

TZ  
630.9678  
H975

Blue Richard  
x File AID/AFR/HOBEN/TANZANIA

PN-AM-332/62  
ISN-15837

## REPORT

OAD-CR-A-162

A CONCEPTUAL FRAMEWORK FOR USAID  
AGRICULTURAL ASSISTANCE IN TANZANIA

Prepared for:

Office of Development Resources (AFR/DR)  
Agency for International Development  
Department of State  
Washington, D.C. 20523

Contract No. AID/afr-C-1142, WO No. 17

Prepared by:

Richard Blue  
Edmond Hutchinson  
Fred Mann  
James Weaver

October 1976



AMERICAN TECHNICAL ASSISTANCE CORPORATION

7655 OLD SPRINGHOUSE ROAD

McLEAN, VIRGINIA 22101

A Subsidiary of General Research Corporation

8a should we really avoid oil palm etc

9 zeros good

2-10 This approach is exactly what cultural ecology with ideas must be in order will be prevented

1) Control not conflict with TANU?

11a Inputs - no sociological/social understanding

12 monetary base

13a ask for clarification

# REPORT

OAD-CR-A-162

14a such a plan: I don't agree = plan is needed

22 follow up reality

23 Economics?

## A CONCEPTUAL FRAMEWORK FOR USAID

## AGRICULTURAL ASSISTANCE IN TANZANIA

11) Swahili / Masai part who

145 answer uncertainty = dumb peasant  
O what are we teaching?

NB | The technology + attitude fallacy

147 approach via  
description of tech  
unassisted

Prepared for:

Office of Development Resources (AFR/DR)  
Agency for International Development  
Department of State  
Washington, D.C. 20523

Contract No. AID/afr-C-1142, WO No. 17

Prepared by:

Edmond C. Hutchinson  
Fred L. Mann

October 1976

1) approach goal / ie farmer as goal, concentration on farm + zone,

2) account of culture/Tanu issues

3) Technology + uneconomic fallacy

4) 9 no. of...

5) Idea that we can work without TANU

6) Project requires much more sociological + common sense knowledge

## TABLE OF CONTENTS

I. Team Purpose	1
II. Basis for US Assistance to Tanzania	2
III. Purposes of US Assistance	4
IV. Criterion for Project Selection and Design	5
V. Recommendations	6
APPENDIXES	
I. Tanzanian Objectives and US Assistance	22
II. Village Organization in Tanzania	29
III. Strategy and Forms of AID Assistance to Tanzania and Possible Structures for Its Implementation	37

A CONCEPTUAL FRAMEWORK FOR USAID  
AGRICULTURAL ASSISTANCE IN TANZANIA

I. TEAM PURPOSE

This document is the report of a team selected to assist the USAID/Tanzania in developing a conceptual framework for formulation of its program of agricultural assistance to Tanzania. Members of the team were:

Richard Blue -- Development Studies Program, AID

Edward Hutchinson, Team Leader - ATAC

Fred Mann - ATAC

James Weaver - Development Studies Program, AID

The report is based on a review of AID, IBRD, and Tanzania Government documents and reports, discussions in Washington with AID and IBRD personnel, and three weeks in Tanzania during which discussions were held with officials of the USAID, the Embassy, the IBRD, and other divisions, and the Government of Tanzania, including officials of the Prime Minister's Office, the Ministry of Agriculture, the Ministry of Finance, and three regions. Field visits were also made to observe USAID, IBRD, and Tanzania Government programs.

The team's purpose has been to make recommendations to the USAID to assist it in developing its assistance objectives and strategy, the nature of its involvement in Tanzania's development program, and the nature and intent of assistance programs and projects. Our objective has been to help the USAID devise an assistance strategy which is acceptable to the TanGov, the Embassy, the Department of State, AID/T, and AID/W and which can be implemented. The team has been primarily concerned with questions of purpose and objectives, criteria for program and project selection, and the means by which assistance is to be provided rather than with recommending specific programs or projects. It has, however, made some comments as to the relation of existing and proposed programs to the

basic assistance strategy recommended and as to the lines along which new programs might be developed.

The team's work is based on the assumption that expropriation and compensation problems will be resolved in such a way that there will be no legal impediment to continuation of US assistance to Tanzania. Consideration of those problems is entirely outside the scope of the team's work.

Recommendations made by the team are related to existing conditions and circumstances and are not concerned with changes and special needs which might develop from emerging conditions in Rhodesia, Southwest Africa, and other such areas.

Since the report is directed to the Mission and since there was limited time for its preparation, the team has restricted itself to presenting what is little more than a summary of its conclusions and recommendations without including much supporting information and data. Some information as to Tanzanian policy and regional and village structure is contained in appendices. Basically, however, we have assumed that those using the report will be sufficiently familiar with Tanzanian conditions and AID policies and procedures to permit the use of a summary approach.

## II. BASIS FOR US ASSISTANCE TO TANZANIA

Questions are sometimes raised as to whether, given the divergencies between US and Tanzanian political and economic policies and differences on specific political questions, assistance should be provided at all. The Team agrees that such conditions affect the extent and nature of US assistance but has concluded that assistance is justified on three primary grounds:

1. The considerations which lead to provision of aid to any other country are applicable to Tanzania. Tanzania meets the test of "underdevelopedness" by any standard which might be applied. The per capita GNP of \$130 a year is at the lower end of the scale for all countries. The rural poor who live at a low level of subsistence constitute a very large proportion of its population. Health and educational needs are great. Local resources are scarce, foreign exchange reserves are low,

and terms of trade are disadvantageous. especially under conditions of high prices for petroleum and food. External assistance seems to be essential to any hope for improvement.

2. The Government of Tanzania's emphasis on the distributional aspects of development and its concern for "growth with equity" and for wide participation in the growth process are uniquely consistent with the purposes and priorities of US assistance as set forth in the Foreign Assistance Act.

3. President Nyerere's stature, position, and role in Africa, especially in relation to US interest in solution of the Southern Africa problem, and his other international roles require a US substantive presence in Tanzania. With limited commercial, cultural, and scientific US-Tanzanian relationships and the absence of military and strategic interests, AID programs provide almost the only tangible means for substantive US-Tanzanian association.

It is the team's view, however, that it is the fact of assistance and the ability to make a meaningful contribution to accomplishment of agreed upon purposes rather than the level of assistance which is important. It is thus of the opinion that the amount of assistance should be pragmatically determined in relation to what is required by programs developed rather than in relation to predetermined annual levels and that there should be a recognition that there will be variations in the amounts that can be provided each year, particularly as loans may affect amounts provided in a given year. It would expect, however, that under existing circumstances there would be no marked upward or downward trend in amounts provided.

Finally, aid must be provided with a recognition that AID is only one among many providers of assistance and well down the scale in amount and that basic political, economic, and social policies of Tanzania are not likely to be significantly influenced by US assistance. This means that the US role must be a relatively limited one and that assistance cannot be used for purposes of "leverage" on basic policy although the choice of programs and activities to be supported may influence what is done and the means by which it is done.

### III. PURPOSES OF US ASSISTANCE

Current AID programs in Tanzania emphasize increased food production as a primary purpose. They emphasize improvement of basic institutions and governmental functions (agricultural research, production of improved seed, manpower training, marketing facilities) as the means for accomplishing that purpose. There has been a move in the direction of more direct involvement in production programs through support of the national maize production program. A farmer training program has been proposed in order to move programs closer to the farmer level. Increased production of food crops and livestock, however, continues to be the central purpose of both the present and anticipated programs.

The team considers that such a purpose and the means for accomplishing it have been related to Tanzanian needs and conditions. If successful, such programs will, over time, help Tanzania to meet its food requirements and may improve the lot of farmers. Such a purpose is consistent with the second of the two strands of Tanzania objectives, that is, increased food production and relief of the balance of payments problem.

It appears to us, however, that (a) the indirectness of the relation of such programs to increased production, (b) the long period of time required for such programs to have production and income effects, and (c) AID priorities requiring major considerations of equity and that development directly benefit the poorer segments of an economy suggest the need for a shift in purpose toward a more direct concern with benefits to a specific "target group," i.e., village farmers. The USAID has recognized this need and has moved in this direction in its proposal for farmer training. The Masai livestock project also has such a focus. The team feels that movement in this direction should be accelerated and that improvement in the position of village farmers should become the central purpose of the program. In other words, purposes should be "target group" rather than "agricultural sector" or "production" or "specific crop" oriented. Programs should take account of macro-economic conditions and place a minimum burden on balance of payments and fiscal conditions but should not have improvement of those conditions as a direct and central

purpose. Put in logical framework terms "Goals" should not be pushed beyond target group benefit levels. Such a purpose would be consistent with both AID priorities and the first strand of Tanzanian objectives (growth with equity) which is the central element of Tanzanian economic and social development policy. That policy provides a context which should be of interest from a testing and learning point of view.

#### IV. CRITERIA FOR PROJECT SELECTION AND DESIGN

Considerations of the reasons for assistance to Tanzania; the purposes of such assistance; economic and organizational and managerial conditions in Tanzania; Tanzania's economic, political and social philosophies and policies and differing US perceptions of and reactions to them; the necessities of AID programming processes; the fact that Tanzania receives external assistance from many sources; and the requirements involved in locating Americans in the field, all lead to the following conclusions as to criteria which should be applied in selecting and designing projects:

1. Projects should be directly related to improvement of the position of village farmers as a target group or immediately supportive of a program to benefit that group.

2. Projects should conform with basic Tanzanian policies and priorities.

3. Projects must take account of attitudes of US government agencies (State, Treasury, AID, the Congress, etc.) and differing attitudes within them towards assistance to Tanzania. This requires that they be susceptible of being credibly defended against charges of being in support of particular political philosophies or forms of social and governmental organization. This means that, while it must be recognized that any assistance does in some measure help Tanzania accomplish its social purposes, programs selected should be technical and professional in nature.

4. Similarly, projects should be relatively free from vulnerability to the uncertainties involved in frequent changes in Tanzanian government policy and organizational structure. They must be able to remain operative

and viable with changes in organization and in distribution of functions (e.g., changes in emphasis on decentralization or centralization of governmental structure and functions; changes in responsibility and functions of particular agencies; changes in overall production and distribution mechanisms).

5. Projects should minimize demands for Tanzanian financial and other resources for their continuation. Project proposals should identify not only the cost to AID but should also identify the anticipated continuing Tanzanian financial and personnel requirements and should include a plan for the progressive meeting of such requirements by the TanGov which provides for their full assumption by the time of termination of AID assistance to the project.

6. Similarly, they should minimize demands for maintenance and repair of facilities and equipment and for petroleum as an energy source.

7. Programs should be consistent, or not in conflict, with, and in some cases might be supportive of, programs of other donors. In general, however, they should not be dependent upon other donor programs for their management, operation, or success.

8. Projects should minimize the requirements for US staff and should be so located in-country as to permit meeting the housing, community, amenity and other requirements of American personnel.

9. Projects should be considered as experimental, should include specific provision for continuing external evaluation, and should be designed to permit changes in activities without burdensome AID programming and approval procedures.

#### V. RECOMMENDATIONS

1. Our basic recommendation is that the improvement of the income (including subsistence, by-products, and cash) of village-level farmers be adopted as the central purpose of the USAID program. The program in support of that purpose should take account of macro-economic and financial considerations in that it should place a minimum burden on scarce foreign exchange and budgetary resources. While a program with that purpose would be likely to reduce import requirements in the long

run, improvement in the balance of payments per se should not be its direct objective. Projects should be directed toward reduction of obstacles to the farmer's improvement of his lot by whatever mix of farmer activities and inputs are likely to be most appropriate to that end. They should be concerned with operation of the farm as an integrated enterprise for generation of farmer income rather than with increased production of a particular crop or increased total production as ends in themselves even though such a program may eventually have such effects. Goals should be related to target group benefits rather than overall production or other national targets.

The DAP and the Sector Assessment and other information and our observations suggest that one of the most effective ways of increasing the farmer's income in the short run may be to increase the amount of land he is able to cultivate. Such information also suggests that the more effective use of labor is an urgent necessity if the farmer is to increase the amount of land cultivated. It further suggests, in turn, a need for reduction of time required to be spent by the farm family in non-directly productive activity (walking to and from plots, gathering fuel, fetching water) and for increased labor productivity through use of some kind of power and simple labor saving technology (that is, while technologies should be based on maximum use of labor they should involve expanding the productivity of the farmer's labor). There also appears to be a need for village level infra-structure related to improved farm income such as water; means of transportation in the village, and, in some areas, to markets; and storage facilities.

Since it appears that adequate, tested technologies and varieties need to be developed and since little is known about the economics of farm enterprises in Tanzania or about farmer perceptions of the nature of their problems, price and income elasticities, and the like, the program should include provision for integrated farm-centered experimentation and research.

There also are constraints which are external to the farm enterprise such as deficiencies in input delivery systems, inadequacies in marketing

facilities, shortages of trained manpower, and weaknesses in governmental administration. Assistance in these areas, however, is likely to be slow in producing benefits at the farmer level and involves the necessity for close association by the donor with the means the TanGov has adopted for performance of certain basic overall economic functions. The team thus recommends that projects in these areas not be a central element in AID's future program. It considers that instead AID projects should be addressed to developing modes for helping the farmer improve his position under the conditions with which he is faced and with the resources he controls, that is, with helping him to deal with conditions which are, can be brought largely under his control, and which he may be able to do something about. In fact, the development of the attitude that there are things which he can do to change his condition rather than expecting that he must be entirely dependent on external help may be one of the most critical needs for bringing about improvement in his position.

2. We recommend that the USAID develop an integrated, village centered agricultural development program as the core of its total program and that its projects be an integral part of or directly supportive of that program.<sup>1</sup> Such a program should include three elements: (a) combined, constraint oriented, farmer centered, and integrated assistance in whole farm operation and production and research related to those areas; (b) provision of village level agriculture related infra-structure; and (c) furnishing of equipment, input supplies and credit as required to support (1) and (2).

We recommend that the program operate at two levels, at the village and at a central (either national or regional) level with provision for

---

<sup>1</sup>While it is recommended that as a matter of funding, and usually as a matter of practice, all projects should be part of such a program, it is recognized that on occasion opportunity and special circumstances may justify undertaking a project not related to the central, overall program. It is also recognized that there will have to be a transition period during which existing projects will continue concurrently with projects which are a part of the new program. (See Recommendation 7 in this connection).

feedback between the levels and for modification and adjustment at each level based on experience in both. The relation between the two levels should be as direct and involve the use of as few levels of government structure as practicable and acceptable to the TanGov. The actual administrative structure will have to be worked out with the TanGov as the program is being designed. Two options should be considered, one suggested by Mr. Ongara of the Prime Minister's Office, and another which utilizes the regional structure of the TanGov.

Under the form of organization suggested by Mr. Ongara, the administrative structure would consist of centers in the Ministry of Agriculture which should be responsible for both provision of assistance to village farmers and the conduct of farm centered, constraint oriented agricultural testing and research; representatives of these centers located in the field; and agricultural agents located in and drawn from the village which they serve. Centers would be related to ecological zones rather than being concerned with the entire county or governmental regions or specific crops. While under this alternative, the centers and their field representatives would not be a part of the regional organization, they would have to be endorsed by and have the support of the regional governments and the regional and village level party organization. Existing agricultural research stations, with suitable changes in functions and staffing, would serve as the centers.

Alternatively, under an approach utilizing the regional structure, the centers and field representatives would become an integral part of a regional government organization and have the regional agricultural extension and perhaps other village agriculture related function combined with them.

Regardless of which form of organization is adopted, responsibility for assisting village farmers and for research and testing should be combined in the centers. Centers would be concerned with all crops and livestock in the zone or region and assistance and research would be directed at all constraints upon operation of farms as enterprises, including soils, varieties, inputs, practices, technologies, water,

transportation, and farm management and farm economics. They would build upon existing knowledge, ongoing research, feedback of village-farm level needs, results of tests and demonstrations at the village-farm level, and translation of research results into extension materials usable by Field Representatives and village agriculturalists.

Ideally, centers should be responsible for all elements of assistance to farmers in the villages with which they are concerned and should be, in fact, Village Agricultural Development Centers. Under those circumstances centers would be responsible for all three elements of the program, including either directly or as designated agents of other organizations, provision of inputs, equipment, and credit and financing of village related agricultural infra-structure. If complete unification of responsibility proves not to be possible, centers should in any event have the function of identifying needs and assisting villages in getting such needs met.

Field Representatives would be employees of the centers or the regions, depending on the alternative selected, and their location would be determined in relation to the location of the village agriculturalists with whom they would work. They would be responsible for training and providing advice and assistance to village agriculturalists and providing two-way communication between the village level and the centers. They should also be responsible for identifying needs and obtaining funds for inputs, equipment and infra-structure at the village level from assistance provided by AID and from TanGov sources.

The Tan Gov has decided recently that there will be a person in each village, drawn from it and a part of the structure of the village organization, who will be responsible for providing assistance to the village farmers. Apparently this is to be in substitution for traditional extension agents who come in to the village from the outside. Under the program suggested by the team, this village agriculturalist would be responsible for identification of farmer perceived needs and village-farm level constraints (both income improving production and infra-structure) and communicating them to Center Field Representatives; operation of test and demonstration plots in the village and informing Field Representatives

of results and of farmer experience; and providing technical and management assistance to village farmers.<sup>1</sup>

AID inputs to such a program would consist of:

- a. Technical assistance to Village Agricultural Development Centers.
- b. Training and backstopping of center personnel and Field Representatives.
- c. Financing of facilities, equipment, and input and other supplies, both for center and village use.
- d. Financing of studies of village level constraints such as water, roads, fuel supply, storage facilities, and other identified infra-structure needs, and demand and supply information.
- e. Financing of program evaluation.

Such a program should be considered as experimental. It should start small with perhaps only one or two centers, 5-10 Field Representatives, and 25-50 villages involved at the beginning. A continuing program of

---

<sup>1</sup>The team recommendation is consistent with our understanding of TanGov plans to reorganize its approach to reaching village farmers. According to preliminary indications, this approach will involve dismissing up to 90 percent of existing field extension agents. These assistants will be replaced by persons in each village. These village agricultural advisors (which we have called "village agriculturalists") will be selected by the people in the village. They will be given minimum training in subjects which are of highest priority to the village concerned. The length of such training has not been determined. The Director of Manpower Development in KILIMO is arguing for a two to three month training program of a mainly on-the-job type of practical training. Such training would be specific to the villager's geographic location and priority needs. Some examples of the type of training which might be conducted include: poultry husbandry, maize production, cotton production, etc. Training might also be provided in such skills as carpentry, tinsmithing, plumbing, etc.

Village advisers would go to meetings at the Ward level periodically for upgrading, refresher training, and to provide feedback on the results of his/her efforts in the village. Part of the program aims at having research recommendations from the research stations tested on farmers' plots in the village. Demonstration plots would be used to encourage new practices. Results of such demonstrations would be reported back to research stations.

evaluation should be built into it from the start. Some component of the University might be an appropriate entity to undertake such a program. Provision should also be made for periodic evaluation by AID. Evaluation should be concerned with such questions as (a) changing levels of participating farmers' consumption and cash income, (b) changes in amount of village production, (c) village surplus generation, (d) growth of village infra-structure, (e) increased utilization of village resources. We suggest the use of baseline surveys to establish resource inventory and baseline data and village farmer records, and subsequent periodic surveys to determine changes rather than installation of complex information systems based on continuous and current reporting.

A more detailed discussion of how such a program might operate is contained in Appendix III. That discussed is, however, intended only to give an understanding of the ideas involved and must be considered as illustrative. Prices, content, and methods of operation would have to be worked cooperatively with the TanGov.

The Tanzanian emphasis on improvement of the position of villagers, its willingness to change structure and to experiment with new organizational forms and new combinations of functions, so long as the basic concept of village structure remains intact, and the present state of flux in organizational arrangements and functional assignments, in our judgment, makes Tanzania a good place to test such an approach.

It is, of course, not possible without further detailed exploration and experience to determine with any precision what the continuing demands on the TanGov for financial and manpower resources would be if such a program were to be expanded to cover the entire country. It appears likely, however, that the demand for additional resources would be small enough to permit replication of such a program, if successful, without insurmountable difficulty. The greatest demand would be for village agriculturalists in the about 7000 villages in the country. However, as previously indicated, a decision has already been made to have such a person in each village who would serve either without compensation or receive village decided and provided compensation. This element, thus,

would involve no additional demand for TanGov personnel or financial resources. With some 7000 villages we may roughly estimate that requirements for Field Representatives would be in the range of 350-700. These representatives would, however, replace existing extension agents and would, in fact, probably number less than the present extension agents. Some training would, however, be required. The some 20 existing research stations and substations may provide the nucleus for the organizational and manpower bases for the Village Agricultural Development Centers. Additional and better trained personnel for such Centers would certainly be required. Such requirements would, however, be likely to be in the order of a few hundred rather than thousands. Since large scale expansion of inputs and equipment are not contemplated and since major emphasis would be on better utilization of existing resources, it is not anticipated that additional financial requirements for such items would be great. In summary, it is our judgment that such an approach would be likely to represent a lower cost option than traditional approaches involving specialized, fragmented and bureaucratic, research, extension, input supply, credit, and other services to farmers on the basis of externally perceived needs.

There are already elements in the TanGov program which are in many ways similar to the approach involved in the kind of program suggested by the team. The Tanzanian National Agricultural Development program supported by the IBRD is village centered and has much the same purpose. In fact, the similarity is great enough that the program suggested could be considered as a component of the NAD but one which provides a somewhat different and experimental model for accomplishing the purposes of that program. It would be able to provide inputs of evaluated results into the overall program. The work supported by the IBRD in the Kigoma Region offers a precedent for the kind of program recommended. Some of the existing research stations, including the research program now supported by the AID, are conducting test and demonstration plots in villages. Thus, while the program would be experimental and involve new elements, it would not represent an adventure into entirely novel and untried fields.

If it is decided to develop and support a program such as that recommended, AID funding should be provided on a basis which permits adjustments in activities and in amounts provided for particular activities without the necessity for reprocessing documents through the AID programming process once a project proper is approved. The ability to adjust to circumstances is a major strength of the IBRD program in Kigoma. This probably means that projects should cover a broad spectrum of related activities with the USAID having the ability to change the internal activity budgets without the necessity for revision of the basic program documents and for concomitant AID/W approvals. Probably there is also a need for recognition that initial funding should be for a relatively long period of time with increments as experience determines. Finally, any such program should be undertaken with an understanding that, while it can be carried out in stages, and in principle can be terminated at the end of any stage, improvement in farmer welfare is likely to be slow with testing to require 5 years or more and replication to provide substantially country-wide coverage likely to require at least ten years or more for its accomplishment.

3. We recommend that grants be the major component of the USAID program. The high component of technical assistance and training in the program makes grants an appropriate means of financing. The Tanzanian balance of payments situation is also such as to require that the burden imposed by requirements for loan repayments be held as low as possible.

We do, however, consider that loans have a role to play in the approach adopted. They should be used for facilities and equipment needed as a part of the basic program being carried on. As the program develops, a requirement for directly related village infra-structure such as storage facilities, or feeder roads, or water may be appropriately financed by loans if they are in total of a significant amount.

Delay in release of the current loan in support of the National Maize Program is delaying implementation of that project and funds are needed as soon as possible. We recommend that that loan be released

as soon as the expropriation and compensation problem permits. We do not, however, see a continuing role for "sector" loans designed to provide general support to a sector or subsector. Loans should be made as needs develop rather than on a regular, periodic basis intended to maintain a predetermined level of assistance. While loans may be made to cover a number of requirements or projects directed toward a common objective, usually they should be made to make a direct contribution to the objectives of the Integrated Village Agricultural Development Program. This recommendation is based on the need to relate programs to target groups, availability of funds from other sources, limitations on the ability to utilize funds, and the special need to be able to identify with some precision the purposes of US assistance and what it was in fact used for.

4. Under present conditions of short falls in food production, PL-480 programs also have a role to play. The provision of food under Title II to help meet the conditions arising from crop failures is appropriate. We also support the use of Title I to provide a portion of the Food Reserve to be established in accordance with the FAO recommendations. The USAID recommendation for 40,000-60,000 tons of grain seems reasonable to us. The USAID, the Embassy, and apparently the TanGov, are agreed, however, that regular use of Title I should not become a regular and continuing part of the US program in Tanzania. The team has no basis for questioning that judgment.

5. Private volunteer organizations are well accepted in Tanzania and some PVOs are reported to be conducting worthwhile programs in the country. While we have not observed any PVO projects, we consider that the support of such organizations in the conduct of programs which the USAID determines are related to improvement in the welfare of villagers should be a part of the total AID program.

6. It would also be appropriate for AID to finance, in response to identified needs, feasibility studies and project design for projects which AID or other donors have indicated an interest in assisting.

7. Evaluation of existing projects have been conducted by others and examination of such projects and proposed new projects has not been a

part of the Team's work. However, we do recommend that those projects be reviewed by the USAID to determine whether modifications are needed to relate them more directly to target group objectives and to the Integrated Village Agricultural Development Program recommended.

a. As previously mentioned, the Agriculture Research Project in particular seems to provide a nucleus for developing the program suggested. We recommend that its purpose, activities, staffing and funding be reviewed to determine how it should be integrated into the recommended program. The proposed expansion of research on sorghum and millet, if carried on in a farm system context, seems to us to be desirable.

b. The Seed Multiplication Project can also provide inputs into the Integrated Village Agricultural Development Program. That program can also be used as a means for verifying results of the use on farms of the seeds produced and a basis for deciding on varieties to be produced.

c. The Masai Livestock and Range Management Project is consistent with the mandate and might be continued if recognized deficiencies are alleviated.

d. The Maternal and Child Health Project is not related to the core program recommended. It is, however, consistent with AID policies, seems to be well run and to be accomplishing its purpose. We would recommend its continuation.

e. We understand that the abolition of the cooperatives and other situations which have developed are creating severe problems in the Agriculture Credit Program. If ways can be found to make the funds available for such a purpose, the funds available that project might provide a source of credit for inputs and equipment needed by village farmers under the Integrated Village Agricultural Development Program.

f. The Agricultural Manpower Development Project as proposed to be expanded has elements which would be directly and indirectly supportive of the proposed Integrated Village Agricultural Development Program. We are, however, of the opinion that most farmer training should be on the farm and other personnel trained primarily through the center structure proposed rather than through the MATI. Thus, while we do not recommend

that the project be terminated, we do recommend that it be reexamined with a view to incorporating it into the Integrated Village Agricultural Development Program. It also requires reexamination in the light of recent TanGov changes in its approach to extension and provision of assistance to farmers.

g. The Agricultural Marketing Development and the Livestock Marketing Development projects may provide for strengthening useful agricultural infra-structure. As previously indicated, we feel that this is not an area on which the USAID should concentrate in the future and suggest that these projects not be expanded or continued beyond their scheduled completion date.

h. The TanGov has requested and the USAID has proposed that AID undertake the preparation of an overall development plan for the Arusha Region. We consider that a traditional regional development plan, while related to improvement of the welfare of villagers and perhaps in the long run necessary to full development of a region's potential, is not necessary to a program for improving the position of village farmers. Perhaps more importantly we consider that effective regional plans must be based on identified village level constraints and demands, and experience and information on resources as they affect the villages. We are thus of the opinion that an attempt to prepare a macro-regional plan before a body of knowledge as to village-level conditions and demands is developed and before more information from village level experience is available would not provide worthwhile results. We also have some concern over the possibility of problems which might arise out of US government involvement in planning functions requiring recommendations for TanGov program priorities and emphasis and policies for accomplishment of objectives. We would thus not recommend that the USAID propose or provide technical assistance in the preparation of an overall plan. As proposed by the TanGov, we would, however, recommend that evaluations of experience under the Integrated Village Agricultural Development Program be provided as inputs into the TanGov regional planning process. We would also recommend that, if AID wishes to make a more affirmative response to the TanGov request, the USAID undertake the financing of selected basic resource surveys in the region, e.g., soils and water, which would provide information

needed for regional planning by the TanGov and which would be supportive of the Integrated Village Agricultural Development Program.

8. Implementation of the program recommended may require some increases in the number of US contract personnel in Tanzania, especially in the early phases while present projects are continuing. We do not anticipate, however, that it will require a large permanent increase over the present level or a continuous upward trend in the number of such personnel.

Its implementation will also place additional burdens on the USAID direct hire staff arising from needs for careful project design, discussion and negotiation with the TanGov, and monitoring of implementation of new and experimental activities. It is suggested that the expanded use of local hire Tanzanians for both substantive and program related administrative jobs be tried as a way of relieving USAID staff from many present demands on their time and of performing some of the additional work which will be required. Use of TDY personnel for program design may be in order although insofar as possible those responsible for designing projects should also be responsible for monitoring their implementation.

OUTLINE OF RECOMMENDED PROGRAM ELEMENTS

- I. An Integrated Village Agricultural Development Program as the central focus of the country program (see Attachment 2).
- II. Supporting programs of village agriculture related but beyond the village level infra-structure as determined to be required.
  1. Water
  2. Roads
  3. Storage and marketing
  4. Resource base surveys
- III. Continuation of the Maternal and Child Health Project.
- IV. Continuation of existing projects as evaluations may suggest with modifications related to the Integrated Village Agricultural Development Program.
- V. PL-480
  1. Title II - humanitarian and relief programs
  2. Title I
    - a. Contribution to food reserve
    - b. Crop shortages
- VI. Other worthwhile projects as they may develop from time to time
  1. Selected PVO programs
  2. Surveys and studies
  3. Technical assistance support of selected elements of IBRD programs.

OUTLINE OF ELEMENTS OF AN INTEGRATED VILLAGE  
AGRICULTURAL DEVELOPMENT PROGRAM

- I. Integrated, farm centered, development services
  - A. Village Agricultural Development Centers
    1. Provision of constraint related production and management assistance to village farmers
    2. Conduct of tests and research related to constraints on effective operation of village level farms as enterprises including research on
      - a. Varieties
      - b. Agronomic conditions and constraints
      - c. Farm management and farm economics
      - d. Technologies for improving labor productivity
      - e. Water
      - f. Transportation
      - g. On-farm and in village solutions to problemsResearch to build upon existing knowledge and research activities and feedback from village level needs and experience.
  - B. Center Field Representatives
    1. Responsible for
      - a. On-the-job training of and advice and assistance to village agriculturalists
      - b. Two-way communication between centers and village level activities
      - c. Provision of supplies, funds, etc., to villages
      - d. Provision of information to regional governments
  - C. Village Agriculturalist
    1. Drawn from and located in the village
    2. Responsible for

- a. Identification of needs as seen by farmers and of village level constraints
- b. Provision of technical and farm management assistance to village farmers
- c. Operation of village test and demonstration plots
- d. Provision to center Field Representatives of information as to needs, constraints and results of tests and application of research recommendations

II. Village infra-structure proj

- A. Water
- B. Storage
- C. Transportation
- D. Fuel

III. Provision of supplies, equipment, and credit

IV. Evaluation

- A. Built in from the start and conducted by outside agency such as the University
- B. Periodic AID evaluation

## Appendix I

### TANZANIAN OBJECTIVES AND US ASSISTANCE

#### TANZANIAN GOALS AND OBJECTIVES

Tanzania's long-term objectives are well laid out. They were developed almost 10 years ago in the Arusha Declaration and will probably be the same for the foreseeable future. These goals are threefold: equality or equity, participation or democracy, and self-reliance.

The goal of equity has ramifications for the ownership of property, for the distribution of income from labor, and for the distribution of public services. The goal is to achieve equity in all these areas without regard for place of residence, urban or rural, rich or poor region; employment status—whether in large or small enterprise, public or private enterprise; and irrespective of the time preference of generations. That is, the Tanzanians want to achieve equity between generations so that no generation must be sacrificed so that another generation can have a better life.

The second goal of participation has many ramifications. It implies more than the traditional meaning of political democracy—that is, having choices with respect to who governs and the capacity to influence political decisions. In the Tanzanian context, participation means both this traditional political democracy but also participation in the decision-making process at the workplace. It means worker self-management in the factories, firms, and villages. It means new and egalitarian relationships between managers and workers, between hotel porters and hotel guests, between men and women, brain work and hand work, urban and rural residents, etc. A large part of the Tanzanian effort has been devoted to changing interpersonal relationships.

A third goal is self-reliance. This means an elastic supply of wage goods and critical raw materials. It means a reasonable symmetry between the country's ability to produce and consume basic goods. It means

a minimum of external disequilibrium—the ability to finance imports from exports so as to minimize dependence on capital flows to finance imports.

The Tanzanians have chosen to pursue these long-term goals through active intervention of government. Nationalization of productive property, establishment of Ujamaa villages, and other aspects of the model have been means to achieve equity, participation and self-reliance.

There are many contradictions in formulating these objectives. There is the obvious contradiction which is always posited between equity and growth which is required in pursuit of self-reliance. There may be contradictions between equity and participation. Tanzania's efforts to achieve these sometimes contradictory objectives must be seen in a comparative and historical context.

Tanzania is still largely a subsistence economy. Division and specialization of labor are still very rudimentary. To increase division of labor and specialization requires incentive systems. Some part of these incentives must be monetary in character. This brings about growth. It also brings about inequality. Thus, the dilemma.

#### HOW SUCCESSFUL HAS TANZANIA BEEN IN ACHIEVING OBJECTIVES?

First of all, we can look at the political dimension. Nyerere has been running Tanzania almost 20 years. He has been able to develop a mass party and an impressive leadership capability. The party—Tanzanian African National Union (TANU)—is the most influential institution in the country. TANU is working with the Tanzanian people at all levels—from the most illiterate peasant to the most bourgeois shopkeeper. There are several promising lieutenants who have emerged around Nyerere. There are also factions within the party. One observer has characterized the factions as the ideologists, the opportunists, and the pragmatists. It is not a disciplined party or vanguard party on the order of the Communist Party of China. Nevertheless, it is an effective instrument for mobilizing the people and for communicating people's wishes to the leadership.

The key thing about Nyerere is that he is an egalitarian. In fact, he is almost utopian in this regard. He is egalitarian in the political, economic and social areas. His view of liberation means a humane society—

a society in which nobody exploits anybody. The Government of Tanzania is serious about equalizing incomes and standards of living. This has led the government to a real emphasis on rural development.

A World Bank study found that in 1969 average urban incomes were 130 percent of average rural incomes but that by 1973 urban incomes were 190 percent of rural incomes. Urban dwellers were increasing the gap that separated them from rural residents. When this information was made available to the Government of Tanzania, several policy changes resulted.

Prices of farm commodities (which had been held constant for some years and were considerably below world market prices) were raised significantly. These price increases were passed on to urban consumers. Now, farmers are no longer subsidizing urban residents with cheap food. This policy and others which were introduced resulted in a drastic closing of the urban-rural gap. Within 18 months, the urban-rural index fell from 190 back to 130.

This and other measures have demonstrated that the Government of Tanzania is a very tough government. It is also very serious about development. The Government of Tanzania wants rapid economic growth. But, this growth must be accompanied by equity. The government is also clearly socialist. The Government wants to control the commanding heights of the economy. The government is also pledged to democratic participation in rural villages, factories, estate farms, retail firms, etc. And finally, the government wants to be self-reliant—to be somewhat insulated from the world economy.

The idea of a new international economic order is taken very seriously by the Tanzanians. The oil crisis and the world stagflation of the 1970's has severely battered the Tanzanian economy and they were helpless, unable to protect themselves against the serious deterioration of the terms of trade. They were also unable to prevent importing inflation as their import prices skyrocketed.

The economy has not picked up steam since 1967-1968 despite sharply accelerated savings and investment. Annual levels of capital formation increased from TSh 807 million in 1964 to TSh 2168 million in 1971 in

constant prices. Gross domestic product increased from TSh 5619 million in 1964 to TSh 8005 million in 1971 in constant prices. Thus, the percentage of GDP invested grew from 14 percent in 1964 to 27 percent in 1971. This rapid increase in the rate of investment triggered a growth in GDP which averaged 4.8 percent per annum between 1964 and 1974. However, this very respectable rate of overall GDP growth masked what was happening in the economy. The basic productive sectors were not keeping pace. Agricultural productivity increased only 2.6 percent per annum between 1964 and 1974 which was slightly less than the growth rate of population. Per capita output of agricultural products was actually falling. The growth of GDP can be seen to be largely due to the growth in services. Public administration and other services grew from TSh 658 million in 1965 to TSh 1294 in 1974 in constant dollars. This reflected an increase from 11.4 percent of GDP in 1965 to 14.4 percent of GDP in 1974.

One of the most obvious explanations for the slow growth rate is the low level of investment in directly productive activities. Agriculture, industry, and mining received only 24 percent of fixed investment during the period 1966-1972. In addition to this low rate of investment in productive activities, there was also a slow rate of productivity increase. Output per worker in agriculture was stagnant between 1967-1973. Real output per worker in manufacturing increased 2.8 percent per annum between 1966-1971.

This is the background against which recent serious setbacks must be seen. In 1973-1975, Tanzania was hit by a combination of drought, high oil prices, and world stagflation. During 1973-1974 there was approximately a 30 percent shortfall in domestic food grain production. Even by 1976, food grain production had only recovered to 1973 levels. In 1972 Tanzania imported 1086 tons of petroleum at a cost of TSh 269 million. In 1975 they imported less petroleum at a cost of TSh 703 million. Import prices for other necessary raw materials, spare parts, food, etc., also shot up.

The consequences of these developments had ramifications throughout the economy. There was an obvious deterioration in the balance of payments as exports fell and import prices rose and as more and more food had to be

imported. The balance of trade on goods and services went from a deficit of TSh 789 million in 1973 to TSh 2742 million in 1975.

A second consequence was a rapid increase in the cost of living as import prices rose. The cost of living index for urban wage earners had only increased from 82.1 to 120.1 between 1963 and 1972 (1969 = 100) However, this index increased 61 percent between January 1974 and January 1975 and 32 percent between January 1975 and January 1976.

There were two further results of drought and world stagflation. Government revenues have not kept pace with the higher prices the government was forced to pay for imported goods, but the government was trying to reduce spending in order to hold down inflation. Another consequence was underutilized industrial capacity. Plants could not get necessary spare parts and raw materials.

The response to these problems was very tough. When the balance of payments deficit emerged, the government imposed a strict ban on the importation of non-essential goods. Second, higher producer prices were introduced to try to stimulate production of food grains. Third, almost 10,000 government employees were dismissed. There are preliminary indications that similar dismissals are being carried out in the parastatals. Government also passed on higher prices for petroleum, electricity and food crops to urban consumers which was an extremely unpopular thing to do. Taxes were increased. A restructuring of the investment program is taking place. Major emphasis is now being placed on investment in directly productive activities. There is also an attempt to further restructure incentives in agriculture by steadily increasing producer prices and subsidizing prices of agricultural inputs.

In the industrial sector there are also efforts to restructure incentives. There have been problems in industry with worker-management relations. There have been problems in introducing non-material incentives to substitute for large inequalities in incomes. There is a further complication in that the parastatals work on a fixed price basis. They only get to raise prices if their costs go up. Like many African countries, Tanzanian firms are seriously overmanned. There are some indications that

this overmanning will be reduced. There is also a new determination to enforce cost ceilings on the parastatals, a new emphasis on management consultants to improve efficiency, and new attention being paid to increasing productivity in the parastatals.

Part of the increased emphasis on parastatals' productivity stems from the realization that the parastatals' surplus will be the main source of development funds for Tanzania. Government revenue has been growing rapidly, government recurrent revenue increased from 16 percent of GDP in 1967-1968 to 25 percent in 1974-1975. However, recurrent expenditures rose equally rapidly so that little government savings are left for investment in development projects. Foreign aid finances most of the development budget.

This shortage of government revenue for development seriously constrains both the Government of Tanzania and foreign donors in implementing development projects. It is against this background of recent economic performance and objectives that foreign assistance must be viewed.

#### IMPLICATIONS FOR AID PROGRAM

The conflict inherent in Tanzanian objectives and the results of efforts to achieve them presents AID with a dilemma somewhat similar to that faced by the Tanzanians. The emphasis on equity is, perhaps uniquely, consistent with the emphases and priorities established by the Foreign Assistance Act. Yet there is a legitimate question as to whether the means adopted by Tanzania for accomplishing its equity objective are likely to bring about that growth in the economy which is necessary to significantly improve the welfare of the population as a whole. Recent economic performance has been such as to leave that question unanswered. Such a dilemma could raise questions as to the efficacy of assistance directed toward overall economic growth. However, it does not necessarily bring into question the desirability of assistance to segments of the economy in which improvement may be possible, even if growth is not maximized, and on which considerations of equity suggest the desirability of concentrating. In our judgment village farmers is such a segment. Equity considerations certainly suggest that village farmers are an appropriate target group. We are convinced

that assistance can make a contribution to improvement in their well being under existing Tanzanian policies. For these reasons we recommend that AID assistance be concentrated on programs to increase the income of village farmers.

## Appendix II

### VILLAGE ORGANIZATION IN TANZANIA

#### BACKGROUND

Tanzanian villages are formed on the basis of the Arusha policy of TANU. The process of villagization is both a function of historic evolution (often overlooked) and deliberate government policy. Historically, villages in what is now Tanzania did exist, especially during periods of tribal conflict, where villages meant an increased measure of security. During the colonial administration, security increased and people tended to disperse, not so much in individual farmsteads, as into rather small collections of related families the size of which was largely determined by the resource base and the nature of the subsistence economy. It has also been suggested that with the imposition of head taxes and other forms of labor mobilization by colonial governments, there was some economic advantage which a dispersed population might achieve vis-à-vis government. In any event, at independence peasants were widely scattered throughout the land. However, in areas of high productivity, and hence higher concentrations of population, some villages did exist, as in the Arusha areas, or along the coast line of Lake Victoria. Sometimes these villages were organized around a mission activity, or a European run estate where there was a demand for wage labor.

After independence, the Tanzanian Government had no official policy of villagization, although there were voluntary movements in certain areas, such as occurred in Ruvumu region. Beginning in the mid sixties, the Tanzanian Government experimented with a number of settlement schemes, often using American Peace Corps and various combinations of external assistance, notably Israel. This policy was ultimately scrapped as being far too slow and capital intensive. The Arusha declaration, a policy statement of TANU which set a number of policy guidelines and objectives for Tanzanian development, called for the establishment of Ujamaa villages, in which the major principle would be cooperative activity among people. For this to take

place, the dispersed population of rural Tanzania had to be reorganized into villages. Thus there began, rather gradually at first, but much accelerated in recent years, an effort to move all rural Tanzanians into villages. At the present time, more than 50 percent of the population has been "villagized." In some districts, the percentage is much higher, as in Arusha region for example, where 64 percent of the rural population is in villages.

#### THE PURPOSES OF VILLAGIZATION

Tanzania has, in some respects, embarked on a revolution through villagization leading ultimately to the establishment of a society based on Ujamaa. The basic philosophy of this revolution has been well spelled out elsewhere. It may be useful to repeat just the main points, which can be summarized in three categories:

1. Social development
2. Economic development
3. Administrative convenience

#### Social Development

The first priority of TANU and the Tanzanian Government is to restructure the social relationships of people. Working together in cooperative relationships at the village level is a key ideal of the TANU philosophy. This objective is based on a marriage between traditional African concepts of familyhood and brotherhood, as well as a desire for Tanzania to become a modern nation. The latter requires that formerly isolated family units be brought together in a village setting, where they will learn to work together, receive political instruction on the meaning of nationhood and citizenship, and come to understand the importance of cooperative organization. Ease of communication between people was and is a key variable in this strategy. Furthermore, the village is the laboratory or school ground for learning self reliance, and all the attendant technical skills which go into making self reliance a reality. Tanzanian leadership seems to recognize that this kind of social transformation is a long and difficult process. However, they argue that to wait until Tanzania has developed its economy, if that were possible under the dispersed settlement pattern, would result in a "fixing" of existing patterns which were deemed undesirable. Therefore,

they have been willing to pay the price of social and economic disruption in order to lay the framework for a different type of society. Although much of this may be considered utopian by technical experts from abroad, failure to recognize the seriousness with which TANU and the Tanzanian Government take these ideals will result in considerable error in understanding Tanzanian development.

#### Economic Development

The principal argument made for villagization has to do with the economies of scale possible to a labor intensive and capital short agriculture. The argument is that through villagization, Tanzanian farmers will be able to work cooperatively and manage their labor much more efficiently than as individual farmers. Ultimately, the goal is that the village should become the primary producing unit, with most cultivation being accomplished on Ujamaa or communal farms. Through cooperative cultivation the villages should be able to expand production in acres as well as in increased yields to labor inputs. Furthermore, through village organization, there will be a more rapid diffusion of modern agricultural practices. Finally, in some cases, villages may be able to generate enough capital for the purchase of machinery which would be beyond the reach of any individual cultivator.

In addition to directly productive agriculture, villagization would allow for the development of small scale industries. Under a dispersed population, this would be difficult to achieve, and industrial development would tend to take place in large cities with the consequent creation of a "dual economy" so often observed in other developing societies. Villagization, it is argued, lays the framework for a more integrated approach to development, with a wider distribution of economic activities throughout the country. Economic diversification and division of labor will occur, as some villages become market centers, and others specialize in other services or production area.

#### Administrative Convenience

A key problem in any rural development strategy is how to reach large numbers of small farmers. In Tanzania, this was nearly insurmountable for two reasons. First, most farmers were small, subsistence farmers; second, most of the poorest were widely scattered. The costs of delivering anything,

foods, agricultural inputs, social services, information, political education, etc., would be prohibitive to the Tanzanian Government. Again, villagization seems to be a partial answer. Presently, villages are the primary legal entities of Tanzania administrative and legal structure. As registered village cooperatives, they can borrow, set up banking accounts, collect limited fees on agricultural sales, and receive assistance grants of a small scale. Under the principle of self help, the village can mobilize and contribute labor to and, will appropriate skills, manage various construction projects. Within guidelines of TANU, it can establish its rule of associations, and eventually, determine its own growth. It is estimated that there are or soon will be 7600 villages in Tanzania. Although there will be fluctuations in this as subdivision occurs, there is little doubt that the creation of villages as legal and administrative units has made Tanzanian development planning much easier. Although the government continues to experiment with institutional forms, as in the recent elimination of cooperative societies, it is our judgment that they are committed to the village system. In the future, as villages develop their own productive, technological and administrative capacity, villages will assume even more responsibility for their own development.

#### VILLAGE ORGANIZATION

There is no "typical" village in Tanzania. Depending on local culture, past experience, local resource base, climatological and geographic conditions, villages vary enormously in size, composition, and degree of development. Nevertheless, for purposes of discussion we can attempt some general statements about village organization which will be valid for most villages.

Villages must be loosely classified into the following types:

1. Old villages. These have been established for some time and are in many ways very similar to villages one finds throughout Africa. Usually they have a school, individual farms, and some service facilities such as shops, bus transport, etc. Settlement is usually fairly dense, and to the Western observer, possesses no apparent order. Although such villages will have the basic TANU organization, they appear to be little changed by more recent policies.

2. Old villages with new settlers. These were old villages with a core population to which have been added families from the villagization process, drawn in from surrounding areas. Here the village may find that it must expand its agricultural base by adding new crops, converting privately held commercial activities into collective or cooperatively owned activities, and may begin to diversify on the basis of some local skill. For example, in one older village we visited, they had begun a soap factory, a carpentry shop, and were moving into a commercial poultry operation. Both types tend to spread out along the road, and a mile or more may exist from beginning to the other end.

3. New villages. These villages have been established in areas where little or no settlement previously existed. They range in size from around 100 families to 700 or 800. Typically the village has been laid out with some minimal assistance from district planning officers. Where terrain permits, the pattern is a large rectangle, with individual houses being located on a "street" containing 10 to 20 houses, each surrounded by an acre family plot. The next "street" would be separated from the first by two acres and another acre family plot and so on. Roughly in the center of the new village would be the school and administrative buildings. Agricultural land other than the village plot will extend around the village in a five mile radius. To one used to villages in South Asia, the overall impression is still one of considerable population dispersion, within an orderly framework.

Economically, agriculture dominates. Most new villages organize their agriculture on a "block" farm basis, apart from individual plots. For example, in Kigoma region where government encourages and subsidizes cotton production, each villager is encouraged to cultivate a minimum of three acres of cotton. His cotton plot will adjoin other village plots, and some cooperation exists between cultivators of adjoining plots with respect to clearing, tilling and weeding. Harvesting is done by families who sell their harvest to the village, which in turn sells it to the relevant parastatal, such as the National Milling Corporation.

Returns to production from block farms go to the individual family unit. In one Kigoma village, cash was advanced by the parastatal to the village and paid to the villager on receipt of his crop. In another

village, accounts were kept of production and proceeds deposited in the National Bank of Commerce. Cultivators would then draw down their accounts as needed.

Additional income earning activities of new villages again will depend on level of development. More established villages have begun to develop cooperative stores (Duka), dairy and poultry operations, which though small, increase the variety of foods available to villagers and also increase village revenue where there is access to a nearby market.

New villages put a high priority on acquiring social infrastructure. In the Kigoma World Bank-Tanzanian Government project, the first institution a village chooses to build is an elementary school. After that, priorities include housing for school teachers, access to health services in the village or nearby, and potable water. These priorities are quite understandable. Government has repeatedly told them that the immediate material benefits from villagization would be precisely those services. Furthermore, these services are the only things that villagers feel that they can all gain some benefit from, and therefore are willing to put voluntary labor into. Farming still remains a family enterprise, even within the block farm, to which individual gain will vary with effort.

The district and regional governments recognize these priorities. Indeed, they are constantly bombarded with demands that government get going from local political leaders, quite apart from what one central official referred to as almost a "moral commitment" of government to help villagers acquire these services.

4. Ujamaa villages. There are relatively few Ujamaa villages. While a number of villages have Ujamaa or communal plots, most villages have some combination of individual, block and communal plots. In an Ujamaa village, all but the individual plot is farmed communally. We visited one example of this in Morogoro region. Cultivation of sugar cane, maize, millet, sem-sem was all done communally. Production was sold to relevant parastatals and proceeds divided between individual villagers and the village communal fund. The village funds were then reinvested in common agricultural activities, such as dairy herd, poultry, or godowns.

There is some incentive for villages to move from being a registered village to that of the status of Ujamaa village. These are mainly in the form of preferential treatment by government in the provision of grants, inputs and other considerations such as training.

#### COMMON FEATURES OF ALL VILLAGES

Not having visited all villages, we draw our comparative statements on the basis of four villages visited, and from research carried out in villages during the National Maize Program. These observations are, therefore, subject to revision.

The first observation with respect to common features is that investment in some form of a cash crop which will provide a cash return to both villagers and the village is fundamental to success. Cash crops need not be limited to the usual list of tobacco, tea, etc., but may include maize and cassava and other food crops as well. In Kigoma district, where cotton was introduced to villagers with no previous experience in cotton, early efforts were not very successful. Over three years in the Bank project region, cotton production rose from 700 bales the first year, 2000 the second, with a predicted output of nearly 6000 bales this year, over half of which has been collected already. This in spite of the absence of sprayers and the incursions of monkeys who feed on cotton bolls. In other villages the "cash crop" might be fish or sugar cane. In no village except the fishing village was there an exclusive reliance on one crop, rather a surprising diversification and interest in still more was apparent.

The second observation has to do with the quality of leadership. In older villages there was a core of people who had learned patterns of cooperation in some way prior to villagization. Within that group, there may be one or several people who had gained some "modern" skills, such as a teacher, a former entrepreneur who had been to mission school, or in one village, people who had been involved in an earlier "unsuccessful" settlement scheme. It would seem that one of the by-products of the villagization scheme has been to substantially open up opportunities for younger leaders with skills more relevant to dealing with government-led modernization. This has, no doubt, resulted in considerable inter-generational stress. Also, it may be hypothesized that this emerging leadership lacks authority

at present to be completely confident of their power. However, continual government and party support functions to "subsidize" this leadership group. Any withdrawal of such support would undermine what appears to be a healthy development at the village level.

The third observation is that most village self help projects, while relatively small, require some outside assistance. In Morogoro, the village ventures into poultry dairy was financed by the regional development fund with technical assistance provided by the extension service. Most of these requirements do not require elaborate feasibility studies, the cost of which would exceed the value of the project. Some of them may be of questionable economic benefit. All of them, however, reflect the felt needs and priorities of the village.

Fourth, we take note of the prevailing influence of TANU in villages. Village chairmen are also TANU chairmen. Councilmen and committee members of various committees also perform party roles. In short, it is difficult to separate village government from village politics. This means that villagers can express demands and interests through both political and administrative channels. This parallel but integrated structure exists all the way up the administrative and political hierarchy. Any attempt to achieve development at the village level without recognizing and dealing with this will probably have serious difficulties.

APPENDIX III - Strategy And Focus Of AID Assistance to Tanzania And  
Possible Structure For Its Implementation.

A. STRATEGY AND FOCUS

1. Factors Which Condition the AID Focus

The purpose and focus of AID assistance to Tanzania must be conditioned by AID policies and priorities as set forth in the Foreign Assistance Act and by Tanzanian policies and priorities and the means Tanzania has adopted (or is adopting) for accomplishment of its purposes. AID policies and priorities clearly suggest a necessity for concentration on improvement in the welfare of the poorer segments of the society as the central purpose of AID programs. Tanzanian policy involves a short term emphasis on increased food production and improvement in the balance of payments and a short and long term emphasis on equity and participation in growth with improvement of the welfare of the rural poor as the primary goal (see Appendix I). A program which is focused upon improvement in the welfare of the rural poor is consistent with AID's "Congressional Mandate" and Tanzanian policies and priorities.

The rural poor in Tanzania are, by and large, small farmer families grouped administratively, and usually physically, in rural villages of from a few to up to 700 or more families each. The welfare of these farmer families is directly dependent upon their farm income (in kind and cash) levels and upon their access to social services. In the past the Tanzanian government has given priority to provision of access to education, health, and other social services. Economic and financial conditions, however, have now brought about a recognition of the necessity for an emphasis on economic production at the village level as a means of enhanced welfare and as necessary to the support of social services.

The Government of Tanzania has recently made determinations that indicate a policy orientation (1) requiring a high degree of self-help commitments on the part of the villages if they are to receive government assistance for gaining access to social services, as well as for increasing their incomes, and (2) allowing a considerable degree of autonomy to the villages in deciding their own priorities for improving incomes and gaining access to social services. An example of the first is a recent policy

announcement that would require villages to agree to cover costs of operation and maintenance of potable water supply systems (and of labor requirements for installation) if they are to receive capital assistance for pumping equipment from the government. Similar requirements must be met by the villages if they are to receive government assistance in establishing primary schools in conformance with the compulsory education law.

The second is demonstrated by some relaxation of the restrictions on the ability of Village Councils to raise revenues by permitting direct charges and/or assessments for carrying out agreed upon village-wide undertakings related to social services and income improvement. Further, although villages are strongly encouraged to set aside at least some land to be farmed communally, this is neither mandatory nor exclusive, i.e., many villages have not done so, and most of those that have also have allocated land to individual farm families on a more or less equitable basis (for example, in the case of older villages, small farmers often have not been dispossessed of their traditional holding, unless voluntarily agreeing to swap it for a different area). Additionally, the recent abolition of Agricultural Cooperative Unions by the TanGov has been combined with the merging of local cooperative societies into the village structure, both administratively and functionally.

The net effect of these various policy moves appears to make the village structure not only the primary level of government administration, but also the basic organizational structure for delivery/collection systems related to production inputs and output (see Appendix II).

## 2. Micro-dimensional Focus

It is our conclusion that the emerging institutional structure dealing with the development of the social, political and economic lives of the rural poor in Tanzania places the village almost exclusively as the local implementing organization, empowering it with considerable flexibility to decide what, how, when, and through what means, to execute activities directly affecting the social, political and economic welfare of village members.

As such, the village emerges as the only institutional micro-dimension for focusing AID assistance. In many ways, the all-purpose village structure at the micro-level simplifies the process of focussing development assistance on the target group. Instead of attempting to coordinate a balanced program of development assistance through a myriad of separate bureaucratic structures from the national, regional, district, division, Ward and, finally Village levels (often only to find that what has trickled down is not appropriate for village needs), assistance efforts can be initiated and packaged at the village level and the village can reach out to whatever source it can find in attempting to fill needs that cannot be filled from its internal resources. However attractive such an approach may appear in strategic terms, it is far from being an easy solution to the problem of assuring that development assistance benefits the intended target group. To implement such a strategy, it is necessary to design and implement an action system that can result in (a) translation of village development constraints into operational input needs, (b) seek out and operationalize those inputs internally available to the village, (c) seek out, bring into the village, and operationalize those external inputs required, and (d) package and apply the internal and external inputs thereby mobilized in a manner which reasonably efficiently completes the development transaction.

The action system for a village focussed development assistance program cannot be formulated for general application to Tanzania at the outset. Too many unknowns exist with regard to the local nature of constraints and resource potentials of villages in general and of each village in particular. It is advisable to begin with a pilot program of village integrated agricultural development assistance, but designed in a way that can be replicated and expanded at a rate commensurate with the learning process of "how to" implement activities at the village level. Considerable care must be exercised in the design of the pilot program. The implementing managers of the pilot program must be permitted a maximum of both financial and activity choice flexibility, but with precise guidelines as regards orientation and focus of their efforts. An information and analytical evaluation system must be included as a continuing integral aspect of the program, including a process of interpretation of

analyzed results and of their translation into improved program action.

The basic philosophy of such a program is that the essential "scarce resource" constraint to local level development is not capital, but appropriate knowledge and relevant interpretations and application of that knowledge (about resource base, technology alternatives, operating systems options, motivational forces, etc.), not only (and not even necessarily) by the technicians, but especially by the subjects of the development (change), i.e., farm families (and from among them their leaders) who make up the village. A basic concept of such an approach is that the technicians (agricultural extension agents, social services specialists, etc.) are not the change agents, but rather, the rural families and their formal and informal leaders are. The technicians can, at best, serve as catalysts to assist the villagers to perceive the constraints which surround them, not in a fatalistic sense, but rather in a sense that constraints can be overcome largely through proper application of their own internal resources. However, it is not enough to say "do something for yourselves about water (for example) and when you have, we will step in and help out." Rather, the technical input must assist the villagers to determine what viable alternatives exist within their internal resources to alleviate constraints. This involves, first of all, a participative process of delineating and disaggregating constraints into their component parts in a comprehensible manner. Secondly, it involves the examination of alternatives for removing or alleviating a particular constraint through utilization of internal resources. Only after these alternatives have been considered and evaluated should there be an examination of alternative solutions requiring the application of external resources.

An existing situation in an Ujamaa Village of 90 families in Morogoro is a case in point. The villagers perceive their most serious constraint in social welfare terms to be the lack of a reliable potable water supply. Their present shallow-well water supply often tastes salty and they suspect that the frequent occurrence of stomach trouble in the village can be traced to the uncleanness of the water. They think that water could be piped to them from a source six kilometers away. They do not have money to buy the pipe, but are hopeful that someday the

government (or some other donor) will give them six kilometers of pipe. In the meantime, they treat the situation fatalistically, i.e., they continue to drink salty water and have a high incidence of stomach trouble.

Under the approach suggested above, a properly oriented technician could assist the villagers to think through their problem, provide information to fill their knowledge gaps, and more than likely stimulate them to uncover a solution (or at least a partial short-term solution) to the problem. First of all, it needs to be determined whether the stomach trouble is water borne, and if so where the contamination comes from. The source of the saltiness also needs to be determined. This may become apparent by an examination of the well site, or it might require having a water sample tested.

If the problem is merely surface water pollution of the well-water supply, the solution is simple, i.e., grading the well site and perhaps construction of a protective top and frame, plus assuring that the water is drawn in a way so as not to pollute the supply. If the problem is that the ground-water supply is polluted (not as likely), the solution may be to seek a new shallow-well site and dig a new well using their own labor. To make this determination, it may be possible to rely on experience in the area, or it may be necessary to have a technician with some ground-water expertise make a judgment concerning the likelihood of finding potable water, including simple hand-bore tests, if necessary.

In the event there is no local shallow-well potable groundwater supply possible, there still are various alternatives available within the villagers' own means. For example, the homes of many of the villagers have tin roofs. They might use cisterns to collect rainwater for general washing and household use, and rely on a simple transport system for bringing in potable water for drinking and perhaps cooking. An oxcart, two oxen and a 500-gallon tank could provide drinking and cooking water to the village with one trip every other day to the water source that is six kilometers away.

They might determine whether or not other villages in the area suffer a similar problem and cooperatively finance a water truck to bring drinking water to a dozen villages in the area. Another alternative may be the use of a surface reservoir, fed by rainwater, with a simple

homemade sand filter and gravity pressure, as is used in many rural situations in developed countries.

It is just conceivable, of course, that the only solution to this particular problem for this particular village requires the purchase of six kilometers of water pipe, but the likelihood is great that one of the alternatives suggested (or some other not suggested) could be utilized to solve the problem, with nothing more than knowledge and help in "understanding how to look at the problem" coming from the outside.

It may be that the long run solution to the water problem for this village is to pipe water from six kilometers away, but one of the more localized solutions might assure the villagers of an adequate supply of good water until their own capital position is such that they can buy the water pipe from their own resources.

### 3. Macro-dimensional Focus

It is self-evident that a village focussed effort of the nature described above cannot operate in a vacuum. It requires institutional backstopping that can respond to critical external input needs that will make village mobilization effective. Thus, the macro-dimensional focus cannot be ignored. Nevertheless, the nature of that focus is quite different from the focus involved in a top-down type of effort. In a top-down effort, the development institution attempts to achieve utilization of its product or services by villagers (farmers) by delivering it to the villages. Such a process assumes that a demand already exists where, in fact, it often does not. Since the role of the potential utilizer of the institution's product or service essentially is passive under a top-down approach, the institution finds it necessary to not only perform the "wholesale" level of functions in the delivery or collection system, but also the retail function, practically as a door-to-door salesman. This generally results in high costs and low performance.

In the bottom-up type effort suggested above, the villagers are stimulated to, first, perceive a need, and then become active agents in organizing themselves to make their demand effective at a higher level. In other words, they perform, through application of internal resources, the "retailing" function for gaining access to the product or service

they desire, leaving the institution free to concentrate on responding effectively to demands at the "wholesale" level.

Under the strategy described, macro-dimension activities become appropriate subjects of AID assistance only insofar as they are directly supportive of the micro-dimensional activity, and a demand emerges therefrom. As a micro-dimension program is initiated, this demand is largely informational. Initially, information on how farmers and villages operate, the nature of their constraints, the nature and extent of their resources and their own perceptions of their environment, is necessary in order to identify and diagnose problems and devise alternative internal solutions. As the village becomes mobilized and begins to resolve local-solutions problems, they begin to achieve "problem management" levels which permit them to organize themselves to perform the "retailing" function for inputs and credit, as well as the first level collection and purchase function for marketing. They are in a position to provide feedback to agricultural research institutions in order that these may fit research efforts more appropriately to farmer needs.

Macro-dimensional activities that can be expected to be directly supportive of a village integrated agricultural development assistance program from the outset include village and farm level field survey and analysis work, including that related to costs, (including risk) returns, resources and constraints, which permit program managers (and villagers) to understand the existing and potential economic situation at the village and farm level. Sample survey data aggregable to regional/national levels is necessary in order to understand the profit potentials for expanding the production of different crops (direct and cross price elasticities of supply, and income elasticities of demand).

A research system responsive to the needs of farmers can be expected to be directly supportive. This implies the need for a system which has effective forward and backward linkages between the farmer and the researcher. Without such linkages, agricultural research can seldom be expected to be relevant to village farmers' current needs.

It is likely that the effective demand for modern cash inputs such as improved seeds and fertilizers will tend to lag behind effective demand for production management informational inputs such as tillage practices

and other agronomic innovations, since effective use of the former depends, first, upon enhanced individual farmer management and entry into cash cropping of the crop in question and, second, on village organization capable of coping with the logistics of retailing such inputs.

Thus, direct support to a village level activity in the form of modern cash input supply is, at best, tenuous in the short to medium term, especially since availability at the village level (and/or proper timing of availability) often are not forthcoming.

The sequence and level of AID assistance at the macro-dimension would depend, not only upon the extent of AID resources, but also upon the presence or absence of an institution whose function is to provide the product or service expected to be required in the future. If such an institution already exists, AID assistance probably need not be considered until a patent demand for the product or service emerges from the villages and there are clear indications of the institution's inability to cope with that demand. If no institution exists, some estimate of lead time requirements must be made, and assistance programmed accordingly.

It also is likely that, in the case of Tanzania, donors who are operating under a broader mandate than AID will be in a position to provide assistance as needed for upgrading institutions whose purposes are only indirectly related to or not immediately supportive of the target group.

## B. DESCRIPTION OF A PROTOTYPE PILOT PROGRAM FOR INTEGRATED VILLAGE AGRICULTURAL DEVELOPMENT (IVAD)

The short stay of the team in Tanzania has not permitted it to gain the depth of insight required for preparing a complete project proposal. Nevertheless, it is felt that an illustrative description of the type of program we visualize within the Tanzanian context may be helpful to the Mission in its consideration of the team recommendation. The detailed context of such a program and the management structure for its implementation will of course have to be worked out with the TanGov as the program is developed.

### 1. Program Content

The program envisaged would contain three interrelated elements,

(a) assistance to village farmers, (b) provision of village agricultural related infrastructure, and (c) constraint related, village farm centered experimentation and research.

(a) Assistance to Village Farmers.

Assistance to village farmers would be based on a self-help philosophy. It would be oriented toward mobilization of village level resources to deal with constraints on accomplishment of the objectives of the village and its members farmers.

Specifically, assistance would be initiated by helping the village farmers to identify their constraints and perceive them within the context of alternative solutions, utilizing as much as possible resources within the control of the village. This process will involve bringing to the attention of the farmers information not previously available to them such as cropping alternatives, variety alternatives, alternative tillage practices and more efficient use of their labor, trying out improved hand tools and alternatives for animal power. It will involve an important element of helping farmers to understand the economics of their activities, to take note of (including keeping of some simple records) their costs and returns for different crop and livestock activities within the context of the farm-family village economy. An important element of the relationship between the program field representatives and the villagers will be to help the villagers to organize themselves to (1) learn about and make use of clearly appropriate improved practices and inputs, (2) locally verify those practices and inputs that look promising but should be tried before mass adoption, and (3) identify gaps in the knowledge base make available to them through the program and generate a demand for research oriented toward closing such gaps through communicating their needs to program field representatives.

The program also would assist the village farmers in organizing themselves to seek out, administer and utilize inputs, funds and markets relevants to their needs.

(b) Assistance in Provision of Village Infrastructure.

The program initially would work with selected villages that

already have in place (actual and in some case potential) certain essential elements of physical and social infrastructure (detailed in next section, below).

However, the program would assist the village in resolving infrastructure gaps which constrain their ability to improve farm production related incomes and profitability. Although no particular elements of infrastructure should be prohibited from assistance, direct program assistance would be expected to concentrate on what is primarily economic infrastructure as opposed to social infrastructure. Thus, greater emphasis would be on storage for production and inputs, irrigation and animal and household water supply, road improvement, etc., as opposed to health posts, schools, recreation centers, etc. The reason for such emphasis is not because the social infrastructure has lower priority, but rather because massive program from other sources are underway in these areas and should be available to the villagers.

The IVAD program can be expected to help the village farmer in an organizational sense to gain improved access to social infrastructure. In other words, the IVAD program will concentrate heavily on assisting villagers (1) to analyze their situation and set priorities on their infrastructure needs from the point of view of improving and making more effective their village and family resource base, and then (2) organize themselves to do something about generating the needed infrastructure. Often, the organizational needs are those required to tap existing government (including para-statal) sources of inputs and funds, both for social and economic infrastructure.

To the extent that the IVAD program has direct control of inputs or funds, this should be limited to requirements for economic infrastructure.

(c) Experimentation, Testing and Research.

Experimentation, Testing and Research will be a major essential element of the program, to be carried out at village Village Agricultural Development Centers (VADC's) described below, and within villages on Ujaama lands and on farmers fields.

VADC's research will be designed to deal in a very practical with village farmer constraints. It will not be designed from a

production or land unit productivity improvement point of view. Research design will rely on the results of analysis of village farm income constraints and resource potential surveys carried out in cooperation with the villagers in those villages selected for the pilot stage of the program. As such, it will be oriented toward variety testing (as opposed to variety development), animal care (as opposed to animal breeding), tillage and cropping practices (as opposed to fertility programs), farm management and profitability (as opposed to yield improvement), and improved labor intensive and animal power methods (as opposed to motorized mechanization, pools, etc.).

Research activities of the VADC's will link out in an organized way to a two level field system of testing at the village level. These two levels involve demonstration plots and local verification trials. Demonstration plots are designed to demonstrate to the farmers of a village the production impact of one or a small number of changes (or a changed system) in a particular crop. Demonstration plots generally would be ongoing with the assistance of the village agricultural specialist (explained elsewhere), but with the field representative of the VADC shouldering the major part of the responsibility for demonstration design and supervision of implementation.

In contrast local verification trials would be carried out for inputs and/or practices decided upon by the Village Council (especially for Ujaama lands) the Village agricultural specialists and the village farmers (especially participating farmers) for incorporating into one or more fields as a part of the normal farming process. It would be expected that the center field representative would play an advisory and backstopping role in setting up and carrying out local verification, whereas, the village agricultural specialist would have major responsibility for mobilizing interest and participation and monitoring results. These local verification trials are the last stage prior to mass adoption by the village farmers of a practice.

One might ask why this last stage is necessary. It is because experimental and demonstration results cannot necessarily account for the variables that may affect a farmer's production and income from year to year. Even in sophisticated research, demonstration testing systems such

as that of the U.S.' where local verification trials generally are carried out by each farmer on his own farm each year, some variables are not tested in the system and farmers generally adopt a variety or practise which soon backfires and is abandoned. For example, a recently introduced high-yielding variety of soy-beans were generally adopted by farmers in the midwest and produced with good results for two years before a year in which climatic conditions caused a fatal defect in the variety to surface. In that year, although the soy-beans yielded well, climatic conditions caused a 20-50% crop loss through shattering prior to harvest, a defect not previously detected. The following year, farmers virtually abandoned that variety.

The U.S. farmer is in a much better position to absorb the risk of these types of latent negative impacts surfacing after general adoption than is a Tanzanian small farmer. Thus, for the village farmer in Tanzania, local verification for a two to three year period after positive experimental and demonstrative results probably is advisable prior to mass adoption efforts.

An important element of the program is the feed-back from demonstration plots and local verification trials to the VADC's. Research activities can be expected to be in a constant state of redesign and adjustment (in keeping with the adaptive nature of the research) based on such feed-back at least for the first several years of the program.

## 2. Institutional Structure

We envisage an institutional structure which involves the village and a central level (linked to national or regional governmental administrative structure) with provision for a connecting link between the village and central levels.

The central level would consist of Village Agricultural Development Centers responsible for direction and operation of all elements of the program in designated geographic areas, including provision of assistance to village farmers and the conduct of village centered, constraint oriented experimentation and research. As the program develops it may be necessary to establish such centers as entirely new institutions. We would expect, however, that existing Research Stations, suitably modified, would provide the center structure. For example, the station at Ilonga (Kilosa) might

be selected as a center from which to begin the program. Its selection would permit merging of the present AID supported agricultural research project with the Integrated Village Agricultural Development Program. Under a pilot program as suggested one or two more such stations might be selected initially.

A village agriculturalist would be responsible for local action related to implementation of the program in each village. In accordance with the present TanGov decision, each village would select from its members a person to be responsible for agricultural assistance and development in the village. This person will be a part of the village structure and will not be an employee of the government. While it is not clear whether it is contemplated that this person will receive compensation for his services, it appears to us that for the concept to be workable some form of compensation must be provided as determined by the village. Compensation could take many forms but might best take the form of a special allocation of production from Ujaama land, such as production from local verification trials, some agreed upon contributions of village labor to work on his plot, or some other compensation in kind or in cash.

In the initial stage of the program some 20 to 30 villages for each Village Agricultural Development Center (VADC) would be selected, all within reasonable transport distance from the Center. Villages would be selected on the basis of an inventory of certain essential growth characteristics, selecting those that have an infrastructure permitting agricultural growth. The following might be considered to be essential characteristics:

- Road access (accessible at planting and harvest time)
- Some minimum number of farmers that would permit minimum economies of scale in providing technical assistance, and in eventual assumption by the village of input and output marketing at the local level. This might require something in the order of 100 or more families.
- A primary school or fairly immediate prospects of establishing one as a critical element of village stability and permanence. Available actual or potential supply of adequate potable water also would be such a critical element of permanence.
- A minimum land area available per family, based on some criteria of minimum amount required to evolve into a significant amount of production for the cash market and to provide a minimum adequate family income.

Villages without these essential characteristics could be expected to develop them through other assistance efforts of a social infrastructure nature and eventually qualify for participation in the IVAD program.

Once qualified villages are identified, actual selection from among them would be based on degree of interest and commitment shown by the village for participating actively in such a program.

Linkage between the Village Agricultural Development Center and participating villages would be provided by Center Representatives, usually located at the District level. Representatives might be either individuals or teams of specialists. They would be responsible for developing continuing relationships between assigned villages (and their respective village agriculturalists) and the Centers and for providing assistance to the villages. Initially each representative would be responsible for 3-5 villages (if teams were used the number could be larger, say 9-15).

A core staff of subject matter specialists located at the Centers would be responsible for backstopping these representatives. This core staff would be responsible for assisting the representatives in organizing their activities and in resolving questions of a technical nature not within the capabilities of the representatives themselves. It would serve as the technical link from Center activities to the field and from the field to the Center. As such, this staff would participate in research design and implementation activities at the Center to assure that real farmer constraints are being addressed (as opposed to the researchers' perceptions of constraints). The subject matter specialists probably should cover the following specialities:

- Crops (major cash and food crops of the area), including plant protection.
- Livestock (if actual or potential farm enterprise mix includes livestock)
- Water and soils
- Farm management, as well as business organization and management.

Specialist staff would be responsible for interpreting research results into utilizable information and practices at the village farmer level, as well as for supervising the collection of relevant information on constraints at the farm level and interpreting it into research design

at the research station. Thus, the specialists' essential role is that of processing/transfer agent of information from farmer to station and station to farmer, operating through and in support of the field representatives and their participating village agriculturalists.

### 3. Operations

The VADC's, their research staff, the subject matter specialist staff and the field representatives, all have one central focus: to assist village farmers to identify their constraints and resources, perceive these constraints and resources in a problem solving context within their own means and provide information and knowledge that is not available within the framework of the farmers' existing sources, for better utilizing their resources in resolving the constraints. The process also involves assisting villagers to seek outside inputs and funds where it is determined that such outside inputs are essential to rational utilization of internal resources.

More specifically, the Centers and their staff would train the village agricultural specialists (VAS) and assist them in providing knowledge and advisory assistance to the villagers.

VAS training would involve on-the-job work by field representatives, 1-2 day short courses, seminars and field days involving all relevant VADC staff, for the subject matter, and perhaps crop cycle apprenticeships for VAS at the VADC's working with researchers. More detailed explanation of each of these elements is provided elsewhere in this report.

"Extension" type activities would be the primary responsibility of the field representatives, with back-up from subject-matter specialists. The sequencing of these activities would be as follows:

- (a) Visit village and determine interest and commitment for participation and cooperation.
- (b) Help village in developing a plan of action, including system for selecting VAS, his role, training and compensation, and organization and execution of resource and constraints survey.
- (c) Analysis of survey information including suggestions for alternative practices, activities, etc.; discussion and agreement upon a plan of action for demonstration plots, local verification trials, village level projects, organizational structure for acquiring outside resources, etc.
- (d) Backstop village and VAS in implementation of program, continue information and discussion meetings, etc.

The VADC's would seek out inter-agency agreements for the provision of externally supplied inputs, services and funds to the extent this were possible. However, provision should be made in the program for the VADC's to have available direct funding to finance essential external inputs that cannot be made available through other existing channels. In both cases, the field representatives should be able to function as authorized agents for securing the required inputs and not be relegated to an advocacy role.

The meeting of demands for inputs and/or credit, supplies, equipment, etc., would be handled at the retail level by the village itself, and thus, will require only wholesaling functions (probably down to - or up from - the district level) from the relevant institutions and/or VADC's.

The field representatives would advise and assist the villagers in organizing input purchases and product sales functions at the village level, including necessary warehousing, inventory control, accounting and financing. Provision of credit could be handled in a variety of ways, but should rely on self-policing and peer group pressures for assuring proper utilization of credit and prompt repayment. A village credit committee could be given considerable discretion in approving credit for village members, as well as for village enterprises, but in conformance with feasibility guidelines set down by the project (or TRDB or other source of credit). Joint liability of groups for individual loans might be feasible as a control mechanism for repayment. Joint liability of all villagers for village loans might be feasible and advisable. Local collection responsibilities would be vested in the credit committee and continued credit availability would depend upon satisfactory payment performance. The overall program might include a disaster fund device (at least partially user financed) by which the VADC's could refinance or pay off debts of cooperating villages unable to repay for factors beyond their control.

Several aspects of operations are detailed in the other sections.

At the Center, the normal complement of research staff would be expected to be maintained, but with adjustments in levels and specialties (and especially in research design and purpose) as dictated by the information needs flowing from the village farmers. It is anticipated that major initial emphasis would be on alleviating what appears to be two major production constraints of village farmers, i.e., water and labor. This

implies that major effort would be oriented toward tillage practices that conserve (and/or maximize plant utilization of) water, and reduce hand labor requirements in preparation for planting, and for weeding.

It may involve testing of drought resistant crops, development or selection of improved hand tools (including introduction of the wheel in hand tools), reduced tillage practices (including use of chemicals, as appropriate), mini-scale supplemental irrigation, testing use of animal power (oxen, mules) etc.

Farmer constraint oriented research could be expected to reduce conventional emphasis on developing higher-yielding varieties in favor of more drought resistance varieties, or varieties with shorter growing seasons. Also, fertilizer trials probably could be expected to receive reduced emphasis in the short to medium term, in favor of low-capital practices that would tend to result in more consistent yields, rather than higher yields. Research on reducing labor constraints would need to be oriented to the Tanzanian condition. It would not involve major labor substitution alternatives (motorizing) in most cases, but rather would concentrate on more efficient labor intensive methods, including animal power.

Another essential element of village farmer oriented research is profitability (or surplus generation). Research would be guided by surplus generation by the farmer as the major objective, as opposed to higher yields. In many cases the two objectives can be expected to be complementary. In others, they will not. Additionally, research would be whole farm (and even whole village) oriented, meaning that any specific crop (or livestock) research would be within the context of the place of that crop (or livestock) in the whole farm operation, and that problems related to provision of village level services would also be included.

Training of village agricultural specialists (VAS) will, of course, be necessary. Emphasis would be given to training the VAS in the village on-the-job, both on his own plot (which could, in effect, become a functioning farm demonstration) and on village (Ujaama) verification plots similar to those already being set up under the USAID Research Project. Consideration could be given to training the VAS on-the-job at the VADC for a crop cycle. Additionally, periodic field days to the VADC and to the various villages (local verification trials) would be arranged for the VAS. This

will allow interchange among VAS from the various villages, as well as between VAS representatives, specialist staff and researchers. Less attractive would be the alternative of training programs for VAS at the MATI's (Ministry of Agriculture Training Institutes). The likelihood of effective constraint oriented on-the-job training within the context of the MATI structure is doubtful. Furthermore, the need to try to respond to yet another type of clientele might well cause the level and quality of MATI training for agricultural agents (their primary purpose) to deteriorate.

Representatives would initiate their in-village activities by assisting villagers to understand the program and its purposes, inventorying village resources and perceived constraints. With this information in hand, representatives in consultation with VADC specialists would analyze the potential for development and alternatives available within the resource limitations for alleviating constraints. They would discuss their findings and recommendations, and once the villagers reach a decision concerning specific actions, they would advise the village in organizing for and carrying out the action.

The subject-matter specialists would be on-call to come into villages to assist in resolving questions which the Representatives feel they cannot handle alone. Additionally, subject-matter specialists would have a program of periodic visits to look over progress in their particular area of expertise, to observe and anticipate possible bottlenecks to progress, and generally to encourage and backstop the Representatives.

#### 4. Relation to Existing Government and Institutional Structure

Research stations and substations which might become Village Agricultural Development Centers under the Integrated Village Agricultural Development Program now exist in all the Regions. They are under the direct administrative, financial and technical control of the Ministry of Agriculture. They are not a part of the regional government structure and tend to be specific crop oriented and national in outlook. On the other hand the Regional and District administrative levels of the National Government (decentralized branches of the Primer Minister's Office) both include Agricultural Development Officers (RADO and DADO). Apparently the function

of these officers is to seek out and prepare proposals for agricultural development projects and, once approved and financed, monitor their execution. At the Ward and Village level, agricultural extension agents, under the administrative and financial control of the Agricultural Development Officers (RADO and DADO) and with technical backstopping from the Ministry of Agriculture, are responsible for providing agricultural extension assistance to villager farmers. Under the new TanGov plan, it is those extension agents who are to be abolished in favor of a person selected from within the village, who will be the village agricultural specialist as a part of the village rather than as a part of the national government (either Ministry or decentralized) structure. Responsibility for provision of inputs and credit is assigned to various parastatal organizations on a national basis.

Insofar as possible, responsibility for the Integrated Village Agricultural Development program should be placed in a single organization. Lines of administration should be direct with as few intervening levels as practicable and without divided responsibility as among governmental organizations. The existing administrative and organizational separation of extension and research functions appears to result in a breakdown in the communication of research information to extension personnel and of research needs as seen by villages and of results of village experience to researchers. Extension agents are also not in a position to provide for inputs and arrange credit or financing of infrastructure.

Centralization of responsibility for operation of the program in Centers based on existing research stations seems to be the best approach. Responsibility should then run from the Centers to the field representatives to the village agriculturalists (VAS) and the respective Village Councils as appropriate. Whether the Centers would remain in the Ministry of Agriculture with the field representatives directly on their staff (and not become a part of the regionalized administrative structure of the Prime Minister's office) as suggested by Mr. Ongara or whether the Centers and field representatives would become a part of the decentralized national government structure would have to be worked out with the TanGov. In any event, a direct relation between the Centers, the field representatives, and VAS would be desirable and perhaps even essential. The administrative

structure, and villages selected for participation in the program, would have to be agreed to and supported by the respective regional branches of government and TANU officials.

If possible, arrangements should be made for field representatives to have direct access to inputs, credit, and funds for financing village level infrastructure, probably directly through the Centers.

If such an arrangement is not feasible, it may be possible to designate the Center Representatives as field agents of the appropriate institutions (for example, for seed and fertilizer supply, and for credit), with the Center guaranteeing performance on any contractual commitment made by the field representative with the village on behalf of such institution.

The administrative structure discussed above is related to the initial pilot stage of the program. During that stage, other TanGov programs would continue to operate through the regular governmental structure. It is only after the program has been thoroughly tested by experience that consideration should be given to the question of how it and other programs should be related and integrated into the government structure on a permanent and generalized basis.

##### 5. Evaluation and Replication

The program should begin on an experimental or pilot basis with expansion and replication, both in content and timing, related to experience. The initial program design thus should provide for internal evaluation by program management and external evaluation by independent evaluators. Evaluation should cover three primary areas: (1) effectiveness of various organizational and administrative arrangements and operational methods; (2) success in identification of constraints, problems and needs and relating activities to them; and (3) effects upon the target group including such effects as (a) changes in the levels of participating farmers' consumption and cash incomes; (b) changes in the amount of village production; (c) village surplus generation; (d) growth of village infrastructure; and (e) increased utilization of village infrastructure. Arrangements for evaluation should include the development by the Centers of village base line data and simple record keeping at the village level. Subsequent periodic surveys to determine changes would probably be preferable to the installation of a

highly formalized information system utilizing continuous and current reporting, summarization, and analysis.

In the initial pilot stage, the program might involve one or two Centers, about 5-6 Field Representatives (or two teams of three Representatives each). Thus, with two Centers, the program would involve in the order of 50-60 villages. Program adjustments would be made on the basis of evaluations before expanding the number of villages or the number of Centers. We estimate that at least 3 years, after bringing the pilot program into operation, would be required before a decision could be made to increase the size of the program. The first expansion would probably take the form of increases in the number of Representatives per Center and number of villages per Representative. By the end of 5 years it might be possible to add two or three new Centers. If successful, periodic increase in the number of Centers could be worked thereafter with perhaps 15 years being required to complete coverage. The time periods included in this discussion are not definitive estimates resulting from analysis. Instead they are intended only to show that the program should proceed in stages and that application of the program to the entire country will require many years.

### C. AID INPUTS

Constraints on the ability of the TanGov to carry out a program such as that suggested appear to be primarily weaknesses in organizational and administrative structure and capacity, shortage of appropriately trained manpower, lack of information as to village level needs and constraints on increased village agricultural income, and lack of funds. With such constraints AID inputs would consist of:

- 1) Technical assistance to Village Agricultural Development Centers
- 2) Training and backstopping of Center personnel and Field Representatives
- 3) Financing of facilities, equipment, and input and other supplies both for Center and village use
- 4) Financing of resource surveys and studies of village constraints such as water, roads, fuel supply, storage facilities, and of projects for meeting resulting identified infrastructure needs
- 5) Financing of program evaluation

The Village Agricultural Development Centers should be the point of entry for the AID inputs. If possible, AID resources should be provided directly to Centers as free of operational control by a Central Ministry or other organization as TanGov requirements will permit.