PN-ABI-748

ADMINISTRATIVE SUMMARY
OPERATION HAUTE VALLEE II
MALI

IQC PDC-1406-07-4088-00
Work Order No. 7

by

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Prepared for:
U.S. Agency for International Development

Submitted by:

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March 1987

To: Curt Reintsma, AFR/PD

From: George Jones, AFR/SWA

Subject: An Addition to the Monitoring and Evaluation Concern of DHV

In view of the length of time this project has been involved in creating change in the farming population (1978) and the magnitude of effort ($ 20 m) an attempt should be made to quantify the changes made in farmer attitudes and behavior. The P.P. should develop a set of appropriate performance indicators which will enable the project to track the results of our actions over a period of time.

FOREWORD

The administrative summary is an attempt at reflecting the thinking of the individuals that have prepared a number of studies to be used by a design team for the preparation of Phase II of the Operation Haute Vallée (OHV) project.

The summary is based on the following studies.

Mr. Yvan Shea - Privatization Study
(Team Leader, Agribusiness Specialist)

Mr. Reginald King - Economics of Farming Systems Study
(Agricultural Economist)

Mr. Francis LeBeau - Technology Transfer Study
(Extension Agronomist)

Mr. Randolph Clark - Rural Credit Study
(Rural Credit Specialist)

Ms. Constance McCorkle - Farmers' Associations Study
(Sociologist)

We would wish to cover each and every observation or recommendation made by the different specialists. However, due to the very nature of an administrative summary, this has not been done. Consequently, the people wishing to have a more comprehensive understanding of each perspective will have to refer to the individual studies.

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LIST OF ACRONYMS

AT	Animal traction
BNDA	Banque nationale de développement agricole
CMCE	Centre malien du commerce extérieur
CMDT	Compagnie malienne des textiles
DDC	Direction du développement des coopératives
DNA	Direction nationale de l'agriculture
DNC	Direction nationale des coopératives
DRA	Direction de la recherche agricole
DSPSR	Division de la recherche sur les systèmes de production rurale
GRM	Gouvernement de la République du Mali
GV	Groupement villageois
ICRISAT	International Crops Research Institute for Semi-Arid Tropics
LER	Land equivalent ratio
NGO	Non-Governmental Organization
ODR	Organisation de développement régional
OHV	Opération Haute Vallée
OPAM	Office de produits agricoles du Mali
OPSR	Opération de protection des semences et récoltes
SAFGRAD	Semi-Arid Food Grains Research and Development
SB	Secteur de base
SMECMA	Société malienne des études et de construction de machinerie agricole
SONATAM	Société nationale de tabac et allumettes du Mali
SRCVO	Section de recherches sur les cultures vivrières et oléagineuses
TV	Ton villageois
UDPM	Union démocratique populaire malienne
UNFM	Union nationale des femmes maliennes
UNJM	Union nationale des jeunes maliens
USAID	United State Agency for International Development
VA	Association villageoise
ZER	Zone d'expansion rurale

1.0 MAJOR OBSERVATIONS AND CONSTRAINTS ON AGRICULTURAL DEVELOPMENT FROM 5 PERSPECTIVES

1.1 Farmers' Associations and Social Issues Perspective

1.1.1 The ton villageois (TV) concept

The TV is a traditional concept for group social action, that is grounded on the Tons. A single village has a variety of such groups: a women's ton, a young peoples' ton, a village-wide ton. Most of the activities of those Tons are centered on agricultural labors, but they also have other goals such as public works, house raising "bees", women's contributions of foodstuff to community events, etc... It should be remembered that the village chief always heads up the village-wide ton.

During the Keita regime, the Ton developed the communal grain fields which the regime encouraged, while at the same time trying to eliminate merchant networks and favor federations of rural co-operatives. Since 1968, the Traore administration, without reneging the past, has timidly implemented a program of liberalization and privatization and made numerous efforts for the development of farmers' associations, of which CMDT is the most successful.

There is now in Mali a legal trust towards the legalization of Tons Villageois as base-level rural development organizations. Tons villageois are defined as village associations founded upon solidarity and voluntarism, and aiming at economic, social and cultural development.

The development of TV in the OHV zone would imply a much diminished role for OHV. The TV would be responsible for credit extension and recuperation, and handle the individual farmers' credit needs, a major change from the current OHV direct contact with the farmer. This would permit the TV to extend credit to every type of producer, and not only to the cotton and tobacco growers like OHV is doing at the moment.

1.1.2 Three types of village organizations

Three types of social organizations were studied in three different villages located in the 1000-1200 mm isobyte. The "Clans" lie at the apex of, and structure much of the social and economic life within the Bambara and Malinke communities. The dominant ton traditionally held the rights to the village chieftainship but in two of the villages, Sugula and Sokurani, the chieftainship is vested in the oldest non-casted male. The principal crops of the three villages are sorghum, millet, maize along with groundnuts and cotton. Yam is also important in Digan just like rice and tobacco are in Sokurani.

It must be remembered that in Sugula, sorghum is still marketed in some quantity. On accounts of a vigorous push from OHV, cotton is the primary cash carner in Sugula and also in Sokurani to a certain extent. Yam is predominant in Digan.

Sugula, a success story

Sugula has a particularly dynamic history of social action, based to a large extent on its internal homogeneity. This is well shown by the fact that when the communal cereal fields developed during the Keita regime were to be abandoned under the new regime, the Sugulans kept on operating them. A good deal of the dynamism is also the result of the extraordinary efforts of one man to institute a functional literacy program in the village. This program permitted to have older men become literate and therefore avoid tension with literate young men. These barriers resulting from age-graded societies would have been an even bigger problem than the very establishment of a well-functioning TV. At their own initiative, Sugulans formed a Surveillance Committee for their TV. The committee was composed of respected elders in addition to people like the school director, the ZER chief, etc.. There are also two other committees; the Management Committee and the Council of Accounts Committee. This structure, along with the effort on literacy, clearly shows a serious and successful effort to grapple directly and constructively with potentially divisive and socio-culturally threathening innovations associated with TV establishment. There are many incidents which clearly show the dynamism of the Sugulans. One of the results of all this is that the TV has become an OHV pet, a state of affairs that has greatly disturbed the leaders. The women's group in Sugula is also particularly dynamic when compared to the two other villages studied.

Digan: An example of the vast majority of villages:

This is one village similar to the majority with no TV and with little aid from outside agencies. Most of its community work has been achieved on its own at the instigation of the traditional leadership. The Diganims are wishing hard for a TV which, they say, would bring them "just like in Sugula, big warehouses, village stores, many profits from selling their own produce and a literacy center". They want tools and fertilizers for which they need to obtain credit. Just like in Sugula, they say that by being a TV, the group gains bargaining power and credit becomes available, which is not the case that easily for an individual. Only those growing cotton in Digan can get credit, while with a group, credit is available to all. Some of the problems facing Digan in obtaining the status of a TV is its wrangle over the chieftainship, the fact that their inputs are not always used for cotton and a poor level of literacy. OHV should have tried to encourage and help Digan in achieving its goal of becoming a TV; unfortunately, it has not done so.

Sokurani, a failed TV ?

Group and individual interviews indicated the enthusiasm of the community in relation to the benefits the TV has brought to the village. There are many examples of the TV dynamism and both sociologically and culturally, Sokurani's TV qualifies as a great success.

However, Sokurani failed to repay BNDA for its group agricultural credit. The fault seems to lie to a large extent on the OHV mismanagement. Farm inputs were delivered late and the farmers had to change their production plans; when the inputs were delivered, it turned out that their quantities exceeded what was needed at that time. Nevertheless, OHV held Sokuranians liable for all they had ordered. Subsequent credit was refused but the decision was then reversed after a spectacular show of social dynamism through their leaders making representations to the OHV in Bamako.

In summary, various lessons can be learned from the three studies. Eventhough Sugula is a very successful TV, it cannot be repeated in a great number of replicates for it is too largely based on extensive support from outside help. The majority of OHV villages similar to Digan favor the TV concept. Despite the fact that these villages are less than perfect on a socio-organizational basis and that they may resist cotton growing, they should be helped in becoming TV when they perceive this goal as highly desirable. It must also be remembered that the enthusiasm expressed by organizations can at time be vitiated by bureaucratic inefficiencies and inflexibilities.

1.1.3 The farmers' opinion on the institutions and their own organizations

Before the drought, the patterns of consumption and marketing of crops were different from those which prevail now. Cotton in those days was not condidered as a profitable crops and emphasis was placed instead on large scale production and sale of peanuts. Millet and sorghum were produced in large quantities and considerable amounts were sold to OPAM and private traders. Peanuts do not have anymore a secure market like that of cotton. Peanuts are grown with difficulty during dry years and they are incompatible with the growing of cotton. Farmers say that sorghum/millet would be their first choice if it was possible to obtain agricultural assistance. Some thought should be given here to the hypothesis that food aid has taken the place of the Malian farmer, disrupted the market and, rather than being a welcomed temporary assistance, turned into a major competitor for the Malian farmers. Any organization which will want to increase the total output of the OHV region in crops will have to consider the potential role of mechanization to increase the output by farmer.

Farmers perceive development agencies through what they concretely benefit from them. In the case of OHV, the major benefits which the farmers recognize is the provision of fertilizers, followed by the procurement of agricultural equipment and the obtention of accrued profits from the sale of cotton. Extension is mentioned by only 10% of the farmers, which seems to corroborate the opinion of the extension specialist. It also supports the privatization study, when it says that most of the activities of OHV are on cotton and that little is done on cereals.

As mentioned earlier, Digan represents the majority of the villages in the OHV area and the farmers there would not hesitate in saying, in their African wisdom, that they cannot ask OHV to do more for them because they think that it is currently doing nothing for them.

The interviews showed that a great deal of the dissatisfaction is based on the behavior and attitude of OHV agents with regard to their work and their relationship with the farmers. Farmers will specifically indicate that:

1. There is a lack of trust between the extension agents and the farmers (under-evaluation of cotton sold, fraudulent levies on the inputs provided to the farmers).

2. Some farmers are not visited by the extension agents.

3. Lack of flexibility in the collection of credit.

4. Rudeness in the talk and gifts seaking on the part of the extension agent.

The main areas where change is desired in OHV activity are: the supply delivery and distribution of equipment and agricultural inputs; the blacksmith's program; credit reimbursement; support for community infrastructure projects; and credit extension, in that order. One thing although which is frequently mentionned in favor of OHV is the help it has provided to village communities with the infrastructure project. This help has been well above the farmers' expectations.

The TV, as perceived by the farmers, should be able to pursue multiple objectives; but for the moment, the real priorities should be on satisfying the equipment and agricultural production needs and secondly on strengthening the social structure within the community. The farmers in general are very enthusiastic for the TV and its capacity to mobilize energies and coordinate actions of other village organizations (UNJM, UDPM, UNFM, etc). The perception of the farmers of the TV might not be that clear however when we consider that they have difficulty in identifying the officers of their TV.

All the interviewees have agreed that the TV is capable of replacing OHV in the management of most of its operations, including credit, and that the TV would put more emphasis on more essential needs like the timely supply of agricultural inputs and realistical changes in the blacksmith's program.

From the research done in the three villages, some lessons can be drawn:

1. The TV is an appropriate framework and a potential instrument for the implementation of a policy of self-development of village communities.

2. The present structure of the TV does not seem to be well adapted to the traditions and mentality of rural communities, and an effort to reconceptualize and reformulate this structure seems to be required.

3. For the TV to increase its responsibilities and expand its functions, training programs beyond traditional objectives of functional literacy should be undertaken and sustained.

4. The TV has multiple purposes which are not based on the sex of its beneficiaries.

1.2 Rural Credit or Institutional Perspectives

One of the major findings of these studies is that farmer groups with a cohesive base, both in Mali and other countries, can be ideal mechanisms for chanelling rural credit to small farmers. In the OHV zone, the concept of developing such village groups meets the wish of the majority of villagers and the policy requirements of Government and the BNDA. As village groups develop as commercial and economic production units in future years, they should be in a better position to deal directly with the private sector.

1.2.1 Credit policies and minimum requirements from an invidivual farmer or a village association

One of the most important findings, is that credit from OHV is restricted to cotton and tobacco growers, a policy which is in sharp contrast with the USAID project objectives of promoting cereal production. The improved performance of the OHV credit program since 1982/83 has been based on:

1. The establishment of a simple but clearly defined lending policy

2. The establishment of simple but effective operational procedures

3. The establishment of a functional loan accounting and information system

4. The concentration of lending to farmers who are in the business of growing commercially viable crops

5. The refusal to grant new loans to farmers who have not repaid a minimum of 90% of previous loan instalments.

OHV is making loans to cotton and tobacco producers, and even to the people who are defaulting seriously. No livestock loans have been made since 1985.

OHV intends to gradually shift the loan responsibility to the BNDA.

The percentage of loan repayments received against current loan repayments due has been in the last four years starting with 1982/1983; 77%, 74%, 79% and 84%. When everything is considered, the loan fund at OHV has been runned down 11.5% per year since 1982/1983. OHV has been charging 7.5% commission while it should have been charging 19% to maintain the integrity of the fund.

A good part of the cost of funds is the misappropriation of farm inputs by OHV field staff which is valued by the rural credit expert at 49 million CFA since 1982/1983, an evaluation which the privatization specialist considers grossly underestimated.

BNDA has a very strict credit policy by which no further credit advances are made to a farmer until all his arrears on previous debts are repaid. This policy, together with a strong emphasis on dealing with well-structured eventhough at time informal farmers' associations, has kept the recovery rate of BNDA at 98%. BNDA in the OHV terrritory is lending through village groups under a lending agreement with OHV. Eventhough the bank has a policy of decentralization, it does not open an agency if it has less than 16 million CFA interest revenue, or 5 million CFA for a bureau. By taking over the loans directly granted through OHV and the possible expanded credit program, BNDA could open bureaux in Kati and Ouellessebougou as soon as 1987/88 and by 1991/92 in Boucoumana, Kongaba, Kolikoro. It has been suggested by the agricultural economist that a project for mobile banks be experienced in the OHV territory. This could probably be tied in with the findings of the rural credit specialist. OHV and BNDA, in their joint agreement for credit to the village groups, have established the following qualification criteria:

1. They demonstrate a high degree of internal cohesion.

2. They have no outstanding debts with OHV.

3. They have a minimum number of functional literates to keep necessary credit records (2 persons are considered adequate).

4. Be 95% self-sufficient in village food production.

Additional qualifications that are not required but are proposed for consideration are as follows:

1. That the village forms an effective loans committee to control all village group credit activity.

2. That the village has reasonable all year round access by road.

3. That the village group is required to construct a simple "magasin" for holding input stocks.

1.2.2. Potential credit absorption in the OHV territory

From the findings of the study and the data available only two major dryland crops in the OHV zone seem to justify credit for fertilizers and other inputs: cotton and maize, although it should be stressed out that maize is particularly vulnerable to drought and that, as indicated in the economic report, the loss in that production can be pretty high.

Credit for cotton production will probably not be increasing, but remain the same. Such is not the case with maize eventhough the credit absorption for this cereal is hard to predict. However, eventhough there is stagnation in cotton production, the sales of fertilizers are still increasing which could be an indicator that maize production could be increasing; fertilizers for maize will be increasing at an average of 12% per year for the coming years. Farm machinery is in high demand according to both the rural credit and sociology specialists; but if there are not more sales it is because SMECMA, the "Société malienne des études et de construction de matériel agricole", for various reasons is not able to respond to the local demand.

Animal traction (AT) together with associated equipment are very profitable to the farmer, only if they permit an increase of the area under cultivation. Credit for AT should be made available again, along with a program for animal health and animal insurance which would protect investment. The potential for credit for AT is difficult to estimate, but one thing is sure and that is that the credit should be made available to the farmers who have no AT at the moment before the ones who want to get additional AT.

There seems to exist a potential for an additional 10,000 sets of ox-drawn equipment in the OHV territory. Eventhough the credit program for AT has been virtually cancelled, many farmers have equipped themselves with AT.

In summary, there are 4 factors used for estimating future credit absorption rates over the next 5 years:

- No increase from the growing of cotton.

- Fertilizer intake will increase by 12% on account of maize.

- Loans for draft oxen and equipment will be taken at the rate of 50 units in 1987/88 and 50 per year for the following years.

- 250 units of ox-drawn equipment will be taken on credit each year.

By 1991/92, all rural credit in the zone will probably be distributed by BNDA with OHV having phased out of rural credit. BNDA should study a program of credit which will also account for the cash flow shortage of numerous farmers at the end of the cropping and beginning of the harvesting seasons. This credit is at the moment provided by cereal merchants with an effect of depressing the price to farmers for these cereals with which they repay those temporary loans. The credit program should incorporate a facet of on-farm storage.

All of the above considerations will mean a credit absorption in the next years of the following magnitude (,000 CFA):

	Total Value of loans	Animal Repayments in Capital	Increase in Credit Investment
1986/87	372,592	304,500	68,092
1987/88	410,358	342,173	68,185
1988/89	448,123	382,612	65,511
1989/90	485,889	425,817	60,072
1990/91	408,800	469,289	54,325

1.2.3 **Requirements and implications for credit responsibilities to be transferred to farmers' associations or BNDA**

The transfer of credit responsibility from OHV to the BNDA and TV is an official policy from the government of Mali which raises some observations.

One of the first observations or preoccupations is that the TV is probably less efficient and dynamic than the VA which most of the time is administered by young farmers. These appear to be less inclined to confuse agricultural objectives with all other sorts of socio-cultural activities than the other farmers or traditional leaders. This opinion is in contradiction, to a certain extent, with the opinion of the sociologist who says that a TV, to be successful, needs a general consensus between all its age groups and that numerous problems had appeared in the past where the TV was not respectful of a social organization giving preminence to the elders.

The DNC (Direction nationale des coopératives) considers that the VA is only a step in the formation of a TV. The main advantage of the TV is that it is a broader social base respectful of the traditional organization of authority in Mali. On that basis the government has declared that the TV could be considered a legal entity.

However, BNDA does not require that credit be granted only to TV; it can be granted to any GV as long as the Bank is satisfied with the solidarity of the group. One of the impediments to the rapid development of group credit is literacy and numeracy at the village level.

Different studies and programs should be performed by the USAID technical assistance so as to better articulate the takeover by GV or TV and BNDA of credit responsibilities from the OHV.

After the takeover by BNDA, the credit will be administered through a senior manager assisted by credit agents from bureaux developed at the rythm previously described. OHV, through its base sector agent, will retain some credit responsibilities of an advisory nature.

1.2.4 **Possible involvement of a Federation of Farmers' Associations, and participation of the private sector**

A federation of TV or VA should be the ultimate objective, but it should be remembered that any attempt to accelerate this development could have a damaging effect upon the strong support that exists at village level for the group concept.

The DNC is fully aware of this and has clearly indicated that such is not the government policy. The DNC will keep on playing a training role through the ODR who will remain the responsible body for factual training.

From the point of view of the rural credit specialist, the participation of the private sector in rural credit is not to be encouraged, whether it be through input traders or traders dealing in grains, because experience has proved that:

- They do not have development goals

- There is a danger that monopoly from traders at village level could bring about exploitive interest rates, and that competition between traders could depress the profitability of the operations.

- The traders also lack support services. The traders very frankly agree to this. However, they point out that with the liberalisation of trade and the scaling down of the government sector, more technicians will be available to be employed by the private sector.

- There is a lack of supervision on loan or credit administration which could bring about important write-offs, resulting from the erratic presence of the traders in the field of rural credit.

However, it must be remembered that traders are known to provide a quick and convenient service; they are close at hand and use simple information systems.

1.2.5 Credit for cash and food crop production with an acceptable degree of risk

Every unit of credit should produce a twofold increase in the gross margin return. This seems a very simplistic approach but it usually works. It must also be remembered that farmers are good judges on this and that they will refuse new technology and credit unless they make a large impact upon their level of income.

In summary, the important rules for credit institutions in minimizing risks to both themselves and the farmers are:

- Lend only for types of production where the loan investment will make a substantial impact on gross margin returns.

- Risks increase considerably when lending to small farmers for livestock, irrigation and in general anything other than seasonal dryland crop.

- Place staff of the right calibre at the field level.

- Keep application and processing of credit simple.

- Repayment schedule should be flexible and adapted to the farmer's needs.

- Control and discipline must be applied to defaulters by cutting of credit.

- Continuity of service is important.

Finally, it should be stressed that rural credit should never be used to promote technologies that have not been fully tried and tested. This technique can also result in farmers adopting the view that credit is a gift from the government.

1.2.6 Credit and irrigation

Trough experience, managers of rural credit institutions have realized that the wishful thinking of farm economists, when it comes to irrigation, has very often led to important economic difficulties.

This situation is too often the case and eventhough the OHV zone has a good potential for the development of small pump irrigation schemes for the production of vegetables, credit for such projets should be handled very cautiously by experts, and not through the evaluation of a modestly trained extension worker.

1.3 Technology Transfer or Extension Perspective

One basic consideration in the preparation of this section of the summary is the fact that there has been no increase in productivity between 1974 and 1986 in the OHV area. The increase in the overall production has simply kept space with the population increase, with per capita production in four of the sectors adequate to meet requirements in most years.

When it comes to technology transfer, it is often observed that farmers fail to follow the better practices within the traditional production system, or even in cases where some measure of mechanization (animal traction) is practiced. Very little information exists on why this is so. Some of the speculations as to the probable reasons for such are:

- Economic considerations; like the stability of prices

- Access to inputs and equipment for non-cash crops (cotton = credit, food crops = no credit).

- Social considerations.

- Farmers' priorities and perception of values.

- Labor constraints, eventhough we believe this is not as frequent as suggested by OHV.

1.3.1. **What are the new improved technologies available for extension?**

The development of new technologies is made under the technical constraints of unreliable rainfall and poor soils. These constraints are sometimes alleviated through the use of good soil management practices. Eventhough this can be done, a farmer is still limited in his production by the area that his family unit can cultivate. The introduction of AT in this case can increase substantially the area that can be cultivated by a farming family.

A lot has been done to try to obtain a technological breakthrough around which an extension program could have been developed in the OHV area. Some of the major efforts were tried on variety improvement with the following results:

Sorghum: There has been a variety identified with a very good yield but its grain is unacceptably soft. CSM 388, an early variety on low rainfall sites, has shown significant advances and is now included in the OHV multiplication program. As to all other tests to identify superior varieties of sorghum, they have been highly disappointing.

Millet: Tests on lines by DRA/ICRISAT/Mali are disappointing with no identification of varieties showing significant increases in yield over traditional varieties.

Maize: An improved variety has been tested versus the local improved variety "Tiemantie" at eight locations during 1984/85. Other varieties were also tested during 1985/86 but no tests could justify a major program of multiplication of new varieties, eventhough some of the new varieties are promising.

Cow-Pea: The tested varieties have a far bigger yield in grains than the local varieties. However, their fodder production is a lot less than the local varieties. Fodder appears to be very important to the farmers for AT.

In summary, it is clear that based on the performance of the so called improved varieties, none has shown to be clearly superior to the local varieties in yield capacity.

In the case of cow-pea, the increase in grain yield is cancelled out through the decrease in fodder.

Fertilizers: Millet and sorghum respond little to fertilizers with a product to nutrient ratio rarely reaching 5, which is about the minimum acceptable.

Maize responds well to nitrogen with a product to nutrient ratio of 10, which makes the application of mineral fertilizers economically attractive.

Rice responds even better to fertilization with a ratio of 20.

Very limited information on the influence of phosphorous on grains is available, and no response has been observed for potassium. Potassium has shown positive responses only in the case of cotton.

There is a good increase in the yield of millet, sorghum and groundnuts when phosphate rock of Telemsi (PNT) is used, preferably in association with a crop rotation which also contributes to the yield increase.

Agronomic practices: A series of trials was made on maize, cotton and sorghum to see the effect of different methods of land preparation with and without fertilizers. They included traditional scarification by hand, scarification with light AT and plowing with AT.

Cotton responds little to different soil preparation techniques, except when fertilizers are used in coordination with either light or plowing AT. Similar results are obtained in the case of maize.

So AT increases the response of crops to fertilizers. For maize this is the case even more with light AT than with plowing AT. In the case of sorghum, tests were carried out to compose hill planting to on-line planting after plowing with and without fertilizers.

The results have shown that eventhough there has been an important increase in yield, the increase was uneconomical. In the case of millet, dry deep plowing in the seeding row and removal of stubbles followed by ridging after rains / sowing on ridges and tieing of ridges after the second weeding have increased yields significantly but not very ecohomically.

The use of improved soil management practices, including the application of manure and other types of organic matter, is usually profitable only in conjunction with other practices e.g. use of responsive varieties of crops (maize and cotton) and application of mineral fertilizers. The farmer recognizes this and applies the limited organic matter available to him on maize and cotton rather than on millet and sorghum. The use of better soil management practices is limited by the availability to the farmer of animal powered mechanical equipment. Increasing production by expanding the area cultivated is likewise limited.

Associated cropping, one of the most interesting avenues for improved agronomic practices, has given very interesting Land Equivalent Ratios (LER) such as 1.22/1.50 in the case of sorghum/cow-pea, 1.50/1.70 for millet/ groundnut, 1.49 for maize/cow-pea and 1.40 for millet/maize. An optimal system for maize/millet association with mineral fertilizers has given a LER of 1.60/1.73.

Summary

On-station research has provided a lot of useful information which has been standardized for all crops, despite the fact that many differences exist among them in the way of doing things, the equipment to be used, the ecological zones in which they grow, etc...

The major observations are:

- There are no superior varieties of crops identified around which an extension program could be designed.

- Farmers should be accompanied in their development and not led.

- A major disappointment is the little response of sorghum and millet to fertilization.

- Maize responds well and economically to fertilizers.

- Different types of soil preparation can increase yields but not much, and only if they are associated with other practices.

- One of the most promising avenues is associated crops.

- Other factors or manipulations could have some importance, but they are dependant on equipment and farm labor.

One has to conclude that many factors have to be associated for significant productivity increases, since not one single factor really comes out strong like it should be the case for a significant extension program design.

1.3.2. A few words on Agronet and irrigation

The Malian agrometeorology division has performed tests in the OHV area during the last three years. These tests are based on agroclimatological parameters from Agronet (a regional organization) which, complemented by observations by satellite on the state of vegetation, permit the issuing of a bulletin every 10 days on which agricultural works are scheduled. These tests have permitted interesting increases in yield.

Irrigation in the OHV territory is classified in five principal classes which are:

1. Rainy reason irrigation from diversion of streams with rice as the dominant crop.

2. Irrigation by complete control of water on two perimeters namely Bancoumana and Farabana. Only rice is produced, with tobacco on the higher grounds during the dry reason from water pumped from the river.

3. Flooded alluvial plains during the high water season.

4. Pump irrigation from the Niger and other streams. Used for vegetable and tobacco during the dry season.

These systems are managed mostly by private individuals in the case of pump systems for fruit, vegetable and tobacco; by TV or VA for recent irrigation development, and by OHV management in Bancoumana. In Farabana, the systems are assisted by North Korean technical staff.

USAID should limit its assistance, in the case of irrigation, only to small irrigation systems which are privately or group managed. Planning and design assistance, assistance of physical development and capital assistance could be given.

A large number of small projects would be difficult to manage for USAID. They should be given to a NGO.

1.3.3 An alternative approach to extension

Extension, eventhough it is the responsibility of the DNA, is managed and operated by OHV through its production division. That division in broken down in two subsections: irrigated crops and rainfed crops.

At the field level, there are 6 sectors, 28 "Zones d'expansion rurale" (ZER) and 141 "Secteurs de Base" (SB). The total extension staff is about 228.

The technical tools for extension are technical sheets which are based on extension themes.

The information on the technical sheets is already well known by the farmers, a fact that OHV does not seem to recognize, and which makes the sheets a very theoretical tool. The technical sheets are not followed not because of the ignorance of the farmers, but rather because of technical and social factors out of their control. Priority as to the usage of green manure and animal manure is based on traditional economics which is often ignored by the extension service.

It is clear that the farmer knows on which crops fertilizers should be used. The practice of certain technical themes is a function of the time schedule of the farmer; it has nothing to do with his ignorance. For example, in the case of sowing in lines, the farmer will agree that it is true that there is a theoretical increase in yield; however, this increase can be turned into a decrease on account of resulting late planting, for this operation requires more time.

AT is a condition to the adoption of many improved techniques. However, the credit for the purchase of the related equipment is limited to the cotton and tobacco growers. The privatization study points out that credit which was to be used for cereal production, was rather employed for cotton production and job creation at OHV.

The treatment of seeds has diminished substantially eventhough this is a cheap and very effective technique. About 50% of the improved seeds produced are for cotton.

The extension process

Frequent visits to farmers to promote techniques that they can hardly use will have little impact. To insist on such can only deteriorate the relation between the farmer and the extension agent. A more flexible approach through which the agent would respectfully try to understand the reasons of the farmers would lead to better adapted technical recommendations.

In 1982, a new extension strategy was developed based on farmers' groups rather than individual farmers. With the exception of this formation of farmers' groups, not many of the new program strategies were implemented.

In 1985, a new document on extension was prepared but once again it showed poor knowledge of the technical basis on which an extension program is to be based. In 1986, a series of documents was prepared to improve extension. These documents showed a great deal of courage and self-criticism from the part of OHV, which is a clear indication of dedication. These documents delt with personnel management, activity programming, training, supervision, etc. However, once again these documents showed the same weakness as the previous ones in that they are of a quantitative nature with little for qualitative considerations.

Little attention is given to the farmer's feedback and not enough effort is spent on diagnosis.

In summary, the fundamental reasons for lack of impact of extension are:

- The limited availability of new technologies

- The limited opportunity for farmers who do not produce readily marketable cash crops

- The limited outlook for diversification

- The low level of technical proficiency and analytical capabilities of the SB agents

- The lack of a clear understanding for the part of the extension agents of constraints and favorable factors recognized by the farmer.

An alternative approach to extension

The first step should be to pause a diagnosis on the constraints and facilitating factors as perceived by the farmers.

It is unrealistic to believe that the national policy is in concordance with the objectives of the farmers as individuals; this is why proper diagnosis should be made. The extension department should develop a strong comprehension of the rural population by becoming part of it and by accompanying it in its development, rather than trying to paternalistically lead it. It is counter-productive for extension to maintain a large field pesonnel officially working in extension but who are in fact more service-oriented in activities like inputs provision, credit provision, marketing of cotton, etc...

1.4 The Economic Perspective

1.4.1 Farming systems and their budgets

The approach adopted for this study is based on the perusing of two major sources of information:

1. A farm survey undertaken annually by OHV and that put strong emphasis on the measurement of crop areas in 1985/86.

2. The Extension Agent Operating Manual, which contains technical descriptions of the hows and whys of different crops.

The annual farm survey has for principal objectives:

1. To estimate crop areas and their associated yields

2. To study the structure of individual farms.

3. To study the level of mechanization of individual farms.

One of the big problems with that survey is that it is carried out by extension agents who are poorly qualified technically. On account of such, their inherent ability to communicate with the farmers is not used to its full potential in that survey. Nevertheless, the information gathered remains somewhat useful.

From this survey and from the Extension Agent Operating Manual, gross margin budgets were prepared for each crop. Animal traction (AT) is treated as a fixed cost because the allocation of animal labor across all farm activities can only be arbitrary at best, and perhaps misleading. Yield data were discussed with the Checchi study team extension specialist based on the somewhat inadequate data available to him.

The farm budgets presented do not represent complete farming systems, instead they portray a combination of the principal cereal crops, peanuts and cotton since minor crops are not measured in the survey. It is important to understand the possible effects on the farm of the most probable situations:

1. Effect of the adoption of OHV technical recommendations;

Farms with the largest proportion of land cultivated in millet and sorghum suffer a net income loss while farms with the highest percentage of maize gain most. The OHV technical recommendations for millet and sorghum do indicate that the application of heavy doses of fertilizer on these crops is not usually profitable except for very productive varieties. No mention is made of which improved varieties these are.

2. The effect of drought years

Yields were assumed to fall by 15% in the case of millet, sorghum and groundnuts, by 25% for cotton and 50% for maize. In this case, the picture changes in favor of the farms which still have a good proportion of their land in millet and sorghum. This may be considered to be a fairly extreme case, but it serves to demonstrate the risk involved in adopting a higher dependency on maize.

3. Changes in input prices

In order to test the net revenue sensitivity of farms to a change in input prices, the model was run with input prices raised by 10%. Given the low level of inputs used by most of the farms, the influence on net incomes is generally very small. However, farms that suffer the greatest net revenue decline also devote a larger proportion of their land to cotton, a cash crop that requires heavier input use.

The different budgets for crops appear in detail in the main study but they can be summarized under three types of conditions which are: traditional cropping, improved cropping (fertilizers, herbicides etc...., but no animal traction), and ox-traction (improved cropping with animal traction).

GROSS MARGIN FOR DIFFERENT CROPS

	TRADITIONAL	IMPROVED	OX-TRACT
Maize	52,575	82,325	98,825
Rice	40,450	140,858	170,474
Groundnut	102,700	138,140	160,940
Cotton	0	32,973	48,125
Tobacco	0	147,737	147,737
Sorghum	42,950	23,864	32,114
Millet	31,950	30,584	37,124

An attempt was made at extending the simulation model to the Operation Haute Vallée globally. One of the findings during that part of the study was that AT causes an important increase per individual exploitation of the area under cultivation for different crops:

Millet-sorghum	55%
Rice	170%
Maize	177%
Cotton	211%
Groundnuts	84%
Sorghum-Groundnuts	200%

This might be predicted especially in the case of cotton for the purchase of ox-traction does not increase the food requirements of the family but it does necessitate the generation of cash to repay loans and for the continued purchase of inputs.

COMPARISON OF OHV TECHNICAL RECOMMENDATIONS AND ACTUAL SALES

OUTPUT	UNITS	GLOBAL OHV (OHV RECOMMENDATIONS)	GLOBAL OHV (ACTUAL 85/86 SALES)
Area	ha	122,545	122,545
Yield/ha	kg		
Total Output	kg		
Price/kg	CFA		
By-products	CFA	0	0
Gross Value (CFA)		6,762,598,035	6,762,598,035
INPUTS			
Variable Costs (CFA)			
Seed		122,889,349	122,889,349
Seed	(broadcast)	29,084,650	29,084,650
Seed	(seeded)	0	0
Plants		9,200,000	9,200,000
Fertilizer	A. Phos.	12,185,400	26,605,128
	Urea	56,412,720	61,384,550
	Sup. Phos.	0	511,200
	Potas. Sul.	16,900,400	8,343,170
	Complex	176,505,000	151,515,000
Seed Dressing	Sijolan Vert	0	0
	Sijolan/gm	0	0
	Koori	2,758,521	1,156,000
Insecticide	Peprothion	157,543,320	78,640,112
	Azodrin	1,891,750	1,891,750
Fungicide	Dithane	331,200	210,000
Herbicide	Cotodon	70,077,528	1,073,000
Small Tools		61,158,000	61,158,000
Total Variable Costs (CFA)		716,937,838	553,661,909
Gross Margin (CFA)		6,045,660,197	6,208,936,116
Gross Margin (CFA)/Hectare		49,334	50,667
Total Est. Cost Farm Equipment		1,533,048,460	1,533,048,460
Net Margin After Equip. Costs		4,512,611,737	4,675,887,666

1.4.2 Goods and services to the Malian farmers

According to the rural economist, there are funds in the countryside which would fully justify banking facilities; when one visits the Ouellessebougou market there are bicycles, mobylettes, pick-up trucks and lorries everywhere. The establishment of rural banks would have several benefits:

- the farm family would have a third saving strategy to add to that of grain and livestock accumulation.

- the farm family or village association would begin to build a credit worthiness.

- the nation would mobilise rural savings.

The rural credit expert agrees that the project of agencies or bureaux from the BNDA in the OHV area should be developed. However, the rural economist proposes that eventhough banks should open full service rural branches, one of the first steps could be mobile banks, an idea not new and not at all uncommon in Europe. USAID has had projects in the past where mobile banks were provided in order to test the market and establish a banking network.

Informal credit: The approach to credit adopted by OHV is that it lends on the basis of the area of cotton or tobacco that the farmer intends to grow. On this basis, recuperation rated are generally high.

Trade channels are also a major source of credit available to the farm family. Eventhough the rural credit specialist dismisses that source as risky to the trader and in the long-run to the farmer, the agricultural economist believes that one of the advantages of trader financing is that the loans are usually recovered and if they are not, it is not a drain on the public purse. Some traders voiced the criticism that banks in Mali will not take risks nor advance loans. From the agricultural economist's point of view, classical formal credit on the basis of products (cotton, tobacco) going through one marketing channel should be abolished, but there seems to be room for other facilitating actions that would allow financial capital to flow to a wide variety of investment opportunities as they arise, as in the case of maize and fruit and vegetable production.

Agricultural input supply This task is predominantly performed by OHV in its territory. The supply department arranges purchases from the suppliers, although the day to day management of the inputs storage and sale is the responsibility of the Credit Section.

Fertilizers: The delivery of fertilizers is very often erratic which makes their application in relation to the growing calendar not always appropriate. Credit for fertilizers is limited to the growing of cotton and tobacco. This is the case despite the fact that maize gives a much more important gross margin than cotton on the basis of the current prices, and that the Malian official policy aims at attaining self-sufficiency in food crops.

Seeds supply: All the seed program seems to be functioning poorly: the material to be multiplied is poor, bureaucracy is heavy and the planning is inadequate.

Farm machinery: plows, multiple tool bars cultivators, carts and seeders are purchased by OHV from the "Société malienne de construction de matériel agricole" (SMECMA). SMECMA is the privileged manufacturer of OHV, being a state enterprise. The big problem is that SMECMA is irregular in its production of farm machinery and does not manufacture enough to meet the demand. It is also forced to sell under costs, which has depleted its working capital and made it enter into an impossible situation of having to fabricate for an increasing demand with less and less money.

Insecticides, fungicides and herbicides: These products are furnished by the OPSR (Operation de protection des semences et récoltes). The OPSR is supposed to be rolled into a mixed society in a few months. One of the complaints that OPSR formulates against OHV, is that OHV always orders late, which is another proof of inefficacy, may be of OHV, but more probably of OPSR. We have again an example of the inefficiencies in economic activities when they are runned through central planning.

Marketing channels for the Malian farmers

The marketing of cereals in Mali is made through primary buyers who collect at the level of the village or rural markets. The next major group consists of wholesalers and semi-wholesalers who are usually based in the urban centres. Finally, the last group is the retailers (most are women) who are by far the largest category of market operators. It has been found that the formation of prices is based on supply and demand. The studies conducted by Dembele and al found that there was no collusion among merchants and that merchants at the same level in the marketing chaim had little contact with each other. Merchants have little access to credit, so that currently the trade is impeded from time to time by the emergence of cash-flow problems. The margin return rates on cereals reveal clearly that cereal trading is very competitive. The obligation for traders to respect official prices has an unsettling effect on the market. Were official prices allowed to vary both through time and over space to reflect the costs of storage and transport, then the opportunities of investing in newer technology and achieving economies of scale would tend to further reduce marketing costs.

1.4.4 A few comments on irrigation

The situation is summarized by Dan Jenkins who has concluded that in Mali the way to go is in small pumps which he says can put more land in production and reach the largest number of farmers with the less time and money. This approach seems to have the major advantage that in the short run those investing in pumps can choose their own cropping pattern to satisfy their individual preferences and perceived market opportunities.

1.5 A Privatization Perspective

Privatization is a subject that cannot be disassociated from important ideological differences where economic development is concerned. This subject is pretty new; not much has been written on it and not many data are available. All of this makes it difficult to measure the impact of a privatization program on the economic well-being of a population.

In Mali, the social climate for privatization might not be favorable at the moment, except for a group of dynamic and emerging private businessmen. Just the same, Mali cannot afford going without the benefits of private enterprise.

1.5.1 OHV results

On the basis of the information provided to the Checchi team and of discussions held with the OHV's financial division, the general costs of OHV operations are distributed in the following fashion:

1) Cotton	82,4%
2) Tobacco	13,9%
3) Rice	2,4%
4) Legumes	0,3%
5) Cereals	1,2%

This distribution can lead to a very long discussion depending on the perspective. However, we believe that it is fairly accurate. One has to read the papers of the other specialists to realize that it is true that OHV is mainly active in cotton. This distribution is not only a distorsion of facts due to accounting procedures.

The results per activity for OHV for the years 1985/86, after redistribution of the general costs, are shown below in thousands of CFA:

(,000 CFA)	Before USAID	USAID	After USAID
1) Cotton	(120,090)	126,697	6,407
2) Tobacco	(14,031)	42,458	28,421
3) Rice	(25,591)	0	(25,591)
4) Legumes	(1,247)	0	(1,247)
5) Cereals	(1,484)	0	(1,424)
	(162,589)	169,155	(6,566)

There seems to be major losses in the management and provision of farms inputs by OHV. This could be caused by an error in the financial closing at year end for OHV but this is probably not the entire explanation. The main reasons seem to be poor management of credit, fraud, selling price, etc. These losses have an important effect on OHV financial results and must rapidly be corrected. A full explanation should be requested.

The cost of personnel amounts to 188 million CFA or 41 percent of total administration costs. Many people, including the author, believe that the salary expenses at OHV are much too high, when aligned with the results and size of the organization.

The sale of farm inputs as practiced by OHV is not viable; losses are far heavier than at CMDT where a larger proportion of costs is recovered.

1.5.2 Added value by OHV

Added or (lost) values through the OHV operations are the following:

	Cotton	Tobacco
Fertilizers	(9,216)	(22,886)
Pesticides	(1,617)	(605)
Seeds	(180)	(175)
Farm equipment	(573)	4,073
Sundry	2,035	3,332
Total for inputs	(9,551)	(16,261)
Marketing operations after administration	(12,373)	(38,896)
Total for inputs and outputs marketing	(21,924)	(54,957)

On the basis of departments, the most important one is Extension (or in French, "Vulgarisation"), which accounts for 34 percent of the total administration costs. This figure should be measured in the light of the performance of the extension service as indicated by the extension specialist in his Technology Transfer Study. In large measure, OHV seems to be a job creation organization.

1.5.3 Some considerations

Changes in farming systems will have little impact on the quantity of farm inputs, for only corn can be substituted advantageously for other cereals, and cotton does not seem to have a promising future. If cereal production were increased, there would be an important impact on the agri-business sector and even more on the overall farming community.

The agri-business sector in the OHV area is more or less in the hands of the government. Private merchants are wholesalers who find it more profitable to deal directly with ODR than to have a distribution network in a small and fragmented market.

The private business community seems very dynamic and its leaders are very articulated; one gains a lot by meeting with them. This community could be very efficient if it were given the opportunity to associate itself with the development process.

The banking system for the private agri-business community is virtually non-existent, because of the absence of a tradition in commercial lending.

Direct extension of credit by merchants to farmers is not a common practice; however, no one should have objection to it if it makes possible the provision of goods and services which otherwise would not be available. Bank intervention is not the best of things for Mali, nor for other countries. The farmers know better then anyone, most of the time, what they should do.

One of the obstacles to privatization in Mali is that a program may be designed by bureaucrats who are not very familiar with the habits of the private business sector. A greater dialogue between both sectors should be encouraged.

The Chamber of Commerce has left us with a very good impression. They should be consulted on a privatization program.

OHV needs assistance to remain viable. Eventhough privatization is an attractive prospect, it is not the answer to all problems. Just the same, from a business and economic point of view, OHV should be closed down if it cannot be rationalized rapidly or if profitable operations cannot be added to the already existing ones.

2.0 SOME RECOMMENDATIONS AND/OR PROPOSED SOLUTIONS FROM 5 PERSPECTIVES

2.1 Social organizations

In the studied villages, the farmers have stressed that there is a real need for equipment in general and for ox-traction in particular.

With respect to OHV activity, some of the changes requested by the farmers square with their essential needs—for example, more timely supply of agricultural inputs and realistic changes in the blacksmith's program.

A number of lessons can be drawn from the experiences of the studied villages. A "Ton Villageois" constitutes an appropriate framework and a potential tool for a self-development policy. The current structure of the TV would have to be reformulated, particularly at the management level. It is essential that a training program be established to help the TV's authorities take charge of their organization.

The TV, as they are perceived by the OHV, should not be forced to concentrate their production priorities on one or two crops but rather should adapt them to traditional production practices found within the OHV zone.

Villagers are unequivocal in their approval of the TV concept and the benefit most often referred to is the entente or solidarity and internal cohesion that such an association can develop within the community. Obviously, when a family is facing temporary difficulty, a social assistance function can also be performed by the Ton.

An important thing to mention is that, during the individual interviews, more than one third of the sampled farmers said they were receiving no benefits from OHV. Obviously, this feeling is especially strong among residents of the villages with no TV. However, even in Ton villages, the sentiment was expressed by some farmers that only cotton and tobacco producers derived benefits from OHV. The fact that the "Ton" has served the village so well suggests that with some assistance it should be possible for it to take charge of many of the functions presently assumed by the OHV and to do so in a more efficient and cost-effective manner.

- A program for the take-over of OHV's credit administration functions by BNDA should be prepared with technical assistance.

- A formal agreement between OHV and BNDA should be developed and job descriptions prepared for the personnel of both organizations.

- Technical assistance is needed to study the following two limiting factors to the development of the GV concept:

  - Redefinition of credit needs on the basis of all marketed production and not only on the production of cotton.

  - Measuring the degree to which illiteracy is a constraint to credit for the GV.

- A training program in credit should be prepared for the GV officers.

- The SB chiefs will have to play an active role in the functional literary program. Other resources like the Peace Corps could join in.

- If BNDA is to establish regional agencies in the OHV zone, assistance will be necessary for start-up costs and the purchase of logistical equipment like mopeds, cross-country vehicles, etc.

- BNDA should be encouraged in starting again its program for animal traction. Mortality is an important risk in this kind of loan. The feasibility of an insurance program in which the costs would be split between BNDA and GV's should be studied. The GV should be authorized to purchase the animals themselves.

- A rural credit specialist should appraise the demand for small motor pumps for legume production in the OHV area. He should prepare a set of recommendations for a credit program in that domain.

- A pre-program payment system should be developed for ongoing crops so as to support harvesting costs.

2.3 Technology Transfer

- A thorough analysis of research and on-farm tests made during the past five to six years should be made.

- A more effective approach for analyzing research results would be to review and analyse on a subject by subject basis the results of current research and relating this back to work in previous years. Such task could best be done by small groups of some four to five individuals drawn from the several research entities for different broad subject matter areas. As a first step, it is therefore recommended that a group be constituted to review the food crops research over the past five to six years. The group should be drawn from DRA and especially SRCVO, DSPSR and from ICRISAT and SAFGRAD.

- The structure of the "Fiches Techniques" (Technical Sheets) as well as the "Thèmes de Vulgarisation" (Extension Themes) should be modified to reflect the combination of factors which interact to produce better results than the sum of the individual practices. This should replace or complement the listing of individual practices on a crop by crop basis.

- The extension themes should be reduced to reflect those which can clearly impact on productivity and which are not generally known to the farmer.

- Technologies to increase maize production exist. However, access to the required inputs and materials is not sufficient and should be increased.

- Grain-legume (groundnut and cow-pea) interplantings should be encouraged to a greater degree using the recent results from research and on-farm tests.

- Production of cow-pea in association with grain crops should be increasingly focused on harvesting the cow-pea for forage purposes.

- The current focus of extension to increase production of the major crops in the OHV zone should be broadened to include promotion of activities that could improve family living and increase cash earning:

  - Production of a wide range of secondary food crops: yams, cassava, sweet potatoes, etc..

  - More attention to small ruminants as a source of cash income is needed. Increasing cow-pea production for forage would contribute to such an activity.

- Attention to soil erosion and conservation. This type of activity shows few year to year advantages, yet it is important to protect long-term soil productivity. Many simple techniques could be applied by farmers at little cost other than labor.

- It is recommended that an experiment be conducted in two or four ZERs, preferable two ZERs in each of two sectors. The object of the experiment would be to test the feasibility of carrying out all extension activities through farmer groups by a limited number of highly qualified personnel rather than through the poorly trained field agents.

2.4 Economics

- Consideration should be given to providing the banks with a source of technical and economic advice. The GRM is trying to increase investment in agriculture and industry, but the expertise needed does not reside with OHV, nor is it the appropriate body to perform this task.

- USAID should consider funding one or more mobile banks. This seems the best way to test the market prior to the establishment of permanent branches.

- USAID and GRM should investigate ways of allowing private traders to increasingly take over input supply, albeit alongside the OHV system initially. The Bamako area is an obvious place to start, since the market for inputs to horticulture is strong, evethough the market is too small to be serviced by a large bureaucratic organization.

- The grain export market should be liberalized because when cereal oversupply develops, the private traders will move produce with greater speed than state-run organizations, which must operate at official prices.

- Together with private sector exporters, USAID should investigate what other assistance the GRM should be giving to facilitate the marketing of fruit and vegetables.

- An assessment of potential small-scale irrigation works should be undertaken in the OHV zone. A second step would be the implementation of these projects, with a reasonable proportion of equity coming from the villagers themselves to strengthen their involvement.

2.5 Privatization

- An in-depth study should be made to account for the difference in the cost of fertilizers and their resale price.

- The personnel at OHV could easily be cut in half when we look at the total personnel costs.

- If OHV is to retain the same types of activities, then cotton marketing should be increased through a transfer of quota from CMDT so that the global gross margin covers the overhead costs for that activity.

- Tobacco also contributes to the global gross margin of OHV and the quantity of marketed tobacco should be increased if the operations of OHV are not to be changed.

- A private or semi-private trading organization for the purchase and storage of cereals should be developed in the OHV territory so as to create a larger demand in that area.

- The OHV budget should be equilibrated so as to spend a larger percentage of the total budget for production activities, rather than for job creation.