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POBAL 740

AGENCY FOR INTERNATIONAL DEVELOPMENT  
PROJECT REVIEW PAPER FACESHEET

TRANSACTION CODE  
 A ADD  
 C CHANGE  
 D DELETE

PRP  
2. DOCUMENT CODE 2

3. COUNTRY/ENTITY  
Upper Volta

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 digits)  
686-0222

6. BUREAU/OFFICE  
A. SYMBOL AFR B. CODE 06

7. PROJECT TITLE (Maximum 40 characters)  
Volta Valley Development

8. PROPOSED NEXT DOCUMENT  
A. 3 PP B. DATE 12/7/77

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION  
A. INITIAL FY 78 B. FINAL FY 81

10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$1 - )

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL						
(GRANT)	3390	344	3734	5567	1599	7166
(LOAN)						
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY		1431	1431		2516	2516
OTHER DONOR(S)						
TOTALS	3390	1775	5165	5567	4115	9682

11. PROPOSED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPRO- PRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. FIRST FY		LIFE OF PROJECT	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	H. GRANT	I. LOAN
(1) BN	2130	230		3734		7166	
(2)							
(3)							
(4)							
TOTAL				3734		7166	

12. PROJECT PURPOSE (Maximum 480 characters)  "X" IF DIFFERENT FROM PID

STRENGTHEN AVV CAPACITY TO PLAN, SELECT AND PREPARE LANDS FOR DEVELOPMENT AND CONDUCT SUCCESSFUL RESETTLEMENT OPERATIONS AND SYSTEM OF SETTLER SUPPORT.

What is it?

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15? IF YES, ATTACH CHANGED PID FACE SHEET.

1 = NO  
 2 = YES

14. PLANNING RESOURCE REQUIREMENTS (Staff/Funds)  
PP Design Team for 8 weeks to include at least rural development specialist, heavy equipment advisor, financial analyst and A/D/W design officer \$50,000

15. ORIGINATING OFFICE CLEARANCE

SIGNATURE: [Signature]  
TITLE: Country Development Officer

DATE SIGNED: MM 11 DD 12 YY 76

16. DATE DOCUMENT RECEIVED IN AID/W OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

# VOLTA VALLEY DEVELOPMENT PROJ

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## I. PRIORITY AND RELEVANCE

*what is purpose and degree of certainty*

Once freed of the Onchocerciasis vector, the most fertile lands of Upper Volta become available for the resettlement of poor farmers from the overpopulated areas of the nation. Primarily, they are those who now live on the Mossi Plateau where the soil is being depleted through excessive population pressure and inadequate crop rotation on insufficient land. The valleys of Upper Volta's major river systems, with adequate farm and water management and effective extension services to foster modern agricultural techniques, are capable of producing significant additional quantities of food crops, cash crops (such as cotton, rice, peanuts and sesame) and livestock.

The Government of Upper Volta (GOUV) has assigned high priority to the resettlement of these lands. It has created within the Ministry of Rural Development a virtually autonomous dependency known as the Volta Valley Authority (Autorite des Amenagements des Vallees des Voltas — A.V.V.). *what does this mean?* While the GOUV has not yet been able to devote major resources to the AVV, providing only about 10% of AVV's annual budget thus far, it has committed itself to increasing its budgetary resources over the next few years and has given major emphasis to designating AVV programs as being of greatest immediate importance for assistance from external donors. Thus far, AVV has been primarily dependent on the French Aid and Cooperation program (FAC), which has provided half of AVV's operating budget and most of its foreign technicians. The Dutch have followed second in providing substantial resources

(450 million F CFA projected for FY 77 of a total budget of approximately 1.2 billion F. CFA's.)

USAID views this project and others in process of approval for AVV assistance as one of the most important development efforts in Upper Volta, and as a logical next step in AID's assistance program in this country.

As the 1975 DAP for Upper Volta emphasized (p. D-112-113):

"Among the seven countries covered by the Onchocerciasis vector control program, Upper Volta is by far the most severely affected by the disease in epidemiological and economic terms. For this reason, AID should in priority rank Upper Volta first as a claimant for major assistance for development of its Onchocerciasis zones.....

"....AID should consider providing major assistance to Upper Volta through two kinds of programs. First, AID could provide capital assistance to the AVV for (a) rural road construction and/or (b) development of basic village infrastructure - wells, schools, dispensaries, etc., for use in a number of projected areas".

*What about  
ONC#0  
ROAD.*

As mentioned elsewhere, AID has contributed \$6 million (U.S.) for the WHO-directed Onchocerciasis Vector Control Program in Upper Volta and its nearest neighbors. The major stride made in combatting this debilitating disease leads to the next phase: developing the potential of these rich lands. Such development can provide (a) new opportunities for extremely impoverished farm people who now barely survive on overpopulated and overly used farm lands, (b) increased production of crops, livestock and forest products which could meet demand for food and other products from other sectors of the country as well as

3.

contribute to increased exports and (c) a means of reducing the outward migration of young, vigorous males who now leave Upper Volta for employment in other countries because productive land is not available to them.

As stated in a recent paper of the AVV, the productivity of the valleys, once settled, should not only create an improvement in the primary sector of Upper Volta, i.e., agriculture, which now engages well over 90% of the workers, but will also create employment in secondary and tertiary sectors of the economy, ultimately easing chronic unemployment and underemployment.

## II. DESCRIPTION OF THE PROJECT

### A. Summary

The Volta Valley Development Project is designed to contribute to the general goal of optimum development of the areas of the Upper Volta now being freed of the onchocerciasis vector, most particularly through improving the social and economic well-being of low-income Voltaic farm families by resettlement in these rich lands.

The purpose of the project is to contribute to strengthening the capacity of the AVV to plan, select and prepare lands for development, to conduct successful resettlement operations with an effective system of settler support, including credit and technical assistance.

The Volta Valley Development Project will be a grant of \$7,166,000 to assist the AVV in several functional fields relating to the foregoing purpose in a manner which is complementary to the efforts now being made or expected from the GOUV and a number of other donors, especially France, Netherlands, and Germany. While the overall period of the project is four years, inasmuch as some project components require this time span, the greater part of the project will be completed during the first two years.

The inputs of the project will consist of the following:

1. Study and research sub-projects focussed on agronomy, anthropology, zoology, forest industry management, aerial photography and related ground control surveys, land use capability mapping, geohydrologic investigations, surface water investigations, water demand evaluations, sociology, and trial farming.

*what*

- PP should develop - who provides it, how, Admin. Capability, T needed cost of providing it, to whom loaned, eligibility criteria, projected default rate, describe interest rate and term adequate to cover cost.*
2. A pilot sub-project for providing support services, especially of credit and technical assistance, to 400 resettled families to test and refine methodologies for such support *what, how*
  3. Sample surveys, including detailed analysis of farm accounts, to monitor and evaluate annually the economic progress and social change experience of resettled families, including both those described in (2) above and those supported by other donors.
  4. The supply of essential heavy equipment needs for the construction of roads and for initial land preparation for agriculture, together with equipment for a communications system. *rural road - reviewed by AID/ENGR*
  5. Technical assistance (and some related construction and commodity support) for training programs for AVV staff to develop more functional training processes for resettled families and for other related purposes of the AVV program. *what engineering review*
  6. Budget support to AVV relating to above activities.

*What kind of system - preliminary - have reviewed any telecom engineers*

The outputs of the project are expected to include significant increases in the income and well-being of pilot groups of resettled families through methods susceptible of replication on a large scale; effective organizational units of AVV with trained staff and adequate equipment for carrying out the diverse functions of the AVV program; and the production of acceptable studies and research that will be efficiently utilized by AVV in planning and operations.

*need to know their activities to determine the kinds and amounts of training and equipment*

This project differs from that outlined in the PID in that assistance described in the PID was to be concentrated in the Black Volta Valley region of AVV lands. Subsequent discussions with AVV leaders, however, indicated interest in avoiding the type of "balkanization" of AVV territory which would occur if foreign donors were each assigned a narrow geographic zone in which to work. As a result of these discussions, assistance from AID is proposed for priority purposes across

the entire AVV region. The resulting project constitutes a considerably more cost-effective use of AID resources than a program focussed on a single area.

Because of the vast reach of the AVV program as a whole, this project involves more distinct components than are usually present in AID rural development projects. Following a brief discussion of the project background the AVV's limited resettlement experience over the past three years, these components are individually described with estimated costs.

#### B. Project Background — The AVV Resettlement Program

The AVV has been given broad authority for the development of the areas approximately 10 kilometers on each side of the Red, White and Black Volta Rivers and their tributaries. It is under the Ministry of Rural Development administratively, but is essentially autonomous in budget and operations.

The four basic steps in AVV's approach to the development and resettlement of the areas under its authority are:

1. Aerial photographs are used to prepare detailed maps and land-use plans for the development zones. Guidelines for preparing the economic development plans of these zones have been written by the UNDP. Further, FAC and AVV carry out or coordinate studies concerning farm development, irrigation, forestry, livestock, and other functional aspects.
2. As the area development plans are completed, AVV extension

workers recruit settlers primarily from the Mossi Plateau (the ORD's of Ouagadougou, Koupela, Kaya, Yatenga and Koudougou). Minimum requirements for selection include: three active members (14 to 50 years old) per family, farming experience, and the family's agreement to follow AVV directions for improved farming methods.

3. The AVV provides the basic infrastructure for the re-settlement villages (eg., roads, covered wells, a small warehouse, school and dispensary) as well as transportation for the settlers to the village site. During the first year, AVV through the World Food Program provides subsistence for the villagers as they clear their land.
4. AVV provides intensive extension assistance (projected at one extension worker per 20-25 families) and the agricultural inputs on credit (except for cotton seed which is provided free the first year). Medium term credit, 7 years, is extended to the villagers for the purchase of oxen and plows. Detailed studies are done on village agricultural production for planning purposes. AVV also proposes to improve livestock production and develop agricultural processing industries, but this work has not as yet begun.

From a planning standpoint three main problems have emerged during

the initial stage of the resettlement program. The first has been inadequate coordination of the resettlement effort with the Onchocerciasis Vector Control Program, as resettlement began in the Red and White Volta regions and spraying was initiated in the Black Volta area. The second was the spontaneous migration and settlement into some areas which did not permit proper consideration of land use capability, planning and infrastructure needs. The third has been the absence of cooperative reciprocal working relationships with other government agencies which should provide services to areas under AVV control.

#### G. Resettlement's Three Years Experience

The experience of three years has identified areas that need to be modified or strengthened in the resettlement program or has shown where additional information is needed. Other AVV problems include the fact that certain studies and inputs have been identified as necessary but not funded; some grants have been area specific, not AVV general; and many grants have not included a factor for general overhead. The Upper Volta skill pool is not large enough to furnish sufficient staff members who are adequately trained for their jobs. The last three years experience has also shown more study needs to be done on socio-economic matters, since movement to an AVV resettlement village requires major behavioral change. For example, farmers are involved in clearing unfamiliar land, working with new crops and their production practices, the use of animal traction and credit and selling harvests

on the commercial market. Social changes include setting up a new village often containing a large fraction (roughly 50%) of population that is from a different ethnic group, with no village leader, no traditional village norms, and not much leisure time. In a grey area is the underlying issue of land tenure. *What is the issue?*

These changes and concerns as well as the voids in basic specific data and information, together with a donor meeting in June 1976 requesting an overall evaluation for a five-year planning program to start in 1979, have alerted AVV to specific needs in the acquisition of the data necessary for the elaboration of detailed development plans. AVV also desires to improve its present organization into one which would function more smoothly.

D. Detailed Description of the Project

1. Studies

The AVV has already started resettlement of the Red and White Volta regions and will start to resettle in the Bougouriba Valley in 1977. AVV needs basic information to make possible a more soundly planned resettlement effort. The following studies have been identified primarily through discussions with AVV as major needs for which AID financing would be desired and appropriate:

*What is the relationship to the Onko Study Project through ADR See P. 30*

1.1. Agrostological Study

AID will furnish a specialist to do a one-year study to define the grazing potential of the Red and White Volta and the Bougouriba Valleys. The study will include an

inventory of the present grass species with locations shown on a map, an analysis of the various species of grasses for feed values during their growth periods and suggestions on how the present forage can best be utilized. The information developed will be used for long-range planning and will include the current Fulani grazing patterns. Selection of these specific areas was at the request of the AVV.

Estimated Cost: \$100,000

Duration: One year

#### 1.2. Fulani (Peul) Study

During the drought, many semi-nomadic Fulani moved into the AVV area as permanent settlers or as settlers who spend a considerable part of their time in the area. In addition, there is a traditional migration of Fulani and their herds through the area. Detailed information on the socio-economic structure of the Fulani is needed so that AVV can develop resettlement and land use policies in a manner which will integrate the Fulani harmoniously into the overall program.

Estimated Cost: \$100,000

Duration: 1 year

#### 1.3. Wildlife Study

AID would finance a study to determine the species of wild life now in or close to zones under AVV control and their needs for preservation as a national asset. Determination will be made of the type of land and cover, as well as the

amount of land and its location, for use as national preserves for the conservation of various wildlife species identified. Measures to prevent crop ravages by wild life and opportunities to expand the food supply through hunting will also be studied.

Estimated Cost: \$30,000

Duration: 3 months

1.4. Forestry Study

A four-month study is recommended with primary focus on the Bougouriba tributary of the Black Volta (Diebou-gou Area) concerning possible reforestation programs for exploitation of wood for both lumber and fuel. Trees need to be identified for specific soil types and climatic conditions. A planting and initial care program should be developed that is compatible with Upper Volta's short planting period which creates constraints on available labor supplies. For each variety of tree suggested there will be developed harvesting and marketing information, estimated costs of production and the profits to be realized. Consideration will also be given to fruit tree species suitable for cultivation by settlers.

Estimated Cost:

\$40,000

Duration: 4 months.

Inventory and Evaluation of Land and Water Resources

This effort is essential for identification of specific areas suited to various types of agricultural development (irrigation, dry-farming, pastoral, forest, etc.) and should

provide a basis for classification of potential settlement sites according to:

- (1) their production capacity, and
- (2) relative costs of development.

This will enable the selection of sites and the planning of their development in accordance with a master-plan for optimum development of the total project area. It will enable the selection of sites for the early stages of the program which will have the best probability for success and will also provide experience needed to develop successfully the less favorable sites.

*How  
great  
How many  
people  
What  
experience*

The following are required elements of this study:

Aerial Photography (and related ground-control surveys) for sufficiently detailed mapping of topography, land-use capability, and social development; and the cartography required to produce the topo and planimetric base maps. There is some indication that considerable aerial photography exists, covering parts of the project area. The initial task will be to inventory and evaluate existing increments. This will determine not only the additional aerial coverage needed, but also what additional ground control may be required for use of the existing photography, or re-flying, to produce base and contour maps of the required accuracy and scale.

What

*Don't provide funds - finance a host country contract in the usual manner*

It is recommended that AID provide funds to the AVV to contract for aerial photo mapping and cartographic services in two phases: (1) inventory and evaluation of existing aerial photo coverage, and writing of specifications for a follow-on contract; and (2) performing the needed additional surveying and cartography.

*in accord with Harb 11.*

The estimated costs are:

(1) Consulting contract - \$20,000 Duration: 2 months

(2) Performance contract - \$750,000 Duration: 2 years

Total: \$770,000

*[Signature]*

1.5.2. Land-Use Capability Mapping: From preliminary observation on field trips to various parts of the project area, it is apparent that the capability of the land to support a sustained agricultural use varies widely and within quite short distances. To avoid resettlement failures and severe erosion and leaching damage to fragile lands now capable of supporting wildlife, light grazing or forest, it is very important that there be available land-use capability maps which delineate those areas particularly suited to either irrigation or dry-land farming. The land-use capability classification should consider (1) soil depth, (2) fertility, (3) internal drainage, (4) erodability, (5) land slope and surface drainage, (6) climate and apparent availability of water.

The AVV is currently mapping soil in the classical

morphopedological sense. While this may be a requirement for the proper detailed planning of the resettlement sites actually selected, time can be saved and better assessments made for the master planning phase if the more comprehensive land-use criteria are adopted for the reconnaissance survey stage. This type of land survey was developed by the U.S. Department of Agriculture and is now widely used for project planning purposes.

It is recommended that the USAID support the adoption of this technique by the AVV as its prime basis for selection of specific candidate resettlement sites. Consultant services to assist in setting up this sub-element are recommended, as well as funds for the employment of additional staff by the AVV to expedite its completion. AVV should give assurances that funds will later be provided to continue this staff in the regular budget.

Estimated Costs: Consultant services \$50,000 Duration: 6 months

AVV staff augmentation	
	<u>\$50,000</u>
Total	\$100,000

- issue* →
- .3. Geohydrologic Investigations: Resettlement village sites require reliable wells. The size and complexity of feasible agricultural development may depend on the capacity of the wells which can be constructed. In cases of adequate ground water availability, some

irrigation of crops may become an important part of the enterprise. Obviously, as complete and accurate an assessment as possible of the ground water potentials of an area should precede the selection and development planning of sites.

Although landsat and aerial photography may provide significant indications of ground water availability for broad-scale regional master planning, the selection of specific sites for development and the planning for their optimum utilization require detailed on-the-ground investigations. Photo reconnaissance may be significantly supplemented by gravimetric surveys. Additional geophysical surveys of particular areas should be made by seismic refraction techniques. Based on these data, specific sites should be examined by exploration drilling and electric logging of the drill holes. Then, when promising sites have been located, the capacity and draw-down characteristics of the aquifer at particular locations should be determined by the pumping of test wells before the sites are accepted and production wells are constructed.

With limited equipment and inadequate exploration techniques now available to the AVV, relatively good well sites may remain undetected. Untested wells may later prove inadequate to support the established resettlement or the full ground water supply potential of the locality

*what,  
How*

*who  
what  
how*

may not be utilized, thereby limiting the possible agricultural and supporting village development. It is, therefore, recommended that USAID furnish the additional hydrogeologic investigations equipment needed and provide expert consultant assistance in the planning and conduct of a substantially upgraded study of the ground water potentials of the project area.

*What cost*

*What*

Estimated Costs:

Exploration equipment (test pump and deep well drill, 300 m. depth capability, to 20 cm. dia. and one-year leasing of geographical survey items); available

from U.S. sources only-----\$100,000

Consulting services contract (duration 1 year)----- 100,000  
\$200,000

*OK*

1.5.4. Surface Water Investigations: Streamflow records have been collected over substantial periods at numerous gauging points on the Black, Red, and White Volta rivers and their tributaries. Analysis of data on annual flows and their seasonal distribution will indicate the feasibility of developing irrigation supplies, and possible needs for flood protection of substantial areas of rich alluvial soils adjacent to the streams. Also, base flow characteristics of particular stream reaches will be indicative

Foot country Contracting Handbook

for all studies - US/local procurement unless waiver possible

their own money contributed

of ground water conditions and the possibilities for developing water supplies from wells in higher-lying areas for irrigation or other uses. There should be careful studies of the streamflow data available and it is recommended that USAID support this effort by providing funds for an AVV contract for consultant services to carry out this sub-study, as soon as possible, particularly as it may relate to the feasibility of dams being suggested for irrigation and other purposes.

Estimated cost: \$100,000      Duration: 1 year

1.5.5. Water Demands Evaluation: The normal rainfall varies considerably between different parts of the project area, as does the evaporation potential. This results in substantial differences in amounts of water moving into the streams and available for recharge of ground water storage. Also water demands (consumptive use) by crops depend on the evaporation potential of the locality and its fluctuations during the growing season. both the evaporation potentials and the consumptive-use water-requirement characteristics of particular crops should be evaluated for various locations to be resettled in the Red, White and Black Volta basins.

The ultimate water demands for domestic, livestock, supporting industry and other uses must also be considered

in relation to the supply potential in planning the development of particular localities. The demands assessed to ground water supplies must be especially carefully considered if those supplies are not to be "mine and the dependant enterprises eventually deprived of water. On the other hand failure to plan for full utilization of the replenishable water supply potentials of a locality could impose an unnecessary limitation on its development. It is recommended that USAID support the master-planning efforts for optimum resettlement and development of the Oncho-freed areas in Upper Volta by providing consultant services to AVV for study of projected water demands and formulation of water budgets for the localities under consideration for resettlement.

Estimated cost \$75,000

Duration: 9 months

#### 1.6. Sociological Studies

The experiences of AVV in the resettlement program have shown that additional studies need to be undertaken to provide basic information to assist individuals/families/villages in the adjustment with each other to a new life. These studies might be performed either by expatriates or by local Voltaic resources.

*IS, Africa - what*

##### 1.6.1. Studies of Social and Cultural Institutions within AVV villages using basic data from traditional and neighboring villages for comparative analysis: A critically

important component of AID's contribution to successful resettlement should be a thorough participant observation

study by an experienced and competent anthropologist or rural sociologist. This study should take place in the field over a period of approximately 18 months. This time span is necessary in order to study initial resettlement problems and to discern positive reactions and potential problems which might occur through one complete agricultural cycle after resettlement.

The investigator should be French-speaking and have experience in sub-Saharan Africa. This person should work closely with AVV authorities, extension workers, village leadership, and villagers, and attempts should be made to modify the program as sufficient insight is gained into village perceptions and practices. This initial in-depth study should not only facilitate the implementation of the program on the ground at a particular time and in a particular place, but documentation of the process and analysis of major areas of potential problems and potential successes should also serve as guides for future resettlement.

We also contemplate useful and complementary interaction between this in-depth study and the annual evaluation surveys described in paragraph 3.1. below, to the extent the latter deal with sociological issues.

- (a) This study would identify major sociological questions to be covered in the annual surveys.
- (b) Conversely the study itself would benefit from survey results in the first year.
- (c) The sociologist assigned to this study should also provide an additional resource for short-term intensive training of Voltaic staff in interview techniques prior to conduct of the first survey described in 3.1. below.

Estimated Cost: \$108,000

Duration: 18 months.

1.6.2. Survey of attitudes toward AVV throughout Upper Volta : A survey should be made throughout the recruiting areas of AVV on the attitudes of the population generally and of specific important ethnic groups in particular toward AVV. In addition, a comparison should be made between attitudes toward AVV by settlers in AVV villages and those in nearby traditional villages. The traditional communications network should provide insights regarding recruiting methods and problems, including enthusiasms, fears, and/or complaints. Understanding of such attitudes should lead to more effective recruitment and ensure more permanent resettlement, if legitimate negative responses are addressed and misunderstandings cleared up. A particular aspect with which this study should deal is to determine customs and attitudes with respect to land

tenure and land rights, especially the attitudes of ethnic groups toward land within AVV's jurisdiction to which they may feel they have some claim. This is important in order to form judgments as to the degree and manner in which tribal groups with no ancestral claims to the land can be introduced into resettlement areas. This project can be undertaken by the same individual performing the study described above with the advantage of spreading both projects over a two-year cycle.

Estimated Cost: \$36,000

Duration: Six months.

1.7. Trial Farms for Bougouriba Valley

AVV has established and operated trial farms in various locations in the Red and White Volta valleys. Soil and climatic conditions are sufficiently different to require trial farms also in the Bougouriba valley to determine best crop varieties, planting dates, fertilizer rates, etc. In addition to varieties and production practices, in some locations and in some years the amount and/or seasonal distribution of rainfall may be critical to the success of dry-farming (rain-fed crops). Furthermore, problems of erosion may be critical to the continued cropping of some soils. The existing field trial plans should be expanded to include testing of erosion control and water (soil moisture) conservation methods, eg, minimum tillage, crop-residue mulch, contour planting, and strip cropping.

AID assistance is recommended for augmenting the program at existing pilot test locations and adding one trial farm and three sub-centers, including the construction of small buildings, provision of minor equipment, and operating costs.

Estimated Costs: Construction	\$48,000	<i>preliminary Plan/cont estimate reviewed by CBE</i>
Equipment	10,000	
Budgetary Support to AVV	10,000	
Total	\$68,000	

Duration: 4 years

2. Pilot Project to Provide Support Services for 400 Resettled Families

The ultimate success of the AVV program will depend on the number of families that benefit and the extent of that benefit in terms of economic and social opportunity. While at present it is premature to encourage settlement on AVV lands on a large scale, probably it is of critical importance to carry forward some settlement at varied sites under varied conditions in both the White and Red and the Black Volta River valleys on a pilot or experimental basis. While the AVV presently projects settlement of up to 2847 families by the end of 1979, and a further 1200 in 1980, it is apparent that donor financing to support such numbers is largely lacking.

The AVV has accordingly specifically requested assistance from AID in making substantial contributions to the following types of resettlement costs: (a) local salaries and general expenses involved in settler support; (b) the fund for granting short-term credit to settlers for annual inputs; (c) the fund for granting medium term credit to settlers to purchase oxen and related equipment.

*what*  
*who administers, capability - loans to whom*  
*interest rate repayment*

We propose, therefore, that AID respond to this request by financing these support costs for 400 families to be settled during 1978 and 1979.

*Where, how resettled - What are other costs involved - who is paying for them.*

We expect that the AVV program as a whole and USAID needs for future program planning would benefit from this in two important respects:

1. There would be greater assurance of a reasonable amount of adequately supported resettlement activity to permit the early testing of alternative methodologies and evaluation of cost/benefits before the time arrives for larger-scale resettlement and the seeking of major resources therefore from USAID and other donors.
2. AID would achieve as a donor sufficient importance in the support of settlers to be able to play a constructive and influential role in the definition of a long-term, larger-scale program. In this respect, we regard this sub-project as intimately linked with the sub-project proposed in (3) below for economic and social evaluation of pilot resettlement projects on a sampling basis. While the evaluation sub-project would cover all settlements and not only those supported by AID, we believe it is sounder and more acceptable for AID to propose evaluation of resettlement activities in which it is prepared to play a role rather than exclusively of activities financed by other donors.

It is important to emphasize that this proposal to provide

*How do we know when? How would we do base*

support to 400 settled families is not intended to establish a separate American sector of resettlement villages. Rather the funds would be usable in whatever zones or villages new settlements take place. The release of funds by AID would, of course, be dependent upon the resettlement and phased to assure continuity of support over the program period.

Details of this sub-project are set forth in Appendix I.

Estimated Costs: AVV salaries	\$145,600	<i>for how many people</i>
		<i>very what</i>
AVV expenses and overhead	145,600	
Short-term credit fund	51,840	<i>- small</i>
Medium-term credit fund	183,200	<i>- small</i>
<b>total</b>	<u>\$525,240</u>	

Duration: 4 years

3. Sample surveys to Evaluate Economic Progress and Social Change

This sub-project provides for USAID technical assistance and financial support for the conduct of sample surveys of 250 to 400 settler families per year and a control group of 100 to 150 farmers living in traditional villages in or near AVV territory.

The surveys would include analysis of gross production, income in cash and in kind, yields, costs, production methods, credit utilization and impact, living levels (including health and adequacy of diets), and attitudes towards and adaptation to life in the new villages.

This sub-project would be an integrated system of data collection,

processing and analysis. It would use both AVV statistical records (especially those maintained at the village level) and interviews with settlers as data sources. Computer processing (through facilities now available in Ouagadougou) would be used to produce extensive information for analysis of the relative success, strengths and weaknesses of the program.

~~This sub-project is more fully~~ described in Appendix II.

Estimated cost: \$500,000

Duration: 4 years

#### 4. Training

At the present time (1) AVV is undergoing a reorganization of staff; (2) there is a 50% vacancy of Voltaics on the staff; (3) there is no job description/task analysis for each job; and (4) the training staff is too thin.

AID training assistance can help the AVV training staff develop or review old job descriptions/task analyses and develop training designs for the various components. These training inputs can be tailored to the existing skills, knowledge and attitudes of personnel now available to AVV in Upper Volta. Pre-job and on-the-job training can be designed to bring employees up to the skill level required.

Special focus needs to be given to the training needs of those AVV staff that have the closest contact with the farm families (extension agents - male and female, block chief, sector chief). AID assistance can help review the training needed to achieve rapid adjustment of farm families to their new way of life. The training of extension agents block and sector chiefs will demonstrate how to impart to farm families the knowledge, skills and attitudes required to adopt new farm methods.

Literacy training should be examined for: (1) its priority in the needs of farm families; (2) an easier, more adaptable training course; (3) coordination of time spent on literacy training with the seasonal work schedule of the farm family and with the size of the farm family (number of active workers).

A training course should be developed for all AVV employees who either drive or maintain vehicles, tractors and other equipment.

A one-month learning and training opportunity outside of Africa should be given to a staff member with a background that will allow him to analyze improved crop varieties and their production techniques as well as new technology appropriate for trial in Upper Volta on AVV trial farms.

As training results do not reach the level desired without proper facilities, assistance is proposed for expansion of the AVV training center at Ouagadougou and construction of a new training center at Mogtado. The requirement for these centers should be examined in greater detail by the PP team.

Estimated costs:

Technician.....	\$45,000	Duration: 6 months
Construction training center at Mogtado	70,000	<i>Review flow and cost estimate</i>
Expansion training facilities at Ouagadougou	60,000	
Furniture and Equipment for training program	40,000	<i>- what</i>
Third Country Training	5,000	<i>where</i>

Support of AVV staff salaries	\$50,000	} why
Support of AVV operating expenses	50,000	
<b>Total</b>	<b>\$320,000</b>	

5. Equipment

5.1. Roadbuilding and Maintenance:

It is apparent from field trips in the project area that the most important and immediate need for the general advancement of AVV's program is the upgrading and extending of the existing road system for access to planned resettlement centers. This is necessary for timely delivery of agricultural inputs and transport of cash crops to market. This is presently impossible for lack of needed heavy equipment. It is recommended that USAID finance the purchase of a limited increment of such equipment, which will enable road improvement to be programmed to open up areas for pilot and ultimately large-scale settlement. AVV will construct and maintain the new roads, and has funds needed for labor and materials from other donor sources. Roads to be constructed will be "B"

01D/ENR

*- Need to know  
- kinds of road  
- degree of improvement contemplated  
- availability of trained equipment operators  
- Who will finance other costs of road building  
- to the other*

*capacity available and is the machinery in place so there is no down time searching from factory to construction*

with crushed laterite rock bed and finer ground laterite rock surface. Surface width will be 10 meters, at least one meter above the land surface, and drainage ditches 15 meters from the center of the roadway.

The estimated cost of this equipment, as itemized in Appendix III, together with the needed spare parts, is \$1,144,000.      *ADD/ENGR*

5.2. Heavy Agricultural Equipment

To facilitate land preparation for the first crop (only), AVV plans to assist new settlers with tractor-drawn equipment, after they have cleared the trees and brush. AVV staff will operate and maintain the equipment. The AVV has requested that USAID supply the needed equipment for this. It is recommended that USAID respond to this request by supplying such equipment.

*and the operators trained - do the money for operating the vehicles in place*

Estimated cost for this equipment and needed spare parts (itemized in Appendix III) is \$688,600.      *Acro/ENGR*

5.3. Communications Radio System

AVV proposes the need for a radio communications system tying in its management centers and field operations parties (vehicular units). It is clear that there is a definite need for such a system and this project includes funds for its purchase by the AVV.

*Telecom ENGR*

Conceptually the ~~radio system~~ will include ~~base sta-~~  
~~tions at centers capable of communication between~~  
~~centers and with mobile units within their respective~~  
areas of jurisdiction, utilizing automatic repeater  
stations, which may be solar-powered. Communication  
will be voice mode, via a GOUV/exclusively assigned  
short-wave frequency, FM.  
The estimated cost is \$250,000. —

*What is  
this?*

#### 5.4. Four-wheel Drive Vehicles

The project will require in its initial eighteen month  
almost full time use of six vehicles by the various  
technicians performing studies. Most of these technicians  
would be paralyzed without ready access to in-country road  
transport. Beginning in the middle of the second year these  
needs will diminish but will be replaced by increased  
needs for training and resettlement projects and settler  
support. This number of vehicles represents considerably  
less than AVV's overall needs but is roughly sufficient  
to meet the additional requirements generated by this  
proposed AID project.

Estimated Cost: \$36,000.

#### 6. Contingencies

We have made allowance for \$100,000 in contingencies for each  
of the four years of the project for two reasons. First, the varied  
nature of the sub-projects and the difficulty of estimating costs in  
Upper Volta make it necessary to allow some leeway. Second, the complex

*only?*

system of financing AVV through a number of international donors creates a risk of financial gaps that cannot be predicted. Accordingly, USAID project administration must have some contingency funds for discretionary use to assure that one or more elements of the AID project are not seriously handicapped by lack of funds for essential support or for the performance of one or more prerequisite tasks.

Estimated cost: \$400,000.

*OK but not for some presently undefined activities*

### III. AID AND OTHER RELEVANT EXPERIENCE

#### A. AID Experience

AID is already deeply committed to the development of the Oncho-free areas of Upper Volta as well as those of nearby countries participating in the WHO-directed Onchocerciasis vector control campaign. For the disease control program, AID has pledged to contribute \$6.0 million (approximately 10 percent of the project cost) for the first phase of the program, which receives support from eighteen bilateral and multilateral organizations.

~~AID has also developed a \$2 million Regional Onchocerciasis-Free Area Project (ROAP) for Upper Volta as well as other countries in the onchocerciasis zone. The ROAP, using LANDSAT and other available data, will provide information on a macro-scale for primary identification of areas possibly suitable for resettlement, and master-planning for overall regional development. The project proposed in this paper involves~~  
follow-on phase of more precise and detailed studies of areas proposed

*Will it use info from ROAP in these studies*

for development, and some support for development of those areas selected for resettlement.

A third thrust of AID support is a proposal for FY 1977 funding to promote the development of village-level, small enterprises involving direct participation and management by the resettled farmers. This effort will provide financial resources in the form of a Village Development Fund to finance self-sustaining, income-generating enterprises, such as motorized mills, consumer associations, small animal production, blacksmith services, etc. There is also a training component for participants at three levels: the villagers, extension workers and AVV staff members. Provision is also made for the development of an information system for management and evaluation purposes and for training of staff to manage the Village Development Fund and the Fund-financed project activities. At the PP stage AID should give particular consideration to coordinating this Volta Valley Development Project with the Village Development Fund Project, particularly in the areas of management information and evaluation.

The present project will complement these activities by providing assistance to AVV for accomplishing technical studies needed for resettling farmers, for training programs, for heavy-duty equipment, for agricultural credit, and for certain related operational costs.

AID can draw on its own considerable experience in stimulating rural development efforts in other African countries. Notably, AID has

*use this example*

worked in Kenya with SIDA, IDA and FAO to finance the Livestock Development Project (KLDP) and the Special Rural Development Program. In Nigeria, AID has assisted the GON to develop the Small Scale Rural Industries project. Also in Kenya, AID financed the provision of credit and intensive extension services for the Vehiga Maize Credit Package and is currently financing farmer training and credit projects in three Kenyan provinces; this latter program involves monitoring and evaluation through sample surveys of economic progress and social change of the participants. Other experiences with small farmer agricultural credit are analyzed in depth in the AID Spring Review of Small Farmer Credit (1973), which included four African workshops. Successes and failures occurred in these and other rural development schemes to which AID lent assistance. Implications for the future of this present Upper Volta project should be drawn from these other experiences as more detailed project planning is undertaken. For example, many of the flaws of past agricultural credit programs highlighted in this Spring Review from subsidization of interest charges to those leading to high default rates are risks potentially found in the AVV program.

*try to use full participation to change it.*

B. Relationship to the Mission to Develop an AVV Global Program of Studies and Investments (beginning January 1977)

This Volta Valley Development project provides funds for certain research and studies which are basic for the planning of an expansion of the AVV program during FY 78 to 81. The mission cited above is to develop the portfolio of studies and investments for a five-year period and to make certain recommendations concerning the overall staffing and funding of AVV. AVV in its terms of reference to that mission requires the mission to carry out its work without interruption of the

current program of the AVV resettlement expansion. Therefore, studies of the nature financed by the AID project are still needed regardless of the outcome of the Global Program effort. Moreover, the thrust of the Global Program mission will have been fairly well ascertained before the beginning of AID funding of the Volta Valley Development project, so that appropriate adjustments of any of the project components can still be made if the Global Program mission concludes, for example, that a new order of geographic priority is indicated. Consultation between the CDO/Ouagadougou and the Global Program mission is planned during the PP development stage so that coordination of these two efforts will occur.

#### IV. BENEFICIARIES

This proposed project is eminently compatible with present AID policy of aiding the rural poor. Upper volta is among the world's 25 poorest countries, as identified by the U.N.'s list of "least developed", and its problems were exacerbated by the Sahelian drought. As a result of the drought there was an influx of people from the stricken desert countries to the north into an area where there was already considerable population pressure. Many young Voltaics leave Upper Volta in search of work in Ghana, the Ivory Coast, and elsewhere, either seasonally or for considerable periods of time. This tends to result in villages with a preponderance of old men, women and children and lacking the strongest members of the work force. Within the country there is considerable migration of Mossi from the overpopulated and

7  
6

*to it safe - what about Country*

agriculturally depleted Mossi Plateau toward the richer terrain in the southwest.

The AVV has developed a program of controlled and supported migration in order to relieve population pressure on the Mossi Plateau while at the same time exploiting the more fertile valleys of the Volta River where the Onchocerciasis vector has recently been or will soon be radically reduced. Specifically, the program is aimed at resettling Mossi in these areas and at the same time recruiting settlers from neighboring areas in order to prevent Mossi domination. At the present time 14 villages have been established with 450 families (about 3,000 people). These villages are in the White and Red Volta areas. Current plans call for the resettlement of 4,047 families by the end of 1980 or about 28,000 people. 1,000 of these families will be settled in the Black Volta region. Over a 15-year period (1974-88) it is planned to settle over 15,000 families (though this is not a certain figure owing to the pending overall review of the AVV program). Expansion of the program beyond 1988 could ultimately lead to the resettlement of upwards of 100,000 families -- or a population of 1,000,000 or more.

Per capita income in Upper Volta is estimated at approximately US\$60 per year. It is doubtful that any family participating in the resettlement program would have per capita earnings more than marginally higher than this amount. The average per capita income of the Mossi farm families living in overcrowded conditions, who would constitute the major group of beneficiaries, is more nearly US\$24 per year. The AVV program should enable beneficiaries over time to achieve per capita annual incomes in the \$60 to \$100 range.

*What level income?*

A social analysis is presented as Appendix IV to this report.

## V. FEASIBILITY ISSUES

### A. Economic Soundness

There are no adequate data on which to base a benefit/cost analysis of the AVV program. Some early calculations suggest that there would be an eleven percent return on investment and a trebling of the income of participating families. These calculations are, however, dated and have little relevance today.

At this point it would appear that AVV would incur over a 15-year period, if donor financing is available, a total expenditure of about \$80 million, exclusive of any substantial irrigation works that might be developed. The aggregate annual earnings from dry farming and related activities of some 100,000 settlers (about 15,000 families) should by the end of the period aggregate some \$7 million (in cash and in kind) if we assume that all participants achieve year in and year out about 75 percent of the optimum presently considered achievable in a good farm year. Since Government farm pricing policies tend to hold prices below normal free market levels, the national benefit probably should be calculated at a somewhat higher level. Further, since much of the settler production should enter the cash economy, there should also be secondary effects in generating employment in transport, commerce, processing, and service industries -- \$3,000,000 is a

very rough estimate. There should also be some benefits to the economy through the forestry and tourism aspects of the program, though these are currently rather speculative. In addition to income benefits, the program will also provide significant health, education and other social benefits to settler families.

Aside from these specific benefits, the AVV program should provide some spin-off benefits to Upper Volta as a whole. For example, much that is learned from the project with respect to farming methods, administration of credit, social organization, use of forest resources, etc. should provide data that can contribute to the solution of like problems elsewhere in the country in perhaps less time and at less cost. The program will also considerably augment the number of Voltaics trained in the various skills essential to the development of a rural economy. Indeed, a major reason why the cost of AVV is so high is due to the limited data base and cadre of trained personnel in the country.

Compared with alternate possibilities for significant investment in the rural economy of Upper Volta, the potential benefits of the AVV program are substantial in the gross terms thus far stated.

Unfortunately, there are a variety of factors that could whittle away at the potential benefits. Chief among these are the following:

1. The annual cost to AVV of administering a support program for 100,000 settlers (about 15,000 families) would run to \$3 million at the current rate per family. This is owing largely to a high ratio of salaried technicians to settlers. Hopefully, as farmers are trained and adjust to their new lives, this ratio can be cut

*where would this campaign?*

drastically without impairing farm production results.

2. While we believe that the settlement of 100,000 people over 15 years (1974-1988) is practicable, there could be a shortfall, particularly if AVV recruitment and resettlement policies lack popular support or if a substantial number of settlers become dissatisfied and abandon their new homes. Benefits could, of course, be increased if colonization could be developed at a more rapid pace.
3. The achievement of satisfactory benefits relative to cost depends very heavily on the validity of the technological packages AVV develops and encourages settlers to use and their ability to repay credit extended to them. Poor farm results and widespread credit defaults could seriously erode program benefits.
4. At least in theory substantial economic benefits might be achieved by spontaneous migrants even in the absence of an AVV program. To the extent AVV expels or discourages spontaneous migrants, there will be some countervailing economic disbenefits.

In very large measure the elements of the AID project described in this paper are designed to develop further information and evaluatory data necessary to assess the above factors, their possible effect in reducing potential program benefits, and the means by which AVV can improve its program to maximize its benefit/cost potential.

In sum, while it is impracticable at this time to estimate benefit/cost relationships with any precision, it is possible and important for AID to finance activities that will contribute to a more effective program. In this sense, since AID is only one of several donors, a well-conceived AID program can exert leverage in that it can increase the benefits flowing not only from the expenditure of AID funds but also from those of other donors. This has been a major guiding principle in the development of the project proposed in this paper.

#### B. Institutional/Managerial Soundness

At the recent (June 1976) meeting in Upper Volta of prospective donors, AVV presented to the group a general plan for the development of all areas under AVV control. This donor group concluded that a more comprehensive study, detailing the priority needs for the entire country, was required; AVV accordingly, agreed to hire a consultant group to conduct a planning study for ultimate joint consideration by present and other potential donors. The study, which is scheduled to begin in January, 1977 will not be ready for consideration until late that year.

In the meantime, FAC has nearly completed a plan for interim assistance by prospective donors, but even this report will not be ready for some months. Despite the promising prospects of these reports, we recognize a critical need for some support without delay, i.e., primarily in the gathering of basic data essential to the effective planning and conduct of the AVV program. We are also recommending support for an expanded training program, for some critical equipment, and for pilot

1/1

resettlement activities and evaluation thereof. These inputs will be essential regardless of the form in which the reports currently under preparation may take.

While owing to a shortage of trained Voltaics, AVV is very heavily dependent upon expatriate technicians for its functioning, there exists overall the leadership, structure and grass roots capability for implementation of the project proposal.

Improved intra-Governmental coordination. Some positive GOUV actions are needed to promote closer liaison between AVV and other GOUV organizations. We have noted that the ORD's, whose functions were absorbed by AVV within the considerable areas of AVV control, seem competitive with the AVV, and a relationship of mutual cooperation between the ORD's and AVV does not appear to exist. Nor does the AVV seek the support of available education, health, and other resources of other ministries that would seem important to the success of the AVV program. Obviously AVV and other Government groups should cooperate more fully. As was noted in the PP for the Village Development Fund, ..."Other government agencies appear reluctant to provide assistance to areas under AVV control," but it appears equally true that AVV prefers to operate independently as a self-contained institution. Here the interministerial coordinating committee could play a vital role. Ideally, AVV and all other Government groups should regard AVV as a concerted GOUV team effort geared specifically toward the comprehensive development of the major national asset represented by the Volta River valleys.

4/2

Increased budget support to AVV. The AVV has been officially proclaimed by Presidential decree as constituting the top priority program of the country, yet AVV now is accorded only about 5% of the national budget and we understand that not all budgetary commitments are actually disbursed. Some prospective and current donors contend that the minimal level of GOUV support to AVV is based on the greater external support and potential support obviously available to AVV.

Clarification on external support of AVV operating costs. As noted earlier, the French and Dutch seem committed to significant support for the operating expenses of the AVV. There remains, however, considerable vagueness as to how this support will mesh with other resources and what gaps will remain.

C. Environmental Impact

The AVV agricultural program involves limited uses of chemical fertilizers and insecticides which will have no significant effects beyond the small areas where they are applied. The program includes measures for control of surface runoff and erosion which will minimize effects of farming operations on sediment movement to streams. Increased beneficial uses of water will be little more than present natural water losses (evapo-transpiration) and will have very limited effect on regional water balances. It is concluded, therefore, that USAID assistance under this Volta valley Development Project will present no significant environmental problems.

*implies that they have significant effects in areas where applied.*

*What*

*Remember this is a \$ 9 mill.*

*We probably concluded that it has a significant impact on the human environment.*

why

D. Technical Implications of Major Dams on the Black Volta

1. Dam and Sluice Gates At the Mouth of The Sourou

The Sourou tributary enters from the north at the point where the Black volta reverses its northward flows in an almost 180° elbow and returns southward to the Gulf of Guinea. The Sourou relates in a very unusual way to the flows in the Black volta. It is a segment of the ancient main channel when the Black Volta continued northward from the elbow as a tributary of the Niger River. In high flow periods water from the Upper Black Volta flows into the Sourou, converting the Sourou valley into a lake. When flows from the Black Volta again recede after the rainy season, water which was stored in the Sourou flows back out, prolonging the recession of flows downstream.

A dam was very recently completed on the Sourou, just upstream from its confluence with the black Volta, with sluice gates which will control flows both into and out of the Sourou. It is expected later a canal will tap the water entrapped in the Sourou for gravity irrigation downstream in the Black Volta valley. Also there may be plans for pump irrigation of land above the impoundment in the Sourou valley.

It is not known how much new land may be brought under irrigation with water impounded by the new dam on the Sourou, nor how its potential for economic agricultural production may compare with that of the additional land now to be inundated in the Sourou valley. It is clear, however, that the presence of the new dam and the manner in which its

sluice gates are operated may have a significant effect on flows in the Black Volta, downstream from its northern elbow, and may add a new dimension to the feasibility of several aspects of the AVV resettlement program.

This development does not affect the areas of resettlement now being developed by AVV in the Red and White Volta valleys. The PP design team, however, should recheck as to its possible effects on sites in the valleys of the Black Volta and its tributaries

## 2. Proposed Dam And Hydro-Electric Plant at Nombiel

Field examinations have very recently been completed by both the Governments of Upper Volta and Ghana for a feasibility study of a proposed hydro-electric installation at Nombiel, astride the national boundary between the two countries and immediately upstream from their common boundary point with Ivory Coast. The feasibility study is expected to be completed by the Outre-Mer Electricite de France, in September, 1977. The conceptual plans are for a reservoir surface elevation of between 246 and 248 meters. Very rough estimates indicate that the water impoundment would extend upstream on the Black Volta to about Boromo, or/about 2/3 to 3/4 of the distance to the northern elbow. It would inundate about all the alluvial soils in the valley of the Foni, and much of the best land in the lower half or so of the Bougouriba valley.

It is indicated that the energy which might be generated (when

divided with Ghana) could increase Upper Volta's electrical energy to 3 to 4 times its present total generating capacity. Thus it should be presumed that this proposal will be urgently pursued. Although any construction is likely to be at least 10 years away, and the project may be found to be technically or economically unfeasible, nevertheless, its possibility must be considered in the planning of AVV's resettlement program, at least until the present feasibility study for that installation is completed.

*What is the effect on the AVV and Ghana.*

H. International Impacts of Major Dams on the Black Volta

Although precise information was not obtained, small-scale maps contained in the feasibility study preceding construction of the new dam and sluice gates recently completed on the Sourou indicate that water will be backed up across Upper Volta's border with Mali. This, together with Upper Volta's interests in the total Sourou basin as a source of water, indicates the need for an international compact for the mutually satisfactory management of the Sourou Basin.

*What is purpose of this section.*

In the case of the proposed Nounbiel hydro-electric dam, there clearly must be an agreement between Upper Volta and Ghana for its construction astride their common border, and for sharing the power to be generated by water impounded on the lands of both nations. Furthermore, this and other developments upstream in the basin, including AVV's program, may be considered to have some impact on Ivory Coast's rights to water in the lower reaches of the river.

Parallels can be drawn between the international interests in the

resources of the Volta River basin and those of the Niger River Basin, where there exists an international commission composed of all nations with territory in the basin, including Upper Volta and some other countries which lie partially in each of these basins. With this precedent of the Niger River Commission, which has been operative for about 10 years, it would seem desirable from the standpoint of AID's support of the AVV to consider the advantages of organizing a similar Volta River Commission.

F. Construction

This project involves a small element for construction of incidental buildings necessary in connection with research and training programs important to the full development of AVV. All of these buildings will be of simple construction with locally procured materials and built from specifications already in use by AVV.

*how much, what, ENGR / review 3 plans specs*  
*AID/ENGR*  
*view cost estimate*

VI. OTHER DONOR COORDINATION

The proposed AVV budget for the next fiscal year beginning January 1977 envisages a higher level of resources and outputs than in previous years. While the final level is not fixed as of this date, foreign advisors now preparing the program for the Director of AVV estimate a level of 1.2 billion F CFA, of which approximately .5 billion F CFA will be financed by FAC and another .4 billion F CFA by the Dutch.

Other donor contributions, as envisaged by AVV, would support

specific functional areas such as personnel, agricultural credit, studies, etc. AVV strongly opposes, however, the partitioning of the AVV program into geographic zones allocated to foreign donors. Recent management studies have urged more generalized use of external contributions in an attempt to strengthen the ability of AVV to manage its entire domain across the board rather than establishing a balkanized organization wherein conflict and competition might set the tone for donor participation.

During the donors conference held in June, 1976 in Ouagadougou, it was reported that commitments were made by a number of donors, including:

IBRD \$1.5 million for AVV activities beginning in 1977.

FED \$13 million in their current development fund for AVV programs for the next five years period.

Germans \$1.6 million for the western sector.

West Africa Development Bank - general support for agriculture credit in Upper Volta, which will include AVV.

FAC major support for AVV as indicated above.

Other donors which did not make commitments during the conference are negotiating with GOUV, including the Netherlands (see above), Germany, Algeria and the UNDP.

It was also affirmed that a Permanent Coordinating Committee, composed of donor representatives, would meet periodically in Ouagadougou to exchange information and promote coordination of external assistance efforts.

Certain specific studies which are of general concern to AVV are often drafted in a proposal format and circulated among donors to invite their contributions.

VII. FINANCIAL PLAN

The U.S. contribution is summarized in tables appearing at the end of this section. Table I summarizes the US contribution by fiscal year. Table 2 is a summary by principal sub-project categories. Table 3 indicates costs for FY 1978 divided between direct AID and contract costs. Table 4 summarizes total cost estimates including those of the host country.

The following is a listing of each item of the US contribution:

TECHNICIANS

<u>Project Code No.</u>	<u>Description of Technician</u>	<u>FY1978</u>	<u>FY1979</u>	<u>FY1980</u>	<u>FY1981</u>
1.1.	Agrostologist (Agrostological study)	\$75,000 (9 mos.)	25,000 (3 mos.)	—	—
1.2.	Anthropologist (Fulani Study)	50,000 (6 mos.)	50,000 (6 mos.)	—	—
1.3.	Zoologist (Wildlife Study)	30,000 (3 mos.)	—	—	—
1.4.	Forest Industry Expert (Forestry Study)	40,000 (4 mos.)	—	—	—
1.5.1.	Aerial Mapping Technician (Aerial photography and related ground control surveys)	20,000 (2 mos.)	—	—	—
1.5.2.	Soil Scientist (Land use capability mapping)	50,000 (6 mos.)	—	—	—

1.5.3.	Geohydrologist (Geohydrologic investigations)	\$25,000 (3 mos.)	\$75,000 (9 mos.)	—	—
1.5.4.	Engineering Hydrologist (Surface water investigations)	—	100,000 (12 mos.)	—	—
1.5.5.	Irrigation Engineer (Water demand Evaluation)	—	75,000 (9 mos.)	—	—
1.6.	Sociologist (1.6.1. Pilot study of social and cultural institutions within AVV villages; and 1.6.2. Survey of attitudes on AVV throughout Upper Volta)	54,000 (9 mos.)	72,000 (12 mos.)	18,000 (3 mos.)	—
3.	Evaluation Survey Specialists -Senior analyst/system designer	30,000 (3 mos.)	20,000 (2 mos.)	10,000 (1 mo.)	—
	- Evaluation survey project director	80,000 (12 mos.)	80,000 (12 mos.)	80,000 (12 mos.)	80,000 (12 mos.)
4.	Training Specialist	45,000 (6 mos)	—	—	—
		<hr/>			
		\$499,000	\$497,000	\$108,000	\$80,000

COMMODITIES

1.5.3.	Exploration equipment for geohydrological investigations	\$100,000	—	—	—
1.7.	Equipment for trial farms in Bougouriba Valley	—	10,000	—	—
4.1.	Furniture and equipment for training program	—	40,000	—	—
5.1.	Road building and maintenance equipment	1,000,000	72,000	72,000	— \$ 1.1

5.2.	Heavy agricultural equipment	\$688,000	---	---	---
5.3.	Communications radio system	200,000	50,000	---	---
5.4.	4-wheel-drive vehicles (6)	36,000	---	---	---
		<b>\$2,024,600</b>	<b>172,000</b>	<b>72,000</b>	<b>---</b>

*ENR review  
prelim. phase  
cost estimate*

CONSTRUCTION

1.7.	Trial farms for Bougouriba Valley	---	48,000	---	---
4.	Training center at Mogtado	35,000	35,000	---	---
4.	Expansion of training facilities at Ouagadougou	30,000	30,000	---	---
		<b>65,000</b>	<b>113,000</b>		

U.S. BUDGETARY SUPPORT TO AVV

1.5.2.	Land use capability mapping (Salaries)	25,000	25,000		
1.7.	Trial farms for Bougouriba Valley - salaries	---	2,000	4,000	4,000
2.	Pilot project for resettlement of 400 families - salaries	20,800	41,600	41,600	41,600
	- other costs and overhead	20,800	41,600	41,600	41,600

3.	Sample surveys to evaluate economic progress and social change				
	- salaries	10,000	10,000	10,000	10,000
	- keypunching, com- puter programming and computer pro- cessing costs	10,000	20,000	10,000	10,000
	- other costs	8,000	8,000	7,000	7,000
4.	Training program				
	-salaries	12,500	12,500	12,500	12,500
	-other	12,500	12,500	12,500	12,500
		<hr/>			
		\$119,600	173,200	139,200	139,200

OTHER COSTS

1.5.1.	Performance contract: aerial photos, ground control surveys and cartography	375,000	375,000	-----	-----
2.	Addition to AVV Credit Fund				
	-Short-term credit	8,640	17,280	17,280	8,640
	-Medium-term credit	-----	-----	91,600	91,600
4.	Training program: Cost of third- country training	-----	5,000	-----	-----
6.	Contingency Fund (to be allocated according to need)	100,000	100,000	100,000	100,000
		<hr/>			
		\$483,640	497,280	208,880	200,240

**Table I: SUMMARY COST ESTIMATES OF AID CONTRIBUTION BY FISCAL YEARS**

(in U.S. dollars)

Type of Assistance	1978	Fiscal Year 1979	1980	1981	Total
Technicians	499,000	497,000	108,000	80,000	1,184,000
Commodities	2,024,600	172,000	72,000	—	2,268,600
Construction	65,000	113,000	—	—	178,000
Budgetary Support to AVV	119,600	173,200	139,200	139,200	571,200
Aerial Photography & cartography	375,000	375,000	—	—	750,000
Agricultural credit	8,640	17,280	108,880	100,240	235,040
Third country training		5,000			5,000
Contingencies	100,000	100,000	100,000	100,000	400,000
<b>Sub-Total (costs in 1976 dollars)</b>	<b>3,191,840</b>	<b>1,452,480</b>	<b>528,080</b>	<b>419,440</b>	<b>5,591,840</b>
<b>Inflation factor (8% per year compounded)</b>	<b>542,660</b>	<b>522,920</b>	<b>248,220</b>	<b>419,440</b>	<b>1,573,860</b>
<b>Total</b>	<b>3,734,500</b>	<b>1,975,400</b>	<b>776,300</b>	<b>679,500</b>	<b>7,165,700</b>

Table 2: SUMMARY COST ESTIMATES OF U.S. CONTRIBUTIONS BY SUBPROJECT

CATEGORY ( in U.S. Dollars)

Type of Assistance	Sub-Project			Category		Total
	Basic Studies & Research	Pilot resettlement	Sample Evaluation Survey	Road bldg, land clearance and Communications	Training	
Technicians	759,000	-----	380,000	-----	45,000	1,184,000
Commodities <u>1/</u>	134,000	-----	6,000	2,082,600	46,000	2,268,600
Construction	48,000	-----	-----	-----	130,000	178,000
Budgetary Support to AVV	60,000	291,200	120,000	-----	100,000	571,200
Aerial photography and cartography	750,000	-----	-----	-----	-----	750,000
Agricultural credit	-----	235,040	-----	-----	-----	235,040
Third country training	-----	-----	-----	-----	5,000	5,000
Contingencies <u>2/</u>	-----	-----	-----	-----	-----	400,000
Inflation Factor <u>2/</u>	-----	-----	-----	-----	-----	1,573,860
<b>Totals</b>	<b>1,751,000</b>	<b>526,240</b>	<b>506,000</b>	<b>2,082,600</b>	<b>326,000</b>	<b>7,165,700</b>

1/ Includes 1 vehicle for sample evaluation; 1 in training; 4 in basic studies.

2/ Not allocated by project category.

Table 3: INCREMENTALLY FUNDED PROJECTS

PROJECT SUMMARY -- AID APPROPRIATED FUNDS

(thousands of U.S. dollars)

Cost Components	Budget year FY 1978		
	Direct AID	Contract	Total
U.S. Technicians	-----	391.0	391.0
Non-U.S. Technicians	-----	108.0	108.0
Commodities	2,024.6	-----	2,024.6
Construction	65.0	-----	65.0
Budgetary Support to AVv	119.6	-----	119.6
Aerial photography and cartography	-----	375.0	375.0
Agricultural credit	8.6	-----	8.6
Contingencies <u>1/</u>	75.0	25.0	100.0
Inflation factor	389.8	152.8	542.6
<b>Total</b>	<b>2,682.6</b>	<b>1,051.8</b>	<b>3,734.4</b>

TABLE 4

SUMMARY COST ESTIMATE AND FINANCIAL PLAN  
\$US (000)

Use	AID		Host Country		Others		Total
	FX	LC	FX	LC	FX	LC	
Technical Assistance	1,040.0	144.0		298.6	—	—	1,482.6
Participant TRG.	5.0	—	—	—	—	—	5.0
Commodities	2,243.6	25.0		78			2,346.6
Construction		178.0		380.			558.0
Agricultural Credit		235.0					235.0
Budget Support to AVV		571.2		750			1,321.2
Aerial Photo, Cartography Service Contract	750.0			481			1,231.0
Contingency	300.0	100.0					400.
<b>Total</b>	<b>4,338.6</b>	<b>1,253.2</b>		<b>1,987.6</b>			<b>7,579.4</b>
Inflation factor 8% per year compounded	1,319.2	254.6		528.4			2,102.2
<b>Grand Total</b>	<b>5,657.8</b>	<b>1,507.8</b>		<b>2,516.0</b>			<b>9,681.6</b>

VIII. IMPLEMENTATION PLAN

*calling upon RDS of needed ENR, legal and other services needed*

The primary responsibility for the implementation of this project will rest with CDO/Ouagadougou. This will include negotiation of the Project Agreement with GOUV and issuance of the implementing documents. AID/W will assist the mission in identifying technical consultants and advisors. For the "Survey to Evaluate Economic Progress and Social Change", it would be preferable, if AVV agrees, to retain the services of a U.S. consulting firm with experience in the design and conduct of small farmer surveys utilizing farm account analysis techniques. In this case, AID/W should assist in identifying such a contractor and GOUV would approve the nomination of the principal technicians.

*what if they don't? This is a grant. It must be US or local and not*

For the training program, CDO/Ouagadougou and AVV will be responsible jointly for the identification of appropriate curriculum, methodology and sites for Voltaic counterparts and extension workers to visit.

*local bank or local firm*

*Do this local - 3rd country middle US African*  
Procurement of U.S. equipment and other commodities will be done jointly between CDO/Ouagadougou and AID/W. AVV would be responsible for local procurement and primary supervision, operations monitoring and accountability of the project.

CDO/Ouagadougou should designate someone to coordinate this project with other related projects, i.e., the Village Development Fund Project and the Regional Onchocerciasis-Free Area Planning project (MOAP).

Consideration might be given to the ultimate consolidation of these three projects into one, perhaps at the end of two years from the initiation of this project, by which time an overall evaluation will have been accomplished.

Much of the refinement of this project during the PP stage will depend on the guidance received from the AVV study mission which will begin in January 1977 to develop a global program of studies and investments for the AVV. Therefore, no attempt has been made at this writing to develop a more detailed calendar of events or more refined implementation schedule. This is left to the PP team to tackle on the basis of better information available at the time they carry out their mandate. The PP team should also include an advisor on heavy agricultural and road-building equipment. If possible, an inventory of current AVV equipment should be obtained prior to the arrival of the PP team.

**IX. PROJECT DEVELOPMENT SCHEDULE**

**Action Required:**

	<u>Responsibility</u>	<u>Timing</u>
Submission of PRP to AID/W	CDO/Ouagadougou	11/16/76
Review and Approval of PRP	AID/W	12/15/77
Fielding of PP Design Team	AID/W	*NLT 4/1/77
Submission of PP	CDO/Ouagadougou	6/15/77
Approval of PP and Authorization	AID/W	10/1/77
Negotiation and Signature of ProAg	CDO/Ouagadougou	10/30/77

\* CDO/Ouagadougou should assess progress of the forthcoming mission which will design a "global program" of studies and investments, scheduled to begin January 1977, and should advise AID/W of the best time for the PP team to arrive.

A P P E N D I X I

PROPOSED SUB-PROJECT TO PROVIDE SUPPORT SERVICES FOR 400 SETTLER FAMILIES

It is proposed that AID provide support services over a 4-year period for four hundred families to be settled in the Volta River valleys, of which 200 would be settled during each of the years 1978 and 1979. It should be made clear that this is a contribution to the financing of the settlement program and is not intended to establish a distinct U.S. financed settlement sector. Thus the location of the villages can be dispersed among the various zones in accordance with overall AVV needs. The following table shows how the 400 AID-supported families would compare in numbers with the total number of families settled or projected to be settled by AVV through 1979:

<u>Period of settlement</u>	<u>Total families settled or projected for settlement</u>		<u>Sub-total proposed for AID support</u>	
	Settlement during period	Cumulative total	Settlement during period	Cumulative total
1973/75	465	465	-----	-----
1976	287	752	-----	-----
1977	370	1122	-----	-----
1978	725	1847	200	200
1979	1000	2847	200	400

Thus the proportion of families that would be supported by AID would constitute 22% of the families proposed to be settled during the two-year period 1978-1979 and 14% of all families proposed to be settled through and including 1979. This proportion will, however, vary depending upon the extent to which funds for settler support from other sources can be obtained and

TABLE I -- ESTIMATED ANNUAL COST OF SUB-PROJECT FOR SETTLER SUPPORT, 1978-81

Values in thousands of CFA. (No. of settlers involved in parentheses)

ITEM	YEAR			
	1978	1979	1980	1981
1. Salaries of AVV personnel assigned to settlement sites	5,200 (200)	10,400 (400)	10,400 (400)	10,400 (400)
2. Operating and overhead costs (100% of line 1)	5,200 (200)	10,400 (400)	10,400 (400)	10,400 (400)
3. Short-term (annual) credit	2,160 (200)	4,320 (400)	4,320 (400)	2,160 (200)
4. Medium-term credit	—	—	22,900 (200)	22,900 (200)
<b>Total - CFA Francs</b>	<b>12,560</b>	<b>25,120</b>	<b>48,020</b>	<b>45,860</b>
<b>U.S. Dollars</b>	<b>\$50,240</b>	<b>\$100,480</b>	<b>\$192,080</b>	<b>\$183,440</b>

*no funds required*

utilized in timely fashion. Further, one or more villages settled in early years may be abandoned. The probability, therefore, is that the 400 families supported by AID financing would constitute a very much larger proportion of the total.

It should be recognized further, however, that the settler support financed by AID will be a follow-through of basic planning, infrastructure, land clearance, and settlement costs primarily financed by other donors.

The precise settler support costs proposed to be financed by USAID are the following:

Item	Estimated costs per settled family (in CFA francs)			
	First year of settlement	Second year of settlement	Third year of settlement	Fourth year of settlement
1. Salaries of AVV personnel assigned to settlement sites	26,000	26,000	26,000	26,000
2. Operating and overhead costs (100% of line 1)	26,000	26,000	26,000	26,000
3. Short term credit (one year) <u>1/</u>	10,800	10,800	10,800	—
4. Medium term credit	—	—	114,500	—
<b>Total</b>	<b>62,800</b>	<b>62,800</b>	<b>177,300</b>	<b>52,000</b>

The total cost of the subproject for 400 families (200 to be settled in the first year and 200 in the second) over a four-year program period would be \$526,240, divided by years as follows:

1/ Credit requirements are 10,800 for the first year, 21,600 for the second, and 32,400 for third and subsequent years. Amounts shown are investments in credit funds needed each year to provide such credit assuming 100% annual repayment.

(10)

1978	_____ \$	50,240
1979	_____	100,480
1980	_____	192,080
1981	_____	<u>183,440</u>
		526,240

The methods by which these estimates have been computed are the following:

1. Salaries have been computed on the basis of the following schedule provided by AVV: 1/

Position	Monthly salary	Average No. of Settlers (families) served
Encadreur (extentionist)	CFA 25,000	25
Animatrice (female extentionist)	25,000	100
Enqueteur (data gatherer)	25,000	100
Infirmier (nurse)	30,000	150
Chef de bloc (block leader)	35,000	120
Chef de secteur (sector leader)	50,000	300

2. Operating and overhead costs associated with administration of the settler villages cannot be precisely calculated. Direct costs vary and others are costs of AVV central and regional offices, many of which cannot be allocated with precision among settlement, research, and other activities.

We have used a factor of 100% of salary cost, which we believe fairly covers direct costs as well as making adequate provision for the marginal increment to AVV central and regional office costs exclusive of expatriate salaries and maintenance costs of expatriate staff. Essentially, this may

1/ these figures tend to vary somewhat according to AVV source but without significant differences in overall cost.

*What about goods*

be viewed as an AID contribution to overall administrative expenses of AVV, which will also be supported by contributions from GOUV and other donors.

3. Short-term credit has been estimated at the level currently recommended by AVV in terms of 10,800 F CFA for two hectares to be cultivated by a settler family in the first year, an increment of 10,800 F CFA for two additional hectares to be added in the second year, and a further increment of 10,800 F CFA for a final two hectares to be added in the third year. The assumption is made that all loans will be recuperated in full and available for lending in subsequent years (or that new loans to a farmer will be reduced by the amount by which he is delinquent). It is recognized that bad harvests in one or more years may make this unrealistic. The possible need to meet this contingency is one of the purposes of the contingency funds provided in this project.

*Is this worth the planning*

4. Medium-term credit is estimated at the amount currently recommended by AVV in 1976 CFA francs for the purchase of a team of oxen and related equipment.

While, for purposes of this PRP, costs are calculated in terms of the system of settler support now utilized by AVV, the subproject should by no means tie down the AVV to utilize funds in precisely this manner. On the contrary, the subproject should be set up with sufficient flexibility to permit and to encourage experimentation by AVV in the utilization of alternative support systems. As the figures in this appendix indicate, the current support system per settler family is expensive;

*What does this mean? what are the possibilities*

the ultimate viability of the AVV program may well depend upon finding better techniques to achieve more for less. Many observers also feel that a more flexible, less rigidly structured system of village organization and farm development would have greater possibilities of acceptance and success. The annual surveys described in Appendix II are also likely to point the way to improvements in program effectiveness.

We have not included in the above calculations any data on repayment of medium-term loans. It should be noted, however, that repayment of such loans commencing in 1982 will provide sizeable financing for AVV to support other settlers and/or to provide continuing long-term support for the 400 settlers to be assisted through this sub-project. Accordingly, even if AID should elect not to proceed with a further program to assist additional settler families, it would have left AVV in a better financial position than at the beginning to care for resettled families.

## A P P E N D I X II

### PROPOSED SUB-PROJECT TO CONDUCT SAMPLE SURVEYS TO EVALUATE ECONOMIC PROGRESS AND SOCIAL CHANGE

It is proposed that AID provide support for a system of annual sample surveys of farmers participating in AVV projects as a means of developing feed-back information to project planners and administrators with respect to the economic and social development of the participating families. Such feed-back would be intended to provide a primary tool for program evaluation and for considering improvements and modifications in the design and administration of systems of resettlement and settler support.

Among the types of information that such surveys would generate would be the following:

1. Gross production and net operating profit
2. Analysis of crop yields, costs of each input, and operating profit by principal crops per farm and per hectare.
3. Family income (in cash and kind) from the farm and also from non-farm sources.
4. Utilization of labor, both family labor and paid labor; labor sufficiency or insufficiency.
5. Farm capital and changes in capitalization
6. Patterns of land utilization
7. Production and marketing methods utilized
8. Credit utilization, impact and demand
9. Attitudes (male and female) toward village social and economic organization.
10. Indicators of rising living standards and standards of nutrition, health, and education.

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The collection through sampling of many of the types of information listed above has been previously proposed in a recent report prepared for AVV by SATEC. 1/ This report is excellent in its awareness of the importance of obtaining comprehensive data on farm accounts in order to measure the economic progress of participating farms and the primary factors that contribute to such progress or which act as restraints on greater achievement. The proposal for this subproject, therefore, can in one sense be considered as a project for the implementation of the plan outlined in the SATEC report. We consider, however, that it is essential that the SATEC proposal be modified in the following particulars:

1. To simplify and restructure the system of data gathering and to integrate it with a simultaneously conceived system of data processing and analysis. We consider this essential for cost effectiveness, compatibility of data gathering and processing sub-systems, and timely production of survey reports.

In other words the project must not bog down in excessively complex accumulation of data; it must be oriented toward the prompt production of annual evaluation reports.

2. To incorporate material on participant attitudes and cultural adaptation (female and male) to the new system of village life. The treatment of such data in conjunction with pure economic data makes possible the effective crossing of economic and sociological variables to enrich

analysis of both. For example, indicators of cultural adaptation can be 1/ Rapport de Mission, "Suivi Economique, Budget de Consommation".  
Societe d'Aide Technique et de Cooperation, Paris, August 1976

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compared with indicators (eg., size of annual income) of economic success or attitudes toward organization of village life can be compared with degree of acceptance and utilization of the agricultural technological package.

The AVV system of settler organization lends itself ideally to an effective system of sampling for several reasons:

- a) The uniformity of farm sizes and general homogeneity of economic activities within similar ecological zones makes it possible to achieve results within acceptable limits of confidence with relatively modest samples.
- b) The grouping of participants in a limited number of villages facilitates sample selection and reaching participants to be studied.
- c) The collection of considerable data by enumerators working on the project makes it possible to utilize a considerable amount of data recorded during the course of the year rather than to rely wholly on participant recall. It also makes possible effective control questions to cross-check the consistency of data gathered through the two techniques of interviewing and data recording by enumerators.

Based on experience in other countries, it should be possible to initiate collection of data during the farm year 1978, if preliminary planning can begin about mid-1977, and to produce an initial base line report early in 1979.

The base line survey should cover a representative cross-section of all of the areas in which the program is functioning in 1978.

This could include a sampling of the initial group of 200 settlers proposed in Appendix 1 to be financed by AID under another subproject. It would, however, include primarily groups financed by other donors, including groups established for a number of years. In succeeding years the sample can be extended or modified to include newer groups. As it may not be fruitful to re-survey every category of settler every year, a staggered system of re-survey might be instituted.

For purposes of the base line survey a sample of about 250 would be adequate for a cross-section of AVV villages and this probably would not need to be enlarged in subsequent surveys beyond 350 to 400. (Increases in number of settlers will not require for statistical purposes proportionate increases in size of sample.) In addition, we would recommend inclusion in the sample of a control group of 100 to 150 farmers in traditional villages in AVV areas for purposes of comparison and contrast. (Traditional could include both long-established villages and any settlements that might be established through spontaneous migration.)

With respect to data processing we have ascertained that computer facilities exist in CENATRIIN (Centre National pour le Traitement de l'Information) in Ouagadougou with adequate unutilized computer time (IBM 370) to accommodate the project. The existing staff of computer programmers (expatriates and Voltaics) will be able to do the requisite programming if provided with clear and detailed specifications for the work and adequate lead time. Since the computer program can be prepared

simultaneously with data gathering, there should be no difficulty with proper planning in the prompt and timely completion of survey reports.

the level of effort for this project would be approximately as follows:

One full-time expatriate technician for four years to give continuity to the work and provide in-service training to local personnel	\$320,000
One short-term survey designer/analyst to coordinate system design and participate at critical stages, including preparation of specifications for computer processing	\$ 60,000
Keypunching, computer programming and computer processing	\$ 50,000
Voltaic counterparts, interviewers, data gatherers, editors, and statistical assistants, two with professional qualifications; balance secondary school graduates <u>1/</u>	\$ 40,000
Local printing, transportation, other costs	\$ 30,000
	<hr/>
TOTAL	\$500,000

1/ Some of these personnel are already on AVV staff. In effect, therefore, this sub-project would be funding existing expenses.

It should be noted that the program outlined above can have significant development values over and above immediate project objectives. Perhaps most important is the extensive training of voltaics in surveying and computer techniques related to rural development. The computer program could be adapted, should it be desired at some point, to provide a similar service for evaluating small farmer programs outside AVV territory, for example, the ORD programs.

It is particularly important to note that the survey system here proposed can also assist in providing data for monitoring the program

of the Oncho Areas Village Development Fund project and its impact on family income, satisfaction with village life, etc. The need for improvements in the AVV statistical system has been dealt with on pages 39-41 of the project paper for that project dated June 11, 1976. That project paper proposes certain inputs for the AVV information system at a cost of \$184,000 plus additional expenditure for training.

In the event both of these projects are approved, it is extremely important that they be rationalized. By dealing jointly with the statistical requirements of the two projects, more effective results should be achievable at significant cost savings.

A P P E N D I X III

ROAD BUILDING AND HEAVY AGRICULTURAL EQUIPMENT COSTS

*To do what*

**Road Building:**

2 - Grader/Maintainers	\$352,000
3 - Caterpillar Tractors (2-D6 & 1-D7) w/dozers and rippers	352,000
1 - Leader, tractor mounted	110,000
1. tractor (rubber-tired) and Road Mollar	26,400
5 - Dump Trucks (12-ton)	176,000
1 - Tank truck (water), w/sprinkler	17,600
1 - Pickup Truck, liaison (4 wd)	6,600
Spare Parts	103,400

**Total \$1,144,000**

**Heavy Agricultural:**

*To do what*

2 - Caterpillar Tractors (D-6 and D-7) w/dozers and rippers	\$241,500
1 - Rome Plow (Cat. No. TRC-1-D6)	18,000
1 - Machinery Transport Truck (Tractor-trailer, low boy)	110,000
1 - Truck (tractor-trailer van) equipped for mobile maintenance shop for heavy equipment	110,000
1 - Pickup Truck, liaison (4wd)	6,600
1 - Equipment Service Truck (fuel, greases, etc.)	22,000
Spare Parts & Service Equipment	180,500

**Total \$ 688,600**

A P P E N D I X    I V  
S O C I A L        S O U N D N E S S        A N A L Y S I S

The movement of people is not uncommon among the Voltaics, who have traditionally migrated seasonally for agricultural work or for several years to earn wages in varied occupations. The resettlement of the river valleys by migrants from agriculturally depleted and over-crowded areas, therefore, has positive implications in that it would provide opportunity in new settlements for many who now seek employment outside of Upper Volta and at the same time provide a greater agricultural opportunity for those remaining in older settled areas. However, given the present plans for recruitment, ethnic selection of potential settlers, choice of areas to be settled, and restrictions on spontaneous migration, there are many potential problem areas in the program as presently constituted that have not yet been sufficiently examined.

Some problems are rooted in the very act of removing individuals or family groups permanently from their social group or village. In some quarters of AVV this separation is looked upon as a major motivating force for program success on the hypothesis that when ties are cut with traditional rights and obligations, economic incentive increases and the new settler must make a success or lose face. There are indications, however, that in the newly settled villages there are feelings of loneliness and isolation, at least among the women, and that given the opportunity during respites in the agricultural work cycle or the accumulation of sufficient money, the new settlers return "home" as often as possible.

The areas to which new settlers have been or are to be moved, because of their remoteness and isolation, have few, if any, established social and economic institutions, and those that do exist may be alien to the new arrivals. There tend to be scant market networks so necessary to economic and social well-being in Upper Volta.

The focus of AVV activities at the present time—based on technical studies, with some sociological studies—is directed toward resettling people on AVV land as quickly as staff and budget permit. The question of land rights is ambiguous. AVV has jurisdiction over all the land in its territories along the rivers, but it is not clear how traditional ethnic group rights will be dealt with. The reasons for the out-migration from the valleys in the first place are not thoroughly understood. There is no doubt that the presence of onchocerciasis was a major reason, but the valleys were apparently never completely abandoned. Other reasons for abandonment have been cited which may have significance for successful resettlement of the area. For instance, in the Bougouriba region it is said that the local people fled to avoid forcible recruitment by the Vichy French authorities in World War II for military service or the building of a fort to defend the borders of Upper Volta from British-held Gold Coast. Other regions of brush and forest may have other unpleasant associations (i.e., areas where people were kidnapped during the slave era) known throughout the traditional communications system which would have a bearing on the successful and permanent resettlement of the areas.

The relationship between the various ethnic groups within the specific regions to be settled and the implications of introducing new groups into the regions have not been fully examined. It is recognized that hostility to outsiders exists among one large group in the southwest. It is not known whether the potential new settlers are aware of the hostilities and whether or not such an awareness would prevent their voluntarily settling or remaining there.

The evolution of leadership in the new villages is not clear. The AVV regards the AVV-trained and provided extension worker, at least initially, as the leader of the AVV-designed village program. He cannot, however, play the role of village leader in the fullest sense because he is often a stranger and furthermore is perceived as one of "them", an outsider or government agent—which in many traditional societies means he is suspect. The success of AVV will depend to a great extent upon its ability to work effectively with village leadership that represents the villagers themselves.

Another area of speculation is that of recruitment. In principle, only volunteers are recruited after a campaign involving village meetings and consultations with local leaders. Traditional social systems tend to restrict the concept of total individual freedom of choice. The response to the call for volunteers has variously been described as excellent, good, or inadequate. Whether village leadership is requested to provide a quota has not been made clear. The ethics and efficiency of an induced quota system are questionable—

*at least  
Can we support it*

Despite the hardship and suffering imposed by the Sahelian drought, there is plentiful evidence that affected traditional groups coped admirably and were able to take advantage of what little resources remained through migration or modification of agricultural practices. There is the chance that during a similar occurrence an overstructured "new" system relying upon government support would not adapt as simply or as easily as the smaller more manageable traditional group—creating in fact just the reverse of the AVV goal of self-sufficiency or a "mentalite d'assistance" generated in some places by the many gifts and grants to the drought stricken regions from around the world.

The condition of women in the new settlements has been touched upon in reports on their feelings of isolation. These problems might be further intensified if women lack ready markets for their farm and handicraft goods. An AID-financed study is currently being conducted to discern the felt needs and/or benefits of the AVV program for women.

Another major area requiring examination is the position of the Fulani (Foul) herdsmen and their relation to sedentary farmers. Traditionally, there have developed systems of mutual support services and commodities, i.e., herding services and animal traction in return for food and other commodities. The Fulani are an integral part of life in most of Upper Volta and it is to the mutual advantage of both Fulani and sedentary farmers that their relationship be understood and, if necessary, AVV schemes adapted to accommodate such relationships.

### Spread Effect

The present AVV program assumes that sufficient impetus will be generated to provide self-sustaining momentum which will enable AVV, over a period of time, to phase out its support to the farmers. However, immediate or short-term spread effect from AVV village demonstrations of success is limited from the start by the exclusiveness of AVV programs. Only new settlers on AVV land will have access to the land, support services, commodities and credit. Neighboring villages on or off AVV land will have only limited access to such resources through the ORD's which do not usually have resources comparable to AVV. Spontaneous migrants are in an ambiguous position. AVV has not resolved its policies toward such migrants, who, if integrated, might become a positive force in the programs or, if ignored, could become a disruptive force. Indeed, a rigorous policy of excluding spontaneous migrants could significantly compromise the potential benefits to be gained in Upper Volta from the onchocerciasis control program.

### Equity

It would appear that each family in the AVV program will be treated alike. Given present organization of the program each farm family is given equal amounts of land, commodities, credit and services. The opportunity for vested traditional interests of large commercial groups to exploit areas or segments of the program would appear to be unlikely, given the fact that the land is under the control of AVV and all activities within the area of Avv are under the surveillance of AVV.

Summary

In sum, potential benefits for the AVV program for settlers and Upper Volta as a whole are great. However, for maximum economic and social benefit the program must take into account existing beliefs, practices, and institutions among settlers and potential settlers, including ethnic and neighborhood rivalries. Once such factors are clearly understood through pilot studies providing necessary feedback, the program can be modified, if necessary, to induce positive results.

LOGICAL FRAMEWORK

**NARRATIVE SUMMARY**

**OBJECTIVELY VERIFIABLE INDICATORS:**

**GOAL**

Improve the social and economic well-being of low-income farmers through resettlement in villages located in areas of Upper Volta recently freed of the onchocerciasis vector and otherwise utilize these areas to the best national advantage through reforestation, etc.

**1. Project effects on:**

- Net income of resettlement families
- Agricultural production of families
- Nutrition of families
- Health of families
- Social adaptation of families to new settlements
- Development of forest resources

**PURPOSE**

Strengthen AVV capacity to plan, select & prepare lands for development and to conduct successful resettlement operations and systems of settler support.

**END OF PROJECT STATUS**

1. Studies and research projects have produced data which is used in selecting and preparing land for resettlement.
2. AVV has established effectively staffed organizational units trained and equipped for effective planning and organization of village and other developments, equipment maintenance and operation, production techniques and agricultural extension.
3. Necessary equipment provided for land and road use.

**Outputs**

**1. Technical training completed.**

**1. Training**

- a. Every AVV staff member's task analyzed and job description reviewed for training needs
- b. Appropriate training given to each member
- c. All equipment operators and maintenance personnel have received on-the-job training
- d. One AVV person trained (study tour) in new crop techniques and production technology
- e. Literacy trainers have undergone training.

**MEANS OF VERIFICATION**

**ASSUMPTIONS**

1. Sample Survey on Economic Progress and Social Change
2. Project statistics (eg., number trees planted)

1. The progress being made in freeing the area of onchocerciasis will continue satisfactorily.
2. A sufficient number of people will be prepared to resettle in the vector-freed areas.

1. Review of studies and research reports and assessment of their pertinence to the land development program; number and significance of expert recommendations accepted.
2. Sample survey on Economic Progress and Social Change
3. Project Statistics

1. Necessary services will be provided to development areas
2. Productivity projections are reliable
3. GOV and other donor support is continued at sufficient level to maintain staff and infrastructure.

1. Training
  - Sample of Management records
  - Inspection of state of equipment repair in field
  - Sample survey for indication of attitude of farmer toward agricultural and literacy training and degree of adoption of recommended agricultural techniques.

1. Voltaics with adequate background for training to assume more complicated responsibilities are available.

2. Land for at least 400 families has been properly studied, prepared for resettlement and at least 400 families settled at end of two years.

3. Research and Studies completed.

4. Trial Farm established and staffed.

2. 90% of families are current with their debt repayments

80% have acquired a pair of oxen and are cultivating the allotted number of acres according to the AVV plan for their zone.

90% of men and 90% of women consider that their economic and social well-being has improved as result of resettlement.

3. Final reports of studies prepared and reviewed.

4. Inspection of sites

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#### INPUTS

1. Provide Technical Assistance

2. Provide commodities

3. Construction costs

4. Budgetary support given to AVV

5. Funds for aerial photography and cartography

1. Approximately 150 person/months at total cost of \$1,174,000 provided.

2. Exploration equipment, trial farm equipment training, roadbuilding, agriculture and communications equipment, and vehicles at life of project cost of nearly \$2.3 million purchased and in use.

3. Facilities for training centers at Ouagadougou and Mogtedo and structures for trial farms at Bougouriba Valley constructed and in use, at cost of \$178,000.

4. Salaries and services for expansion of AVV staff capacity provided at cost of nearly \$600,000.

5. Contract let for performance of work. Data used in development of land use, etc. plans.

6. AVV Agricultural Credit Fund

7. Training

6. Credit Fund increased by more than \$200,000 and this amount loaned to farmers.

7. Third country training accomplished (\$5,000) and completed.

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**MEANS OF VERIFICATION**

AVV accounting records.  
Sample survey  
Field inspection of sites

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**ASSUMPTIONS**

1. Ethnic groups will work together in integrated villages with minimum conflict.
2. Technical package provided to farmers is effective.
3. Farmer income from crops, etc., sufficient to enable him to repay debts.

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1. Management records. Completed studies.

2. Procurement records and on-site inspection.

3. On-site inspection

4. Management records

5. Review of studies completed.

6. Sample survey and accounting records.

7. Personal interview with trainee, personnel record.

Technical consultants with appropriate expertise and language skills are available when needed.  
Procurement and delivery of commodities and equipment will be on schedule.