



CENTRE AGRO-ENTREPRISE
Mali Sustainable Economic Growth

PLAN DE TRAVAIL STRATEGIQUE DU CAE ANNEE 5
VERSION FINALE
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SECTION I

Introduction

As an implementation agency for a USAID-Mali financed project (Contract USAID No. 624-C-00-98-00012-000), CAE is one of the various partners of the Sustainable Economic Growth (SEG) Strategic Objective Team of USAID-Mali. The project officially started in July 1998 and is proposing this Work Plan for the implementation of activities in its fifth year of operation. Considered as its last Work Plan, CAE, in planning for its activities, focused on *the dissemination of results (technical and technological packages) achieved during the previous years.*

STRATEGIES FOR ACTIVITY IMPLEMENTATION

In terms of strategies for activity implementation, emphasis will be placed, as stated above, on the dissemination of the results of activities carried-out during the first four years of the Centre's existence. To this effect, priority will be given to the following:

1. Preparation and media broadcasting of sonorous materials (micro-programs and magazines) about the technical and technological packages developed about the agro-food sectors;
2. The preparation and publishing of the technical and technological newsletters;
3. The organization of consultation fora to discuss specific themes (workshops and seminars) with other organizations working in various sectors;
4. The organization of information and awareness-raising sessions for producers, transformers and merchants.

Sonorous materials that convey technical or technological information will be disseminated with support from outreach radios stations and the national television station. In order to ensure sustainability of this dissemination, government services such as the DNAMR, IER and Office du Niger will be involved in the process.

In the same purpose, a common program will be developed with the USAID Information/Communication Component to make information more available for agro-entrepreneurs through local radio stations and the World Space communication system. This collaboration will help us train about twenty local radio station animators through thematic workshops on awareness-raising, promotion and transformation issues targeting our client agro-entrepreneurs.

Our dissemination strategy for this last year of the project gives considerable importance to government services such as the DRAMRs, IER and Office du Niger. In fact, we are seeking to achieve sustainability for the activities so that the result dissemination program may be fully mastered by these technical services which should pursue these activities beyond this year, i.e., beyond the end of the CAE project.

Therefore, in order to achieve and disseminate our technical and technological packages about the agro-food sectors, as well as the preparation and dissemination of the newsletter, the contents will be subject to prior validation by IER and the DRAMRs.

Consultations on sector-specific themes through workshops and seminars as well as information and awareness-raising sessions for producers, transformers and merchants, will be conducted with government technical services. Their work schedules, objectives and planning will be integrated into our common approach before any field activities are carried-out, be it with ORTM, CESPAs, URTELS or other information dissemination organizations.

Preparatory meetings prior to animator training workshops and outreach broadcasting will be explicitly planned for in order to integrate DNAMR objectives, but also and above all, to obtain full participation from technical service directors who will play the leading roles. This will help them re-invest our approach after the closing of CAE project. Clearly, the transfer of skills between CAE and the technical services is perfectly addressed in our dissemination strategy for this year.

In addition, the closing of the project requires that discussions be held with USAID for the transfer of equipment and materials acquired for implementation of certain activities. It should be noted that since the beginning of the project in 1998, the achievement of *demonstration tests* or *pilot projects* required the acquisition of equipment and materials (warehouses, transformation and packaging equipments, etc.) which, in most cases, were made available to the beneficiaries of these demonstration tests and pilot projects. In the purpose of ensuring sustainability of the behavioral change among Malian agro-entrepreneurs achieved through these tests and pilot projects, we are proposing in *Appendix A* of this Work Plan, a *strategy for the transfer of these equipment and materials*. Mainly, it is proposed the equipment be attributed to moral or physical persons in order to ensure judicious utilization for development of the agro-food sector.

LINKAGES WITH USAID SUSTAINABLE ECONOMIC GROWTH

Results achieved by CAE are considered by the USAID SEG team as inputs to their Strategic Objective: *Increased value added in certain Economic Sectors of the National Income*. CAE's final results largely contribute to two of the five Intermediate Results (IR) of the SEG (cf. diagram 1). Hence the coherence between the SEG and CAE in terms of strategic selection of agro-food sectors to be supported.

These two IR are focused on the promotion of transformation and marketing of products in the cereal, livestock and alternative product sectors in target areas. In order to help USAID achieve these two IRs, the Centre identified nine (9) objectives called *Program Performance Measurements* (PPMs) which serve as a framework for implementation of the Centre's activities. These PPMs are grouped into five main areas, including the following :

1. Sector development ;
2. Information – Training – Communication ;
3. Support to enterprises ;
4. Agribusiness climate ;
5. Monitoring and evaluation.

CAE's Intermediate Results or activities, which are a function of each fiscal year, are distributed over the five areas stated above (cf. diagrams 2 and 3).

STRUCTURE OF THE DOCUMENT

This fifth Work Plan is composed of the following five sections :

1. Summary presentation of the activity program for the development of those sectors targeted by the project ;
2. Presentation of the work programs to support agro-enterprises (information – communication – training – business management and fund raising) ;
3. A section discussing the improvement of the agribusiness climate ;
4. Description of the implementation methods for the work program ; and
5. Description of the monitoring and evaluation systems.

SECTION II

Agro-food Sector Development

2.1 New opportunity research for cereals

Context and rationale

To date, CAE has supported the cereal sector, placing particular emphasis on product quality improvement through introduction of better performing technologies in the transformation of rice paddy, maize and the cleaning of millet and sorghum. These catalyst activities, based on the improved technological know-how and business practice, helped confirm the anchorage of CAE in terms of promotion of cost-effective investments in Malian agribusiness.

Technical and economic results achieved through the tests in these areas, encourage us to propose promoter information and orientation activities for the selection of better performing transformation technologies and processes, combined with more cost-effective marketing and policy strategies.

Thus, twenty cereal promoters relied on the Enterprise Support Service (SSE/CAE) to develop their business plans, through consulting firms registered under this sub-program of the Centre. Project documents prepared for submission to the banks on their behalf concerned investment plans for the transformation of rice paddy, maize, storage facilities and cereal marketing campaign credits. Efforts will be pursued for the promotion of project documents submitted for financing. In the case of rice, CAE supported two industrial plants, one of which is already completed with over 500 million FCFA of investment and is producing at a capacity of 25,000 tons per year.

Goal and operational objectives of the cereal program

Overall, our specific objectives remain unchanged for the promotion of target cereal products through the development of private enterprises, improvement of the technical and financial support environment and the concern for sector development through increased consultation capacity among actors. We will work to achieve this by :

- Providing agro-enterprises with reliable information about existing and potential markets, about products and cost-effective transformation processes ;
- Building management capacities among professional organizations in general and leading enterprises in particular, in such a way as to ensure their competitiveness and competitive position in new export markets ;
- Extending partnership and foster consultation among professional organizations, development programs supporting farmers in the main cereal production basins and other private sector support projects.

Therefore, through this Year 5 Work Plan, we hope to extend the scope of our substantial results in order to :

- Improve the overall quality of cereal products so as to meet internationally admitted standards for exports ;
- Refine understanding of the demand and thus, extend outlets towards sub-regional markets, in partnership with the enterprises and their professional organizations ;
- Increase the volumes of sales for transformed products ;
- Have more competitive enterprises and diversified cereal products in the markets.

Description of activities and intervention areas

Challenges and stakes

Permanent studies and analyses we conducted to identify promising sectors and record current situation confirm the existence of real opportunities to be explored and which are likely to help rapidly increase contribution of the agribusiness sector in the creation of value added for the main cereals such as rice, maize and millet.

In order to transform these opportunities into more cost-effective businesses for private enterprises, we will endeavor to alleviate persisting major constraints to the development of new markets, the modernization of transformation and marketing practices. Our sector approach helps us propose a coherent methodology to remove these constraints in the case of those products for which Mali has comparative advantages in national and sub-regional markets.

We will therefore continue to support our client enterprises in order to better control these constraints and thus reinforce their competitive advantages in the new outlets. We will maintain the development of essential activities that are already accounted for in our programs, in order to help remove the main constraints such as :

- The poor quality of cereal products in relation with essential criteria (cleanliness, grain uniformity, humidity, conditioning and packaging) ;
- Difficult access to appropriate transformation technologies (lack of information, ill-adapted options and lack of financing) ;
- Inadequate marketing practices for modern distribution (poor management of marketing costs, inadequate transportation infrastructure, poor understanding of current contractual procedures for modern marketing) ;
- Irregular access to updated information about market data (poor processing and utilization of data as well as the lack of modern telecommunication means) ;
- Low number of operators eligible to bank credits (lack of professionalism and inadequate financial capacities).

Proposed methodology

We would like to continue supporting cereal merchants to help them better promote their products by adapting these to market needs.

In this respect, we will continue to concentrate our efforts on the conformity of products offered by the transformation and marketing segments. In the production segment, we will maintain a listening mechanism and the recording of reliable information on the volumes of marketable products available in the markets. We will make efforts to improve our service delivery to entrepreneurs with industrial investment and marketing project ideas, to help them carry-out their enterprise projects in better conditions.

Through this process already engaged, we will seek to make the concerned enterprises more competitive and better prepared to create value added by putting emphasis on major activities such as :

- The development of generic promotion tools for cereal products, quality standards, and the introduction of the quality approach in the growth strategy for more active enterprises ;
- The collection and dissemination of commercial information about sub-regional opportunities ;
- The development of sub-regional markets through support and promotion mechanisms for Malian cereal exports ;
- The collection and dissemination of information about better performing appropriate technologies for clean husking processes and secondary transformation of cereals that help adapt the quality of cereal product supply to solvent demand requirement in various target markets.

Target areas and Principal Support Services

To achieve this, we will constantly provide required counseling support to reliable and more innovative operators who wish to invest and specialize in cereal product valorization and exports. The approach will be articulated and supported by our information, training and counseling support services which have a series of available tools adapted for the fields of business management, quality issues, marketing, in order to reinforce the entrepreneurial spirit for these leading promoters among our clients.

Those leading promoters, who will satisfactorily meet bank credit criteria, will be provided with opportunities to develop better business plans so as to solicit support from identified local and sub-regional funding sources. They will also receive the support needed to better manage their businesses.

We will maintain our intervention priorities as adopted under our on-going work plan, making adjustments and modulations, as needed, based on available budget resources for implementation of the operational phase. The operational contents include the following main lines:

Line I : Technology and enterprise development : *Adapting the products to consumer quality requirements through adoption of better performing technologies for rice paddy transformation.*

Principles and description of activities : Emphasis will be placed on the dissemination of the results of tests conducted by CAE and on other information that help better understand the most promising equipment and processes in terms of performance, more appropriate and adequate for the technical capacity and needs of the concerned enterprises. Counseling support will be regularly available so as to ensure competitiveness and favorable quality/price ratio.

Activities to be supported include the following :

- 1.1. To support promoters by encouraging technological innovation and transformation best practice (identification of modular equipment that are adapted to local conditions by playing the role of interface between the enterprises and the manufacturers) ;
- 1.2. To ensure technological counseling through availability of comparative analyses about investment options (preparation of technical data sheets that present solutions adapted to the context, with assistance from the network of consulting firms) ;
- 1.3. To facilitate ownership of production techniques by the transformation plants and the utilization of processes such cereal cleaning, valorization through simple husking, cereal screening and calibrating, grinding and transforming the flour into pre-cooked products through on-site technical assistance to adopt best practice and respect quality procedures, the organization of business practice sessions and training sessions to introduce quality control systems ;

Operational methods and beneficiaries : implementation will generally take the form of counseling support for transformation plants identified as innovators in terms of quality improvement and concerned with the updating of their production techniques, considering the orientation and requirements of their new market development strategies. Support will concern themes related to performance improvement for transformation plants, either by providing a series of active training sessions, the dissemination of technological information documents or by the diagnoses and proposed solutions for continued improvement of production processes and organization of enterprises to better address the market.

Detailed implementation will take the following into account :

- Dissemination of test results: organizing two regional information meetings about those technologies and equipment identified as being the most promising in the current context, taking into account the financial and technical capacities of committed promoters and performance, based on identified quality requirements in the market segments through availability of technical data sheets, including

- comparative analyses (data sheets, technical document about the cost of the technology, advantages/disadvantages, manufacturers' address directories, etc.) ;
- Collaboration with the consulting firms to optimize technology selection for cereal transformation through a series of counseling support to promoters in the preparation of their investment plans and production tool acquisition ;
 - Close collaboration with other projects working in the same interest center in order to co-finance the introduction of some new production processes (for example, the introduction the millet/sorghum stone-trap manufactured by the ROCAFREMI. Synergy will be reinforced with the IMS/SG2000 Project for the promotion of innovation technologies to valorize rice with ADRAO and its various development research networks) ;
 - Technological information research through Internet-based documentation resources, professional organizations, research and development networks ;
 - Practical training for transformation plants in production management and awareness-raising about the adoption of improved practice for quality management (through inter-enterprise technical visits, thematic discussion workshops) ;
 - Dissemination of concrete examples about case studies of compact modules for rice husking, establishment of small-scale rice processing plants, maize germ-removing and millet/sorghum cleaning with the stone-trap.

Line II : Support to collective structuring activities : *To facilitate the implementation of programs of collective interest that allow for a coherent inter-professional approach for adaptation to market needs.*

Principles and description of activities : This concerns complementary support measures that help solve the constraint of inadequate financial capacity of enterprises which will be retained (identified under Line I). Collective activities will be implemented to organize raw material supply and the strategy for market segment development. Efforts will be made to achieve coherence so as to ensure competitiveness of the sector through adequate integration of the links, more formalized exchanges and more transparent dialogue during negotiations. The proposed collective approach should help establish integrated productive systems by local professional organizations through facilitation of information exchange networks. We will use mechanisms for commercial data collection, monitoring and analysis in target markets and produce situational analyses about the development stakes for the sector within the sub-regional environment. Also, commercial opportunities will be disseminated and commercial relationships will be established.

Activities to be supported include the following :

- 2.1. Supporting the establishment and operation of networks between producers/transformers/local merchants and the establishment of regional partnerships and providing these emerging umbrella organizations with reliable communication means to help them follow the evolution of markets, maintain commercial contacts and facilitate negotiations ;
- 2.2. To help with widespread dissemination of commercial information about situational analyses (product promotion and development, observations and analyses of market evolution, etc.)
- 2.3. To raise awareness about the commercial stakes and the new conditions and realities in the terminal markets through measures for permanent adaptation to market needs, quality improvement and competitiveness.

Operational methods and beneficiaries: Resorting to certain development programs, which are more and more specializing in capacity building among farmer organizations, will help implement the main lobbying activities for the establishment of networks of commercial enterprises. In addition, solicitation of the consulting firm network will be considered in order to support the structuring and capacity building among professional organizations and to develop the entrepreneurial spirit. These activities will primarily target associations and umbrella organizations of producers, transformers and cereal merchant who wish to integrate into a coordinated plan for improved competitiveness in target markets. More coherence of strategic options in the sector will be sought during the thematic workshops and consultations, which will be held by operator networks and counseling support structures.

The following will be considered in the details of implementation :

- Institutional capacity building for professional organizations: This will target such organizations as JEKAFERE in Niono and CONOESAM at the national level, encouraging them to further develop services for their membership and business partners in sub-regional marketing of cereals (for high quality products: first category rice, coarse and transformed maize, millet and sorghum). Services to be developed will address the satisfaction of needs for a set of commercial information (juridical, regulatory, financial, marketing, etc.) that are essential to penetrate sub-regional markets. Series of leadership training sessions and the reinforcement of market analysis capacity building will be conducted, targeting the organization leaders. In the same sense, they will be supported for the animation of professional meetings between actors of various links of the sub-sectors, in order to establish more regular dialogue and initiate collective action for negotiation with decision-makers and addressing identified constraints and taking into account the concerns of inter-professions in sector development strategic plans. In order to facilitate and improve their communication and information systems, these organizations will be invited to examine, with the

main information providers such as OMA/PASIDMA and other sub-regional MIS, current structuring and identification of autonomous means for information dissemination (acquisition of communication materials and selection of dissemination tools such as micro-programs on the radio and T.V. stations, press articles, professional newsletters, on-line databases, question-answer services during thematic workshops, etc.).

- Promotion of collective projects : Based on the results of various commercial surveys with professional organizations such as CONOESAM for rice exports in the sub-region, we will encourage actors to develop businesses through various interest groups which will take into account: establishment of collective warehouses in order to gather the supplies, like the one that is being developed with the COPAK in Koutiala, to further familiarize with the techniques, instruments and financial mechanisms, including mutual guarantees, the third party holding, with financial institutions. Support to professional organizations to carry-out commercial prospecting missions will be pursued and reinforced. We will encourage joint missions aimed at identifying new business clients for inter-professions, generic promotion of Malian cereals among consumers in the sub-region (through information tools for better presentation of the collective trademarks or labels, data on commercial opportunities, centralization of supplies and demands, etc.). Activities for establishment of commercial relationships, undertaken with the NGO Afrique Verte as part of market testing for maize germ-removing and the “*Etoile du Delta*” rice, will be consolidated. In the same perspective, sub-regional cereal stock exchanges may be organized in collaboration with this NGO. In fact, the purpose will be to orient the organizations towards the development and obtain support from their development partners for strategies and action plans that will help them address the stakes of modernization of marketing practice at the sub-regional level. The approach for these marketing activities will place a strong emphasis on the pragmatic aspects of business relationships between various economic operators through existing networks within their professional organizations.

Still in the perspective of capacity building and accountability of the actors, we will undertake vigorous action in collaboration with professional organizations to adapt to quality and standard stakes and to cereal product regulation.

Quality will be considered as the main promotion leverage. The purpose is to ensure that consumers receive products that are beyond reproach in terms of intrinsic quality as a result of respecting admitted norms and to give such products more promotional support in the market. In this respect, quality awareness-raising activities and, support for the establishment of a quality approach will be developed in order to significantly improve the characteristics of supply through better control over transformation quality.

At the commercial level, the challenge is to address competition in a sustainable manner by meeting quality requirements imposed by differentiated evolution of various market segments, with standardized and easily identifiable products as a result of their insured quality.

An appropriate communication and promotion strategy needs to be taken into account and adopted by professional organizations in order to penetrate new markets.

The following activities will be developed as contribution to capacity building among enterprises and professional organizations for the search of progress in the management of improved quality for cereal products :

- Facilitating access to quality improvement support services through characteristic analysis of products (physico-chemical, biological, culinary and sensorial measurements) ;
- Awareness-raising among the main actors to further take into account the aspects of quality management and respect of standards ;
- Dissemination of information about regulatory texts and the respect of national commercial standards adopted for cereals and by default, those standards adopted by the WAEMU or “*Codex Alimentarius*” accords.
- Training on themes related to quality management, the use of promotional tools for support to commercial action (generic advertising, adoption of appropriate packaging). Collaboration will be sought with various institutions responsible for the harmonization of standards and training in the quality approach and the establishment of management and monitoring tools.
- Resorting to communication agencies will be necessary in the preparation of the advertisement and consumer information plan. Activities will primarily target those umbrella organizations, which are engaged in a process of collective approach and partially those enterprises that are considered as being innovative in voluntary development of the quality approach and the ownership of related management tools.

2.2. New opportunity research for animal products

Over the last three years, the CAE’s livestock program has focused on the reinforcement of the comparative advantage of Mali for production and marketing of high quality livestock and animal products. Considering that the lack of adequate feed all year round represents a major constraint that limits animal productivity, this program was translated into action through implementation of activities, which placed particular emphasis on commercial development of the animal feed sub-sector in a context of enterprise development. The goal of this program was to increase value added and consequently incomes for the target groups.

Context and rationale

It is generally admitted that the lack of adequate nutritional sources for animal feeding all year round and the lack of formal and efficient marketing channels constitute one of the major constraints that limit competitiveness and, therefore, modernization of the livestock sector in Mali.

Regarding the first constraint, the development of the animal feed sub-sector through establishment of commercial enterprises to manufacture animal/poultry feed remains a key and strategic factor towards such modernization and the promotion of value added in this sector and, to a lesser extent, for the cereal sector. This is why since 1999, CAE has oriented its program for this sector towards the promotion of commercial plants for the production of balanced feed manufactured for livestock and poultry. At the same time, efforts were made to development the national market for high quality composed feed and to reinforce marketing channels through the development of marketing poles, such as the border market.

Program goal and objectives

To address these constraints, the livestock program is pursuing the following three objectives :

- To develop markets for high quality animal feed through technical and management capacity building among producers and professional groups ;
- To develop and reinforce the marketing channels, including exports ; and
- To establish technical and financial parameters through feasibility studies for establishment and/or development of animal feed production plants in Malian conditions and provide counseling support to animal feed manufacturers, as part of the enterprise development activity.

In general, efforts made toward market development for high quality composed animal feed achieved very positive results. Through in-service training, demonstration tests in the field, counseling support for the development of business plans, target producers and professional groups began to understand the advantages of high quality balanced feed and how to use them efficiently in order to achieve their production objectives. In addition, they understood the importance of the control of production costs, of the planning of commercialization and of targeting sale markets.

In terms of animal feed production plant development, efforts were made as part of the enterprise development activity. Technical support aimed at convincing and helping manufacturers understand the need to produce high quality balanced feed on a technically and financially rational basis, if they want to penetrate and secure their market shares. The results achieved were highly promising.

In 2000, this program was integrated into a joint USAID-SEG-MDRE-CAE program. In collaboration with the national extension service, DNAMR, this program will help us widely disseminate the results of CAE activities. Moreover, our efforts to promote the production of high quality animal feed will be further reinforced in collaboration with the DGRC through implementation of a program aiming at the development and enforcement of bilateral and sub-regional commercial agreements for livestock and animal products.

The proposed program for Year Five of the project aims at building on the results obtained during the first four years, so as to ensure future sustainability of its efforts.

Description of activities and intervention areas

The CAE program is planning for progressive development of production/transformation enterprises, which will increasingly use high quality inputs and establish commercial relationships with national and sub-regional partners. To achieve this, these enterprises should be able to sell high quality products at competitive prices (composed feed at lower costs). To achieve this goal, the CAE fifth year program will focus on the following :

1. Continuation of activities focused on the development of the national market for high quality composed feed

- To provide technical support for marketing, training and animal nutrition to support services under the SEG-MDRE-CAE joint program in order to reinforce awareness-raising activities targeting producers ; and
- To provide technical assistance to animal/poultry feed manufacturers for the production of high quality feed so as to achieve well-targeted production (meat, milk, eggs, etc.).

2. Continuation of activities aimed at developing and enforcing quality standards for certain raw materials and for composed feed that are commercialized in the national market

- To provide technical support to the DGRC in the fields of animal nutrition, marketing and monitoring/evaluation ;
- To organize two fora-debates on the problematic of quality control with specialized services, composed feed manufacturers, representatives of professional producer organizations and support organizations. The objectives – for the first forum: information for actors working in the sub-sector on the norms and standards, the results of the quality control assessment phase and on the establishment of a quality control system proposed by the DGRC¹; for the second forum: to present the results of the enforcement of the testing system in order to obtain comments from everyone on the regulation of the market for proposed feed.

¹ This will provide the *Laboratoire de Nutrition Animale* and the *Laboratoire Central Vétérinaire* with an opportunity to introduce themselves as service providers for quality control.

3. Counseling support and training in management for producers and feed manufacturers

- To update a list of animal/poultry feed production plants in the regions of Mopti, Ségou, Sikasso and Bamako-Koulikoro, which would help classify the main needs for future development of these enterprises ;
- To provide technical support to target enterprises based on their needs. Following our previous experiences, emphasis will certainly be placed on the following: the raw material supply system, the formulation of composed feed at lower costs, the packaging of final products and the development of a commercial strategy ;
- To provide outreach assistance to new animal/poultry feed production plants which have already developed their business plans with support from the SSE program, to help finance their projects.

4. Reinforcement of a sectoral policy that fosters the development and diversification of export markets for livestock products

- To provide counseling support to professional organizations and private companies, as part of the border market development and transformation activities for livestock marketing;
- Coordination with partners, including the Consultation Forum on the Livestock-Meat Sector, for the development of summary documents on a well-targeted policy issue, which will serve as a baseline document for dialogue between USAID and Malian authorities. As a first step, the zoo sanitary accords have been targeted.

Development of the national market for high quality composed feed

Transformation of the Malian animal/poultry feed sub-sector into a sector that is based on commercial production and efficient utilization of high quality balanced feed is a complex process. In terms of feed production, manufacturers should be prepared to supply high quality balanced feed on a permanent basis and at competitive prices. On the other hand, producers should have the capacity to use such feed in an efficient manner in order to increase cost-effectiveness of their products.

Development of the national market for high quality animal feed requires that producers understand the advantages of quality balanced feed and how to use them as efficiently as possible in order to achieve their production objectives. In fact, there is need to build the capacities of producers to better manage their enterprises and more particularly to understand the new feeding practices and control the production costs.

Over the past two years, the CAE program has focused on this issue and interesting results have been obtained, but only with about ten producer groups. In order to disseminate these results among a larger number of producers and build on the experiences of national services in this field so as to produce more impact, CAE started participating in a USAID-SEG/MDRE/CAE joint program in 2002.

This program intends to further involve national extensions services and CAE in activities designed to improve animal feeding practices and to introduce basic notions of production management to producers.

Awareness-raising among animal raisers (who are in fact the animal feed buyers) about the zoo-technical advantages of high quality feed and how to use them efficiently in practice, constitute the basic elements for future development of the market for high quality animal feed. This activity, which is essentially financed by the USAID-SEG/MDRE program, will continue until April 2003. To this effect, CAE intends to continue working in the framework of this activity, providing technical support for communication, training and animal nutrition. In addition, CAE is participating in the monitoring and evaluation team.

Proposed Activities :

- To provide technical support in communication, training and animal nutrition to support services in the framework of the SEG-MDRE-CAE joint program to reinforce awareness-raising activities, targeting producers ; and
- To provide technical assistance to animal/poultry feed manufacturers for the production of high quality feed designed for well-targeted production (meat, milk, eggs, etc.).

The definition and enforcement of quality standards in the national market for high quality feed: improving the market structure

The GRM has an important role to play in the establishment of the rules of the game to guide the commercial development of the animal feed sub-sector. This concerns the legislative, regulatory and fiscal aspects as well as the establishment of a deontological framework for commercial production plants and related enterprises, in order to ensure professional development of the sub-sector.

In this respect, the second component of the above mentioned joint program concerns the regulation of composed feed marketing and of certain raw materials. In fact, the purpose is to develop and enforce standards for composed feed so as to ensure their quality in the market. In addition, it is envisioned in this activity to develop standards for certain raw materials such as fish flour and maize, two products that are well-known for their good quality.

The enforcement of standards for composed feed, which are sold in the national market is essential for the regulation of feed manufacturers and ensuring availability of high quality product in the market. It does not serve any purpose to raise awareness among producers on the use of high quality feed or to support manufacturers for the production of high quality feed, if we cannot ensure that composed feed sold in the market are high quality products. In fact, the enforcement of norms and standards, including a system of unexpected quality control, requires that the service responsible for such control has adequate resources that producer-clients demand quality when buying composed feed,

that manufacturers understand the regulations that are in effect and that there is juridical framework for sanctions in case of non-compliance.

This activity was started in July under the guidance of the DGRC and its regional departments, in collaboration with CAE. At first, poultry feed was targeted as well as two main ingredients. This activity was to result in the establishment of norms and standards for poultry feed and for fish flour and maize, which are sold in the national market. In addition, a mechanism for enforcement of these norms was to be tested. This activity is implemented in collaboration with the Laboratory of Animal Nutrition (LNA), the Central Veterinary Laboratory (LCV) and the PDAM.

Proposed Activities

- To provide the DGRC with technical support in the fields of animal nutrition, communication and monitoring/evaluation ;
- To organize two fora-debates on the on the problematic of quality control with specialized services, composed feed manufacturers, representatives of professional producer organizations and support organizations. The objectives – for the first forum: information for actors working in the sub-sector on the norms and standards, the results of the quality control assessment phase and on the establishment of a quality control system proposed by the DGRC²; for the second forum: to present the results of the enforcement of the testing system in order to obtain comments from everyone on the regulation of the market for proposed feed.

Counseling support to promoters of the sector and management training for producers and feed manufacturers

The commercial industry of animal feed which is growing in Mali is an important segment of the livestock sectors with potentials of short-term positive impact on the increase of productivity and value added for livestock enterprises. However, in order for the commercial animal feed sub-sector to develop, the market for high quality feed needs to be developed. To do so, producers must understand the advantages of high quality balanced feed and how to utilize them as efficiently as possible. To this effect, they need to improve their management practices, especially in terms of production cost control and the implementation of a commercial strategy.

For several years, CAE has conducted a counseling support program which targeted animal raisers in order to improve their enterprises with the objective of raising their awareness about the value of high composed feed and demystifying the performance of the HUICOMA animal feed, which was perceived by most producers. In fact, the overall objective of these activities was to develop the national market for high quality composed feed.

In 2000, the CAE approach to market development was re-oriented. This re-orientation was designed to increase the short - and medium-term impact on efforts made to develop

² This will provide the *Laboratoire de Nutrition Animale* and the *Laboratoire Central Vétérinaire* with an opportunity to introduce themselves as service providers in the field of quality control.

the animal/poultry feed market. To this effect, the decision was made to reinforce the collaboration framework with MDRE technical services, namely the DNAMR for awareness-raising and extension as well as the DGRC for market regulatory aspects. These activities are implemented through a USAID-SEG/MDRE joint program. This program was designed to help raise the awareness of producers on a large scale and to start establishing an adapted legislation for norms and standards (quality) for composed feed that are sold in the national market.

For feed production enterprises, CAE has placed particular emphasis, since 2002, on fostering client fidelity by developing, in collaboration with the enterprises, a client promotion and monitoring program. This activity is currently being implemented with the COPRAAV in Ségou and we intend to involve other enterprises such as the FAMAB in Koutiala for the 2002-2003 program. In addition and still for increased value added in the sector, support was provided to reinforce the transformation capacities in the hides and skins sector through establishment of a new tannery. This activity was delayed in 2002 due to problems related to the mobilization of financing. However, the project is still being implemented and joint monitoring with USAID-SEG that started in 2001 will continue in 2003.

In the animal/poultry feed production enterprise development program, counseling support is often reinforced with a training component. This training focuses on capacity building among feed manufacturers to help them establish better business practices so that they can play their role in the commercial development of the animal feed sub-sector by making high quality animal feed available to producers.

In fact, professional enterprises for the production of composed animal/poultry feed should become the engine for commercial development of the animal feed sub-sector. In this respect, they should not only produce feed according to quality norms and at competitive prices, but also provide clients (producers) with counseling support (after-sales services) for utilization of this feed to help the latter increase their productivity and profits.

Professionalization and structuring of this sub-sector are essential in order to build on the comparative advantages of Mali in terms of livestock and fodder resources to resolve the nutritional constraint that confronts all commercial sub-sectors in this sector. The existence of a commercial sub-sector for animal feed will certainly have considerable impact for the promotion of diversified commercial products in the sector, in order to develop it into a more efficient and competitive sector.

The content of this program will be detailed after the updating of the survey of animal feed production plants and assessment of their needs. The survey will serve as the basis for characterizing the animal feed sub-sector in terms of strengths and weaknesses and for identification of those production plants that may rapidly benefit from CAE support. At this stage, three enterprises have been targeted for the counseling support program, including two feed production enterprises: the COPRAAV in Ségou and the FAMAB in

Koutiala and the ADOBERA-Sahel in Ségou, the new tannery. During Year Five, CAE intends to increase collaboration with the animal/poultry feed production enterprises.

Proposed Activities

- To update a list of animal/poultry production plants in the regions of Mopti, Ségou, Sikasso and Bamako-Koulikoro which would help classify the main needs for future development of these enterprises ;
- To provide technical support to target enterprises based on their needs. Following our previous experiences, emphasis will certainly be placed on the following : the raw material supply system, the formulation of composed feed at lower costs, the packaging of final products and the development of a commercial strategy ;
- To provide outreach assistance to new animal/poultry feed production plants which have already developed their business plans with support from the SSE program, to help finance their projects.

Promoting the exportation of high quality animals and diversifying export markets

Over the year 2001, the livestock sector contributed 15% to the GDP and more than 90 billion FCFA. For total exports of the country, livestock products ranked third, after cotton and gold. Most exports were live animals whose increased number offers an opportunity to increase currency incomes from exports in this sector in the short-term.

Continued development of exports in this sector will require efforts aimed at diversifying and extending the regional markets. For the time being, Ivory Coast and Senegal are the most import export markets for Malian livestock. However, through the SEG/MDRE-CAE joint program, commercial opportunities will be explored in other countries such as Gabon and Guinea. To this effect, commercial development and diversification of sub-regional markets are confronted with two major requirements. The first one consists in negotiating commercial agreements with partner countries for the marketing of livestock and animal products. These agreements should clearly establish the regulatory framework for the operation of commercial businesses and define the roles and responsibilities of each partner in order to ensure that the clauses of the agreements will be enforced.

The second requirement relates to the monitoring of the implementation of the agreements and mobilization of the private sector to utilize the agreements in an efficient and professional manner in order to penetrate and secure their shares in these markets. The development of markets in a formal framework and the opening of new markets present not only new opportunities, but also new problems. The establishment of new commercial partnerships, formalization of the contracts, the assessment of competition and cost-effectiveness of the products in these markets as well as the development of contracts with regional banking institutions, are complex elements that are often difficult to control, even for structured markets which are rare in the case of livestock markets.

Consequently, exporters will probably need counseling and support from government and professional institutions in order to go through all of these steps. To this effect, the GRM, the counseling firms and professional organizations need to be pragmatic enough in their

approaches, in order to promote a well-adapted policy designed to reinforce the linkages between producers and buyers, to provide efficient commercial counseling, to promote the establishment of banking networks and commercial courts and to ensure objective and rigorous enforcement of the commercial agreements.

In terms of strategy, these two requirements are inter-related, since the role of the public sector should be the establishment of a regulatory framework that encourages professional development and economic sustainability for the livestock sector and providing reliable guidance to promoters to help them successfully run their businesses. Such an approach is indispensable if the objective of the sector is to develop and become a commercial force in the regional markets. At first, the development of export markets is subject to the negotiation bilateral agreements, but their impact will rather be determined by rigorous enforcement of their clauses as well as technical, financial and managerial capacities of the operators to utilize these agreements for the reinforcement of their enterprises, ensuring investments and securing and penetrating the new markets and developing new products.

In principle, the commercial agreements should establish the basic conditions for the development of external trade. More than a political commitment, these agreements should establish useful indications for production, transformation and quality control for export products. In this respect, they will provide important information to promoters to help them assess the potentials of the market, its competitiveness and potential short-medium-term cost-effectiveness. They also provide a basis for periodical review of the trade conditions for a target market.

According to the strategy adopted by the SEG and CAE, the sectoral policy program for livestock will be directed towards the development of sub-regional trade for the exportation of live animals. For animal product exports such as meat, it should be noted that sanitary and commercial conditions are much more demanding than for live animals. Consequently, the formalization of the agreements for meat exports with partner countries will require in-depth examination of how to create necessary conditions in Mali to help promoters/investors actually position themselves to address this demand. Therefore, it is less likely that these conditions will be met in the short- or medium-term in order to help Mali export meat in the sub-region.

Consequently, the program on livestock sectoral policy will place particular emphasis on the development and diversification of export markets for live cattle. To this effect, CAE is planning to pursue the promotion of border and trans-border companies. This approach, which is presently encouraged by WAEMU agreements, will be a tool for vertical integration for certain commodities in the sector in order to improve productivity, facilitate sub-regional market penetration and diversify products sold in the sub-regional markets. Presently, this activity is conducted jointly by CAE, OMBEVI, CLUSA, DRAMR and USAID-SEG. Then, activities designed to address non-tariff barriers, which prevent the fluidity of commercial exchanges between countries in the sub-region, will be pursued with government and private partners such as the FEBEVIM.

In addition, CAE envisions, in collaboration with USAID-SEG, our private sector partners (FEBEVIM) and the MDRE, to pursue activities that started in 2002 for reinforcement and revitalization of the sectoral policy dialogue for livestock. These activities will continue to target certain factors, which present or may present development problems for the sub-regional or regional marketing of livestock and livestock products.

Proposed Activities

- To provide counseling support to professional organizations and private companies for the development of border and trans-border markets for livestock marketing ;
- To coordinate with partners, including the Consultation Framework on the Livestock-Meat Sector, for the development of summary documents on a well-targeted policy issue, which will serve as a baseline document for dialogue between USAID and Malian authorities. As a first step, the zoo sanitary accords have been targeted.

2.3. New opportunity research for mango

Context and rationale for activities

In the mango sector, the level of intervention has been declining since Year III of the project. It seems essential that CAE maintain its activities on the marketing link. In fact, the achievements in identifying new opportunities in the European markets (other than the French market) and in the Maghrebean markets should be reinforced. If APROFA obtains promising results with the cooperative of mango producers COPROMANGUE for exports, CAE may undertake collaboration with APROFA in an export program with this cooperative under the Year 5 project. On the one hand, this experience results in integration of the production and marketing links which may be replicated in other export areas and, on the other hand, an increase in producer incomes (fight against poverty).

CAE will be interested in following APROFA in the process engaged by the latter for the certification of fruit and vegetable farms and gardens. A biological certification program may be discussed with this agency.

After active participation in the design of the feasibility study of TAM FRUITS and helping it obtain financing, CAE will continue to support for the establishment of industrial mango drying plants. Such support may concern the aspects of production organization and supply or technical assistance for start-up of the plant.

Goal and operational objectives

The goal of this activity is to ensure sustainability of the achievements and to explore new opportunities for fresh and dried mangoes.

Specifically the following activities will be carried-out :

1. To support producers-exporters by facilitating access to inputs ;
 2. To continue to prospect the Moroccan market and to intensify commercial relationships with identified importers in the European markets ;
- 2.1.1.1.To provide business management training to packaging station managers ;
 - 2.1.1.2.To disseminate a magazine and micro-programs developed in the mango Sector ;
 - 2.1.1.3.To provide technical assistance for start-up of the industrial mango drying plant.

Description of activities and intervention areas

Facilitating access to inputs for producers-exporters

CAE's assets include 4,000 plastic trays, 4 trans-pallets, 4 hooping kits for export pallets and labels which may be made available to certain exporters.

The strategy adopted under WP IV was to make all CAE inputs (carton, plastic trays, trans-pallets and hooping kits) available to members of the Dogon trademark. This decision was aimed at supporting the capacity of this mango to supply European markets with high quality mangoes. In practice, two of the four companies of the trademark did not carry-out any export campaign. And "Mali Bio", the first company to export biologically certified mangoes from Mali received 150 trays.

WP V, is planning to extend the number of beneficiaries for CAE inputs to include all producer companies and associations which are able to justify through this action an improvement of the quality of mangoes delivered at the packaging stations. It is obvious that such supply of inputs will not be pursued, in any case, beyond the end of the export campaign in July 2003.

Continuing exploration of the Moroccan market and intensifying commercial relationships with importers identified in the European markets

Through this objective, CAE will confirm information stating that the Moroccan market offers export opportunities for about ten or even twenty tons of mangoes per week during the entire export campaign.

Several commercial missions to Morocco demonstrated that this country has an absorption capacity of 10 to 20 tons of mangoes per week during the entire exports campaign, that is about 15 weeks. This provides export opportunities for 150 to 300 tons of mangoes during the campaign. This opportunity becomes even more interesting, since during the campaign, this market has demand for the *Amélie* variety of mango which is not exportable to Europe once the period for colored mangoes starts.

Contact will be established with Royal Air Maroc, in common agreement with exporters, for the reservation of 5 tons of freight per flight (two flights per week) during the 2003 exports campaign. It is also essential to ensure that the regulatory constraints are manageable for mango exporters.

CAE will continue to play its facilitation role between Malian exporters and their partners identified in European markets. This activity will build on the experience gained by CAE in these markets, mainly the British market. The facilitation role mainly consists in providing commercial information in response to solicitation.

Training packaging station managers in business management

This customized training will help follow-up mango exporters for bookkeeping and the interpretation of performance charts proposed for the management of their activities.

Through this activity, CAE intends, on the one hand, to raise awareness among ten exporters about the advantages of proper bookkeeping and management practices and, on the other hand, to support these enterprises for the establishment of a monitoring and information system about their business accounts. In fact, the lack of accounting entries that certify cost-effectiveness of the mango export activity is a constraint to access credit forms the banks for the sector and to the visibility of the export job.

The training will be carried-out in two phases :

Phase 1 : This will be held in a training room and will teach four modules (SYSCOA Accounting system, Financial Analysis, Management Control and Management Charts).

Phase 2 : This consists in providing support to at least three enterprises for the establishment of an accounting-management system that is adapted to the situation of the concerned enterprises.

The first phase of the training should be conducted before the beginning of the production and exports campaigns for green beans so that the management of this product may benefit from the induced effects of the training. Therefore, in practice, it should be conducted before the month of November. As for the second phase, it will start in March 2003.

Disseminating a magazine and micro-programs on mango

This dissemination at the beginning of the campaign will help raise awareness among various actors in the export sector about the improvement of the quality of export mangoes. In fact, the quality of export mangoes results, to a large extent, from professionalism on the part of various actors in the sector. Since the beginning of its activities, CAE undertook training-awareness-raising among actors : producers, on-farm buyers and packaging station workers. To continue this activity, it is agree-upon, as part of WP V activity, to disseminate at the national TV a magazine and two micro-programs designed by CAE. The title of the magazine is "Malian mangoes: the challenge of exports". As for the micro-programs, the themes to be discussed include the fruit flies control and the harvesting techniques. For better perception of the messages, these documents in French and Bambara languages will be broadcast at the beginning of the exports campaign (March 2003).

To provide technical assistance for start-up of the industrial mango drying plant

As TAM FRUITS has obtained financing agreement from the BICIM with partial guarantee through the USAID deposit, it is important that CAE support the start-up of this project. Support activities will be identified in response to solicitation from the promoter. The promoter will solicit various types of support in the form of technical assistance at the beginning of and during the first year of the plant's operations. Solicited partners include the EDC (the Enterprise Development Center), the company SERVAIR, etc.

Considering CAE's experience in the sector and its presence in the field, it may take responsibility for the local expertise aspect, thus complementing external expertise solicited.

2.4. New opportunity research for Niono and Bandiagara shallots

Context and rationale for activities

Activities in the shallot sector concern, on the one hand, increased conservation capacity for fresh shallots in the Office du Niger area and, on the other hand, the promotion of dried shallot slices (*Echalotte Séchée en Tranches – EST*) from the Dogon Plateau.

Fresh shallots in the Office du Niger area

Year IV of the project provided an opportunity for CAE to build a prototype of shallot storage facility in Foabougou with a capacity of 100 tons and to conduct a conservation test. The results of this test will serve, on the one hand, as a basis for validation of the technical performance of the warehouse and, on the other hand, to confirm its economic cost-effectiveness. These results will provide CAE with content for the development a strategy for replication of this warehouse. This strategy will take into account, on the one hand, the development of typical plan for the facility presenting variants according to the capacity and the type of material utilized and, on the other hand, the organizational method agreed-upon for its management. For the same purpose of increased conservation capacity in the area, CAE will support URDOC's efforts in improving the existing Retail-type small warehouses in order to improve their performance for conservation. Also, efforts will be made to promote, through the media, the results obtained during the first year of operation. This will be carried-out by designing, producing and broadcasting of a magazine.

CAE will continue to provide incentives to decentralized financial institutions to grant marketing credits for the shallot conservation campaign. In the same sense, contracts with the financial institutions will be pursued in order to encourage them to propose other products that would help finance the conservation campaign. Efforts will also be made to raise awareness among producers toward efficient utilization of resources generated by the increased conservation capacity so as to contribute to poverty reduction.

Commercial opportunities at exportation will be identified for women's groups who exploit the conservation warehouse, which will, naturally, be a place for collection of the products. The consultation framework for various actors in the sector will be revitalized.

Bandiagara dry shallots

There is an increasing expression of promotion needs for the launch of the Dogon Plateau EST. CAE should support these efforts which are indispensable for this product to penetrate the Ivorian market and, to a lesser extent, the Guinean market. However, an operator identified by CAE has undertaken to improve the packaging and pursue marketing efforts in the Ivorian market. The strategy adopted at this level is to encourage this identified wholesaler to obtain his supplies in 40 kg bags from the producers. Better adapted re-packaging in 5 kg or 50 g bags, if needed, may be performed in the destination market.

It would be interesting to conduct a study aimed at demonstrating income increases achieved in the Office du Niger area over the past two years as a result of increased conservation capacities for shallot. In the Dogon Plateau, the study would concern the flow of dried shallot slices (EST) in the Ivorian and Guinean markets. This study would help assess the impact of CAE activities. However, the results of the on-going consultation for the establishment of a data collection system for monitoring/evaluation may be used to capture improvements recorded in the two areas.

Goal and operational objectives

In the shallot sector, the objectives pursued vary according to the intervention area.

- In the Office du Niger area, (fresh shallots): the objective of the activities is to test the decrease in loss rates from 45-17% (according to the conservation method) to 5% as a result of the introduction of a better performing storage warehouse in Foabougou ;
- In the Dogon Plateau (dry shallot slices): the objective was to increase the demand for EST as a result of improved hygienic quality of the product and improved marketing.

Operational objectives or activities

Fresh shallots (Office du Niger area)

- To establish a flexible system for monitoring of conservation activities in the shallot warehouse ;
- To facilitate negotiations between women's groups who exploit the warehouse and the PACCEM (Faso Jigi-type conservation test) ;
- To develop a typical plan for promotion of a large capacity conservation warehouse ;
- To improve the quality of conservation in the Retail-type conservation warehouses in ten villages in the Office du Niger area ;

- To implement a pilot project for production and marketing of 40 tons of *Violet de Galmi* in the Ivorian market ;
- To co-organize, with partner organizations such as OAM, URDOC and Afrique Verte, a small-scale stock exchange for the shallot sector in Bandiagara and Office du Niger area.

Dry Shallot Slices (Dogon Plateau)

- To participate, as part of the marketing component, in the implementation of the CLUSA support program for 24 EST producing enterprises in the Dogon Plateau ;
- To assist FAC-GEST to obtain financing for the reduction of separate EST sales.

Capacity building

- To establish and animate the consultation framework for actors in the sector ;
- To encourage the OAM to continue the dissemination of information about price evolutions and the quantity of shallots in the main markets in Bandiagara and the Office du Niger area ;

Activity description and intervention area

Fresh shallot in the Office du Niger area

Establish a flexible system for monitoring of conservation activities in the shallot warehouse

During the first year of operation of the prototype of shallot conservation warehouse in Foabougou, CAE assumed all expenditures associated with stock monitoring. Through this activity, CAE was aiming at the following objectives: to test the thermo-hygrometric quality of the building on the one hand and, on the other hand, to help establish a rational management system for the facility. In practice, the monitoring system that was set-up helped achieve the following activities :

- assessment of women's groups ;
- support for organization of the work (assigning various compartments to women, setting-up various groups for purchase, weighing, and handling) ;
- training in the basics of business management, production factors, and respect of collective assets ;
- training in marketing ;
- quality control at warehouse in-take ; and
- regular monitoring of the stocks in the warehouse.

Under Work Plan V, a greater responsibility will be assumed by the women's groups for management of the activity. The firm GFORCE (CLUSA) will be solicited to provide support to the groups for organization of the conservation campaign and for the definition of financing needs.

Facilitating negotiations between women who exploit the warehouse and PACCEM (testing the Faso Jigi-type conservation)

CAE will not save any efforts to help PACCEM test the Faso Jigi credit scheme for shallots, which has proven its capacity in the rice sector. The system consists in making advance payments to women for the purchase of production inputs. The credit is reimbursed after the sale of conserved shallots. For CAE, the interest for this test is to help diversify financing sources for the conservation campaign and to solve the crucial problem of women's access to inputs.

However, CAE and PACCEM agree that this activity may be carried-out only if beneficiaries volunteer for it. CAE does not restrict access to the prototype of conservation facility for any products.

Developing a typical plan for promotion of a large capacity conservation warehouse

This activity is part of the dissemination of the results of the conservation test conducted in Foabougou, in a large capacity warehouse. The expected results include proposing to various CAE partners and clients an option for large capacity conservation that excludes the use of conventional energy, and to suggest the use of local materials in order to reduce conservation costs.

Improving the quality of conservation in the Retail-type conservation warehouses in ten villages in the Office du Niger area

After introduction of the Retail-type conservation hut in the Office du Niger area during the 1995-1996 campaign, several producers replicated the hut without respecting its main characteristics which help create a micro-climate that is favorable to fresh shallot conservation (temperature: 26 and 28°C; humidity rate: 40 and 55%). Thus, in almost all villages, conservation huts have proliferated with capacities varying between 2 and 5 tons and poor conservation performances.

Through this activity, CAE, with technical support from URDOC, wishes to make corrections on a sample of these huts for demonstration purposes. These corrections are intended to improve the aeration system, waterproof ness (grating and internal coating) and to rebuild the riddles. The average cost for correction of a hut is 100,000 FCFA.

During Year V, we will identify 10 villages where 5 volunteer producers will be selected per village for improvement of their conservation system. To implement this activity, CAE will recruit a technical field agent who will assist, among other tasks, with the identification of volunteers and the monitoring of the construction contractor to be engaged for the improvement works.

Implementing a pilot project for production and marketing of 40 tons of *Violet de Galmi* in the Ivorian market

The prospecting missions to Ivory Coast indicated that there is a potential market for the *Violet de Galmi* rather than shallots. Knowing that tests conducted in 1995 in the Office du Niger area proved good behavior of this crop, CAE intends to partially re-direct

production from shallots towards *Violet de Galmi*. In fact, the fact that cultivation of the *Violet de Galmi* has not been a great success may be explained by :

- Inadequate knowledge of the seed production system by producers ;
- The lack of outlet markets ; and
- Conservation difficulties, knowing that the *Violet de Galmi* bulb has much more water content than the shallot bulb.

Implementation of this activity will require the following :

- Identification of producers (~ 4 ha) ;
- Supplying producers with seeds and other inputs ;
- Providing assistance for the production ;
- Purchase guarantee for producers ; and
- Transportation of the product to Ivory Coast.

co-organizing, with partner organizations such as OAM, URDOC and NGO Afrique Verte, a small-scale stock exchange for market-gardening sectors in the Office du Niger area

In response to a solicitation from Office du Niger, CAE will participate in the organization of a small-scale stock exchange in Niono for market-gardening products. This is planned to take place in March, April or May. The type of organization agreed-upon is the one similar to what Afrique Verte did for rice. A preparatory meeting will be held during the last ten days of October.

Dry shallot slices in the Dogon Plateau (EST)

Participating, under the marketing component, in the implementation of the CLUSA program to support 24 EST production enterprises

As part of their activities of training and counseling for Grassroots Community Organizations in the Mopti Region (sub-contract of the grant agreement between CLUSA and USAID in Mali), SABA is currently collaborating with some fifteen-shallot producer groups. SABA has defined its intervention program for shallot producer groups for the period October 2002 to June 2003. This is essentially an action plan that derives from three main sources including: the results of evaluations and self-assessments conducted individually with partner groups, the objectives of the grant agreement (USAID and CLUSA/Mali) and the results of self-analysis workshop held in June 2002.

During this period, PRECOB SABA will provide support for the process of organizational and management capacity building of its shallot producing partner organizations, in accordance with the following objectives and intervention lines :

- 24 onion production groups are sufficiently well-organized and capable of undertaking wholesale and purchase for their products ;
- 20 onion production groups in the Dogon Plateau are organized into Second Level Organizations ; and

- 5 second level organizations of onion producers are marketing onion in the Dogon plateau.

The following major intervention lines will help achieve these objectives :

- Organizing the enterprises in order to make them more visible and operational ;
- Building their management capacities in order to improve the financial environment of the shallot activity and to increase its cost-effectiveness for actors in the sector ; and
- Supporting market research and product marketing.

By now, the budget necessary to implement these activities, presented in detail in the action plan document, has been developed with CLUSA. However, by principle, it does not take into account any form of supply or grant for organization or management activities of partner enterprises, other than training and counseling support. Therefore, SABA provides support to its partner enterprises to develop project documents for fund-raising in order to implement economic and training activities such as the marketing of cereals, market-gardening, animal fattening, organization of study tours, literacy training, etc.

In order to properly implement the program, the EST groups have solicited CAE, through SABA, to finance (through a credit or a grant) the shallot promotion activity in five (5) local markets and three (3) foreign ones. This promotion implies adequate conditioning of the products for transportation and presentation purposes.

To strengthen the organizational structure of the group and promote their shallot production and drying activities, the objective set-forth is to support 24 enterprises for outlet market research. The purpose is to open new horizons to complement the existing ones. To this effect, the strategy envisioned is to visit some markets with the producers in order to promote the shallots. For this purpose, five (5) local markets are targeted, including those in Nara, Niore, Diéma, Yélimané and Kayes. As for foreign markets, we will continue to prospect Ivorian markets that were identified during visits made in 2002. Thus, we intend to visit markets in Korogho, Bouaké, Man, San Pedro and Ayama. For implementation of these activities, our partner enterprises should contribute to the costs of these visits and pay for their food and lodging.

Assisting FAC-GEST in obtaining financing to reduce separate EST sales

FAC-GEST is an association that was created to provide training and counseling support to shallot drying groups. It is composed of producers and former animators of the GTZ's PVAPD project. For the next campaign, FAC-GEST is pursuing the following objective of controlling separate EST sales in Bandiagara. These separate sales seriously deteriorate the value of EST in the Dogon Plateau, as it is not a rare fact that prices in these separate markets be lower, by 300 FCFA per kilogram, than the official price determined by the General Assembly of EST Groups.

Given that these separate sales are done by producers who have pressing cash needs or by villages which have no longer access to BNDA loans, FAC-GEST intends to introduce an activity aimed at making funds available which that will help the Follow-up Committee purchase up to 20 tons of EST at the beginning of the campaign. In fact, the BNDA loan for EST marketing is, on the one hand, made available well after the beginning of the EST production campaign and, on the other hand, it excludes all villages which have late reimbursement records with BNDA for whatever type of activity financed.

Capacity building

Creating and facilitating a consultation framework

As all actors recognized the need to animate a consultation framework that would foster greater professionalization of activities in the potato sector in Sikasso, CAE suggested to the Office du Niger to establish such a forum for the shallot sector in their intervention area. Once Office du Niger commits itself to supervising this, an animation committee will be set-up and themes will be identified and developed for the forum. Priority will be given to the two themes that are already being discussed among some actors, these themes include the coordination of various actors' activities in the field and the organization of a small-scale stock exchange during the marketing campaign.

Encouraging the OAM to continue the dissemination of information on price evolutions and the quantity of shallots in the main national markets in Bandiagara and in the Office du Niger area

Following full (Year 1) and partial (Year 2) financing of price information collection and dissemination about fresh and dry shallots in the regions of Ségou, Sikasso, Mopti, and in the district of Bamako, the Observatory of the Agricultural Market (OAM) committed itself to pursuing this activity using their own funds. Through this activity, CAE intends to follow-up this dissemination and, if need be, to remind the OAM about its commitment.

2.5. New opportunity research for potato

Context and rationale for activities

Among horticultural products, potato is one of the main products, which provide great potential for contribution of the agricultural sector to Malian economy. Mainly produced in Sikasso and, to a lesser extent, in Kati (the OHVN area) and in Ségou (Office du Niger area), potato is considered today as a very promising agro-food sub-sector for farmers in these regions. It represents one of the main sources of income diversification for cotton producers in Sikasso.

As for the commercial aspect, it enjoys clearly increasing national demand, especially in the urban areas. At the sub-regional level, the change in parity between the French franc and the CFA franc has made Malian potato more competitive in comparison with

European production that was imported in the past by neighboring countries such Ivory Coast and Senegal.

Considering the potential of the country in Sikasso, and particularly in Ségou in the Office du Niger area for potato production, and taking into account export opportunities for this product to neighboring countries, CAE has carried-out activities in this sub-sector for the last three years in order to increase the volumes of high quality potato in national and sub-regional markets.

Therefore, over the past three years, the Centre's efforts have focused on the following :

1. Training, information and awareness-raising for producers to adopt improved production techniques (*seed selection, technical itinerary, post-harvest operations*) and conservation best practice (*the use of wooden boxes and anti-germination product, introduction of a prototype of improved warehouse*) in order to improve the quality of harvests and of the stored product.
2. The collection and dissemination of market price information in collaboration with the Observatory of the Agricultural Market (OAM) as well as the establishment of commercial relationships with the aim of improving the operations of potato markets.

Producers are increasingly adopting the production techniques and the new conservation technologies in the CAE intervention area. In addition, the information collection and dissemination mechanism helps inform all actors in the sub-sector about the evolution of prices in the national markets. The establishment of commercial relationships achieved in collaboration with NGO AMATEVI facilitates the sale of farmers' stocks in supported villages.

Parallel to these quality improvement and commercial promotion activities, the Centre was also interested in organizing producers into professional groups and providing training to these groups in cooperative techniques in order to facilitate input supplies (seeds, fertilizers) and collective marketing in villages receiving support. Ten professional groups were established in these villages. Members of management bodies of these groups received training in cooperative techniques. Another type of support for organization of the actors in the sub-sector concerned the revitalization of the Consultation Framework on potato in Sikasso in order to resume discussions between various actors (producers, support organizations, input suppliers, merchants and banks) on the one hand, and to develop an action plan for promotion of the sector, on the other hand.

In order to consolidate the achievements of the Centre's three years of intervention in the potato sub-sector, activities approved under Work Plan V will place emphasis on the promotion of the results of demonstration tests conducted during the previous years. Besides, this, other activities will be undertaken to facilitate the access to bank financing for producers and private operators with promising projects, on the one hand, and to

pursue efforts for improvement of the sub-sector's environment through monitoring of the implementation of the action plan.

Goal and operational objectives or activities

As during the previous year, the goal of the project is to promote the sale of high quality potato in national and sub-regional markets.

To reach this goal, the following activities will be carried-out :

1. To inform and raise awareness of potato producers in Sikasso, Office du Niger area and in Kati to adopt adequate production techniques (*seed selection, technical itinerary, post-harvest operations*) and conservation best practice (*the use of wooden boxes and anti-germination product, introduction of a prototype of improved warehouse*).
2. To facilitate access to bank financing for village groups and private operators with promising projects, through the development bankable business plans.
3. To collect and disseminate market price information, in collaboration with the OAM, in order to make transactions among various actors in the markets more transparent.
4. To monitor, with other partners such as the DRAMR, DRAER in Sikasso, APROFA and APPS, implementation of the action plan for promotion of the potato sub-sector, in order to establish the basis for more efficient support to producers and commercial middlemen.
5. To provide support to producers organized into groups and other merchant organizations for the sale of their stocks in the national and sub-regional markets through establishment of commercial relationships and the implementation of a market test in the Ivorian markets (Bouaké wholesale market, Abidjan).

Description of activities and intervention areas

Disseminating technical and technological packages developed during previous years

The first activity will help us intervene in the three main potato production areas of Sikasso, Kati and Office du Niger. Implementation will mainly consist in disseminating among producers throughout the country the technical and technological packages (information and awareness-raising for producers to adopt improved production techniques (*seed selection, technical itinerary, post-harvest operations, the use of wooden boxes and anti-germination product, and improved warehouses*) developed with the NGO AMATEVI in order to improve the quality of stored potato.

To do this, the following strategies will be developed :

1. Preparation and dissemination of a newsletter (in French and Bambara) about production techniques and conservation technologies ;
2. Broadcasting on the national television and outreach radios of a micro-program and a magazine developed during Year IV about production techniques and conservation technologies ;
3. Organizing animation sessions in Sikasso, Kati and Ségou for producers with the micro-program and the magazine as audio-visual materials.

Government support organizations such as DNAMR, OHVN and Office du Niger will be involved in these activities of information and awareness-raising designed for producers to help them adopt adequate production techniques and conservation best practices. This will facilitate, on the one hand, increasing the number of villages and producers receiving support in the three production areas of the country and, on the other hand, ensuring awareness-raising activities to these producers.

Technical assistance will be provided to the Agribusiness Unit at Office du Niger to help it finalize its study on the potato sector. It should be noted that this study will help assess the production potentials of Office du Niger and, above all, to determine marketing strategies for the potato supply in the area.

In order to conduct extension activities about the improved conservation warehouses in Sikasso, support will be provided to private warehouse owners to help them adapt their facilities to improved facility standards (***improvement of aeration level, maintaining the temperature and hygrometry at low levels, etc.***). Investigations will be conducted in collaboration with the DRAER and DRAMR to reduce construction costs for the CAE warehouse prototype by using more locally available materials (mud bricks, etc.).

Supporting the development of potato storage and marketing enterprises

Through support provided by the SSE program, producer groups will be assisted in their negotiations with the banks to facilitate their potato purchase, conservation and sale activities. With the groups in two villages which have warehouses, we intend to conduct a ***third party holding*** test for potato stocks in the two warehouses, in collaboration with BNDA or Kafo Jiginew. In the lack of a registered third holder, the management bodies of the groups may play this role. Considering the perishable nature of potato, discussions will be engaged with all parties (bank, village groups and CAE) to better define the methods of implementation of this test.

Moreover, business plans will be developed for private operators who wish to invest in the acquisition of adequate storage rooms for potato conservation and sale. This second activity will facilitate access to BNDA or Kafo Jiginew credit lines for the beneficiaries. These meetings will provide an opportunity to remind everyone about the operating methods of the SSE program at CAE and mostly about the nature of available financial products at the two banks and their methods of acquisition.

Monitoring of the Action Plan for promotion of the potato sector in Mali

During its fourth year, CAE provided financial and technical support to the DRAMR in Sikasso to organize four meetings of the potato sector Steering Committee. As a result of these meetings, actors in the sector developed an *Action Plan* for the promotion of potato cultivation, conservation and marketing in Mali. To properly implement this action plan, CAE, during its fifth year, will pursue its collaboration with such key-actors as APROFA, CMDT, DRAMR, DRAER, BNDA and IER. To this effect, thematic workshops and focus group discussions will be held in order to ensure adequate follow-up of the implementation of the action plan.

Disseminating market price information in collaboration with the OAM

For better organization of the marketing component, we will continue our collaboration with the Observatory of Agricultural Markets (OAM) for the collection and dissemination of market price information through local radio stations.

Supporting the establishment of commercial relationships and researching export outlets

The research for outlets in the national and sub-regional markets through establishment of commercial relationships and the implementation of a market test in Ivory Coast (Bouaké wholesale market and Abidjan), will constitute the focus of Year V activities. At first, the purpose will be to establish relationships between potato producers in supported villages and national and foreign commercial partners for better marketing of potato supplies. In addition, a market test will be organized in the Ivorian markets with private village operators who are already active enough in these Ivorian markets.

SECTION III

SUPPORT TO AGRO-ENTERPRISES

3.1. Information, Communication and Training

Context and rationale for activities

Today, one of the main constraints to the development of the agro-enterprise sector in Mali is the insufficiency of commercial, technical and technological information. Since its establishment in 1998, CAE has been working, in collaboration with information supplier partners, to resolve this major constraint. To this effect, collaboration protocols have been developed with national (OAM, DNSI, etc.), sub-regional (MISs in the sub-region) and international (ITC) partners. With support from these partners, newsletters have been prepared and published for the Centre's clients and partners.

In order to provide direct support to the development of agro-food sectors, micro-programs and magazines have been developed and broadcast through the national television and/or outreach radio stations. These audio-visual materials are used to discuss specific and varied themes on modern production techniques and technologies. During Year III, CAE's support helped the Observatory of Agricultural Markets (OAM) start the collection and radio broadcasting of national and sub-regional potato and shallot price information.

Another constraint which confronts Malian agro-entrepreneurs is the inadequate level of knowledge about modern management and production techniques. To solve this major handicap, CAE designed and implemented, since its first year of operation, a vast program for capacity building among agro-entrepreneurs. This activity is composed of two components :

- A business management training component ; and
- A training component on modern techniques and technologies for production, post-harvest operations and transformation.

With the objective of ensuring the sustainability of these training activities, CAE has established a network of trainers. Members of this network received trainer training in order to become more efficient. It should be noted that this network is composed of consultants from both the public and private sectors. Capacity building for the support network may be justified by the need to harmonize presentations in order to produce better performing impact. Also, the low level of agro-entrepreneurs' skills in organization techniques, management and finances, made of training a pre-requisite for the satisfaction of agro-entrepreneurs' needs for increased incomes through improved management of their enterprises in relation with relevant decision-making based on the utilization of new skills acquired.

Therefore, as during the previous years, information dissemination and training activities for agro-entrepreneurs (newsletter preparation and publication, organization of consultation fora, specific training in business management and in techniques and technologies, etc.) will be designed during Year V in order to consolidate the results achieved.

Goal and operational objectives

The dissemination of commercial, technical and technological information, capacity building (training) among agro-entrepreneurs in business management and production/transformation techniques and technologies, constitute a major part of the transversal support CAE provides to its client agro-entrepreneurs. These transversal support activities concern all products targeted in the three agro-food sectors.

To improve availability of commercial and technological information from local, sub-regional and global markets for cereals, livestock and alternative products.

To reinforce agro-entrepreneurs' capacities through training in order to help them better manage and develop their enterprises.

The operational objectives include the following :

1. To prepare and publish newsletters ;
2. To disseminate information through the Centre's Web site ;
3. To provide agro-entrepreneurs with training in management, quality issues and other specific modules ; and
4. To implement the Centre's communication strategy.

Description of activities and intervention areas

The information – communication component addresses all actors in the agribusiness sector. These include the producers, transformers, merchants, support organizations, banks, etc. Information activities consist in the preparation of newsletter, to be made available to agro-entrepreneurs at the Centre, about the prices for certain fresh products in the European and Middle-Eastern markets. Another type of newsletter concerns the dissemination of technical and technological information about agro-food products such as rice, shallots, millet/sorghum and potato.

Other aspects of the communication activities will be focused on the production of brochures on the products, leaflets on CAE activities, video-tapes for the magazines and micro-programs and finally the organization of seminars and workshops.

All of these communication elements which convey technical or technological information are disseminated through outreach radio stations and the national television. In the framework of sustainability of information and communication activities, government services such as the DNAMR (livestock, potato), IER (cereals, potato, mango), Office du Niger (rice, shallots), will be involved and the design and dissemination of various materials (newsletters and audio-visual tools).

In this sense, the following is envisioned for the potato sub-sector :

- To broadcast magazines and micro-programs during the first quarter in order to better sensitize producers about conservation and marketing aspects. This activity will, as early as the harvesting period in February and March 2003, help practice those conservation techniques taught to the producers, thus helping them extend the sale of their products over time and obtain better prices as a result of information disseminated by OAM about prices and markets.
- To undertake a field visit with multi-media materials in order to disseminate the materials on conservation and marketing techniques. This will be supported by a pedagogical workshop to discuss application of these techniques.
- At the end of the workshop to summarize activities of the Steering Committee on potato for Year IV, an action plan was validated. In the framework of implementation of this action plan, all decisions and resolutions were widely disseminated in the areas concerned, that is, Sikasso, Ségou and Kati. The mandate of the Steering Committee will be to follow-up implementation of the action plan by organizing focus group discussions on precise topics and thematic workshops which will gather all actors based on their activities.

All of these activities will be implemented in collaboration with the Steering Committee which include, in addition to CAE, APROFA, the DRAMRs, DRAERs, Banks, Savins/Credit Clubs, producers, input suppliers and support organizations such as AMATEVI, ACOD and IER. Copies of materials to be disseminated through audio-visual materials will be made available at each DRAMR for outreach dissemination. Local radio stations will be involved through broadcasts discussing conservation and marketing themes with the DRAMR technical teams.

This approach will be applied to the livestock sector, with a major part of activities focused on the promotion of high quality feed both for animals and poultry. Media material with great pedagogical emphasis will be developed and disseminated with themes discussing the results and counseling derived from CAE demonstration tests on animal and poultry feed. This activity will be carried-out in collaboration with USAID livestock program and other partners including DNAMR, the DRAMRs, SLACAERs, CRAs, the DGRC and private counseling support organizations such as NGOs and rural development associations. The dissemination of these audio-visual pedagogical materials will be accompanied with locally organized dissemination workshops gathering certain actors and producers to sensitize them on the methodology of poultry feed manufacturing

and feeding standards. Leaflets written in French and Bambara will accompany the video-tapes, television and radio magazines and micro-programs, with particular emphasis on outreach radios and rural press agencies. Potential targets will include the producers themselves, providers in the Ségou, Koulikoro, Mopti and Sikasso regions.

This approach, which will be implemented in collaboration with the DGRC, is designed to help the latter better implement its mandate of quality control after awareness-raising about the standards and quality of ingredient used in the manufacturing of animal and poultry feed and feeding practices.

The same approach will apply to shallots in the Office du Niger area. Soon after the conservation test in the CAE warehouse, feedback will be provided and awareness-raising materials will be developed, including quality and hygiene aspects in addition to lessons learned about conservation and warehouse management. These elements will be widely disseminated and discussions will be conducted with such partners as IER, URDOC, FCRMD, local radio stations and Office du Niger.

As for the mango sector, the materials developed will be widely disseminated through such themes as : harvesting techniques, fruit fly control, mango conditioning and farm traceability in the destination market. The quality of mangoes to be maintained from the farm to shipment and the enforcement of standards have become essential requirements in export markets. Moreover, since a single fruit that is infected may result in systematic destruction of the whole shipment, we should focus our support efforts on awareness-raising and information among actors over the chain (producers and exporters) about the adoption and enforcement of quality standards from the farm border until shipment.

Activities in the rice sector will follow the same approach. With URDOC, transformers and Office du Niger, up-to-date didactic materials developed about rice transformation will be periodically disseminated, particularly by the end of the rainy season before paddy rice harvesting, since the quality of transformed rice depends on the quality of paddy rice.

Dissemination will take place early in the second quarter of Year V, just before the beginning of cultivation, so that producers are sufficiently sensitized to integrated the lessons learned into their approach.

Emphasis will be placed on the results of the cereal processing demonstration tests conducted by CAE and on other information that help better understand the most promising transformation equipment and processes in terms of performance, adaptability and adequacy with entrepreneurs' technical capacities and needs.

Implementation will generally take the form of counseling support for transformation plants identified as being the most innovative in quality improvement and concerned with the updating of their production techniques, considering orientation and requirements for their strategies for new market development. Assistance will concern themes related to

performance improvement for transformation plants, either through a series of active training or the dissemination of technological information documents.

The goal is to promote targeted cereal products through the following :

- Making available to agro-entrepreneurs reliable information about existing and potential markets, products and cost-effective transformation processes ;
- Management capacity building among professional organizations in general and particularly among leading enterprises in such a way as to ensure their competitiveness and status in new export markets.

Emphasis will be placed on the following major activities :

- The development of generic promotion tools for cereal products, quality standards and the introduction of a quality approach in the growth strategy for most active enterprises ;
- The collection and dissemination of commercial information about opportunities in the sub-region ;
- The development of sub-regional markets through support and promotion mechanisms for Malian cereal exports ;
- The collection and dissemination of information about better performing appropriate technologies for secondary cereal cleaning, husking and transformation processes, which would help adapt the quality of cereal product supply to solvent demand requirements in various targeted markets.

To achieve this, we will constantly provide required counseling support to creditworthy and most innovating operators who wish to invest and specialize in the valorization and exportation of cereal products. The approach will be articulated and supported by our information, training and counseling support services which have a series of adapted tools in business management, quality insurance and marketing in order to reinforce the entrepreneurial spirit among these leading promoters.

Detailed implementation will take the following into account :

- The dissemination of test results: organization of two regional information sharing meetings about technologies and equipment that are identified as being most promising in the present context, taking into account the financial and technical capacities of committed promoters and performance considering the quality requirements identified in market segments, through availability of technical data sheets including comparative analyses (technical sheets and documents about the costs and advantages/disadvantages of the technology, manufacturer address directories, etc.) ;
- Technological information research through Internet-based documentation resources, professional organizations, research and development networks ;

- Practical training for transformation plants in production management and awareness-raising about the adoption of improved practice for quality management (through inter-enterprise technical visits, thematic discussion workshops) ;
- Dissemination of concrete examples about case studies of compact modules for rice husking, establishment of small-scale rice processing plants, maize germ-removing and millet and sorghum cleaning with the stone-trap.

In the same respect, a joint program will be developed with the USAID Information/Communication component in order to make information more available to agro-entrepreneurs via the local radio stations. This collaboration will help us train about twenty local radio animators through thematic workshops about awareness-raising, promotion and training designed for our client agro-entrepreneurs.

Once they return to their work stations after this workshop, the animators will devote time to programming about the workshop themes for broadcasting. During these broadcasting sessions, they may invite specialists from CAE or other support organizations to discuss themes of interest to our clients or inform them about some of the test results. The Information/Communication unit of the SEG may also provide information, using the World Space information system. To achieve this, it will be sufficient to have CAE make its information, training and communication messages available to SEG which will record this information on video-tapes to be sent to South Africa where they will be reproduced into French and Bambara as needed, in stereo mode through the World Space system. This final product will be given to the *Union des Radios et Télévisions Libres (URTEL)* which will ensure periodical broadcasting of the information on all outreach radio stations in Mali.

As for the component dealing with specific information to actors in the sector, Bamako, Ségou, Sikasso and Mopti will be the intervention areas. Specifically in Sikasso, support will be provided to animal raising associations in Koro Barrage, Niena, Farakala, Sikasso-city and some villages around Sikasso. In Ségou, the Office du Niger area and the Regional Chamber of Agriculture will be targeted. In the Mopti region, Bandiagara district will be targeted.

Management capacity building will target the following :

- Private irrigation promoters in the Office du Niger, market-gardeners and garden product transformers as well as Office du Niger rice producers ;
- Animal-raisers in the above mentions areas in the Sikasso region ;
- Agro-entrepreneurs in the three target sectors in Bamako ; and
- Shallot producers in Foabougou.

Training in conservation techniques and technologies will concern the following :

- Bandiagara shallot producers (in shallot hygiene and drying best practice) ;
- Office du Niger shallot producers in Niono, in conservation and conservation warehouse management ;
- Rice producers and private irrigation promoters at Office du Niger on quality issues for the paddy rice ;
- On-farm buyers and conditioning station workers for mango on quality and export mango standard issues ;
- Potato producers in Sikasso, Office du Niger in order to consolidate lessons and experiences gained during this year.

This year, the training in agricultural enterprise management techniques was provided to only 10 private irrigation promoters supported by the Office du Niger. This training will need to be complemented with post-training follow-up activities or consolidation of training received and, on the other hand, to provide counseling support on the ground in targeted enterprises, in order to facilitate the integration of skills acquired into the entrepreneurial work of promoters who received the training. During Year V, the number beneficiaries of agricultural enterprise management training will be increased to include other promoters who will be installed after the former ten promoters.

In addition to the 10 villages which received training in the potato sub-sector, mainly in conservation and marketing techniques, other villages will be involved, starting with those which expressed interest by soliciting CAE. The purpose is to bring other groups or villages to adopt the CAE model of conservation warehouse in smaller formats that are affordable for them.

The same types of training are designed for the shallot sector. Here also, the target groups which did not receive CAE support will be involved, particularly in the conservation warehouse management. As for potato, the purpose is to bring other groups or villages to adopt the CAE model of conservation warehouse in smaller formats that are affordable for them.

Regarding rice, this will be practical training in paddy processing technology in order to obtain high quality rice designed for exports.

For mango, the training will concern on-farm buyers and conditioning station workers on harvesting and conditioning techniques and mainly in the management of conditioning stations and export houses following business practices.

These training activities will be supported by awareness-raising and counseling support for quality management in order to integrate the enforcement of quality standards into Malian production habits so as to increase their competitiveness.

Another characteristic of training activities is the follow-up of training. This will help measure the impact and assess the extent to which acquired skills are integrated and then assess new needs for consolidation.

3.2. Enterprise development

Context and rationale for activities

In order to promote the development of agro-food enterprises and facilitate their access to financing, CAE carried-out the following activities :

- Identification of enterprises, support networks, local or sub-regional banks ;
- Identification of the constraints ;
- Organization of focus group discussions among various partners ;
- Establishment of the trainer network and the SSE program ;
- Direct technical counseling ;
- Development of business plans and administrative, accounting and financial procedure manuals ; and
- Fund-raising.

These activities helped achieve the following :

- Management capacity building for agro-entrepreneurs ;
- Reinforcing the support network to help it provide more professional services ;
- Improving the management of some of the enterprises by the establishment of reliable accounting systems ;
- Mobilization of bank financing for some of the enterprises.

Therefore, our activities during Year V will be focused on the consolidation of previous year achievements. Particular attention will be given to the mobilization of **more financing for agro-entrepreneurs**.

The actual long- and medium-term challenge for CAE is the development of sound and reliable markets that would help establish relationships between the agro-entrepreneurs, banks and consultant firms. This document outlines the activities that will be carried-out by CAE in order to help agro-entrepreneurs access financing. Various approaches will be developed, including the following.

Goal, operational objectives and description of activities

The goal of this project is to build management capacities among agro-entrepreneurs and to increase access to financing.

To reach this goal, the following activities will be carried-out :

To reinforce the capacities of small-scale transformation plants

Small-scale transformation plants play an important role in the Malian economic tissue because of their number and the variety of products they propose, their potentials and the role they play in the fight against poverty. More than 80% of the promoters of these plants are women.

CAE's support strategy for Small-scale Transformation Plants during the past 4 years was based on facilitating access to adequate packaging, product marketing through improved labels and commercial promotion, capacity building among groups through business management training and quality management, business plan development and easy access to financing.

Year V will be devoted to the continuation and consolidation of this strategy. To achieve this, the following activities will be undertaken:

1. Support to enterprise development, management counseling and marketing strategy development;
2. Counseling support in order to improve the presentation of products;
3. Providing information on transformation techniques and technologies, addresses of equipment and packaging suppliers;
4. Facilitating access to adequate packaging;
5. Support for commercial promotion of the transformed products by supporting participation in national or sub-regional meetings in order to promote their products, establish partnerships, research clients, share experiences;
6. Support for organizational development of professional organizations, the quality approach, product marketing and promotion, professionalization and institutional support;
7. Facilitating access to financing.

Reinforcing the support network

1. Direct technical support

We will continue technical discussions with the consulting firms in order to improve the quality of credit application documents to be developed.

2. Inter-firm capacity building

During Year V, we will collaborate mainly with consulting firms in the regions of Bamako, Ségou, Sikasso and Mopti, which proved their capacities under our SSE program. We have already provided these firms with direct technical support, training and information tools necessary for viable activities through comments and suggestions on bankable project documents or through network capacity building workshops.

This year, we will propose an experience sharing meeting between these firms to be held in Ségou because of its central location. This will provide an opportunity for establishing contacts and signing collaboration protocols. The cases of *Nyéta-Conseil* and *Yiriwa* will be presented as examples for the development of rice husking project documents.

During this year, the firms will discuss about their experiences in project designing and follow-up, difficulties encountered and lessons learned. The objective is to reinforce the skills of the firms by increased collaboration between SSE firms with different qualifications.

Improving the management of agro-enterprises

In addition to business plan development, we will continue to provide operational support to enterprises in order to build their management capacities and improve their competitiveness. These activities will help Malian agro-entrepreneurs to remain reliable and competitive in the opinion of bankers and other investment partners. The establishment of reliable accounting systems in agro-enterprises will be pursued through our SSE program.

We will continue providing direct support to agro-enterprises to help them re-direct, rehabilitate and reinforce their project ideas or better manage their enterprises.

Developing projects

- *Partnership with enterprise leaders and young self-made men:*

The development of business plans through our SSE program will continue to be one of our core activities. However, this activity will be re-focused on the project development for leading enterprises and young self-made men in the regions of Bamako, Ségou, Sikasso and Mopti. These types of partners are more likely to obtain financing from the banking system. However, for the selection of our future partners, we will use the document produced by the BCEAO risk management center which summarizes all client commitments exceeding 5 million FCFA with various banks. We will collaborate with financial institutions in order to avoid selecting highly indebted clients.

- *Partnership with APDF/Abidjan*

We will consolidate our collaboration with APDF (African Project Development Facility) in Abidjan, considering the results achieved during our two years of collaboration with this institution.

- *Replication of successful models*

We will also focus our efforts on the development of projects that will serve as successful models in each of the main regions targeted by CAE in Bamako, Ségou, Sikasso and Mopti, like the rice processing plant, GDCM, in Ségou.

- *Partnership with farmer cooperatives and organizations and with demonstration test beneficiaries*

We will continue finalization of development project documents proposed by women's groups or cooperatives, small-scale agro-food transformation projects as well as projects proposed by demonstration test beneficiaries.

- *Partnership with private irrigation promoters*

We will place particular emphasis on private irrigation promoters' projects, in order to improve the quality of rice produced in the Office du Niger area.

Bringing the banks to increase financing for the agro-food sector

We will pursue our awareness-raising campaign among local banks, helping them better understand that agribusiness SMEs constitute a potential market with significant opportunities to be explored. In addition to this awareness-raising campaign, we will carry-out the following activities:

1. Financial intermediation

CAE's intermediation role will be reinforced through continuation of the follow-up of project documents under examination with local and sub-regional banks. Other new documents will be submitted to the banks for financing.

Local banks

We will mainly work with the DCA program partner banks: BICIM and BOA. The BOAD refinancing credit line for BICIM which is designed to finance SME/SMI's will be solicited for financing of our projects.

Considering its expertise in the agricultural sector, BNDA will remain a privileged partner for CAE. BDM-SA, EcoBank and BIM-SA will also so be approached for financing of our projects.

Financial institutions

We will collaborate with the following:

Capital leasing companies: Equipe Bail and SOMAFI will be solicited to finance equipment for agro-industrial projects,

Crédit Initiative-SA: This institution will also be approached with investment projects whose loan amounts will be less than 65 million FCFA.

Sub-regional banks

We will focus our efforts on the follow-up of project documents submitted to OIKOCREDIT and PUFIS in order to speed-up disbursements.

The savings/credit club networks

We will exclusively collaborate with three micro-finance institutions:

FCFMD/Niono, because of its experience in financing private irrigation at Office du Niger and rice and shallot sectors in Niono.

Kafo-Jiginew/Sikasso, because of its experience in financing the potato sector in Sikasso.
CAECE, because of the amount of loans granted to promoters with good financial record history with the institution (ceiling amount: 30 million).

2. DCA guarantee program: New agribusiness promotion tool

Promotion of the DCA program in the agribusiness sector

We will continue promoter awareness-raising activities started in Year IV about using the DCA program. As early as the first month of Year V, we will organize an information seminar on the DCA in partnership with CNPI, DNI, the Chamber of Commerce, the Chamber of Agriculture, the Federation of Malian Employers and our banking partners BICIM and BOA in Bamako, Ségou, Sikasso and Mopti.

With these institutions, we will identify outstanding projects. We will contact promoters of these projects so that they may revise or update the feasibility studies and adapt them to CAE norms and standards.

We will also collaborate with the office of public enterprises to identify public enterprises engaged in the privatization process and we will work with interested promoters to rehabilitate those enterprises. Revised feasibility studies will be submitted to banks involved in the DCA. We will work with USAID so that BNDA, the bank specialized in financing for the agricultural sector, becomes eligible to the DCA program.

Monitoring of the DCA guarantee program with the banks

We will submit new project documents to BICIM and BOA for financing and continue follow-up of these documents. We will continue to inform the banks on the DCA program.

SECTION IV

IMPROVING THE AGRIBUSINESS CLIMATE

Improving the agribusiness climate, promoting the development of sub-regional trade, capacity building among professional organizations and establishing partnerships with GRM public or para-statal agribusiness institutions as well as NGOs and other development partners, constitute important action lines of the CAE intervention strategy for policy issues. The purpose is to contribute in Malian agribusiness growth and development on a sustainable basis.

Since the beginning of its activities, CAE has chosen an integrated strategy involving the private sector, professional groups and consular chambers, the GRM and public or para-statal agribusiness institutions, sub-regional institutions and other development partners.

Year V of the project will focus on ensuring convergence of and building on activities undertaken in order to maintain and consolidate a sustainability approach in the following fields:

1. Promoting and developing sub-regional and international marketing of Malian agro-food products;
2. Building capacities among professional groups; and
3. Establishing partnerships and reinforcing agribusiness institutions.

Description of activities and intervention areas

Promoting and developing sub-regional and international marketing of Malian agro-food products

Promoting and developing sub-regional and international marketing of Malian agro-food products requires implementation of measures aimed, on the one hand, at removing the major constraints identified which are related to national and/or sub-regional trade policy and, on the other hand, harmonizing and better defining of standards and norms.

CAE will:

1. conduct economic analyses of specific policy constraints that impede the development of agro-food products marketing at the sub-regional and international levels;
2. provide institutional support to groups involved in the marketing of products;
3. collaborate with institutions in charge of sub-regional trade.

1. Economic analyses of policy constraints

i). In collaboration with professional organizations, CAE will initiate reflection on relevant policy issues identified by the actors themselves and contribute in finding solutions, along with the private sector.

Specifically, summary notes will be produced on policy issues related to major constraints that impede the development and promotion of the promising sectors and sub-sectors approved by CAE: livestock, potato, shallots and mangoes.

This activity will be conducted in collaboration with professional organizations such as FEBEVIM, CONOESAM, AMELEF, APFEL and AMEPROC, the Malian association of harvest product, the Malian association of potato producers, the EST production and transformation group in Bandiagara, the shallot producing women's association, DJANTOYERELA in Foabougou and the Agro-food transformation network.

ii). CAE will make efforts to ensure better follow-up of the recommendations and action plans which resulted from key-studies conducted by national or multilateral institutions in the agricultural sector.

Specifically, activities will be focused on the following:

- Contributing in the animation of the Orientation and Coordination Committee for the promotion of agro-industrial sectors established by the Ministry of Industry Commerce and Transports (MICT), as a result of the CAE/MICT Sector Study;
- Monitoring implementation of the action plan of the Convention on Public/Private sector partnership;
- Disseminating information about WAEMU regulatory texts, the norms and quality of agro-food products;
- Collaborating with the USAID Regional Office for development of sub-regional trade.

These activities will be carried-out in synergy with ministerial departs in charge of the private sector and sub-regional integration, USAID and professional organizations.

2. Specific support to groups involved in sub-regional trade

i). These activities mainly concern support provided to the *Société de Gestion du Marché Frontalier – SOGEMAF* (border market management company) and to groups involved in sub-regional trade for start-up and operation of the Livestock Border Market in Sikasso, in collaboration with CILSS, CLUSA and OMBEVI.

The SOMAGEF needs to be provided with:

- a business plan with definition of a commercial strategy for the market;

- an accounting procedure manual;
- training for administrators;
- technical and organizational capacity building of SOGEMAF membership.

ii). All support activities for professional groups aimed at facilitating sub-regional trade and promotion of promising sectors in the sub-regional market (WAEMU, ECOWAS) should be approved and implemented in collaboration with SEG and USAID Regional Office, mainly the dissemination of information among professionals (exporters) on WAEMU agricultural policy related to sub-regional trade.

3. Collaboration with sub-regional institutions (CILSS and WAEMU)

i). To contribute, in collaboration with CILSS, in the establishment of the Observatory Illicit Practice in Border Crossing in West Africa. In fact, during the period 1992-1998, the CILSS and regional consultations that followed regarding transport issues and their induced effects on the costs of agro-food products, indicated that one of the constraints to the development of inter-State trade is the great number of control posts. Constraints to border crossing impede the development of sub-regional trade and jeopardize the competitiveness of our main export products.

The establishment of an Observatory of Illicit Practices is considered as being a pre-requisite for an operational management system for transports and transit. It may be an efficient tool that would help define concrete proposals and contribute to effective reduction of the constraints.

CAE will continue to collaborate with CILSS in the implementation of phase I of the observatory, which would consist in:

- setting-up the regional team;
- training;
- production and dissemination of situational briefing notes;
- national and regional consultations;
- evaluation.

ii). CAE will pursue the dissemination of information about WAEMU agricultural policy among agro-entrepreneurs and the publication of WAEMU regulatory texts.

Capacity building among professional groups and institutions

Professional organizations and institutions need capacity building support in order to effectively play their roles and better serve their clients and members; a participatory process needs to be promoted.

Various types of support will be provided in order to build the capacities of associations and professional organizations to promote, serve and support their members and

networks. Through a dynamic partnership and appropriate support, the achievement of these activities should help the associations to conduct efficient activities at any time.

To achieve this objective, CAE envisions to pursue and consolidate activities undertaken through:

1. Collaboration with professional groups (the Network of agro-food transformers which is being established, the Foabougou women's group, the Federation of livestock and meat professionals – FEBEVIM, the Association of potato producers, mango export associations, etc.); APCAM and the consular chambers (Regional Agricultural Chambers);
2. Contribution in the animation of operating Consultation Frameworks (potato, shallots, livestock, rice).

1. Collaboration with professional groups, APCAM and Consular Chambers

This collaboration will be implemented at various levels, in terms of organization and structuring on the one hand and in terms of capacity and performance improvement on the other hand. CAE is envisaging to consolidate the achievements in terms of training and marketing support, commercial promotion of the products and support for greater efficiency and increased cost-effectiveness in their activities.

Finally, increased participation in policy debates in order to contribute in the establishment and encouragement of any initiative aimed at creating the conditions for sustainable development. On the other hand, sporadic support activities based on their contribution to the implementation of activities approved, will be organized in collaboration with the consular Chambers. These activities, which are not programmed in advance, help CAE take into account some of the requests from organized partners.

CAE envisions to provide support to APCAM for the designing and implementation of one of its major activities, i.e., the organization of the 1st *Salon International de l'Agriculture de Bamako - SIAGRI* (Bamako international agricultural exhibit) in February 2003.

2. Consultation Frameworks

Consultation frameworks are more and more appearing as effective instruments for improvement of the quality and efficiency of decisions, in the sense that they encourage complementarity, synergy and convergence. Therefore, they may be considered as being ideal tools that facilitate the approach regarding business climate improvement.

Consultation frameworks may be justified by the fact that various categories of actors are brought together (producers, transformers, merchants, financial institutions, support organizations) who have similar overall objectives but may have different short-term strategies, constraints, priorities and interests.

This approach will be privileged as much as possible for the resolution of policy constraints and common interest issues in order to define optimal solutions, i.e., solutions that are possible and recommendable, in a given context, as well as the stakes and available maneuvering margins. CAE will support and facilitate the revitalization and animation of consultation frameworks in the potato, shallot, rice and livestock sectors.

The main themes discussed in these consultation frameworks include the following:

- The policy for supplying actors with inputs and equipment/materials;
- Training and product quality improvement policy;
- The issue of normalization and quality control;
- The Marketing policy (at the national, sub-regional and international levels);
- Access to bank financing and private investment policy.

Partnership and institutional support to agribusiness institutions

1. Partnership with support organizations working in the agribusiness sector and public/para-statal agribusiness institutions

CAE will continue collaboration with support organizations working in the agribusiness sector through periodic meetings and the definition of common intervention lines and methods for the implementation of certain activities. The objective of this approach will be the promotion of better use of synergy in order to increase efficiency of our activities. The main partner organizations include the following:

- CLUSA
- DEFSAM, ONUDI program for support to women's Small and Medium agro-food Enterprises
- APROFA – Agency for promotion of agricultural sectors.

In terms of partnership with public or para-statal agribusiness institutions, the approach will consist in involving them as much as possible in activities programmed in order to ensure better coordination and conditions for efficient sustainability of our interventions. These partners include the Rural Economy Institute (IER), the Regional Direction of Support to the Rural World (DRAMR) and OMBEVI for various activities designed to develop and promote the main sectors. CAE will also pursue collaboration with the OAM/PASIDMA.

2. Institutional support to GRM agribusiness institutions

This will consist in assisting GRM agribusiness institutions to consolidate the conditions for their sustainability and performance so that they may provide quality services to agribusiness enterprises.

- To support IER in the consolidation and monitoring of the implementation of the Business Plans developed for the laboratories and centers;

- To support the Toxicology Unit of LCV after completion of the new laboratory facility and setting-up of a Business Unit;
- To support Office du Niger in the implementation of its agribusiness program.

2.1. Supporting IER in the consolidation of the “resource generation” approach and monitoring of the Business Units.

The promotion of income generating activities is the focal point of the collaboration with IER. For over 2 years, CAE has been making efforts to facilitate creation of an internal skills for business plan development.

Following a first step of diagnostic study which helped define a framework for establishment of organizations and the development of necessary skills for the designing of income generating activities under WP3, the second step completed under WP4 was actual implementation of business units in the 3 centers and 2 laboratories, the training of major actors, preparation and completion of the first business plans for the units.

These Business Plans define, for the period determined, the framework for activities, income generation targets to be achieved and resources needed to do so. They are implemented over a 2 year period (2002/2003) and their implementation will necessitate the utilization of IER human, technical, technological and material resources.

For WP5, CAE is envisaging to build on this important approach of IER in terms of sustainable resource generation for the consolidation and monitoring of established Business Units.

2.2. Support to the Toxicology Unit at LCV and establishment of the Business Unit

USAID has just made funds available for the construction of the new Environmental Toxicology Unit of the Central Veterinary Laboratory. This control and analysis laboratory would have a very important role to play in the quality approach for agricultural products for pesticide residue research in fruit and vegetable, if complementary equipment, consumables, training, best practice and accreditation were made available.

The laboratory for pesticide residue research at LCV, the only one throughout the country and which could serve as sub-regional reference laboratory, must meet the expectations of fruit and vegetable exporters.

To help agro-entrepreneurs access quality services in this field, CAE will provide support for capacity building of the toxicology unit in terms of training in best practices and facilitation of access to information, in collaboration with other partners working in this field such as the American university group which is working in the framework of IPM (Integrated Pest Management) – CSR (Collaborative Research Support Program)

financed by USAID/Washington in order to build technical capacity of the toxicology unit of LCV.

2.3. Support to the Office du Niger agribusiness Unit

This support is part of the collaboration convention between CAE and Office du Niger.

Pursuing collaboration with ON in the implementation of its agribusiness program in the rice and shallot sectors and starting-up for the potato sector.

Proposals will be made for revitalization of the consultation frameworks.

Continuation of support for promotion of the new Office du Niger with the definition of a promotion strategy that targets both local and foreign investors and the organization of an investors' forum.

SECTION V

ACTIVITY IMPLEMENTATION METHODS

CAE will emphasize direct technical assistance for the implementation of activities under its Year V work plan. However, independent consultants and consultant firms will be sub-contracted for implementation of certain activities initiated during previous years.

Therefore, direct counseling support, support for enterprise development and fund raising, the dissemination of technical and technological packages through the media (micro-programs, magazines, etc.), training, the establishment of commercial relationships, capacity building among professional associations and the organization of consultation fora, will be ensured by the Centre's technical team as part of direct technical assistance. Counseling support will generally focus on production, transformation and marketing of agro-food products. The dissemination of the results of activities conducted (demonstration tests, pilot projects) during the past four years will constitute an important component of this fifth work plan. It will be implemented in collaboration with such partners as ORTM and outreach radio stations in order to ensure wide dissemination of the sonorous materials.

As stated above, sub-contracting will be maintained for the implementation of some of the activities which require collaboration with independent consultants or consultant firms. Mainly, these include training activities, monitoring of some sector development activities, business plan development and the monitoring and evaluation component. To this effect, we will pursue capacity building among our network of national, regional and international partners to work with the agro-enterprise clientele and, above all, to ensure sustainability after completion of the Centre's activities. The Partnership Fund will always serve for the implementation of this sub-contracting mechanism.

SECTION VI

Monitoring-Evaluation strategies

In 2001, CAE clearly defined its monitoring and evaluation strategy by developing its **Results Framework** which helped better monitor progress in the achievement of these two strategic objectives. This Results Framework determines two major types of indicators, including **performance** indicators and **impact** indicators.

Impact indicators take into account **direct and induced effects** of the Centre on the agribusiness climate. The Centre's technical team is efficiently ensuring data collection on performance indicators and on direct impact indicators which resulted from the demonstration tests and the pilot projects. Data collection on the induced and indirect effects of activities remains a difficult task, considering the occupation level for the monitoring of daily activities. It was therefore decided in 2002 that this task would be entrusted to a consultant who is specialized in agro-food sector monitoring and evaluation. This consultant was approved in the IER Program of Sector Economy ("Economie des Filières – ECOFIL").

The overall goal of this consultancy was to facilitate information collection on the Centre's induced effects. Specifically, the consultant was required to:

1. contribute in the improvement of the information collection methodology on induced effects;
2. contribute in the collection and analysis of data on performance and impact indicators in general and, more specifically, on the induced effects of CAE activities.

Before completion of the final report of this consultancy, the following achieved results may be mentioned:

1. A methodology for permanent monitoring of activities was developed and adapted by the activity program;
2. A methodology for data collection on induced effects was developed and adapted;
3. Surveys and interviews were conducted with partners and beneficiaries in order to assess the coaching effect provoked by the Centre's activities in the agribusiness sector;
4. Provisional results are already available for the cereal, livestock and fruit and vegetable sectors.

Investigations are currently underway in order to analyze the impact of sub-contracts on the service delivery partners (trainer network, consultant firms, independent consultants). At this level, the consultant will focus on capacity building among partners and on the sustainability of activities after the Centre phases out.

It is envisioned that this contract will be renewed with ECOFIL/IER for the last year with the objective of achieving more in-depth investigations on induced effects of the Centre during its five years of activity. CAE intends to take advantage of this second year of collaboration with ECOFIL in order to:

1. implement the permanent monitoring strategy developed by the consultant during his first year of consultancy;
2. further investigate on the induced effects of sector development activities so as to better inform USAID about results achieved in this regard;
3. conduct investigations on the induced effects of transversal activities such as training, enterprise development, the information/communication component and sectoral policy activities.

Appendix A

**APENDIX I: RECOMMENDATIONS FOR THE TRANSFER OF PROPERTIES,
EQUIPMENT AND MATERIALS
ACQUIRED BY C.A.E. FOR IMPLEMENTATION OF ITS TESTING
OR PILOT PROJECT ACTIVITIES**

DESCRIPTION OF ACTIVITIES	EQUIPMENT OR MATERIAL	NUMBER EQUIP/MAT	RECOMMENDATION PROPERTY TRANSFER
Testing of a warehouse prototype for shallot conservation in Niono	100 ton capacity warehouse	1	Office du Niger, with about 10 years of experience and enjoyment for the Foabougou working group "Djanto Yérela"
	500 kg capacity weighing machine	2	
Testing of the market for dry shallot slices (EST)	Thermo-welder	1	USSIS enterprise
	Electronic scale	1	
Fruit fly control program	LEICA MZ Binoculars and accessories	1	IER Agronomic Research Centre Sikasso
	Manual shock absorbers and accessories	4	
	Motor shock absorbers and accessories	2	
Testing of a warehouse prototype for potato conservation in Sikasso	37,500 kg capacity warehouse	2	Potato producer groups in Bogotier Sabénébougou villages
	1000 kg capacity weighing machine	2	

Work Plan 5, CAE	SITE – NANGO village / Mama DIARRA	1		
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DESCRIPTION OF ACTIVITIES	EQUIPMENT OR MATERIAL	NUMBER EQUIP/MAT	RECOMMENDATION FOR PROPERTY TRANSFER	OBSERVATIONS
Rice husking test in the Office du Niger	40 KVA-380/220 V PERKINS generator	1	Mama DIARRA, rice transformer in the village of Nango	The equipment will help the beneficiary continue activities to
	Compact husking mill – SB-10D model – (750 kg/hour)	1		
	White rice screen – CAFON model – (450 kg/hour)	1		

area	Three-phase alternator (Italia model – C13 – 16 KVA – 380/220 V)	1		produce high quality rice
	Thermal motor – MEIJCO model – China – ZH – 1115 – (22 ch)	1		
	Weighing machine (300 kg)	1		
	Portable sewer – CITIZEN model – Electric – 0.5 Kw	1		
	Electric motor for husking mill – Y160-M4 type – (11 Kw)	1		
	Thermal motor – ROBIN model – EY – 15 – (2.5 ch)	1		

Work Plan 5, CAE	SITE – COLONI village / COULIBALY Mah DIARRA			
	PERKINS generator – 40 KVA – 380/220 V	1		

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DESCRIPTION OF ACTIVITIES	EQUIPMENT OR MATERIAL	NUMBER EQUIP/MAT	RECOMMENDATION FOR PROPERTY TRANSFER	OBSERVATIONS
Rice husking test in the Office du Niger area	Compact husking mill – SB-10D model – (750 kg/hour)	1 1 1	Mah DIARRA, rice transformer in the village of Coloni	The equipment will help the beneficiary continue activities to produce high quality rice
	White rice screen – CAFON model – (450 kg/hour)	1		
	300 kg capacity weighing machine	1		
	Portable sewer - CITIZEN model – Electric – 0.5 Kw	1		
	Electric motor for husking mill – Y160-M4 type – (11 Kw)	1		
	Thermal motor – ROBIN model – EY – 15 – (2.5 ch)	1		

Work Plan 5, CAE	SITE SERIWALA Village / Village Association			
	PERKINS generator – 27 KVA – 380/220 V	1		

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DESCRIPTION OF ACTIVITIES	EQUIPMENT OR MATERIAL	NUMBER EQUIP/MAT	RECOMMENDATION FOR PROPERTY TRANSFER	OBSERVATIONS
Rice husking test in the Office du Niger area	Compact husking mill – SB-10D model – (750 kg/hour)	1	Seriwala Village Association, rice transformer	The equipment will help the beneficiary continue activities to produce high quality rice
	White rice screen – CAFON model – (450 kg/hour)	1		
	Three-phase alternator (Italia model – C13 – 16 KVA – 380/220 V)	1		
	Thermal motor – MEIJCO model – China – ZH – 1115 – (22 ch)	1		
	Weighing machine//bascule (300 kg)	1		
	Electric motor for husking machine – Type Y160-M4 – (11 Kw)	1		
	Thermal motor – Model ROBIN – EY – 15 – (2.5 ch)	1		

Work Plan 5, CAE	SITE – SIENGO Village / Mamadou KEITA			
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	Compact husking mill – SB-6LN63 model – China – (450 kg/hour)	1		
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DESCRIPTION OF ACTIVITIES	EQUIPMENT OR MATERIAL	NUMBER EQUIP/MAT	RECOMMENDATION FOR PROPERTY TRANSFER	OBSERVATIONS
Rice husking test in the Office du Niger area	White rice screen – CAFON model – (450 kg/hour)	1	Mamadou KEITA, rice transformer in the village of Siengo	The equipment will help the beneficiary continue activities to produce high quality rice
	Three-phase alternator (SIC model – China - 15 KVA – 380/220 V)	1		
	Thermal motor – MEIJCO model – China – ZH – 1115 – (22 ch)	1		
	Weighing machine (300 kg)	1		
	Thermal motor – Model ROBIN – EY – 15 – (2.5 ch)	1		
	Electric motor for husking machine – Type Y132-M4 – (7.5 Kw)	1		

Work Plan 5, CAE	SITE – KARANGANA Village		Karangana village flour-mill	The equipment will help the beneficiary continue maize germ-removing activities
	Maize germ-remover – BCN (120 kg/hour)	1		
	Thermal motor – KAMA – F178 (4 Kw)	1		
	Multi-cereal screen / ACDI model – SENAGRI	1		

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OR PILOT PROJECT ACTIVITIES**

DESCRIPTION OF ACTIVITIES	EQUIPMENT OR MATERIAL	NUMBER EQUIP/MAT	RECOMMENDATION FOR PROPERTY TRANSFER	OBSERVATIONS
Maize degerminating test in Koutiala	Electric motor for the screen (1.5 kw)	1		
	Electric thermo-welder	1		
	Three-phase alternator – SIC model – China – (10 KVA – 380/220 V)	1		
	SITE – NAMPOSSELA village	1		
	Maize germ-remover – BCN (120 kg/hour)	1	Nampossela flour-mill	The equipment will help the beneficiary continue maize germ-removing activities
	Thermal motor – KAMA – F178 (4 Kw)	1		
	Multi-cereal screen / ACDI model - SENAGRI	1		
	Electric motor for the screen (1.5 kw)	1		
	Electric thermo-welder	1		
	Three-phase alternator – SIC model – China – (10 KVA – 380/220 V)	1		
	Stone-traps	4	LTA/IER	The LTA will conduct the prototype test in real life conditions