a perpetual beggar by depending on outside assistance to make up its food deficits. It is strongly believed that some painful decisions are required to eliminate, if not all, but most of these problems. As the consultant sees the task, though a gigantic one, this calls for drastic action that must be undertaken by the highest authority if the economy, particularly concerning food, is to be brought under control over a reasonable period of time. Such a move is in the self interest of GOG since African politics are usually expressed through the stomachs of the masses in terms of cassava, yams, rice, maize, millet, fish, palm oil, etc.

#### BACK TO THE FARM MOVEMENT

The prolonged drought over the past three years created some hardships such as dislocations and food shortages in certain targeted areas but was considered a blessing in disguise to Ghana's agricultural development programs. Never before in the history of the country has so much interest

been demonstrated in increasing food production as was observed throughout the nine regions visited. The food shortage coupled with high food costs generated a burst of enthusiasm in agricultural development that resulted in a large number of the better educated Ghanaians, with the financial means, going into agriculture for the first time. Also, favorable weather conditions encouraged farmers on all levels to increase their plantings of cereals, tubers, vegetables, oil palms and plantains. This added expertise on the part of the newcomers coupled with the small farmer program in which MIDAS' efforts will be focused is expected to have an impact on production, income and quality of life of these two groups. However, it must be borne in mind that financing alone, though important, will not make a successful farming operation unless the key ingredient of good management is implemented on a day-to-day basis. This will avoid the bitter experiences of several retirees who invested their gratuities in agricultural projects and failed miserably for lack of expertise and sound management practices. This brings up the point of absentee farming that should be frowned upon particularly in the developing countries where sound management is at a premium.

It is inevitable that the large private farms will increase and expand acreage-wise in the future. This will call for a large reservoir of farm laborers who are likely

to be siphoned off small farms. Looking ahead, it is believed GOG should begin now to take every precaution necessary to safeguard the interest of the small farmer in order to enable him to remain on the land particularly in areas where land improvements have been made and irrigation works installed. In this connection, a favorable environment should be developed consisting of and embodying land tenure, and such inputs as seeds, fertilizer, agricultural services, credit, marketing, distribution, storage, etc. These safeguards will be major factors in tying the small farmer to the land by helping to improve his income, generate employment possibilities together with improving the quality of life in the villages. Otherwise a large number of these small farmers will continue to be underemployed or either turned into farm laborers or join the ranks of the unemployed in the urban centers. It is on this targeted group that attention is being focused by MIDAS and where GOG looks forward to the project having its greatest impact.

#### MAIZE PRODUCTION

Notwithstanding the excellent maize research program conducted at the Institute of Tropical Agriculture at Ibadan, Nigeria, Ghana is ranked among the leading African countries in maize research. Much effort and money have gone into this program over the past 15 years and the

results achieved to date have been encouraging and can be credited to the untiring efforts of Dr. William Agbley, Director of the Crops Research Institute at Kwadaso, and his associates. This program is an excellent example of continuity and working toward achieving an established goal. One major shortcoming, however, is the insufficient number of Ghanaian plant breeders to keep abreast with a fast expanding program throughout the country. Good plant materials continue to be in great demand and if not made available with the necessary inputs could slow down the program and have a devastating effect on increased maize production. Therefore, it is a matter of urgency that this deficiency be corrected soonest. Another problem facing maize growers is a shortage of shellers to speed up the preparation of grain for the market. As the industry expands this problem will become more acute unless additional equipment is made available to growers throughout the maize producing belt. Here is where it is believed USAID or some other donor country can play a key role in stimulating maize production further by assisting GOG through one of its sector programs in obtaining a reasonable number (50 or more) of these simple machines before the next maize season rolls around. Such a move will aid growers in increasing output both for home consumption and sale.

As a major food and feed crop much emphasis is placed

on maize research at the central, substations and in the field. Demonstration plots are strategically located in the maize growing belt and on selected farms participating in the maize seed multiplication program. The latter is under the Ministry of Agriculture.

This stepped up program is not only making headway in the traditional maize growing regions of Ghana, but also in the Upper and Northern Regions where maize was considered a minor crop a few years ago or not grown at all in some areas. Should the expanded program continue at the present rate, maize production in due course will be brought in line with consumption. This will make a major dent in the estimated 52,000 tons of white maize imported annually over the past several years.

Consumer preference for white maize dictate the use of yellow maize as livestock feed particularly for poultry. As a result, little attention has been directed toward the encouragement of producing yellow maize on a large scale. An estimated 45,000 tons are being imported annually for poultry producers. As poultry production expands and consumers become familiar with yellow maize as a food, it behooves the Crops Research Institute to direct some of its efforts in this direction, but not at the expense of the ongoing white maize program.

At present the Ministry of Agriculture and the Crops Research Institute are making high yielding maize seeds

available to farmers from seed multiplication units at Tamale, Asikuma, Ho and Kumasi. These units also supply high yielding seeds other than maize (rice, groundnuts, sorghum) to farmers at subsidized prices. With technical assistance from West Germany, Canada and USAID, these services have been expanded and are now reaching a larger number of farmers throughout Ghana.

The research end of the maize program is being further expanded under a CIDA Agreement to be implemented by CIMMYT in cooperation with IITA. Also, a West German Agricultural Research team (10 members) will conduct research at the Nyampala Research Center on crops applicable to the Upper and Northern Regions. This cooperative effort on the part of donors is bound to have a major impact on cereal production as well as other food crops particularly in the Northern and Upper Regions.

The consultant wishes to point out that seed alone is not an end in itself, but is just one of the first steps in program implementation. And unless the complete package is brought together with such inputs as fertilizers, agricultural services, marketing, storage, distribution, pricing, credit, etc., the program will limp along and suffer the same old fate as it has done in many areas in the past -- extremely low yields with little or no incentives for increasing production.

MIDAS

The MIDAS project that had been under consideration by GOG for approximately two years was finally approved by the Supreme Military Council on December 7, 1977 and subsequently signed by representatives of the respective governments on December 14, 1977. It was unanimously agreed that this integrated project fits well into the agricultural sector of the Five Year Development Plan since its major focus is on increasing the productivity of the small farmer by making available such inputs as agricultural services, credit, marketing, storage, seeds, fertilizer, distribution, etc. The availability of these inputs, hopefully, will play a major role in helping to increase food production among this group (830,000 estimated) who account for about 80 per cent of Ghana's agricultural production. The remaining 20 per cent is produced by large scale farmers.

Due to its central location and strategic importance as an agricultural area, the Atebubu District, situated in the Brong-Ahafo Region and contiguous to the Savannah belt of Northern Ghana, has been chosen as headquarters for this project. One senior GOG official (Thomas Biney, Deputy Director of Agriculture) of the Ministry of Agriculture has been assigned full time responsibility for the implementation of the project. Also, one AID

Project Leader supported by two or more contract teams including IITA and Virginia State University and their Ghanaian counterparts will be domiciled here working in the fields of rural development such as credit, fertilizer, seed inputs, agricultural services, marketing, hydrology, etc. Based upon the results achieved here, it is the intention of the participating agencies (U.S. and GOG) to extend these services to other districts within the region as rapidly as funds and other resources are made available. The success of this project is a must since it is hoped the results will stimulate the small farmer and serve as a vehicle that can be duplicated in the remaining districts of the Brong-Ahafo Region.

The consultant, however, draws attention to a matter of great concern. This deals with the loan arm of the MIDAS program that is presently being processed at a snail's pace and will eventually hamper the small farmer from getting the maximum benefit from this program. It was observed that the Ministry of Agriculture and allied bodies have been slow in completing the paper work that will enable them to utilize these funds so greatly needed to help the small farmer realize his goals. In view of the small farmer major contribution to Ghana's agricultural production, it is strongly recommended that the Ministry of Economic Planning continue to prevail upon

the Ministry of Agriculture and <sup>and</sup> ~~the~~ other bodies (ADB, BOG and MF) to maximize their efforts in completing all the required paper work (purchase orders, fertilizer factory, rural ADB offices, etc.) so that funds can be utilized to the fullest extent at an early date. This is a matter of urgency that will be in the long term interest of program and GOG during this critical period.

#### REVIVAL OF SMALL DAM PROGRAM

After a series of conferences within the Ministry of Economic Planning, the small earth dam construction program with minor irrigation works, has taken on new life and it is hoped will be expanded by the newly formed Irrigation Development Authority. Some 125 old dams are to be rehabilitated and another 200 new dams will be strategically located and constructed in village areas in the Northern and Upper Regions where water for home, livestock and irrigation purposes is in short supply. USAID is funding about \$145,000 in spare parts to put old AID purchased equipment in shape to support the revived program since a number of the old dams built with AID's assistance are more than 10 years old and will require desilting and minor repairs.

As compared to the larger dams (Tano and Vea), when completed at minimum cost, these dams can be maintained by the villagers and service the requirements of several

thousand additional farmers in the aforementioned regions. This simple construction will not only make a scarce commodity available, but year round farming below the dams possible. Also, it puts maintenance within easy reach of the villagers.

The Upper Regional Development Corporation with World Bank, CIDA and ODA support has demonstrated keen interest in accelerating this program by making staff, equipment and funds available for its implementation. Also, interest has been revived in increasing the number of bullock farmers in the area. While old equipment is undergoing repair, new simple ox drawn equipment is being imported and made available to bullock farmers through the local cooperatives. For a number of these farmers, bullock farming is not new in light of the now defunct Kusasi Cooperative that operated so successfully in the Upper Region in past years. It is hoped with the establishment of a small workshop at Tamale under West German aid in which simple ox drawn equipment will be manufactured on the spot, this old flame can be rekindled among the new cooperatives. The Kusasi Cooperative laid much stress on bullock farming among small farmers in the Northern and Upper Regions and made it possible for them to receive such inputs as bullocks, simple ox draw equipment, seeds, fertilizer, agricultural services, credit, marketing, etc. The small dam-bullock programs compliment

each other and fit very well into the agricultural scheme of Northern Ghana.

Since water for the foreseeable future will continue to be a major problem in the Savannah belt, the consultant strongly recommends that GOG and donors take a second look at the best and cheapest methods of storing and bringing water to the largest number of villagers and livestock at minimum cost. It appears the earth dam could serve as one of the prime movers in tackling this problem and should, therefore, be given more serious study and improved upon if and when found necessary. This simple approach in bringing water to the masses on a large scale at minimum cost will do much to improve the income, quality of life and production of the small farmer in the Savannah belt.

Except for the small dam program in Northern Ghana which it is hoped can be supplemented with some self-help assistance, it is recommended that the newly formed Irrigation Development Authority focus and concentrate on the completion of some 29 small and medium size dams, including Dawhenya and Vea, before embarking on new projects. Failure to follow through on their completion will only complicate the situation further by leaving a large number of uncompleted dams scattered throughout the country. Some of these half completed dams have been in progress ten years or more.

COCOA

Over the past eight decades cocoa was synonymous with the name of Ghana and still remains the backbone of its economy and will continue so in the foreseeable future. The industry was Ghana's pride in the past which made it the leading world producer. Today, this reputation is being challenged and Ghana most likely will be overtaken in the next several years by the neighboring Ivory Coast unless remedial measures are taken to revamp the sagging industry. For example, total production for this season (1977-78) was estimated at 278,000 tons as compared to 309,700 in 1976-77. This is the lowest figure since 1958 and less than half of the peak production of 566,000 reached in 1964-65.

With World Bank assistance attempts are being made to rehabilitate old cocoa farms by replacing old plantings with high yielding clones in the Central, Ashanti, Brong-Ahafo, Eastern and Western Regions, but little enthusiasm was observed on visits to these areas where morale seemed low when discussing the industry with cocoa team leaders at Kumasi and at the Cocoa Research Institute at Tafo. While GOG is embarking upon a massive spray, clearing and rehabilitation program which are steps in the right direction, unfortunately most of the rehabilitation plantings are performed by the Bank/Ghana teams instead of by

the farmers themselves. Unless this trend is reversed, it does not speak well for the future of the industry in Ghana.

It is hoped that the recent increase in price from 40 Cedis to 80 Cedis per 30 kilogram load will stimulate production. But in spite of this increase the consultant believes the lack of interest will continue when one considers the fact that farmers can make more from growing cassava, yams, maize and rice than they realize from their cocoa farms. Then there is the major problem of smuggling into neighboring countries that pay higher prices for cocoa than Ghana. This is a matter of practical economics to the man in the bush, most of whom cannot read nor write but fully understands where his comparative advantage lies.

To alleviate most of the problems facing the industry and rekindle some of the old interest in cocoa production, it appears that additional steps are required that will stimulate interest and develop an environment that will be profitable to the cocoa farmer. Such a move calls for a further adjustment in price somewhat comparable to prices they receive for cocoa smuggled across the border which will be more in line with prices they have to pay for goods they wish to buy. Such considerations, it is believed, will reduce smuggling and make cocoa production more attractive than it is at the present time. Unless

something of this sort is done, the consultant predicts that the cocoa industry will continue on the downward trend in the years ahead.

### REGIONAL VISITS

The nine regions were visited two or more times during this assignment. These included Greater Accra, Central, Eastern, Western, Volta, Ashanti, Brong-Ahafo, Upper and Northern Regions. The purpose of visits which covered more than 6,000 miles mostly in the back country was to observe and obtain as much information as possible on acreage planted and condition of crops at time of visits. As indicated elsewhere in this report, these spot checks were necessary since most information in the responsible ministries is either sketchy, estimates or difficult to obtain. In this connection, conferences were held with regional commissioners, administrative officers, agricultural officers, university officials, farmers, businessmen, chiefs, missionaries, technicians and members of various state boards and corporations to obtain and make use of any information written or unwritten that could have a direct bearing on the potential agricultural outlook for the 1978 crop season. With few exceptions, it was encouraging to observe the enthusiasm expressed by this group in light of the excellent weather which made it

possible for farmers to increase their early and late plantings of cereals, rice, tubers, millet, oil palms, etc.

In view of this year's outlook, increased food production should reduce drastically the hungry periods experienced by farm families over the two previous seasons particularly in the targeted districts of the Upper and Northern Regions. This should make a major dent in the imports of large quantities of cereals -- maize and rice. The hungry season (May, June and July) is an annual chronic problem for this area and one that requires long-term solutions if these families are to become near self-sufficient in food production. It appears that simple practices on a large scale are some of the major solutions to the hungry season. And it is believed these steps if taken will be in the right direction until GOG is financially able to enlarge upon this program. See pages 13, 14, and 15.

This year's promising outlook can have a major setback unless gains made can be protected and the necessary machinery established in advance to safeguard the crops. Foremost among these are adequate storage, distribution and marketing facilities including pricing. It is estimated that 25-30 per cent of all grain and cereals produced in Africa are destroyed annually either by pests or rodents due to inadequate storage. Here is where the combined

efforts of GOG, USAID and other donors can be utilized to the maximum extent by taking advantage of the simple storage demonstration set up at IITA in Nigeria for small village farmers. These 14 or more inexpensive simple storage facilities were constructed from native materials that can easily be adopted to Ghanaian conditions. The demonstration was called to the attention of the Ministry of Agriculture and Ministry of Economic Planning with a strong recommendation that a small joint team (USAID-GOG) be sent to Nigeria to observe the structures and, if found feasible, adopt a similar program in Ghana. Applying such a program to Ghana will help safeguard this year's food supply until GOG is ready and prepared to move to the next stage. This is important since storage is one of the weak links in the chain of GOG's agricultural development and if properly handled, these simple facilities can save thousands of tons of much needed grain and cereals annually that otherwise would be destroyed.

It was observed that the seven lower regions had gone heavily into the production of a variety of food crops such as yams, cassava, maize, oil palms, citrus, vegetables, rice, poultry and plantains. The two most promising regions from which an unusually heavy production can be expected this year are Brong-Ahafo and Ashanti where the small farmer production is supplemented by increased production from large

commercial and private farms ranging from several hundred acres to as much as 2,000 acres more or less.

Another encouraging sign was observed in the villages around Grebinga, Wenchi and Tanoso in the Brong-Ahafo Region and Akumadan in the Ashanti Region. In these villages several hundred small farmers are utilizing irrigated lands below two small earth dams to grow tomatoes. Approximately 2,000 boxes (60 lbs.) or more are marketed daily during the peak tomato season. During the consultant's visit these tomatoes were being purchased by Accra and Kumasi market women on the spot and boxed for transport to the Kumasi and Accra markets.

It was disturbing, however, to note that most tomatoes were overripe and by the time they reach their destination would have been crushed due to overloading and the packing system used by the truckers. Also, it was noted that the buyers' preference was for red tomatoes instead of a firm tomato that should be harvested just at the time it begins to take on a light pinkish color. It was pointed out to some agricultural officers that if buyers could be persuaded to purchase tomatoes at the suggested color, by the time they reach their destination (5-24 hours) they will have ripened to the red color desired by the consumers and arrive at market in better condition. It is believed the ERDM teams and women in Rural Development can play key roles

in supplementing the educational efforts of the agricultural officers in this respect since their major focus is on improving the income and quality of life of villagers in these areas. Attention should be concentrated on village growers and market women through whose entrepreneurship a sizable industry is being developed along these lines.

A second question raised with agricultural officers was the marketing of tomatoes to the nearby Wenchi Tomato Factory located within 15 miles of the villages. It appeared to the consultant that the nearness of the plant afforded an excellent outlet for this crop, but he soon discovered that the big problem as usual was that the factory price was not competitive with those offered by the market women. If this can be resolved it will improve the working capacity of the under-utilized plant that is presently operating at 25 per cent of its normal capacity. Also this would save tons of tomatoes that are crushed enroute to the Accra and Kumasi markets. For the first time, the factory is canning an excellent quality of mango juice which, it is believed, can be produced in quantity and the surplus marketed as a foreign exchange earner.

This suggestion resulted from the bumper crop of mangoes observed in the Brong-Ahafo and Ashanti Regions.

during the peak months of April-June. This year has been an unusual season for mangoes in this area. Most important, however, is the headway being made by the Ministry of Agriculture in introducing the improved varieties throughout the mango belt that are beginning to show up in the market place. In the Greater Accra Region budwood from five of the eleven improved varieties imported by USAID eleven years ago are being used to upgrade local varieties at the Mango Nursery at Dodowa. Some of the budded stumps that are sold to farmers at a small fee (50 pesewas) include the Bombay, Eureka, Zenith and Zill varieties, etc.

Although the seven lower regions received a great deal of the Ministry's attention, priority was given to the Upper and Northern Regions where the shortage of food resulted from the drought that extended over a period of three years. This area is contiguous to the Sahelian Zone that is also drastically affected by the drought.

Some 2300 road miles were covered on a second visit to the Northern regions in mid-October during which time discussions were held with regional officials, farmers and others together with making random spot checks in the 14 districts comprising both regions. The consultant found the food situation was a great improvement over the previous three years due to favorable weather conditions

and efforts put forth by these hardworking Northerners who accomplished much under the most extenuating circumstances -- harsh climate, inadequate inputs such as seed, fertilizer, credit, storage, limited agricultural services and above all, an inadequate supply of year round water. However, in spite of these inadequacies the Northerners are gradually forging ahead and beginning to share some of the benefits enjoyed by their more progressive neighbors to the South. Still much more has to be done that will take years of education and even more hard work before completely changing the minds, mores and practices of the small Northern farmer.

Nineteen Seventy-eight could be considered generally a reasonably good year for the Northern farmer, crop-wise. The battle, however, concerning shortages in certain targeted areas (Wa, Lawra, Yendi, Bawku, Navarango and Bolga tanga) that have been considered chronic food deficit areas over the years is yet to be completely won. In spite of a reasonably good year, some non-alarming soft spots are likely to appear around the hungry season (May, June and July). It is believed such assistance, if required, can be handled either through the existing CRS program or some of the donor programs already in the pipeline for this purpose.

The districts where encouraging food results were

observed include Tamale, Damongo, Bolgatanga, Wa, Lawra, Tumu, Gambaga, Nakpanduri, Wale Wale, Fambusi Valley, Navarango, Zurunga, Bawku, Jarapa, Nandon, Gushaegu, Salaga and Nalerugu. In each district prices were somewhat lower and the market places gave some indication of the bountiful harvest made this year as a result of favorable weather conditions -- rice, maize, millet, yams, bambara beans and guinea corn. The early groundnuts were one of the few crops that did not show as much promise as expected this year.

Rice, the principal cash crop of the North, continued to receive a great deal of attention. Approximately 52 per cent of the rice grown in Ghana is produced in the Upper and Northern regions. In discussions with responsible regional officials at rice mills and the Ministry of Agriculture, it is believed this year's crop will estimate some 240 thousand acres with a yield of approximately 75-85 thousand tons which is a 15 per cent increase over the previous year.

The industry, however, is still plagued with major problems that must be resolved immediately if GOG and growers are to reap the benefit from the massive investment put into the production of this crop. Foremost among these are sufficient power to keep mills operating at full capacity at all times. As a result of inadequate

power at Tamale, it was reported that 20 thousand bags of paddy were carried over from the previous year's crop. This is inexcusable especially at a time when food was at a premium in Northern Ghana. Others include ample storage and a supply of spare parts, particularly the fast moving items such as belts, filters and knives, for combines and tractors. These items will keep the machines operable throughout the growing season and particularly at harvest time. Unless some headway is made along these lines a large percentage of the crop will continue to be lost in the field and elsewhere as a result of careless fires, insect pests or through weather conditions. It is hoped the two Massey-Ferguson engineers arrived in time (November 1978) together with some spare parts to assist GOG in getting equipment ready for field operations during the harvest season.

As cereal crops expand and push deeper into the Northern territories, every indication points toward this area becoming not only the granary for Ghana, but also for the countries of Upper Volta, Niger, Mali and probably Togo. Unfortunately, Ghana is surrounded by these food deficit countries that are blessed with an abundant supply of consumer goods and some hard currency. This makes it rather tempting for a country such as Ghana, minus of both, and whose food supply is superior to her

neighbors to the North not to participate in the illicit handling of food, consumer goods and hard currency where the sky is the limit as far as food prices are concerned. In good years, Northern Ghana, the chief grain producing region, is the target for such trade particularly rice, maize and even cocoa from the Southern belt. This trade, it is believed, will continue until such time that Ghana through ECOWAS or some other international body is able to take the necessary corrective measures to improve its economy.

In opening up large land areas, it is well to point out some of the dangers of large scale mechanization without prior planning. To avoid a situation similar to the U.S. dust bowl of the 30's, every precaution must be taken to protect the soils in order to keep the area from becoming a vast dust bowl over a period of years. This calls for close cooperation on all levels between the soil scientists, ecologists, agronomists, agricultural engineers, etc. Without this kind of approach, it could be disastrous for the area, its people, and its agriculture in the years ahead. It is hoped the Northern Ghana desertification study (1977-78) made jointly by CSIR and the University of Arizona under a USAID contract is the first step toward avoiding this catastrophe. This study can prove useful by furnishing the framework upon which a long-range program can be developed for the area.

### FERTILIZER ARRIVALS

Like last crop season, several hundred thousand tons of fertilizer arrived too late for the early plantings but hopefully will reach the North in time where most of it will be used in connection with the planting of rice, sorghum, cotton and other late crops. Similar to the 1977 crop year a large portion of the fertilizer is expected to be carried over into the 1979 crop year and be on board for early plantings during this period. This inexcusable delay will have a direct bearing on this year's yield and, if continued, will discourage farmers who are beginning to reap the benefits from the use of fertilizer. Every effort should be put forth in the future to avoid similar debacles to enable the present momentum of increasing food production to go forward on schedule. However, the one big obstacle, unless corrected, that is bound to affect the wide use of fertilizer among small farmers in the coming crop year should it arise is the doubling or even tripling of price since the devaluation of the Cedi. This matter calls for urgent attention on the part of donor agencies (IBRD and USAID) whose programs are focused on assisting the small farmer. In this connection, it is strongly recommended that joint action be undertaken by these groups, if necessary, to see what relief might be brought to the small farmer.

Fertilizer is an important agricultural input and should be in the farmers' possession at least several weeks before the planting season begins. It is hoped with the establishment of the proposed fertilizer factory supported under the MIDAS project, the problem of delivery can be resolved at an early date. Therefore it is strongly recommended that this segment of the MIDAS project be implemented soonest.

#### PUGWASH CONFERENCE

Conferences were held on May 26 with Dr. K.A. Hazel and senior staff concerning subject matter to be discussed at the Pugwash Conference which opened at the University of Cape Coast on May 29-June 3. Dr. Hazel served as conference secretary and was responsible for coordinating its activities.

The Conference brought together some forty international leaders in agriculture, education, science and technology to present papers and exchange ideas on global issues particularly those relating to the African Continent. Foremost among the papers presented and discussed were two concerning the African food situation led by the Ghana Commissioner of Agriculture, Colonel Akwagyeesam and Dr. R.K.A. Gardiner, farmer and former Commissioner of Economic Planning. In his keynote address Dr. Gardiner

emphasized that the food crisis in Africa is not a passing phenomenon but a product of Africa's recent history. By 1987, he pointed out, "Africa would need to spend 17 billion dollars a year for the importation of cereals. This could be considerably eased if African countries could spend the point five billion dollars which they now spend on the importation of arms". Other participants included representatives from Ghana, United States, Canada, United Kingdom, Asia and Europe.

The first International Pugwash Conference was sponsored by Albert Einstein and Betram Russell in Pugwash, Canada some 20 years ago. The first conference was held in Africa (Cairo, Egypt) in 1974. The purpose was to bring together international leaders (East-West) in various fields not only to discuss but also to suggest solutions to international issues affecting mankind in general.

The exchange of ideas on the global food situation particularly as they relate to Africa impressed upon the delegates the seriousness of the massive food problems facing the African Continent that must be tackled with all available resources at the disposal of the African Governments. It was recognized further that the food situation is an African problem that required African solutions. Being a food deficit continent that will continue so in the immediate future, the urgency of the problem deserves

priority attention on the part of African Governments and donor agencies. Like Africa, this urgency should be of paramount importance to donors because of self-enlightened interest since all countries are interdependent and cannot live in isolation. Therefore, any problem affecting one will eventually affect all.

After one full week of fruitful discussions and exchange of ideas, the Conference closed on June third.

#### ECONOMIC AND RURAL DEVELOPMENT SEMINAR

The consultant attended a Seminar at Koforidua, Eastern Region (May 19) for ERDM regional staff and was greatly impressed with the orientation course as well as the caliber of regional workers selected to implement the ERDM program.

Some 22 participants representing eight regions were taking the course under the supervision of a USAID/ERDM team and a senior officer of the Ministry of Economic Planning. In spite of the many problems that were involved in getting the program off the ground during the initial stages the group appeared enthusiastic and anxious to be assigned to their respective districts. Like most programs dealing with rural development, the ERDM approach calls for recognizing the problem first and then getting the people involved in the decision making process. This approach is

solid and furnishes the pillars upon which a meaningful program can be developed. However, it must be borne in mind that the approach is tedious and requires dedication, patience, and willingness on the part of the staff to work long hours. Unless there is an all out commitment on the part of staff, there will be frequent turnovers in personnel that will plague program throughout the life span of the project.

TITLE I: FOOD AID

The consultant participated in a series of conferences held jointly with the Ministry of Economic Planning and USAID/Embassy concerning Ghana's request to the United States Government for Title I assistance under the Food for Peace Program. Items requested will in no way conflict with Ghana's regular imports from the U.S. and elsewhere and, if approved, will assist the government in easing the inflation spiral that is continuing to plague the economy. In recent months the government has taken drastic steps to put their house in order and in light of this it is believed such aid at this time will assist the government in turning the economy around.

With the devaluation of the Cedi and the continuing increase in food prices, no end is in sight at present for the common man who is becoming rather restless and is bound to explode unless some assistance (Title I, Food AID) of this

sort is forthcoming at an early date. The consultant, therefore, strongly believes that <sup>with</sup> some modification in requested tonnages it will be in the self interest of the U.S. to assist GOG at a time when the greatest impact can be made on a deteriorating economic situation. He concurs with and strongly supports USAID/Embassy recommendation that Ghana be included under the 1979 Title I, Food AID Allocation Program.

\* Items requested in submission to the U.S. Government follow:

Cotton	17,000	metric tons	
Rice	27,000	"	"
Wheat	65,000	"	"
Vegetable Oil	7,000	"	"
Tobacco	3,000	"	"
Yellow Maize	42,000	"	"

\* Above figures have been lowered since the original request was made.

### TRANSPORTATION

The lack of adequate transportation is increasing at an alarming rate in the Ministry of Agriculture and allied industries and could have an adverse affect on increased agricultural production. Motor transport is rather limited in all areas and those vehicles that are operable have

frequent breakdowns due to lack of essential spare parts, tires and regular maintenance. Similar problems are experienced by other ministries closely associated with the Ministry of Agriculture. All of these problems linked with adequate transport cannot but have a devastating effect on the movement of food from the villages to the urban centers.

In the Yendi District, one of the largest areas in Northern Ghana, it was observed that the agricultural officer in charge was making a serious effort to perform his extension functions via bicycle and the "ankle express" which were the only means of transportation at the time of the consultant's visit in mid-October. This vast territory is an important food production area -- yam and cereal -- and requires constant supervision by those who are responsible for the implementation of the agriculture program. A similar situation exist in other regions where a shortage of light, medium and heavy duty vehicles with an accompanying assortment of spare parts including tires were apparent. It is believed adequate transport can do much to increase the performance of officers as well as moving the agricultural inputs and produce to and from the villages on schedule.

To relieve the present bottleneck that will increase as production moves ahead, it is recommended that a sector

program be explored with donors to ascertain the availability of assistance in this area. It is suggested, however, that any undertaking along these lines should be directed toward standardizing equipment and the bringing in of at least a year's supply of spare parts including tires. This will permit the movement of officers, agricultural inputs, and produce at regular intervals. Equipment, however, should be strictly for production purposes and be able to withstand the wear and tear on bad roads -- such as Jeeps, pick-ups, medium and heavy duty trucks. Such a program, if implemented, will also help to reduce the hazardous use of farm tractor/trailers so frequently pressed into service as village taxicabs. A complimentary sector program should also be explored in the area of spare parts including tires (not equipment repeat not) for the American made heavy equipment such as Caterpillars, bulldozers, scrapers, etc. that are lying idle due to lack of essential spare parts. This equipment is visible to those working the rural areas where GOG is making a serious effort to open up the back country for the transportation of produce to market as well as increased agriculture production. Prime examples are the Bolgatanga-Bawku Road in Northern Ghana, the Bekwi-Cape Coast Road in Ashanti and the Central Regions and the Wenchi-Kumasi Road in the Brong-Ahafo Region. To have the maximum impact at the earliest possible time, any sector program should be

accompanied with the necessary expertise on a short time basis (six months) preferably from the interested manufacturer to assist GOG with the installation of parts as well as training a cadre of mechanics to continue program after experts have been phased out.

INSPECTION OF PL 480, TITLE II GRAIN - KUMASI

At the request of the USAID Director an in-depth inspection was made of the 2,500 tons of PL 480, Title II grain stored in four warehouses at Kumasi to ascertain the amount of damage, if any, resulting from weevil infestation and spoilage. The consultant was accompanied on inspection by the Food for Peace Monitor, John Wilson and two representatives of the Ashanti Regional Commissioner's staff.

Grain had been stored in Kumasi for approximately nine months, but appeared to be in reasonably good condition and found suitable for human consumption provided it could be distributed over the next two-three months (May, June and July). Attention was called to the danger of carrying grain beyond this period which ran the risk of heavy weevil infestation and spoilage particularly in warehouses One and Eight where it was observed that weevils were on the increase and some damage had begun to occur. Also additional spraying was recommended for sheds with

heavy weevil infestation which was to be followed within the next several days.

It was pointed out to the USAID Director that it would be most unfortunate to permit grain already on board to go bad as a result of red tape when there were so many hungry mouths to be fed in the targeted district of Bawku, Bolgatanga, Yendi, Gambaga, Lawra and Tumu. These people, as pointed out, should not be victimized for the bureaucratic bungling that USAID made every effort to resolve with the host government.

At the time of visit it appeared that some time would be required to iron out problems pertaining to delivery and distribution of grain. As a result of this apparent bottleneck, it was recommended that USAID with as much assistance from the host government as possible undertake delivery and distribution of grain to the six most needy districts immediately. This was a matter of urgency because of the fast approaching hungry season which began in May and extended through July. In this connection, it was suggested further that delivery of grain be made in 500-ton loads bi-weekly which would run through the first two weeks of August. Such scheduling permitted the delivery of grain up to the early harvesting of millet and yams which began during the month of August. Also, it was important to move grain at a time when scarce transportation would not be required to transport about 100,000 tons of fertilizer to the North.

On the consultant's next visit to Ghana he was delighted to learn that the recommendations had been carried out after the problems had been resolved. The delivery of grain to the targeted areas began on June eight.

#### MINISTRY OF ECONOMIC PLANNING

The shortage of hardworking, well prepared dedicated senior staff continued to plague the Ministry of Economic Planning. This problem, however, is being tackled in small measure by bringing on board senior staff, if available, and by the extensive training of junior officers both at home and abroad. Young, bright economists within the Ministry are selected annually and given every opportunity under GOG and donor programs to participate in long term training in the US, UK, Canada, West Germany and other donor countries. Fields of study are focused in much needed areas that will upgrade their skills on return to the Ministry of Economic Planning. These areas include agricultural economics, development economics, statistics, general economics, etc. At least six junior officers are selected annually to participate in these programs. The long-term objectives are good and a step in the right direction that should pay big dividends in the years ahead. However, as these officers move out of the Ministry for a

period extending from one to three years training, they leave a void that should be filled immediately by competent staff. Otherwise most work will fall on the offices of the Commissioner and Principal Secretary. Both of these offices are overworked at present and with the activities of the Ministry expanding each day, the tasks are far greater than the ability of any one individual to perform -> regardless of ability.

The Statistics Division which is considered a major arm of the Ministry should be strengthened by availing itself of the opportunity to take advantage of the donor/GOG training program. This once proud division is overworked with too few people to adequately do the job required by the Ministry. The shortage of staff has cut deep into the work of this division that has been without a Deputy Government Statistician for almost two years. The Division was weakened further and now limping along with the recent appointment of the Government Statistician to the Commissioner's post. This leaves the division in a precarious state. Until these appointments are made the Commissioner will continue to be saddled with <sup>the</sup> dual responsibilities of running the Ministry and the Statistics Division.

The consultant wishes to thank outgoing Commissioner R.K.A. Gardiner and staff and incoming Commissioner Dr. Joseph Abbey for their support and cooperation during these two short term assignments. Without it, the smooth

running of these assignments would have been impossible. It is hoped that adequate staff will be recruited soonest to relieve the Commissioner and Principal Secretary of the added responsibility.

AMERICAN EMBASSY and USAID

The Embassy and USAID were kept apprised of the consultant's assignment to Ghana. Periodical conferences were held with the Ambassador and Director of USAID Mission to Ghana. Two or more conferences were held jointly with the Commissioner of Economic Planning and the Director of USAID. These conferences concerned USAID Project implementation and PL 480 Titles I and II. The emergency food program is already on board in Ghana.

Embassy and USAID cooperated fully with the consultant throughout the assignment for which he is most grateful.

CONFERENCES AND MEETINGS HELD

American Embassy and USAID:

Robert Smith	- - -	Ambassador
Edward Holmes	- - -	Deputy Chief of Mission
Irvin Coker	- - -	Director/USAID
Charles Johnson	- - -	Deputy Director/USAID
Don Born	- - -	Economic Officer
Edward J. Perkins	- - -	First Secretary

Michael Zack - - - Program Officer  
Oleen Hess - - - Food and Agriculture Officer  
John Wilson - - - Food for Peace Monitor  
John Cooper - - - Science & Technology  
Ollie Davis - - - IDI--Food and Agriculture  
Jerry Wood - - - ERDM/USAID  
George Smith - - - Deputy Comptroller  
William Carter - - - Food for Peace Officer  
Richard Moore - - - Public Affairs Officer--ICA  
Frederick Zerzavy - - - Medical Officer  
Wilfred Owen - - - ERDM/USAID

AID/Washington:

Goler T. Butcher - - - Asst. Administrator--African Bureau  
W. Haven North - - - Deputy Asst. Admin.-- " "  
Ron Nicholson - - - Central West Africa Desk  
Norman Olsen - - - Ghana Desk  
Harold M. Jones - - - Food and Agriculture Officer  
Thomas Quimby - - - Director--South Africa Division  
Howard Stephens - - - Director--USAID/Tanzania  
Glenwood P. Roane - - - Director--USAID/Kenya  
John Withers - - - Director--USAID/India

U.S. Department of Agriculture:

John Black - - - Africa Bureau  
Ronald Jones - - - Africa Bureau  
James F. Keefler - - - PL 480, Title I

Ministry of Economic Planning:

Dr. R.K.A. Gardiner - Commissioner (resigned  
April 30, 1978)

Dr. Joseph Abbey - Commissioner (appointed May 1)

Mary Chineny-Hesse - Principal Secretary

I. Bissue - Senior Principal Asst. Secretary

A.K. Sarpong - Principal Assistant Secretary

Dr. Eric Danquah - Asst. Secy (Technical Assistance)

Charles Quansah - Senior Agricultural Economist

Joseph Quansah - Senior Agricultural Economist

George Cann - Economist & Project Leader ERDM

Margaret Clark - Economist -- Food for Peace

Joseph Annan - Advisor

E.C. Quist-Therson - Advisor

Ministry of Foreign Affairs:

Colonel R.J.A. Felli - Commissioner

Ministry of Agriculture:

H.J.K. Folsom - Senior Principal Secretary

William Baffour - Director of Agriculture

Thomas Biney - Deputy Director--MIDAS

J. E. Okenai - Deputy Director of Agriculture

A. K. Ghansah - Deputy Director of Agriculture

F. N. Ghartey - Deputy Director of Agriculture

Elizabeth Nettey - Principal Agricultural Officer

Irrigation Development Authority:

Dr. Henry Obeng - - - Director General (resigned)  
Hugh Quartey-Papfio - Technical Advisor  
G.K.E. Kemovah - - - Technical Advisor

Ministry of Social Welfare and Community Development:

Nii Ayitei Kwakranya - Commissioner  
Colonel Harry Appiah - National Coordinator -- Emergency  
Food

Ghana Cocoa Research Institute:

Dr. E.J.A. Asomaning - Director

Ghana/IBRD Cocoa Rehabilitation Project:

Dr. A.A. Opoku - - - Officer-in-Charge: Ashanti/Brong-  
Ahafo  
D.D. Duncan - - - Deputy Chief Admin. Officer

Ministry of Education:

Dr. E. Evans-Anfom - Commissioner of Education

African-American Labor Center:

Donald E. Jones - - - Representative

Crops Research Institute:

Dr. W.K. Abgle - - - Director  
Eugene Agyepong - - - Administrative Officer  
Rex Akinbolu - - - Quantity Surveyor  
Andreaj Clansing - - Agricultural Engineer  
John Nutsugah - - - Engineer  
Dr. Karlheinz Wolpers - Director-designate (Nyampala  
Research Center)

Soils Research Institute:

Dr. Henry Obeng - - - Director

Dr. Thomas Harris - - Soil Scientist - - Prairie View  
A. & M. University

University of Ghana:

Professor Eugene Bodi-Doku - Acting Dean

Dr. Raymond J. Carpenter - - Agricultural Econo-  
mist (USAID)

Dr. S. Ofusu-Amah - - - - Ghana Medical School

Dr. P. Twumasi - - - - Ghana Medical School

Roads Research Institute:

Dr. Joseph Degraft-Johnson

Kumasi College of Science and Technology:

Dr. E. O. Asare - - - Dean, Faculty of Agriculture

Dr. I. K. Djokoto - - Head, Dept. of Agric. Engineering

Dr. B. Osafo - - - - Agronomist

GHIOC:

E. Abraham - - - - Project Manager - - Agriculture

Virginia State University:

Dr. C. Whyte - - - - Project Coordinator

Dr. Emanuel Acquah - Economist - - Project Leader

Miss Catherine Boyd - AID/W - - Project Backstop Officer

Ashanti Region;

Lieut. Commander G.E. Osei - Regional Commissioner  
Gabriel Wilson - - - - - Administrative Officer  
Agyei-Tabi - - - - - Director, Ashanti Regional  
Development Council  
Michael Warren - - - - - ERDM/USAID  
William Fuller - - - - - Agricultural Education  
Advisor/USAID (Kwadaso)  
K. Nettey - - - - - Agricultural Education  
Officer (Kwadaso)

Visited Kaumadan Tomato Irrigation Farm

Ejura Agricultural College:

P. K. Awiwabo - - - - Officer-in-Charge  
B. A. Richardson - - - Senior Agricultural Assistant  
Visited Ejura Farm -- Maize/Sorghum

Brong-Ahafo Region:

B. K. Owusu - - - - Regional Agricultural Officer  
G.K.A. Boafo - - - - Senior Agricultural Officer  
Visited Grebinga and Tanoso Tomato Irrigation Farms

Wenchi Farm Institute:

A. D. Asare - - - - Officer-in-Charge  
Mr. Abaka - - - - Tutor  
Mr. Addy - - - - Tutor  
Mr. Akataba - - - - Tutor

Wenchi Tomato Factory:

Jacob K. Mensah - - - Officer-in-Charge

Atebubu District:

Mr. Agosah - - - - District Executive  
H.S. Adibo-Odamptey - Vice Principal, Teaching  
Training College  
F. K. Oliemo - - - - Special Production Officer  
Visited MIDAS Project site

Volta Region:

A.K. Yason-Kum - - - - Regional Agricultural Officer  
K. Mudjabi - - - - Officer-in-Charge, Ohawu  
Agricultural College  
Visited Agricultural College where two dormitory  
blocks have been named in honor of two former USAID  
employees - - Dean Elliott, Agricultural Engineer and  
Frank E. Pinder, Food and Agricultural Officer

Eastern Region:

B.A.A. Williams - - - - Former Regional Agriculture Officer,  
presently assigned to State Farms  
Geraldine Brooks - - ERDM/USAID

Central Region:

Lieut. Commander J.K. Otoo - Regional Commissioner  
Cobna Woods - - - - Farmer

Western Region:

G.K. Baier - - Manager, Firestone Plantations (Sekondi)  
Robert Blay - Associate Justice (retired)

Greater Accra Region:

Albert Adomoko - - - Former Governor, Bank of Ghana,  
farmer and business consultant  
Dr. N.D. Wadwah - - - Director of Ghana Agriculture  
Machinery Company  
Isaac Eshur - - - Director of Pioneer Tobacco  
Samuel Sey - - - Managing Director, Barclay Bank  
Tony Epsom - - - Consultant  
D. E. Milligan - - - Manager, Firestone/Ghana

FAO Regional Officers:

Dr. Samba Sar - - - Africa Regional Representative and  
Assistant Director General  
J. A. Mudavadi - - - Deputy Regional Representative  
Dr. Michael Thomas - Regional Livestock Officer  
M. Milligan - - - UNDP/FAO Country Representative

UNECA:

David Wassawa - - - Director, Science & Technology  
Division  
Godfrey Coker - - - Regional Agricultural Economist  
Kingsley Dube - - - Chief, Information Center  
Nicholas Otieno - - - Chief of Section, Science and  
Technology Division

University of Cape Coast:

Dr. K. A. Haizel - - - Dean, Faculty of Agriculture  
A. K. Awuku - - - Instructor, Agricultural Education  
Dr. Sar - - - Professor, Agricultural Education  
Dr. B. T. Buamah - - Professor, Poultry Science

ORT/Washington:

George L.P. Weaver - Consultant

William Steen - - - Research Consultant (Africa)

IMF:

Robert Franco - - - Africa Department

UNDP:

Robert Kitchen - - UNDP Representative/Kenya

David McAdams - - - UNDP Representative/Lesotho

IBRD:

Dr. E.H. Pratt - - Population/Health Section

Northern Region:

Colonel L.K. Kojeku-Regional Commissioner

R.K. Kurbo - - - - Acting Regional Admin. Officer

S. Dankyi - - - - Regional Agricultural Officer

Daniel Ngula - - - Deputy Regional Agric. Officer

Charles Osafo - - - Regional Coordinator

Jacob B. Wumuaya - Chairman, Cotton Marketing Board

J. K. Twim - - - - District Agric. Officer--Yendi Dist.

H. K. Naah - - - - Production Officer -- Yendi District

Ben Alex Kofi Bente - District Agric. Officer --  
Wale Wale, Gamba District

B. A. Yakubu- - - - former Chief, Gushiegu Area

Mr. Adiita - - - - District Agric. Officer, Damango Dist.

L. T. Mends - - - - District Agric. Officer, Salaga Dist.

D. S. Salifu - - - Technical Officer

Upper Region:

Colonel Samuel Kyapaah - Regional Commissioner  
W. K. Debaar - - - - Acting Regional Admin. Officer  
Assibi Nahyi - - - - Regional Agricultural Officer  
Timothy Atowe - - - - Regional Agric. Extension Officer  
Dr. A. O. Abudu - - - - Program Manager, UREDC  
Francis Badgie - - - - Director General, UREDC  
W. R. Ramey - - - - Regional Director, UREDC  
A. Mann-Amoateng - - Regional Manager, Rice Mill  
Patrick V. Kuug - - - - Deputy Regional Manager, Rice Mill  
J. B. Alhassan - - - - Sr. Rice Purchasing Officer  
F. Dery - - - - District Agric. Officer--Wa Dist.  
W. Z. Nambie - - - - Dist. Agric. Officer--Lawra Dist.  
E. T. Kunbuor - - - - Irrigation Officers--Lawra Dist.  
Bakoli Bakulie - - - - Dist. Agric. Officer--Tumu Dist.  
G. Z. Gyiele - - - - Tech. Officer--Tumu District  
R. K. Wenyah - - - - Dist. Agric. Officer--Navaranga Dist.  
S. D. Wilson - - - - Dist. Mechanization Officer --  
Navaranga District  
F. Abaca - - - - District Agric. Officer --  
Zuninga/Bolgatanga District  
Andoh Tau - - - - District Agric. Officer--Bawku Dist.  
S. Yakubu - - - - District Chief Executive-Bawku Dist.

Stateside Contractors;

- Dr. Richard Smith - Department of Community  
Medicine, University of Hawaii
- Dr. Lawrence Wonderling - Co-Director, Center for Assess-  
ment and Psychotherapy
- Dr. Charles T. Hein - General Secretary, Afrolit  
Society for Adult Education
- Eston C. Collins - President, ESCO International, Inc.,  
Market Development Specialists
- Dr. Carl van Heflin - Experience Incorporated

Ad Hoc Meetings:

- David Williams - Editor, West Africa Magazine
- Dr. James Pickett - Professor of Economics,  
Strathclyde University
- Dr. Russ Mahan - World Education
- Dr. Ross Hammond - Georgia College of Science and  
Technology
- Ambassador Alex-Quaison Sackey - Ghana Ambassador to U.S.
- Alexander P. Hixon - Consul General/Malaysia,  
Los Angeles, U.S.A.
- Stewart Jones - Animal Feed Specialist -  
Los Angeles, U.S.A.

CONCLUSION

The 1978 plantings were increased acreage-wise and the results have been good. This should reduce emergency food grain imports provided the harvest is husbanded properly and the food remains in the country. With the devaluation of the Cedi, it is anticipated that prices will continue high for sometime to come since it is awfully difficult to bring prices back in line once they have been established. This is true not only in developing countries, but in the developed ones as well. With a plentiful food supply on the open market, hopefully, competition will exist and gradually encourage the lowering of present prices. This was noticeable in Northern Ghana during the consultant's visit. It is hoped a similar situation occurs in Southern Ghana but it will depend on continued increased food production in the years ahead and provided the food remains in Ghana. Even if achieved, it is believed prices will continue high for sometime to come. Like the North, the temptation created by Ghana's drought stricken neighbors where the sky is the limit as far as the price of food is concerned continues to remain great. In these countries negotiations are usually conducted in consumer goods and hard currency that are in short supply in Ghana. In this connection, tougher border measures are called for to avoid as much smuggling as possible or much of this year's harvest will end up in neighboring countries.

The consultant believes it is a waste of resources to increase production if it cannot be safeguarded against weather and pests such as weevils and rodents. This is not only a national problem but a continental one as well. It is estimated that 25-30 per cent of Africa's grain is destroyed annually by these pests. To avoid this major catastrophe, all necessary precautions should be taken to establish adequate storage facilities on all levels.

GOG and particularly the Ministry of Agriculture should guard against permitting the momentum generated by farmers over the past several years to lag. The private funding going into agriculture for the first time on a large scale should be encouraged. This added production will supplement the small farmer who accounts for about 80 per cent of all food production. In spite of the drought having its devastating effects on the small Northern farmer, it was a blessing in disguise for Ghanaian agricultural development program as a whole and made the country realize in the words of the Ivorian President that "a hungry man is not free until he is able to feed himself". These wise words were articulated very well at an agricultural gathering several years ago and are applicable to today's Ghana. Present shortages created by the drought coupled with high food costs played an important role in helping to boost production in 1978. It is hoped the present interest generated by these forces will not be a stop-gap measure, but continue in the years ahead.

The following acronyms used throughout this report to facilitate its reading are interpreted below:

- MIDAS - - Management Inputs and Delivery of Agricultural Services
- SMC - - - Supreme Military Council
- US - - - United States
- UK - - - United Kingdom
- USAID - - United States Agency for International Development
- CIDA - - Canadian International Development Administration
- IITA - - International Institute of Tropical Agriculture
- CIMMYT - International Center for Maize & Wheat Improvement
- GOG - - - Government of Ghana
- ODA - - - Overseas Development Administration
- USDA - - United States Department of Agriculture
- FAO - - - Food and Agriculture Organization
- GHIOC - - Ghana Holding Industrial Corporation
- ERDM - - Economic and Rural Development Management
- PAO - - - Public Affairs Officer
- ICA - - - International Communication Agency
- IDA - - - Irrigation Development Authority
- URADEC - Upper Regional Agricultural Development Corporation
- ARDC - - Ashanti Regional Development Corporation
- IBRD - - International Bank for Reconstruction & Development
- IMF - - - International Monetary Fund
- WFP - - - World Food Program
- WGARI - - West German Agricultural Research Institute

UNECA - - United Nations Economic Commission for Africa  
ORT - - - Organization for Rehabilitation and Training  
UNDP - - United Nations Development Program  
IDI - - - International Development Interne  
GCRI - - Ghana Cocoa Research Institute  
CRI - - - Crops Research Institute  
SRI - - - Soils Research Institute  
AID - - - Agency for International Development  
RRI - - - Roads Research Institute  
ECOWAS - Economic Cooperation of West African States  
CSIR - - Center for Scientific and Industrial Research  
ADB - - - Agricultural Development Bank  
BOG - - - Bank of Ghana  
MF - - - Ministry of Finance