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EVALUATION OF USAID/WEST AFRICAN COTTON IMPROVEMENT PROGRAM

FINAL EVALUATION REPORT

August 2010

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Implemented by:
Development & Training Services, Inc. (dTS)
4600 North Fairfax Drive, Suite 304
Arlington, VA 22203

WEST AFRICAN COTTON IMPROVEMENT PROGRAM

FINAL EVALUATION

August 20, 2010

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ACRONYMS

AIC	Association Interprofessionnelle du Coton (Benin) (Ginners, farmers, input suppliers)
AICB	Association Interprofessionnelle du Coton du Burkina Faso (Ginners, Farmers)
ANB	Agence Nationale de Biosécurité (Burkina Faso)
ATA	Aid-to-Artisans (United States)
C-4	Cotton-four countries of Benin, Burkina Faso, Chad and Mali
CFA	Communauté Financière Africaine – West African (& Central African) franc
CILSS	Comité Permanent Inter-Etats pour la Lutte contre la Sécheresse dans le Sahel (Regional)
CMDT	Compagnie Malienne de Développement de Textile (Mali)
COP	Chief-of-Party
COTIMES	Coton et Industries du Monde, Benin (Ginnery management and training)
CRA-CF	Centre de Recherches Agricoles Coton et Fibres (Benin)
CRRA	Centre Régional de Recherche Agronomique (Benin)
CTO	Cognizant Technical Officer (USAID)
CPV	Conseiller en Production Vegetale
GMO	Genetically Modified Organism
GPC	Groupement des Producteurs de Coton
GVC	Groupement Villageois des Cotonculteurs
GVPC	Groupement Villageois de Producteur de Coton
FY	Fiscal Year (US government)
ICAC	International Cotton Advisory Committee
IER	Institut d'Economie Rurale (Mali)
IFDC	International Center for Soil Fertility and Agricultural Development
INERA	Institut National d'Etudes et de Recherche Agricoles (Burkina Faso)
INRAB	Institut de Recherche Agricole du Bénin
INSAH	Institut du Sahel (Regional)
IPM	Integrated Pest Management
ISFM	Integrated Soil Fertility Management
ITRAD	Institut Tchadien de Recherche Agronomique pour le Développement (Chad)
LEC	Lutte Etagée Ciblée: Targeted pesticide treatment method based on infestation instead of calendar application.
M&E	Monitoring and evaluation
MSU	Michigan State University
NAC	National Advisory Committee (WACIP)
NARI	National Agricultural Research Institute
PMP	Performance Monitoring Plan
RFA	Request for Applications (for USAID Plan)
SIAO	Salon Internationale de l'Artisanat de Ouagadougou (Burkina Faso)
SOCOMA	Société Cotonnière de Fada N'Gourma (Burkina Faso)

SOFITEX	Société Burkinabé des Fibres Textiles (Burkina Faso)
SONAPRA	Société Nationale pour la Promotion Agricole (Benin)
ToR	Terms-of-Reference
TU	Tuskegee University
TSPV	Technicien Supérieur en Production Végétale
UNPCB	Union Nationale des Producteurs de Coton du Burkina Faso
UNPCT	Union Nationale des Producteurs du Coton du Tchad (Chad)
UNSCPC	Union Nationale des Sociétés Coopératives des Producteurs du Coton (Mali)
URSCPC	Union Régionale des Sociétés Coopératives des Producteurs du Coton (Mali)
USAID	United States Agency for International Development
USAID/WA	United States Agency for International Development West Africa Office (Ghana)
USG	United States Government
WACIP	West African Cotton Improvement Program (Regional)
WTO	World Trade Organization

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Annexes

I. EXECUTIVE SUMMARY

The West African Cotton Improvement Program (WACIP) was designed to improve incomes in the cotton farming and processing sectors. The program was launched after representatives from the four target African countries (Benin, Burkina Faso, Mali and Chad, collectively referred to as the C-4) provided advice on desired areas of technical assistance to the cotton sector in a meeting in Cotonou in 2006. USAID launched the WACIP program initially with reference to those categories and IFDC/WACIP implemented the program through about 40 grants ranging from $5,000 to $1.5 million. While the program touched on all nine recommended areas of intervention, it focused much of its resources on improving farmer productivity and ginning industry efficiency, plus a few other modest programs such as aid to cotton product artisans and organic farming. Although WACIP was not active in institutional reform, it did prepare a few policy briefs on issues highlighted by national consultative committees or government Ministers.

RESULTS

In the farming productivity areas, WACIP worked with local organizations and local resources, providing grants to partners, but participating actively in program planning and monitoring with most of the grantees. The active involvement of WACIP staff re-invigorated cotton research and extension, helping local experts to revise extension training modules and reach out to over 900,000 trainees and family members working on their farms.

WACIP training helped local cooperative committee members improve control of input credit systems, very important since a dysfunctional input credit system has been the main source of cotton problems in recent years in the three countries visited by the evaluation team (Benin, Burkina Faso and Mali).

WACIP set up a very detailed monitoring and evaluation system that sought to quantify the effect of training on costs, yields, and incomes of farmers and their families. Although WACIP provided substantial direction to partners on data collection methods, data collection of necessity relied on collection efforts and records of participating organizations. The evaluation team found some questionable data on claims of reduced input costs in Mali, but conversations with farmers, researchers, extension agents and others seemed to verify that WACIP's report of a 43 percent increase in farmer profits from each hectare of cotton was very plausible for those farmers following the recommended procedures.

WACIP began its programs by interactive planning with local experts, including regional brainstorming and training workshops to help devise appropriate outreach programs for farmers and areas of research, addressing major challenges such as soil fertility and pests. Researchers and extension agents generally have their salaries covered by government or cotton industry programs but during the financial crisis of the last several years, lacked funds for programs of outreach to farmers. Thanks to the WACIP program, farmers who had become convinced that their cotton seeds were no longer productive learned through over 1,000 WACIP financed demonstration plots (used as part of a training program for farmers) that they could substantially increase their yields and incomes if they used recommended inputs and cultivation practices.

WACIP programs also helped to train cooperative committees to better manage credits for cotton inputs – fertilizer and pesticide. Unpaid credits for inputs and resulting problems with the availability of inputs was one of the main constraints to cotton production in recent years. Other

activities on soil fertilizer and integrated pest management were pursued with farmers and with researchers, the latter to develop and test new tools to address and reverse declining cotton production and cotton yields. In general WACIP not only funded but energized its counterparts in the farmer outreach programs. Most of those programs seem to have been very effective and in most cases highly appreciated. All partners expressed the wish to have the program continued for several more years, a process that could build on initial successes and lead to sustainable gains.

While the program concentrated mainly on farm productivity issues and on lowering costs for ginners, there were small programs for organic cotton farmers and for artisans. WACIP's US partners did several investigations and policy briefs on issues including whether farmers were compensated for the value of their cottonseed, on the cottonseed crushing industry, and on the competitiveness of the textile and garment industries. WACIP was active in helping the biosafety office in Burkina Faso to launch a highly successful education campaign to explain the benefits of biotech (BT) cotton and the types of biosafety control systems needed, as Monsanto helped Burkina Faso switch to BT cotton. Other C-4 countries (Chad, Mali, Benin) also benefited from training in biosafety systems as they considered adoption of BT cotton.

The WACIP program was at first derided as being too small and too short in duration. But as WACIP's energetic staff, monitored and advised by USAID, developed a program of interactive planning and monitoring of its grant programs, benefits began to reach farmers, ginners and artisans and the program gained respect.

DIFFICULTIES

There were challenges. WACIP inadvertently found itself in a struggle for power and resources between the cotton ginning companies and the farmers union in Burkina Faso (the largest producer and most technologically advanced). There were problems of submitting required monitoring and evaluation and financial reports. Nonetheless, the Burkina industry expressed a hope that the program could be renewed and introduced with a slightly different operational focus. In other challenges, all research groups met in the six cities visited complained about slow procurement through the Institute of the Sahel of equipment purchases for research institutes. This problem might have been resolved with better communication. WACIP also had problems in Chad because of the collapse of the cotton sector there and failure of Chadian authorities to import essential cotton crop inputs for two years in a row, but managed to do some limited work there in biosafety education and train the trainer programs.

UNFINISHED WORK

If a new WACIP program were funded, there is much left to do – such as reaching out to additional farmers and helping the new cotton company/farming organization "interprofessional groups" in all three countries to develop the expertise to help manage input supplies and other important tasks.

In spite of a few difficulties, most of the grantees implementing the WACIP program in Mali, Benin and even Burkina Faso had glowing reports of the WACIP programs – in biotechnology and organic cotton farming in Burkina Faso, and in the farmer outreach programs and input credit programs in Mali and Benin. The artisans that WACIP helped to develop and market

artisanal cotton fabrics and garments were also highly complementary of the program and hoped it could be continued and expanded.

SUSTAINABILITY

Because the WACIP program came at a time when the cotton sector was in crisis, and because it worked interactively with and through existing research, extension and other structures, the program had impressive successes during its short life span.

The successes of WACIP are potentially sustainable, given the durable structures (extension and research services, ginners) through which WACIP implemented its programs. But it would be highly desirable, as many partners requested, to continue the WACIP program for several more years. If it is ended now, after implementation for one or two seasons, its influence will dissipate and it may be seen locally as having been a purely political and somewhat ineffective gesture.

The cotton sector is not yet stable and new structures are being put in place, particularly the increasingly important "interprofessional" groups of cotton ginning companies and farmer organizations. These new organizations are involved in setting cotton purchase prices, in some cases arranging for imported agrochemicals for fertilizer and pests, and these new management groups are in need of capacity building in all three countries. Due to the ending of funding for WACIP (originally scheduled for November 2009, but extended to September 30, 2010) there was no crop season outreach program for the 2010/11 cropping season. But a 2011/12 program could resume the momentum.

RECOMMENDATIONS

The evaluation team proposes the following:

Proposal (1). One year extension for current program: The evaluation team proposes an extension of the WACIP program at least through September 2011 to regain the momentum of farmer outreach and to use the framework of previous plans with partner organizations to launch a program for the 2011/2012 cropping season. An extension with $7 million would permit follow up and repetition of successful programs and targeting of new cotton/corn farmers who did not benefit from the previous efforts. If the program is to be continued, It is urgent to provide funding for this before the September 30 expiration date for the program to avoid losing the experienced staff. Later startup could lead to loss of current painstakingly developed understandings with counterpart organizations for jointly supplied resources for farmer outreach.

Proposal (2). Three to five year follow on program: The evaluation team also proposes a longer term program of at least 3 or preferably 5 years ($20 million for 3 years or $30 million for 5 years) to follow up on successes and to address issues not fully addressed by the first project – such as:

1. Promoting use of cotton credit for corn.
2. Regional work on cataloguing and perhaps exchanging , preserving, or developing West African seed varieties, and expanded interaction with international cottonseed researchers in the US and in Montpellier, France on varieties and pest control.
3. Programs to address delinting of seed, seed storage and distribution.

4. Quality programs to address issues of polypropylene sack and cover contamination.
5. Building the capacity of cotton company/farmer organization "interprofessional" groups to take an increasing role in input credit management and imported input supplies.
6. Use of HVI machine classing to improve quality.
7. Continued work on soil fertility and pests.
8. Expanded training for cooperative committees in input credit control and related activities, including computerized credit records at the national level.
9. Reaching farmers not reached in the initial program for programs for productivity and input credit control.

Expanded activities, with an additional staff position in each country office, should be incorporated for reaching out to partners to help them with the monitoring, control and financial reporting requirements of the grant programs and to reduce some of the communications problems experienced in the last three years.

Such a follow-on project (WACIP III) should overlap if possible with an IFDC program extended for one year (WACIP II) and be awarded by July 2011, so to permit an August/September overlap between WACIP II and WACIP III.

II. ORIGIN AND OBJECTIVES OF WACIP

The WACIP program had its origins following discussions of the World Trade Organization issues on cotton. The cotton issue had led to a walkout of African Ministers of the Cotton-4 countries (Benin, Burkina Faso, Mali and Chad) in the Cancun WTO negotiations and a collapse of those negotiations in 2003. They demanded 400 million dollars in compensation for the alleged effects of US cotton subsidies on world prices and African farmer incomes. In 2004, African Ministers of Agriculture and Trade from the C-4 visited the US cotton industry and producing areas in North Carolina, Tennessee and Texas and subsequently came to Washington and met with the U.S. Trade Representative and with the Secretary of Agriculture, as well as other officials.

It was suggested during those discussions that concurrently with negotiations on cotton subsidies and related issues in the WTO negotiations, the US would investigate opportunities to provide advice on improvement of the efficiency of the cotton sector in the C-4 countries, later expanded to include Senegal as well (the C-5). The ministers left a communiqué asking for the US to consider nine areas of intervention to help the cotton sectors in their region (see Annex I).

In September/October 2004, the US sent an interagency fact finding team to West Africa including USAID, the Department of Agriculture, a ginning expert from the US National Cotton Council, and two professors from Tuskegee University.

In January 2005, the fact finding team's recommendations for 15 possible areas of intervention were presented to the Ministers from the C-5 in Bamako Mali. Subsequently there were some short term training programs for entomology, soil degradation and cotton classing in the United States, financed by USAID and USDA, the with entomology and soil programs held at Tuskegee University. *(See Annex II for the fifteen areas of focus from the fact finding team).*

In January 2006, West African experts gathered in Cotonou and recommended nine areas of intervention, broadly covering all but one of the 15 areas of intervention recommended by the fact finding team but subsuming some ideas such as "contamination" under a more general and less pejorative term (quality). *(See Annexes II and III for more details.)*

Based on the Cotonou recommendations, USAID issued a Request for Applications (RFA) for a technical assistance program - the West African Cotton Improvement Program (WACIP) in 2006. It was awarded to IFDC on November 30, 2006 and technically became effective on December 1, 2006.

WACIP focuses primarily focus on four countries – Benin, Burkina Faso, Chad and Mali, with a 19.6 million budget, including original ceiling of $18,987,800, increased to $19,592,494 near the end of the program as the program was extended to September 30, 2010. Senegal had a separate budget for cotton program, but some WACIP programs, included Senegal as well, including a pilot program to improve the equipment and management of a cotton gin.

WACIP STARTUP

WACIP Chief of Party, Sarah Gavian, arrived in January 2007, and along with USAID, visited Ministers of Agriculture and Trade in the C-4 countries to get their advice. Staff was hired, a

grants manual was developed and national consultative committees were established and some activities were started.

Some initial modifications were made to original plans. It was decided to have only national consultative committees and not a regional consultative committee and that immediate drafting of an annual plan rather than a full project plan would be required. In May 2008 a full project plan was proposed by the WACIP project team.

After a review, USAID pointed out that the plan proposed training only 40,000 farmers, whereas the IFDC proposal had mentioned in "illustrative activities" the possibility of reaching 1 million farmers and raising their income 20 percent. USAID suggested a revision of the project to be realistic, but more ambitious and cover more farmers, though permitting some modification to the original "illustrative activities" proposed. After some back and forth, WACIP presented a project proposal in September 2008 that refocused particularly on increasing farmer yields and farmer input credit and targeted 700,000 farmers, proposing to raise their incomes by 15 percent. The program was finally approved in January, 2009. In the interim, major individual grant activities were proposed and approved to keep the program going. While a full environmental program was never approved, a list of do's and don'ts was developed (e.g. prohibition of use of the pesticide endosulfan) and individual activities were quickly approved by USAID/Accra. Most crop related activities were launched in 2008 and 2009, with reports on results the following year.

The project funding period extended beyond the original three year program (November 2009) to end on June 30, 2010. A few weeks before the June 30 expiration, another no cost extension extended the project until September 30, 2010. While no crop season activities were possible for 2010 due to lack of funding, a few new activities were pursued using part of the remaining project funds in June and attempts were made to get final reports and results from the various activities.

WACIP's primary activities centered around 40 grants ranging from $5,000 to $ 1.5 million – intensively planned and monitored with partners. Developing acceptable grant proposals, meeting USAID requirements on environmental controls and on public tender requirements, and on financial and results reporting proved to be a challenge in some cases, but generally the program was well monitored and produced impressive results. WACIP kept detailed records on 127 monitoring and evaluation categories and surpassed targets for some key indicators (e.g. farmer training affected over 900,000 trainees (instead of 700,000 targeted - at a cost to WACIP of about $3 each) and the sample survey of results showed a 17 percent increase in cotton yields over the baseline with an estimated 43 percent in gross margin (substantially exceeding the 15 percent targets for yields and income).

WACIP launched several other efforts including:

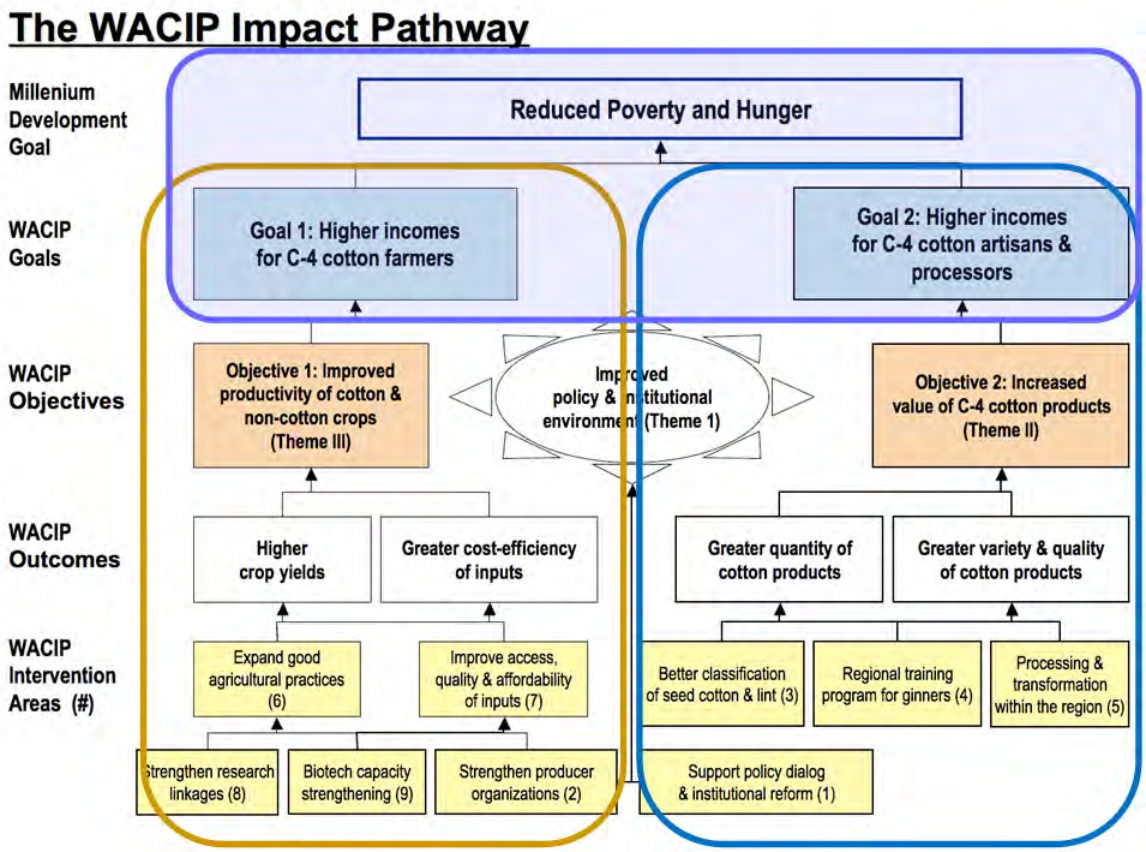
- biotechnology/biosafety systems – education and policy,
- aid to artisans producing and selling cotton products,
- assistance to organic farmers in Burkina Faso,

- some policy work based on key issues of local interest – farm gate price setting, consideration of by products (cottonseed) in setting farm gate prices,
- biosafety issues in developing BT cotton,
- a study on the competitiveness of the textile industry, particularly in Benin, and
- ginning efficiency improvement program – very successful pilot projects to improve efficiency in gins in Benin and Senegal, selected on a competitive basis and used to train ginners throughout the C-4.

While all nine areas proposed in the 2007 Benin meeting were touched upon, the main focus of WACIP and its most impressive successes were in reaching out through existing research and extension services to farmers and helping them raise their incomes through improved practices.

WACIP pursued a number of programs, but the two major programs with substantial economic impact included a set of programs affecting farm income training heads of farms including visits to demonstration plots of ½ or ¼ hectares and reviewing the concrete results from the methods discussed. Those farm heads subsequently trained their family members working on their farms. Improving incomes of farmers focused on several main challenges:

1. Use of recommended inputs and practices (fertilizer, pesticide, crop calendars).
2. Improvement of the use of credit in inputs by training cooperative secretaries.
3. Longer run programs to improve soil fertility.
4. Assistance to cotton research facilities to help them address cotton pest issues (and insect resistance), and improve their capabilities, communications and assistance to cotton extension services.



The above graph, prepared by WACIP, shows goals, objectives, outcomes expected, and intervention areas of the WACIP project.

WACIP's main focus: Outreach to farmers through existing extension services. WACIP performed a number of activities – but over half the budget and the largest focus was on improving farmers' productivity and on improving farmer control of input credit, closely linked to the issue of productivity. Programs of soil fertility, integrated pest management, and instruction in proper use of fertilizers and pesticides were very active in Mali and Benin for two years and in Burkina Faso for one year, with substantial monitoring by WACIP staff in all three countries. The program was developed using existing research and extension mechanisms which had recently undergone funding cuts in all three countries of focus. Program personnel were very happy to have farmer outreach resources from WACIP. Chad's cotton sector largely collapsed and no inputs were imported for the last two years. But the project undertook more modest activities in Chad to train extension agents and to educate Chadians on biosafety systems. Some Chadian researchers, extension agents and others participated in regional programs.

With a limited budget and limited time frame, WACIP made the decision to work largely with existing institutions and existing technology, tweaking it, upgrading it, funding some activities and energizing the researchers, extension agents, and farmers through active involvement in training trainers, developing revised training modules, and implementing and monitoring programs.

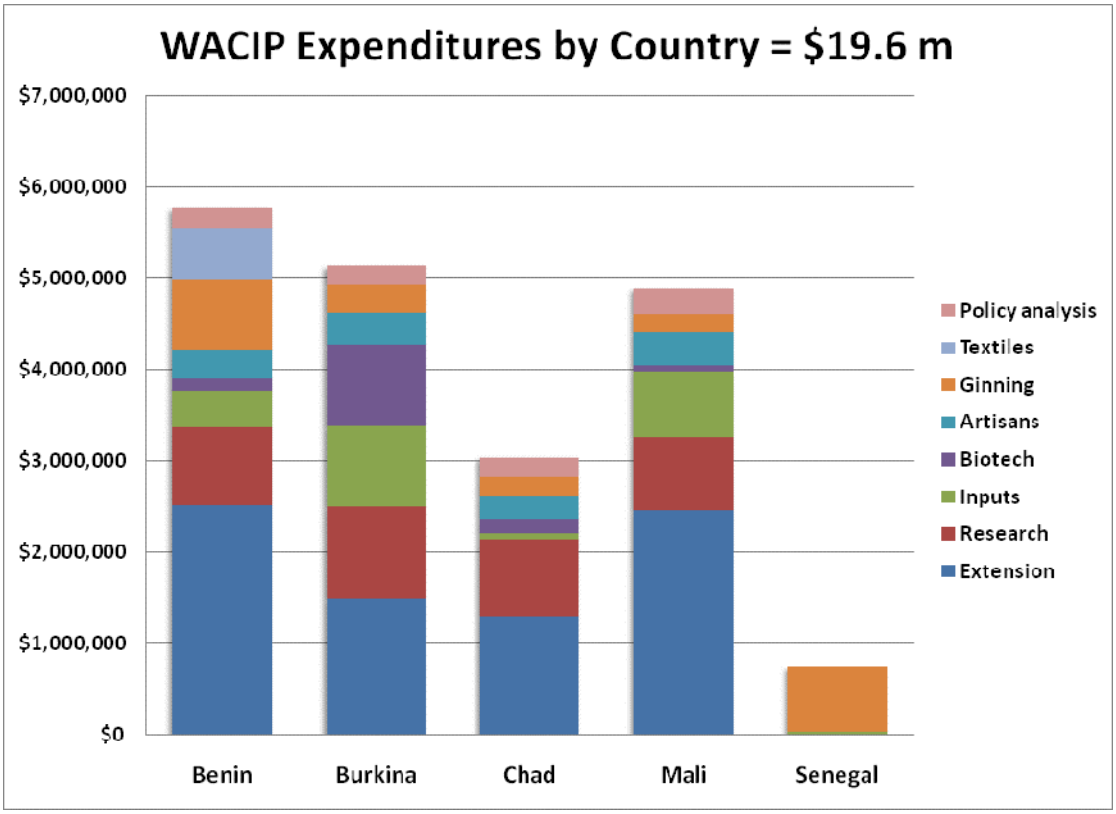
Local more than US expertise. While WACIP used some US expertise, such as scientists from Tuskegee University to help develop and review training modules, and sent a few trainees to

the United States, the greater effort was in using local expertise. Even in the ginning programs, including some high tech equipment and business models, a local firm in Benin (COTIMES) was found to be highly effective. The need to use the French language instead of English constrained the ability to use US expertise from the ginning industry. WACIP program managers included two former high level advisers to the Ministers of Agriculture (Burkina Faso and Benin) and one former head of cotton research from Mali, leading to quick understanding of how to implement programs effectively through local organizations.

Aid to artisans and organic farmers – women participants. One small program, working with Aid to Artisans, did rely heavily on American expertise – in helping local artisans reinvent their designs to appeal to the European and US markets. But in most of the programs, the WACIP program was successful in the mandate to do something quick and effective, improving incomes on a large scale with limited time and money. Most dramatically the program reached well over 900,000 trainees, mostly farmers, expanded their yields and income significantly, with a rapidly introduced program that cost less than $3/trainee.

One issue was the desire to focus on women. Almost all farm heads, who were the main focus of training efforts, were men. WACIP introduced some small programs, with photogenic results that provided help to organic cotton farmers and to artisans, both with substantial numbers of women heading the farming units (39 percent women in the Burkina Faso organic cotton program).

III. WACIP MAIN ACTIVITIES



The above chart shows the budget allocation by country of the 19,600 WACIP budget.

As can be seen in the bar graph there were a number of areas of focus, with the largest being extension and research – both geared to increasing farmers' yields and farmer income. Looking at the other categories mentioned in the list to the right of the bar chart, activities were more limited.

Most of the programs were regional and the results and lessons learned were similar. The main program goals were to increase farmer income and increase income in the processing sector. The RFA was written based on the main areas of intervention established by target countries in Cotonou in January 2006. This work benefitted from the earlier USG fact finding mission of 2004, which identified 15 areas of intervention shown in Annex II. The 2006 intervention areas were similar to the 15 areas identified in 2004 (see annexes II and III) except that:

1. The 2006 intervention categories did not include risk management.
2. The 2006 categories did not mention intervention areas that might have implied criticism of the existing system such as contamination, reduction of post harvest losses through better practices, improving competitiveness of textile and apparel enterprises, expansion of rural credit and alternatives for technology transfer. But all of these intervention areas were effectively covered under more general descriptions in the nine

intervention areas of 2006 such as improving value added and supporting policy and institutional reform.

Following are the 9 intervention areas identified in 2006 by the African counterparts.

1. Expanding the use of good agricultural practices in cotton producing areas, including addressing soil degradation and fertility problems and improving pest management practices.
2. Improving access, quality and reduce cost of inputs (seeds, fertilizer and chemicals).
3. Improving linkages between the U.S. and West African agricultural research organizations involved with cotton.
4. Improving the technical, bio-safety, and regulatory capacity for biotechnology-Bt Cotton.
5. Improving the quality of C-4 cotton through better classification of seed cotton and lint.
6. Establishing a West African regional training program for ginners.
7. Improving value added from the cotton sector.
8. Supporting policy and institutional reform for private management of the sector.
9. Strengthening private cotton producer organizations in business management practices in the C-4 countries.

One WACIP employee referred to the above 2006 recommended interventions as a "laundry list" of activities that was impossible to fully address in a three year $20 million program covering four or five countries. WACIP addressed each of the nine intervention areas to some degree, but focused most of its attention on reaching out to farmers through existing research and extension services to improve productivity, improve the control of rural credit and also worked with cotton companies on reducing ginning costs and improving revenues.

Most of WACIP's budget was dedicated to Cotonou intervention areas 1, 4 and 6.

Key – Research and extension. In its farmer outreach programs, WACIP worked through existing extension services, some controlled by government, cotton companies or by farm organizations. It did field demonstrations and training on corn and cowpeas as well as cotton and trained farmer cooperative committees on input credit control. But it did not have a main

objective of helping to reinforce new farmers organizations at the regional or national level, or to deal with some of the issues other larger and longer-term donor programs have addressed – such as rural roads, or crop and livestock business planning at the farm level.

Areas lightly covered. Although WACIP touched on a wide diversity of issues, It did relatively little on contamination issues, cotton classing, policy advocacy (other than biotechnology), or helping the textile and garment industries. Reinforcing the role of women was achieved through help to artisans and small organic farmers, and WACIP did insist on environmental issues in implementing its programs. But in its main programs, WACIP focused more on working through existing structures rather than trying to create new business, social or political relationships. It reached out to some degree to US institutions for policy analysis and review of programs and some training, but relied more on African resources and existing institutions in most of its main farmer outreach programs.

Sustainability. The heavy reliance on local structures and local partners (research, extension, ginners,) was a strength of the short term, lightly funded program, making buy-in and contributions much easier for the local implementers and for the farmers. Also, the local institutions (research, extension, ginners) with their salaries covered locally and at local rates, have a better chance of sustainability than some other assistance programs that lure talented locals away from their local institutions with much higher salaries and are not sustainable without that high-priced assistance. One can imagine the WACIP type programs continuing in the longer term without donor aid, with current funding systems for salaries for researchers and extension agents and with research/extension activities funded by a fee on cotton marketing, such as the 20 cfa fee being introduced in Benin for just such a purpose of essential support measures for the cotton sector.

IV. POLICY ISSUES

WACIP has not concentrated much on policy issues, though C-4 government policies, sometimes supplemented by donor programs, influence many aspects of cotton production and marketing. Areas influenced by policy include input supply, quality control, credit, input subsidies and unified countrywide pricing for farmers for production inputs and sale of their cotton. By one measure, WACIP estimated it spent $927,468 on policy issues (less than 5 percent of the 19.6 million total budget – mostly covering policy briefs done with WACIP funding by MSU and Abt Associates). But counting all marketing activities with policy linkages, WACIP indicated that it could also be said that it spent $5 million on policy-related issues. WACIP had a limited budget and short time frame, so it could not fully address every policy issue, preferring to focus many of its limited resources on farmer productivity.

USTR and USAID representatives, contacted in Washington by the evaluation team before the trip, suggested that policy reform of the cotton sector was a key issue to be addressed in the evaluation of the WACIP program. Looking at the 15 possible intervention areas in the 1994 interagency fact finding team recommendations (see Annex II), most of the issues involve aspects of policy – for instance on credit, control of contamination, input supply procedures, and strengthening the role of agricultural producer organizations.

The C-4 countries in international trade negotiations focused on the issue of low international prices for cotton, which are determined by the many factors influencing international supply and demand for cotton and synthetic fabrics. Blaming the poverty of West African farmers on US cotton subsidies was convenient for West African politicians and also provided an opportunity to ask for compensation in WTO negotiations.

During the evaluation, a couple of key players in Mali and Burkina Faso started discussions with a ritualistic complaint to the team about American subsidies and indicated that the WACIP program was grossly insufficient if considered as compensation for the alleged effects of US cotton subsidies. The issue was quickly dropped as discussions moved on to more practical matters about WACIP technical assistance programs.

It could be argued that the production and marketing changes stimulated by the WACIP program, (e.g. a 43 percent increase in cotton profits for farmers who received training), coupled with other improvements in the farmer input credit and ginning systems, could be substantially more important for farmer incomes than the prospect of elimination of American cotton subsidies. But this is a debate that WACIP was wise not to enter. WACIP is more appropriately viewed as a development effort to lower costs and improve profitability of the sector, rather than as a debating tool to criticize African policies in the WTO.

POLICY QUESTIONS

Some of the main policy questions in making the sector more efficient include:

1. **Who has the knowledge, resources and incentives to promote quality control and long term viability of the sector?** These questions relate to ownership, management, government regulation, donor programs, the role of farmer organizations, and policy questions on pricing, subsidies, and credit.

2. **What are opportunities for reducing costs and/or increasing quality/returns in cotton production and export channels?** For instance, all three countries decided to subsidize fertilizer prices (by roughly 30 percent) to maintain farm gate prices after international prices skyrocketed in 2008. Also, the same seeds, fertilizer, pesticides and treatment recommendations are used countrywide in spite of different climate and soil characteristics. Varied input recommendations for areas with different soil and climate characteristics might produce better yields if the logistical and educational challenges could be overcome (a big if).
3. **Equity.** What is fair (or politically desirable) treatment of farmers and equitable distribution of profits and fixing of pricing on inputs (fertilizer and pesticide) and outputs (fiber and cottonseed)? Should remote farmers be served regardless of cost/benefit to the ginning/export companies and continue to be given the same prices as other farmers?
4. **Environmental issues.** How to develop policies to address problems of soil fertility, pesticides, health risks, etc.? Compost recommendations of the program were designed to improve soil structure and address long term sustainability, but were sometimes a hard sell. Pesticides are a major cost and environmental and health risk. Pesticides are supposed to degrade within a few weeks to avoid public health risks. Safer pesticides may be less effective and have a shorter shelf life.
5. **Value Added.** How to promote processing of cotton fiber and value added? This is a difficult question in the light of strong competition from Asian fabrics and garments (half the price of locally produced cotton products) and used clothing imports (a third or less the price of local products). In this case equity considerations include the desire for local industries and employment, versus the desire of people with very low incomes for affordable clothes. It appears that expansion of local processing would require substantial subsidies. Weak enforcement of customs duties on imports of garments represents another related set of policy issues.
6. **More efficient input supplies for fertilizer and pesticides imported from Europe.** An IFDC study of 2009 calculated that in 2006 Malian farmers were paying the equivalent of over $500/MT for fertilizer that cost under $300/MT for farmers in Thailand. Distribution costs are high in West Africa. Competition among input suppliers is limited due to delayed payments to importers and the need for and risk of input credit for farmers.
7. **Privatization.** Privatization, insisted upon by the IMF and World Bank, was pursued for cottonseed crushers and for some of the ginners but privatized companies experienced some severe problems at the outset. The privatization of gins in Benin initially resulted in disruption of input credit and purchase systems and a sharp fall in cotton production. A single private entrepreneur now dominates almost all of the ginning industry and also has a dominant role in supplying the country with imported fertilizer and pesticide, so some people say a public monopoly was replaced with a private monopoly. Also, in spite of privatization, centralized control remains on imports of fertilizer and pesticides and purchases of cotton. Full privatization of input supplies would be difficult because:
    a. Farmers need credit.

b. Private networks of input suppliers exist but they generally don't provide credit and there is also a problem of fraudulent products in the private networks. Monopolistic ginning companies or related structures have imported, tested and provided reliable quality fertilizer and pesticides and generally made sure they were delivered to farmers on time and on credit. Ginner related integrated systems can sell inputs on credit and be relatively sure of repayment when the farmer sells cotton to the gin.

   It appears that cotton ginning companies, privatized or not, will face similar constraints in sourcing from small private farmers that need seeds, credit for inputs. Currently farmer groupings, organized in cooperation with the ginning industry, jointly guarantee credit repayment, help to distribute inputs and group together adequate quantities of cotton to make it worthwhile to send a truck to pick up the cotton of a group of farmers. A Malian Ministry of Agriculture official said that when Malian ginners are privatized later this year, he expects that they will continue to provide extension services to farmers (rather than having the government do it – unlike the situation in Benin where these are government services). He also said that while the price of cotton and inputs will continue to have a single price for each product countrywide, he doubted that a private company would be forced to source from small remote farmers if it did not find it to be profitable.

   A French (AFD) cotton expert told the evaluation team that the difference between public and private sector ginners would not be substantial, but that the key would be the competence of management. A private company might be more careful about spending on non-profit making activities (including politically motivated activities) and might possibly be better managed than a public company managed by someone chosen by the political process.

8. **Food security and related issues.** Feeder roads improved to transport cotton are also used for transport of food crops. Fertilizer purchased with cotton credit is also used on corn and other food crops.
9. **Biotechnology and biosafety systems.** (Discussed below)
10. **Pricing.** The most controversial domestic policy issue is the level of prices set for cotton, which is crucial for farmer income and for the viability of local ginning and other processing industries.

The national advisory committees and African cotton associations in several meetings of 2007 identified the following top priority policy issues:

- Cotton price setting mechanisms,
- Funding for cotton research and extension,
- Developing and enforcing the bio-security regulatory framework,
- Obtaining quality agricultural inputs at the best possible prices, and

- Establishment and management of a cotton commodity support fund to reduce price and exchange rate risks. (e.g. the fond de lissage – stabilization fund – in Burkina Faso).

WACIP programs addressed research, extension, biosecurity and MSU did some work on cotton pricing, with a focus on whether farmers were adequately reimbursed for the value of cottonseed sold to crushers.

WACIP POLICY ACTIONS

The main focus of WACIP has been to improve efficiency and profitability of the sector, improving farmer yields and lowering the costs of ginning. According to the WACIP Chief of Party, the MSU and Abt Associates policy briefs financed by WACIP were used most of all to help WACIP determine the best areas for the WACIP program to focus, more than trying to convince governments to change their policies. The short duration of the project also played a part. While WACIP-financed MSU policy briefs supported the development of producer organizations to ensure long-term equity in domestic pricing and related issues, WACIP decided to concentrate more on delivering advice to farmers, ginners and artisans than on strengthening producer organizations. The main area of WACIP action in strengthening producer organizations was a valuable program to train secretaries in local cooperative committees to better handle input credit. Other main WACIP policy activities were as follows:

Biosafety. Probably the biggest impact on policy from WACIP was with respect to biotech (BT) cotton, being introduced in Burkina Faso in cooperation with Monsanto. WACIP supported the biotechnology sector in Burkina Faso in educating the public not only in Burkina but in the other countries as well – Chad, Mali, Benin, in the face of attacks on biotech cotton and erroneous information spread by some Non Governmental Organizations. Most notable was work in Benin, bringing in experts from Burkina (which is producing biotech cotton) and Mali (which hasn't started commercial production yet, but is developing implementing regulations for biotech cotton) to talk about their work on biosafety systems. The seminar in Benin stimulated a debate on the previously largely taboo issue and led the government to make moves toward permitting research on biotech cotton and beginning of preparation of the necessary biosafety control framework that will be needed if Benin decides to remove its ban on biotech crops and permit farmers to use biotech cotton in the future.

Policy Briefs. WACIP partners (MSU and Abt Associates) used WACIP grants to do policy briefs on some key issues, some of which were made available to the public and some of which are still being reviewed by WACIP or were not issued for other reasons. For instance the COP said that a textile industry brief done early in the program was not released because it was felt to be excessively critical. A WACIP-financed MSU brief on producer organizations helped WACIP determine that except for the program to train cooperative secretaries on input credits, WACIP didn't have the time/resources to provide substantial and effective support to producer organizations. WACIP left more general assistance to strengthen farmer organizations to other longer-term development programs such as of those of the Dutch and the French.

MSU policy briefs prepared under WACIP and issued in November 2008 compared different cotton marketing organizations in nine countries but did not come to a firm conclusion on which was best.

One of the MSU briefs (only in French on the WACIP Website: "Le Coton en Afrique de l'Ouest et du Centre: Adaptation d'un Modèle réussi à de nouvelles réalités" by Valerie Kelly and David Tschirley*) mentioned that in the past some government people siphoned off money from parastatal cotton companies in times of high prices for uses unrelated to the cotton sector. But it also said that new "privatized" structures in Burkina and Benin adopted practices that eliminated competition in purchases from farmers (similar to the former parastatal companies). It mentioned sentiments among some cotton sector actors, that the calls for radical re-organization of the filiere structure (presumably referring to IMF/World Bank calls to privatize the ginning industries) might be based more on theory than economic reality. On the argument that West African farmers get a low share of the export price, MSU said that this calculation ignored the many services and benefits for farmers financed by the cotton sector including announcement of farm gate prices in advance of the season, credit and guaranteed supplies of reliable seed, fertilizer and pesticides, subsidies for inputs, increasing the role of farmers in farmgate cotton price fixing, training of farmer representatives in credit control and producer organization management, and use of cotton revenues to develop infrastructure such as roads, schools and health services for the rural population.

Abt Associates did some work on the question of support to textile/garment industries based a request from a Beninese (former) Minister of Commerce/Industries. That evaluation has been drafted and is being reviewed by WACIP prior to public release.

MSU reportedly did a study on pricing of cottonseed for crushing (not yet released), to determine whether the value of cottonseed for crushing was accounted for in the farm gate purchase price, a widely discussed question in 2007/2008 when world prices of cottonseed and other oilseeds increased dramatically. MSU discussed this pricing issue in a seminar in Benin and reportedly determined that the value of the seed for crushing was accounted for in the price for farmers. MSU evaluated past work of Europeans and others to develop farm and industry pricing formulas and found that although there was a formula to set prices, in fact the prices in Chad, Benin and Mali were established by negotiation and that that prices for farmers (set prior to planting) plus the end of season payment (ristourne) were often higher than would have been justified by cotton export prices. When the evaluation team asked if this meant that farm gate prices were too high, MSU (Prof. Valerie Kelly) commented that analyses of farm-level cotton income also suggest that farmers' net incomes per hectare of cotton have declined dramatically. (Thus, it would be a politically charged statement to say they are being paid too much.)

MSU and WACIP were not asked to evaluate the price fixing mechanism for cotton fiber, in principle based on a formula, but generally an exercise of negotiation for the cotton ginning companies, in cooperation with the government and the farm sector national representatives. Burkina Faso declined to let MSU have a public discussion to answer the widely publicized question of whether farmers were being adequately compensated for the cottonseed. But MSU's conclusion was that Mali and Benin's farm gate cotton prices were high enough to cover the value of both lint and seed. In 2010 Burkina Faso added a special supplement to the cotton price to account for the value of the seed sold by ginning companies to cottonseed crushing industries.

POLICY AREAS NOT COVERED BY WACIP

The following are some important areas of policy that influence farmer incomes and arguably might have been covered by WACIP, but were not, in part due to focusing the limited budget resources in other areas:

Imported fertilizer and pesticide prices. Aside from some discussion of research institutes of the possibility of finding some local components for fertilizer instead of importing from Europe, there was no focus on lowering the cost of imported fertilizer and pesticide. Work on farmer credit was pertinent to supplies of inputs, but import prices/competition and quality control were not addressed to any significant degree. Expanding competition for input suppliers could be quite a difficult task, might challenge some powerful entrenched interests, and is related to the need for extended financing for the input suppliers under the current systems. There is a question of whether WACIP had the funding, duration or credibility to address this issue.

Strengthening Producer Organizations. WACIP did some work with producer associations, such as training cooperative secretaries to better control input credit and working with the national farmers union in Burkina Faso on promotion of organic cotton farming. Work to promote sales of artisanal cotton products was generally through producer organizations. But WACIP did not focus as much as French or Dutch programs on strengthening producer organizations for cotton farmers (e.g. training accountants, etc). This is something that might be done in a future WACIP, particularly with respect to the producer organization work to improve the input credit system and work in the "interprofessional" organizations grouping cotton companies and national producer organizations to set cotton prices and in some cases control imports and distribution of fertilizer and pesticide on credit.

Contamination. Use of polypropylene bags in cotton production has led to small bits of polypropylene from pieces of bags or covers ground up and discovered when the cloth is dyed and there are specks of polypropylene that don't absorb the dye. WACIP provided cotton harvesting bags to organic producers in Burkina Faso but otherwise did not address this issue to any substantial degree. It may be difficult to resolve this problem because the farmers can use the polypropylene sacks they get with fertilizer and pesticides without paying any extra money, while they might have to buy a cotton sack.

Cotton classing. WACIP work on ginning humidification reduced breakage of the fiber and improved the staple (length) of exported cotton. But while there were some pre-WACIP visits to the United States under the Cochran program to discuss cotton classing, the WACIP program generally did not deal with the issue of improving cotton classing in order to get higher prices in export markets. The head of USDA's cotton classing group visited Burkina Faso in 2006 and determined that reliable machine classing would require a lot more than just buying the $2 million HVI machines and would likely be difficult to implement in West African conditions. Nevertheless, an area of possible future work would be in machine classing of cotton to improve reliability, reportedly being expanded this year by Burkina Faso.

Stabilization Fund. Burkina Faso reportedly asked for US support for its fond de lissage (stabilization fund) through the Millennium Challenge program but the US declined. The French provided some modest help, quickly used up to support farm gate prices. It would seem of

doubtful wisdom to support a stabilization fund if it is to be just a system to subsidize continuing losses as opposed to a self-sustaining fund to smooth out year to year price fluctuations.

Cotton Pricing. The key policy question that remains for future viability of the cotton sector is whether political pressures will lead to farm gate prices too high to be justified by world market prices, not the case in 2010, but a potential problem for the future. WACIP staff indicated to the team that politically, they would not have been welcome to propose new pricing mechanisms for farm gate prices of cotton.

Evaluator Comment on pricing. If farm gate prices are set too high relative to world prices, continuing subsidies would be needed to support the sector. The stabilization fund and end of season "ristourne" payment isn't a bad idea, but would work best if there were a reduction in the first payment to farmers to perhaps 75 percent of the expected value of the cotton (30 or 40 percent might be needed for credit reimbursement) and if a substantial post-season payment is made after export pricing and profitability is clear. That would take some of the risk of fluctuating world prices from ginners and put it on farmers, making the sector more sustainable. A stabilization fund, if properly managed, could be sustainable and help smooth farmer prices in years of unusually low world prices, building up reserves in years of high prices. The delayed second payment might actually be helpful to some farmers, since they find it hard to save cash. But this controversial proposal (eliminating fixed prices for farmers and cutting the initial payment) is not an area where WACIP's small and short term program would have been welcome to give advice. End comment

POLICY BUY-IN IS ESSENTIAL

WACIP successes were based on getting local buy-in and substantial counterpart contributions and enthusiasm, contributing to successful and sustainable implementation. The US has to propose policies that have a realistic chance of being accepted. As in the case of biotech cotton, there may be different degrees of receptiveness among C 4 countries and their industries to specific policy changes and timetables for implementation.

V. 2006 COTONOU RECOMMENDED AREAS OF INTERVENTION: WACIP COVERAGE

The following is a more detailed discussion of the degree to which WACIP addressed each of the nine intervention areas specified by C-4 representatives in 2006.

INTERVENTION 1

Expanding the use of good agricultural practices in cotton producing areas, including addressing soil degradation and fertility problems and improving pest management practices.

Comment: This was a major focus of WACIP activities, used over half of the budget and was very effectively pursued, with impressive gains in yields and farm income. WACIP programs trained over 900,000 farmers. Surveying records on thousands of farmers who benefited from training, WACIP estimated that it substantially raised the crop yields per hectare and the incomes of farmers. It reported average yield increases of 17 percent from the previous 2 or 3 year base period and average profit increases of 43 percent for net money returns from cotton (counting all money costs, not including the value of family labor).

Much of the pest management and soil fertility work was done through research institutes including the following activities:

1. **Testing new fertilizer formulas** that would address micronutrient and other deficits in soil in using new fertilizer formulas.
2. **Testing insects for resistance to pesticides** – a big problem since the 1990's and requiring continual multi-year (normally 7 year) testing of alternative pesticides and resistant bugs to be ready when resistant bugs become widespread and a pesticide must be changed. This work will also be important for insect resistance for the new BT cotton being introduced in Burkina Faso.
   The WACIP program included purchase of some modest equipment to make labs more functional and to permit exchange of information among researchers, including modern computerized information systems for internet and intranet, generators to keep insects being tested alive when the power fails, a virtual library of shared research results across

the region and internationally, regional meetings to share information and to brainstorm on recommended outreach tools for farmers.

3. **Testing "trapping plants"** that might attract insects away from cotton plants. This can be important for traditional cotton pest control and also be an alternative to current plans to convince farmers in Burkina Faso to plant 20 percent of their fields in non-BT cotton to slow the development of BT-resistant insects.
4. **Research institutes and farmer extension programs** also worked on "threshold" application of fertilizer – which would teach farmers to identify insects, count infestations and apply pesticides only when thresholds were surpassed, rather than calendar application of six treatments. A Dutch program is also attempting to use this method with farmers WACIP indicated that it did not use the LEC method in farmer training (often using less than the full dose for light insect infestations, but claimed substantial results from its Integrated Pest Management training (applying the appropriate pesticide based on infestation thresholds instead of calendar application). This could make pesticide use more effective and reduce cost if pesticide application is reduced.

INTERVENTION 2

Improving access, quality and reduce cost of inputs (seeds, fertilizer and chemicals).

Pesticides. Pesticides are imported by tender from competing European suppliers after multi-year testing by C-4 research institutes demonstrate the efficacy and safety of pesticides proposed in Europe to address old and new pest problems as reported from Africa to European suppliers. Recommended application of pesticides would normally cost 24,000 francs for purchase of chemicals for six treatments with farmer backpack sprayers, compared to a total cost of inputs of about 80,000 – 90,000 cfa (50,000 for fertilizer, 24,000 for pesticides and perhaps 10,000 for herbicides used by some farmers). Gross revenue from cotton sales would average roughly 300,000 cfa/ha ($600) for a well managed farm with a yield of 1.6 MT/ha, or about $400 after paying for inputs.

Although WACIP claimed substantial results of reducing pesticide cost from farmer training in IPM, it was unclear to the team to what degree this was accurate. WACIP claims of a 66 percent reduction of input use on Mali cotton largely due to training and reduction of use of pesticide seems unlikely to be accurate, since pesticide cost normally represents only about 30 percent of input costs.

Use of BT cottonseed will cost 27,000 cfa/ha instead of 7,000 for undelinted conventional seed, but will save the cost of 4 pesticide treatments (16,000 cfa saving in pesticides) It is expected that BT cotton will higher yields by about 30 percent, resulting in a substantial increase in net income for farmers. In addition, there are likely to be substantial health benefits to less use of backpack spraying, with danger to the sprayer and to family members entering the fields too soon after spraying. WACIP training also recommended use of protective clothing for people spraying pesticides and provided these garments to the 1,000 test plot farmers.

Soil Fertility. WACIP worked with research institutes on new fertilizer formulas, in use across the region for decades without changes for different soil deficiencies in different regions. The project did not dedicate resources to trying to get cheaper imported products, though some of the work with researchers touched lightly on the question of whether some fertilizer ingredients could be sourced within West Africa.

Seeds were not a major focus of the project. There was a seminar on plant varieties and a desire expressed, but not realized to have a West African seed catalogue, which was supposed to be produced by the researchers without any funding, but that did not happen.

Input credit for importers and farmers. There are a number of competing European suppliers of fertilizer and pesticides, but when responding to a tender locally, an input supplier faces the issue of credit – supplying in March or earlier and being paid no earlier than December. The project did not address the question of reducing import prices, but did address some other key problems in input supplies – with respect to proving to farmers in training sessions and demonstration fields that they could greatly increase their yields and money incomes if they would apply recommended inputs and practices to their farms. The training of cooperative committee secretaries was a critical area in reducing fraud and mismanagement, avoiding the problem of unpaid debts, and putting cotton production and marketing back on a sound footing.

INTERVENTION 3

Improving linkages between the U.S. and West African agricultural research organizations involved with cotton.

WACIP program linkages to US research organizations were modest. Prior to WACIP and near the beginning of the program, there were a number of training trips to the United States under the Cochran program (not part of WACIP) for training in soil fertility, ginning, entomology, agronomy, including training at Tuskegee for crop production issues and at other universities for ginning. There was also linkage to earlier French work from Montpellier researchers on insect resistance. WACIP used American universities including Tuskegee and Auburn for advice on research and extension programs and used MSU to do some policy briefs. The computer, internet, intranet, document scanning, and virtual library systems that WACIP/INSAH are installing in cotton research institutes will help researchers connect to others in the region and to the outside world including the US. The limited English language ability in these countries limits somewhat access to US institutions and international events. Also, the 9/11 attack on the US made it very difficult to get visas for training programs.

Monsanto in Burkina Faso. The one area where there was really extensive interaction between US and West African researchers was in BT cotton in Burkina. Monsanto took two West African varieties and inserted BT genes and worked closely with researchers on issues pertinent to BT cotton and pertinent to plans to slow the development of insect resistance. WACIP played some role in this partnership as well, funding some modest equipment that would help to identify insect resistance for both BT and conventional cotton and helping to fund cotton research on resistance to pesticides, research capabilities that can also be applied to insect resistance to BT. More ambitious efforts could be imagined such as molecular and genetic analysis of insects, or biological control, but the more mechanical process of reproducing suspect

insects and testing pesticides on them is workable and useful within the limited funding and limited time frame of the WACIP project..

INTERVENTION 4

Improving the technical, bio-safety, and regulatory capacity for biotechnology-Bt Cotton.

This is an area where WACIP was particularly effective. A government biosafety agency in Burkina Faso, Agence Nationale de Biosécurité (ANB), was extremely active in public education programs on biotechnology and biosafety programs, not only in Burkina Faso, but in Mali, Benin and Chad as well, countering misinformation spread about BT cotton and explaining how to develop appropriate biosafety systems.

Benin research institute contacts confirmed WACIP reports that the WACIP workshop in Benin, bringing in experts from Burkina and Mali to talk about benefits of BT cotton and control systems needed, removed impediments to frank discussion of BT cotton in Benin, made people aware of the benefits of biotech cotton and the biosafety systems needed, and speeded moves toward permitting research on BT cotton (expected to be approved soon) and beginning the creation of the institutional structure for biosafety controls once the Benin ban on biotech production expires. A biosafety seminar was also held in Chad, with assistance from ANB.

The ANB biosafety education program was extremely active with seminars and careful crafting of local language radio messages, some to be broadcast under non-WACIP funding after the end of the WACIP program. The program was introduced quickly and effectively in a six-month period at the end of the project by a dynamic new director of the Burkina Government's biosafety authority (ANB). A French source said that they also had some funding for similar activities but ANB forged ahead to use expiring WACIP funding first to develop a very timely program that helped to counteract lies spread by various anti-biotech private organizations in the region. ANB said that teachers were assigning school children essays on why introduction of BT cotton is bad. The biosafety control systems are important and somewhat problematical to implement (trying to prevent exportation of BT seed to neighboring countries - likely to be mixed with conventional seed and producing poor results for farmers that reduce pesticide treatments).

If there is a WACIP II, much could be done to help neighboring countries assess their need for biosafety control systems and to help ANB interact effectively and positively with extension workers and other authorities in Burkina Faso to implement needed controls.

WACIP work with research institutes is pertinent to slowing the development of resistant insects, becoming a big problem since the 1990's and also a threat to BT cotton. WACIP purchased a piece of equipment to expand the Burkina entomology lab, so that it can test six insects at a time instead of two. There was a reported misunderstanding about an alleged Monsanto promise to build a laboratory, which would have housed the WACIP-financed machine. The failure to follow through was reportedly related to a series of changes in Monsanto personnel responsible for West Africa and it was unclear to what extent Monsanto had or hadn't fulfilled its commitments. Given other, sometimes spurious, allegations in Burkina Faso, it was very unclear whether there is a problem and who was at fault. But clearly Monsanto has a continuing interest in seeing that the Burkina Faso program works. Researchers felt that WACIP

could be particularly useful because Monsanto's interests would be very short term and geared specifically to the success of BT cotton, whereas WACIP could consider broader longer term benefits for cotton farmers via research activities.

INTERVENTION 5

Improving the quality of C-4 cotton through better classification of seed cotton and lint.

The US gets a high price for its cotton because manufacturers are certain about the quality of the cotton needed to produce perfectly consistent products. West African cotton (hand picked) can be of high quality but is less standard, so may be discounted because the quality is uncertain. A manufacturer needing an exact type of cotton to keep all of its garments exactly consistent will pay a premium to be sure it is getting a precise quality.

There was some Cochran Program training in the US on better classification of seed cotton and lint and a conference funded by WACIP on plant varieties, with an expressed desire to have a catalogue of West African cotton varieties – the catalogue not yet done. Much remains to be done – particularly with machine classing (HVI) of cotton to obtain better prices in export markets. This would be a likely area for action in an extended multi-year WACIP program, if that is planned. WACIP did help to introduce a cost saving measure through cheaper ties for cotton bales.

The Benin plant that WACIP helped with a new humidification system claimed that the humidification process had substantially increased the amount of longer staple cotton (1 1/8 instead of 1 3/32 inch length – worth an additional 10 cfa/kg), by reducing breaking in the ginning process.

Various suggestions have been made for improving quality by better classification. A French source claimed that standardized microneer (width) of the cotton could lead to premiums and that the international trading firm Louis Dreyfus had increased the value of West African cotton by re-classifying the bales by microneer. There are issues on whether a sample will be representative of the entire bale.

COTIMES feels strongly that West Africa could gain by moving to machine classing of cotton using HVI machines (cost about $2 million for each HVI machine) and COTIMES claims that SOFITEX (which declined to meet with the team, saying its key personnel were traveling) had purchased HVI machines and plans to use them to class half of its crop this year. ICA the big cotton company in Benin said that bale identification systems would be useful, but that HVI classing would be excessively slow and thus infeasible.

In any case, WACIP did little with respect to cotton classing and it appears that this could be a productive area for future work, if WACIP should be extended.

INTERVENTION 6

Establishing a West African regional training program for ginners.

WACIP did have a training program for ginners, though the duration of the project was not conducive to the original 2004 idea of an annual ginning training program. Some ginners were sent to the United States. The major and most effective ginner training was with the partner COTIMES, based in Benin, with WACIP selecting by competitive bid two gins to introduce automatic humidifiers and other systems of information, accounting, health and safety. These programs were reportedly (by WACIP and by both companies – who met with the evaluators) highly cost effective and they were used to train ginners from other countries among the C4 in these methods.

INTERVENTION 7

Improving value added from the cotton sector.

The C-4 countries export about 98 percent of their cotton. As indicated by a textile/garment factory to the evaluation team in Benin, West African textile processing in general is not competitive with Asian production, with costs at least twice as high as new Asian goods competing in local West African markets. WACIP commissioned a study of the textile industry done by Abt Associates at the request of a Minister of Industries in Benin. WACIP also had Abt Associates do a study of the cottonseed crushing industry, producing cooking oil and animal feed.

The 2004 Fact Finding team identified polypropylene contamination (tiny pieces of ground up polypropylene bags and covers) as a major problem (the tiny specks in the cloth won't take dye) and this may have led to some attention to try to resolve the matter. The problem of getting farmers to use cotton sacks and covers in place of polypropylene sacks is difficult because the polypropylene sacks, used to deliver pesticides and fertilizer – are free to the farmers. WACIP did finance the provision of locally produced cotton bags for the organic cotton contract in Burkina Faso. The Common Fund for Commodities (EU and World Bank funding) in cooperation with IFDC, is starting a new program for use of cotton sacks in Mali, Burkina Faso and Cote d'Ivoire, probably in part because of the US work in highlighting this problem. I

In general, WACIP touched on the issue of value added to cotton in several activities (ginning, artisans, policy briefs), but did not undertake a major program in the likely futile task of trying to prop up a non-competitive textile or garment industry, concentrating instead on improving ginning and a modest program of aid to cotton product artisans.

INTERVENTION 8

Supporting policy and institutional reform for private management of the sector.

WACIP did not have the clout to influence the privatization process other than helping some of the ginners to reduce costs and helping to reduce farmer debt repayment problems through training at the cooperative level. WACIP worked closely with the cotton ginning companies (unlike other donors), but did not do any work closely related to privatization of C-4 cotton ginning companies. The ginning companies are newly privatized in Benin, will be privatized at the end of this year in Mali and in principle were privatized in Burkina Faso, though the largest company – SOFITEX - faced financial difficulties, was re-capitalized by the government and now is majority government owned once again. Work with the private ginners included working with their extension agents (Mali and Burkina), ginner training programs in Mali (for the region), in

South Africa (for contamination issues) and in the United States (financed through the Cochran Program instead of WACIP).

The most successful WACIP financed industry program was the pilot programs with gins in Senegal and Benin (selected by competitive tender according to their readiness to implement the program) with equipment purchases and training done by a very competent private company in Benin (COTIMES). The evaluation team met with the Senegalese and Beninese managers of the private companies, who confirmed that the programs resulted in very impressive results. The total cost of the program (partly cash and staff time contributed by the two companies) was recouped within a year and WACIP estimated that the savings for the companies would be $5 to $6 million over a 10 year period. SODEFITEX in Senegal was granted $206,904 of WACIP money and COTIMES, which implemented the technical program, received $430,264. The Benin company, ICA, said that the automatic humidification equipment improved weight and quality and earned the company about 58 million cfa ($1.2 million) and that the health and safety management program (e.g. control of dust etc) was implemented for all their gins and saved 111 million CFA (about $2.4 million). These successful efforts were used for training programs for ginners from throughout the region. Surprisingly, when the evaluation team asked in Mali and Benin whether the ginning companies would proceed with investments in their other gins for this technology without donor support, since they could borrow money for the investment and pay it back in a year, they seemed doubtful, perhaps not so surprising in Mali, where the cotton ginning company is in financial crisis and in the process of selling its gins to four private buyers.

Some other donors – the French and the Dutch, have been working on developing local farmer institutions. See Annex VIII for a listing of some of the other donor programs pertinent to cotton. In all three countries more work on management of the sector is supposed to come from the cotton "interprofessional" committee, comprised of cotton company representatives and farmers unions (and in some cases input suppliers and government Ministry observers). These "interprofessional" groups are supposed to set the annual farm gate cotton prices in all three countries and in Mali are also involved in imports of fertilizer in pesticides, with help from the cotton companies and in Benin with help from a separate group tendering for import and tendering separately for distribution. The research institutes develop seeds, multiply them with farmers and distribute seeds to farmers with the help of cotton ginning companies and farmer organizations.

Generally the sector is not moving toward using the networks of private input supply dealers to source cotton inputs because of the need to provide credit to cotton farmers (and crucially - to collect the debts when they sell the cotton to the gins), and also because the private input supply system for other crops (unlike the cotton system) currently has a big problem with fake or adulterated products. The evaluation team did see sales of herbicides and sprayers (for cash) in the open market, though more reliable herbicides can also be sourced on credit through the cotton company input supply systems.

The private farmers unions are considered to be private sector entities. The project did work with them, particularly in Burkina Faso in the organic cotton program (where WACIP supplied the bags and the farmers union supplied the extension services and purchased the cotton from farmers). Contracting directly with the farmers union for extension to train cooperative

committees on input supplies alienated the cotton ginning companies in Burkina Faso and contributed to WACIP's most serious implementation problems.

Problems with Burkina Faso cotton sector. WACIP's work through the national farmer's organization in Burkina Faso for training cooperative secretaries in input credit management was bitterly resented by the cotton ginning industry companies, particularly SOFITEX, which controls 85 percent of cotton production. This is explained further under the country comment section below:

The evaluation team, after meeting with the partners concluded that communication among different units of the Burkina government appeared to be poor and that better communication in a future program with all the players might possibly mitigate some, but not all of the problems encountered.

It appears that a future WACIP, if there is one, could usefully target the fledgling interprofessional organizations, particularly in 'Burkina Faso and Mali, and provide staffers of those organizations with training and other support. To make such a system work in Burkina Faso, the AICB would have to have permanent staff, rather than relying on cotton companies for all monitoring and reporting, and permit WACIP to help train the AICB permanent staff on reporting, monitoring, evaluation and financial reporting requirements. A future WACIP might wish to consider a method to help the AICB recruit staff that was employed by the French to help farmers unions recruit new staff, paying 75 percent of the salary of new staffers the first year, 50 percent the second year, 25 percent the third year, and nothing the fourth year.

In sum, WACIP was not active in institutional reform, but was affected by the reforms being pursued. A future WACIP would be wise to coordinate even more closely than in the past with national advisory committees, Ministries and major players to determine the best organizations to work with and avoid getting embroiled in local power struggles. WACIP had trouble with this in Burkina, certainly not completely due to its own fault. A similar power struggle is proceeding in Benin, influencing the programs of other donors (Dutch and French who helped farmers unions) but not WACIP.

Farming programs and policies are highly politicized in most countries including the C-4. A small program like WACIP can influence some policy issues (such as potentially in the future provision of credit for corn fertilizer based on cotton sales) but probably can't and shouldn't seek to push for major political decisions such as pricing and privatization and should tread carefully on issues of power struggles between farmers unions and cotton ginning companies.

INTERVENTION 9

Strengthening private cotton producer organizations in business management practices in the C-4 countries.

Work with business management practices for cotton producer organizations was very limited. There was a focus on business management in some of the WACIP programs, including the Aid to Artisans program. Similarly, in the business management work with private ginners by COTIMES in Senegal was pursued, treating the ginnery as a profit center. Benin did not accept

the full revision of accounting procedures and computer programs proposed by COTIMES, but it did accept the health and safety systems and the humidification system and reported that this resulted in big gains in profits.

WACIP worked closely with the management committees of the voluntary cooperatives at the village level (10 to 70 farmers in the cooperatives), a program of training trainers to train the cooperative secretary, input manger and warehouse manager) to make the input credit work better. This work is crucial to the viability of the cotton sector, to help to avoid the disruptive problems of the recent past with respect to fraud, non-payment, and losses by cooperative members who jointly guarantee the input loans for each other.

WACIP also cooperated with the Burkina Farmers union extension service in a training program for cooperative secretaries and in supplying bags to organic cotton farmers as part of the Cotton Farmers Union's efforts to fulfill an attractive "fair trade" organic cotton contract with Limited Brands, purchasing cotton for a consortium including Victoria's Secret. Limited Brands paid over 3 ½ times the normal price for conventional cotton the first year and over 2 ½ times the normal price the second year, making the organic cotton program viable, in spite of the low yields (average 587 kg/ha) and the high costs of certification programs for organic cotton.

In sum, WACIP did some work with farmers unions but little to build capacity except at the farm cooperative level.

CONCLUDING COMMENT COTONOU 2006 INTERVENTION AREAS

WACIP touched on all nine areas from the 2006 Cotonou meeting, and had impressive results in some of the areas. It seems to have made a sensible choice in working in areas where there was a strong possibility of success, rather than areas not likely to be successful, such as trying to change the structure of the cotton industry, decision making for prices or other highly political decisions, or trying to prop up non-competitive processing industries. The short duration of the project made it difficult to launch long term capacity building of the type the French and Dutch tried to do with farmers' organizations.

VI. COMMENTS ABOUT WACIP (BY COUNTRY)

Generally, except with respect to the cotton ginning companies in Burkina Faso (and their Ministry of commerce partner) comments about WACIP were universally positive. There were complaints about the Institute de Sahel (INSAH) and in Burkina Faso the INSAH problems were also blamed on WACIP.

A. CROSS COUNTRY: RESEARCHERS COMPLAINTS ABOUT INSAH

All researchers in the six cities visited by the team complained about the Institute of the Sahel, saying that its procurement procedures for computers and communications equipment, generators and machines for cotton research were very slow and saying that the money should have been allocated directly to the research institutes. One of the researchers in Bobo, Burkina Faso said that they would not get money sent by WACIP to them if they didn't know that it had been deposited at their headquarters and they said that WACIP should tell them when it arrived so they could ask for it and then they said it would be sent quickly from their head office. It appeared to the evaluation team that communications among researchers (e.g. in Burkina Faso's cotton research labs in Bobo and their central director in Ouagadougou) were extremely poor and this accentuated feelings that WACIP or INSAH were failing to communicate and failing to act in a timely manner.

Most of the equipment had not yet arrived as of the evaluation team departure, so installing it and training on it and evaluating the results could exceed the life of the project (now extended to September 30). The WACIP COP explained that INSAH was learning the procurement procedures and may have made mistakes at first, trying to buy small lots under the threshold that would obviate the requirement for public tendering and then having to go back and group like items for tendered purchases after instructions from auditors. She commented that attempts by Burkina researchers to buy one specialized entomology machine were not successful and they finally had WACIP buy the machine, at a third of the cost they had estimated. In Benin, some specific complaints against INSAH were made. One claim was that INSAH promised to pay for training for three scientists in Benin and then failed to follow through. An INRAT researcher in a Masters Degree program in biotechnology claimed to be waiting for a promised INSAH payment for over a year and said the university kept threatening to throw him out for non-payment. WACIP (Blaise Fagdoegnon) later advised the team that INSAH told the researchers that they wouldn't pay for a degree program, so that it appeared that perhaps the fault was not that of INSAH, though the lack of communication/understanding was surprising.

Another Benin complaint concerned a scanning machine that INSAH supplied so that Benin researchers could share research results of previously prepared reports with the region and the world. INSAH reportedly held a training program on the scanner last August, and sent a list of 24 participants to WACIP indicating successful completion. But INRAT reported that the scanner didn't work and INSAH said a computer program was missing. Thus the training program was of limited value, and nearly a year later (June 2010) INSAH had still not sent the missing computer program. WACIP personnel were not aware of this. It appeared that better communication could have resolved or mitigated many of these problems. Taking a year in Africa for an international tender for equipment doesn't seem astounding. It appears that if there were better and more

frequent communication on progress and problems, some of the ill feeling toward INSAH (in the case of Burkina - attributed to WACIP mismanagement as well) may have been mitigated.

B. MALI

Comments about the WACIP program in Mali were almost universally positive. The head of the cotton company began discussions with a ritual complaint about US cotton subsidies, but quickly moved into discussion of areas of cooperation in extension and ginning, policies and prospects for the future. Researchers were also very positive about WACIP, and clearly the WACIP lab visits and quick and effective selection of key equipment improvements within a limited budget were appreciated. The only negative comments were about INSAH slow procurement and comment by a Ministry of Agriculture official that he didn't get copies of the studies, or briefs that were supposed to be done by WACIP. But all the other programs of WACIP seem to have been well implemented and appreciated by the recipients and all recipients expressed a hope that WACIP might be continued. (WACIP later told the team that the Ministry of Agriculture official originally insisted that the Mali Consultative Committee should control the budget, but later conceded that they couldn't have run the program as efficiently as WACIP and would have wasted much of the money on per diem for teams of officials visiting sites).

C. BURKINA FASO

In Burkina Faso, the farmers organization seemed very pleased with the WACIP program as did the biosafety group, the artisans and the researchers (albeit with complaints about INSAH slow procurement). They all expressed the wish for WACIP to be continued. The researchers also complained that Monsanto had not followed through on an allegedly informal commitment to build a new entomology lab, which would have housed a piece of equipment purchased by WACIP. The evaluation team was not able to ascertain to what extent this commitment by Monsanto had been solid, whether it was certain they wouldn't build the lab and to what degree this would disfavor the effectiveness of the machine bought by WACIP. The machine is quite small and will fit physically in the current entomology lab, though it is unclear whether it will be effective without the bigger lab envisioned.

In contrast to virtually everyone else the team encountered, the cotton ginners in Burkina Faso were harshly critical of WACIP, saying that it was creating division within the Burkina cotton sector and that the US had wasted its money. They referred to a very minor incident – in a regional brainstorming session in Bamako, a Tuskegee researcher didn't realize everyone had backpack sprayers these days and began discussing methods of application without sprayers, until he was corrected. They said that this proved that the brainstorming session (which they said was phytosanitary training) was not relevant. In a later meeting, the Director of Research referred to the same incident – a very picky and inconsequential point blown out of proportion by people wanting to find something to criticize.

During the heated exchange of the evaluation team with the cotton companies and their Ministry of Commerce colleague (heated only on their part) they argued that WACIP should have run its entire program through AICB (the interprofessional) theoretically consisting of cotton companies and the farmers organization – though there was no farmer representative present at our meeting. The representative from one cotton company (SOCOMA) said that

training of secretaries in the cooperative committee was the most important thing that could have been done and if done right, it would resolve most of the problem of credits and inputs. But he said that the WACIP method (working through farmers union extension agents) was not effective. They said that WACIP had ignored the wishes of the consultative committee and said the cotton companies wanted help on variations of soil fertility programs but that WACIP ignored their wishes and just implemented programs that were applicable to the entire region regardless of their different conditions and needs.

The team was later advised (by the WACIP country manager) that the cotton companies had been angry at the previous farmers union president and started a campaign against him, which convinced him to resign three months early. Another donor also reported actions by SOFITEX against the farmers union and said that SOFITEX refused to pay money it owed, that the farmers union had been hoping to use to pay their newly hired extension workers. Some new hires were let go after a few months and others (trained and financed originally by French development aid) were at risk. According the WACIP country manager, SOIFTEX originally made a compromise agreement with the farmers union that each would have half of the extension agents in the WACIP program, but that SOFITEX later backed out of the deal.

The team met later in the week with the Secretary General of the Ministry of Commerce and the same charges were repeated in a more friendly tone by the commercial representative to the cotton sector, Mr. Wilfred Yameago. The team read a section from the consultative committee's recommendations (biosafety etc) indicating that in contrast to earlier statements by the cotton companies, WACIP activities were responsive to Burkina requests and that those requests went beyond soil fertility programs. The evaluation team pointed out that government organizations, including the biosafety group and the government researchers told the team that it would be highly inappropriate for their programs to be under a contract with the private sector interprofessional group. The team suggested and the two Commerce Ministry officials seemed to agree that:

1. The consultative committee should give general recommendations at the outset.
2. WACIP could talk separately with the various partners.
3. Separate contracts with some partners were not precluded.
4. Prior to finalization of the program, WACIP would present it to the interprofessional group for their information and suggestions.

The Secretary General pointed out that they have confidence in their cotton industry and their representative in that group (Wilfred Yameago). It was clear that some communication problems had contributed to the bad feeling in Burkina Faso and that WACIP had stepped into the losing side of a power struggle. It was worse for the French Development Agency, which had helped to fund the original hiring costs and training of the farmers' union extension units, now under threat.

Another problem was financial reporting. AICB was supposed to do monitoring and reporting but had no paid staff so had to rely on the cotton companies to do any such tasks. So SOFITEX was supposed to do the M&E and SOCOMA was supposed to do the financial report. The M&E report for the 2008 program was submitted very late – in September 2009, so as a result,

WACIP was not able to have a second year of a program in Burkina Faso for the demonstration fields. The financial report was submitted in December 2009. The WACIP COP advised the evaluation team that SOFITEX did not include the original receipts with the financial report so did not have the type of justification for expenses required, putting IFDC as the grant provider in jeopardy for failing to fully account for expenses.

As noted by the French Development Agency representative, SOFITEX is dominant in the industry and donors wishing to work with the cotton industry must take account of the wishes of SOFITEX.

It appears that SOFITEX implemented the activities agreed between WACIP and AICB for farmer demonstration plots and training of farmers in conjunction with those plots. They reported on them and the WACIP team visited some of them. SOFITEX controls 85 percent of the cotton in the most successful of the C-4 countries with respect to cotton production and technology. Since the recapitalization of SOFITEX with majority government control, SOFITEX reportedly has no long term debt, only short term debt. Burkina Faso is the only C-5 country now introducing commercial application of BT cotton. It has reportedly bought HVI classing machines and according to COTIMES in Benin, SOFITEX reportedly plans to machine class 50 percent of its cotton this year.

The WACIP contract was with AICB so in principle AICB is at fault on financial document irregularities, even though it was SOFITEX that failed to respond fully and in a timely manner and failed to provide receipts. The confrontational attitude of SOFITEX toward WACIP seems to have resulted from an internal power struggle in which WACIP inadvertently became involved (exacerbated by the combative personality of the SOFITEX Agricultural Production Manager). Unfortunately, the Director General of SOFITEX was out of the country so the team was not allowed to visit SOFITEX in Bobo, on the excuse that knowledgeable people were not there. The WACIP Burkina country director said the enmity between SOFITEX and the farmers union stemmed in part from a desire from the former farmers union President to set up system where cotton farmers could use part of their cotton credit to buy fertilizer for maize, a move that SOFITEX opposes (but CMDT in Mali supports for Malian farmers).

So if WACIP were to be extended, the question arises of whether a cotton program would include the dominant ginning company (85 percent of cotton production) in the largest and most forward moving country with respect to technology (BT cotton and HVI classing). Other important programs in biosafety, research, artisans and even organic cotton could be pursued without SOFITEX but the main program of largest economic benefit – training for farmers of conventional cotton, interface between biosafety officials and extension agents of the cotton company, cotton ginning improvements, cotton classing would seem to be difficult in Burkina Faso without involving SOFITEX. The less than fully fulfilled WACIP contract was with AICB – the interprofessional group, at present something of a virtual group rather than a real group since it has no permanent staff and is run by the cotton companies. As in Mali, a logical next step for a WACIP development project in Burkina would be to convince the interprofessional and its members to provide permanent staff to AICB and provide training of that staff in financial reporting, monitoring and evaluation, and other key skills needed to manage decisions of the cotton sector. (The cotton companies reportedly plan to keep buying inputs. themselves rather

than giving this task to the interprofessional, but that stance might change).
In sum, SOFITEX was not happy that WACIP trained cooperative secretaries through extension agents of the farmers' organization instead of through the cotton companies. The cotton companies did indicate an interest in working with WACIP in the future in their meeting with the evaluation team, but wanted WACIP to work with AICB rather than directly with the farmers union. SOFITEX didn't provide receipts for its spending on the 2008 cotton training program, though apparently it did implement the program and issued a very late report on monitoring and evaluation and a financial report was also submitted, but without original receipts. If there is a future program, the question arises of whether programs of farmer outreach should be attempted with SOFITEX, after warning them that appropriate receipts are required. This is a policy question that USAID would have to address should a future program be approved.

Better Communication Needed. In Burkina, communication was not the only problem and perhaps not the major problem. But the team heard complaints of the Director of Research that he didn't know what was going on with procurement. He indicated that prior to final approval of the entire program by USAID (in 2009) there was some lack of clarity about the complete program and that WACIP personnel said they had to wait for USAID approval before giving a complete picture. These comments imply that better communication might have helped to mitigate some of the problems. There was a consultative committee meeting once or twice a year that was updated on WACIP activities, but this apparently was not a fully effective mechanism to keep everyone fully informed. If local government units don't talk to each other very much, a future WACIP may have to redouble communication efforts on the progress of its activities and plans. WACIP may also need to reach out more to INSAH, if it is to be a partner in the future to ensure better communications about the progress of procurement and related issues.

D. BENIN

In Benin the team visited the interprofessional cotton association (Association Interprofessionnelle du Coton - AIC), the major cotton group (which had implemented very successful improvements). The team also visited the researchers, research facilities and farmers near Bohicon and Parakou in the center of the country and several donors.

In Benin WACIP trained 1930 cooperative secretaries in input credit control or a total of 2,065 including training the trainers. For the extension program on soil fertility and pesticides, WACIP had 103 plots the first year, training 23,300 producers in 2008/9 and they had 250 demonstration plots in 2009/10. AIC said that the Benin extension program was very useful, particularly having farmers choose 5 to 6 fellow villagers for close cooperation on the demonstration field in addition the numerous farmers visiting the demonstration field as part of their WACIP soil fertility and pesticide training program. They said the WACIP program in its second year of extension to farmers - 2009/10 covered 250 villages, but that there are 2,300 villages, so there is room for much more work and an extension of the project would be desirable. One of the AIC people and the Ministry of Agriculture Extension Service said that some of the WACIP demonstration plots used compost plus the equivalent of five sacks of fertilizer per hectare (instead of the recommended four) thus getting higher yields. The chemical fertilizer was given to the farmer free by the partner organization for the demonstration plots (for ¼ or ½ ha – not paid for by WACIP).

The Extension agents and the Researchers who helped them were enthusiastic about the program. But the extension agents said that each farm head trained was supposed to train other farm workers in their families, but the agents didn't have fuel for their vehicles to monitor this process. They also said that acceptance of use of compost fertilizer by farmers was fairly limited. They said the program made everyone enthusiastic about following the recommended procedures and encouraged use of organic fertilizer (manure and compost). But they thought that to make the new practices continue, the program should be repeated for three years. They also mentioned a desire to have biological control of cotton pests in addition to chemical pesticides.

The researchers, in the Ministry of Agriculture, were tied closely to the extension system. They expressed great respect for the work of Blaise Fagdoegnon (WACIP/Mali director and former head of cotton research in Benin) who visited their labs and identified equipment needs and they also said that Gregoire Houngnibo, head of WACIP in Benin was very active and good at keeping them informed. A Ministry of Commerce official that the evaluation team met did not know many details about the program but seemed supportive. She said she wished they could get rid of the fertilizer subsidy (about 30 percent subsidy). The Ministry of Commerce and Ministry of Industries are now separate Ministries and the team did not have time to get an appointment with the Ministry of Industries (which has responsibility for cotton industries).

The evaluation team didn't meet farmers that were using the recommended compost pits, but was told this was more common in the north where crop farmers more commonly have bovine animals. Also some of the farmers told us most of the children in the area were in school so sometimes they had to pay for labor, particularly for harvesting. One farmer from a group that met us in Bohicon said he bought 3 (400 kg) cartloads of manure from the cattle pens of the Peul-speaking nomadic herders, paying 1,000/cfa/cart ($2) for the manure and 1,000/cfa/cart for haulage. In Parakou we met a farmer who was a retired salaried worker (former research station head) who was old and sick, said his wife and children worked or went to school so he had to pay for all cultivation work, except for spraying herbicide and pesticides, which his sons did for him. The hired labor (paid in cash each day of work) for seeding, weeding and harvesting cost him about 100,000 cfa/ha of cotton (still leaving him with a profit). He didn't have bovine animals and said that he wasn't interested in composting or in manure. He said the manure might be free but it would cost him 15,000 cfa ($30) to pay a tractor to haul the recommended 10 MT for a hectare.

Composting: A hard sell. It appears that using manure and compost was new to some of the farmers we visited, particularly those without bovine animals. It is fairly easy for a farmer to add more chemical fertilizer or pesticides if he sees that it is profitable, but making 10 MT/ha of compost is quite a lot of work – though it can be very important for maintaining or improving the texture of the soil. The compost pits were added to the Benin WACIP training program in the second year and one farmer that talked with us in Bohicon said that the compost training came in February – too late to do composting for the cropping season that year but he said they used some crop residues, though not compost pits. In Sikasso, Mali, where many crop farmers had bovine animals, we heard there was some composting, but it seemed new and difficult for the farmers we visited in Benin and in Burkina Faso – in both cases areas without many bovine animals owned by crop farmers Using manure or making compost is easier for farmers with bovine animals that have a supply of manure. Farmers with bovine animals can also use an easier method – a night pen for the cattle walking and defecating on the crop residues instead of digging pits and transporting tons of material with hand carts. The organic farmer in Burkina trying to use a compost pit for the first time was having trouble with it – the sides caved in when it rained, mixing dirt with the compost. But using organic fertilizer was more necessary in that case because chemical fertilizer was forbidden for organic cultivation. Burkina farmers in that village said they weren't planning to use compost for non-organic crops. In areas with many animals some of the crop residues will also be used for animal feed, rather than compost. Convincing farmers to slightly modify traditional methods (using more chemical fertilizer or pesticide) is easier than getting them to adopt something new (making compost).

INSAH bashing. The Benin researchers sharply criticized INSAH. The financial director said the procurement program was managed so badly that at one point he wrote a memo suggesting that the cooperation with WACIP be abandoned. He said that INSAH had tendered and awarded a contract and then tried to change the terms of the contract. He said INSAH stopped their attempts to change the contract when he pointed out that they were likely to be sued by the supplier who won the tender. Other researchers had other complaints about INSAH – perhaps the complaints were overly picky – difficult to judge. Allegedly, INSAH hadn't paid a supplier a few weeks after arrival of computers, they hadn't agreed to provide half the money up front as requested by another supplier (the evaluation team pointed out that a bank letter of credit or other bank payment guarantee could be more appropriate than an up front payment). Researchers said INSAH was were very late in procurement, and they had allegedly promised to pay for training but never sent the money (Blaise Fadoegnon later said that a letter had been sent from INSAH to the researchers explaining that they wouldn't pay for degree programs and they never responded – maybe they didn't see the letter).

One area where it appears there may have been negligence on the part of INSAH was in the workshop to train research personnel on the scanner. The scanner didn't work, allegedly due to lack of a computer program. A workshop training 24 people to use the system was of questionable value, and no one informed WACIP of the problem and the missing computer program had not been sent ten months later when the evaluation team visited. WACIP was surprised and said that INSAH had sent them the list of 24 people trained on the scanner so they assumed everything had worked.

For the evaluation team, it was difficult to determine whether any of these comments criticizing INSAH had merit. But it seemed that it would have been best if WACIP could redouble communications efforts with both sides, INSAH and the researchers, to keep them informed and on the same page. It appeared that INSAH might have done a much better job of procurement and especially of keeping people informed of progress. If INSAH was not doing this, WACIP could step in and help keep people informed of progress.

E. CHAD (MODEST WACIP ACTIVITIES)

The team did not visit Chad but spoke with one of the key implementers of training programs for Chadian extension personnel. Chad, faced with new oil wealth, and various problems with the World Bank over diverted oil revenues, a civil war etc, seems to have reduced its focus on the cotton sector. Reportedly it has not imported inputs (fertilizer and pesticides) for the last two years and cotton production has fallen to a small fraction of previous levels.

WACIP included Chadian experts in some of the regional research and extension brainstorming and training programs. There were substantial efforts to train Chadian extension personnel, using demonstration plots (reportedly the fertilizer and pesticide, not generally available locally, may have been obtained from a neighboring country – possibly Cameroon).

A biosafety activity was also pursued in Chad, informing them of what is being done with BT cotton in Burkina Faso and of necessary biosafety systems.

Chad has had some needs for equipment – weather monitoring equipment, etc. Its cotton sector has greatly declined and it may seem futile to keep training their extension workers if there is no fertilizer and pesticide for the farmers. Some farmers in Chad will reportedly produce without fertilizer and pesticide, getting only a few hundred kg/ha. If there were a new WACIP program, probably farmer outreach programs should be contingent on importation of fertilizer and pesticide (which would have to arrive before the cropping season, e.g. by March 2011). Politically, it would be difficult to drop Chad from a new WACIP program, but activities might be extremely limited. Or alternatively, if a food security program could include cotton, (which generates credit for inputs for food crops) it might be appropriate to include Chad in a Central African program (with Cameroon) instead of West African program. But probably if there is an extension for just one year, Chad might be included in some modest fashion in a WACIP program.

VII. EVALUATION FINDNGS

The statement of work (SOW) asked the team to answer 15 questions, some of which have been answered above: Following is discussion of ones not yet fully answered:

IMPLEMENTATION

Question #1: Have WACIP's activities been properly targeted to the appropriate beneficiaries to achieve its objectives?

WACIP's main objectives are to help farmers and help industries. It has reached the farmers – over 900,000 trainees with programs that it is estimated will help them. Both anecdotal and sampling results indicate the training helped them raise their income by increasing yields on cotton, maize and cowpeas. On the demonstration plots used to train these farmers, cotton yields were increased by a third or sometimes much more over average farmer yields by using recommended methods.

Farmer credit became disastrously disorganized during the transition away from parastatal companies. Systems in Benin and elsewhere are now starting to be stabilized and the WACIP program helped train some of the village cooperative committees whose earlier failure to control cheating by some members led to huge debts – guaranteed by other farmers, input supply problems, and many farmers not being paid for their cotton, and a decline in cotton production in all countries. Even in Burkina Faso, where the cotton ginners were critical of WACIP, one of the cotton ginning companies (SOCOMA) said that training the cooperative committees to better handle input credit was one of the most important things that could be done in the cotton sector.

Clearly the cotton farmers were appropriate targets. Work with Ginners was also extremely successful in reducing costs. Targeting artisans and organic cotton farmers was of limited value in overall economic impact, but did involve a substantial group of women (unlike conventional cotton farmer training, where farm heads are almost all male), and the training in both cases seems to have been much appreciated by the beneficiaries.

Question #2: What have been the main strengths and weaknesses of WACIP to date?

Strengths

1. **IFDC experience in fertilizer and in the region.** IFDC has been working in the region for many years on soil fertility and knows many of the key players and production system characteristics.
2. **Strong staff capabilities.** Very proactive and experienced staff. Blaise Fagdoegnon – former head of cotton research in Benin visited all the labs and identified essential equipment needs for INSAH procurement, David Galaty strong M&E performance, Ibrahim Sourabie in Burkina, formerly senior advisor to the Minister of Agriculture for many years, was very bright and knowledgeable, Gregoire Houngnibo, former experience as a high level adviser to the Benin Minister of Agriculture and as manager of a major "Global 2000" development program was praised by Benin researchers as particularly

responsive and effective. COP Sarah Gavian was particularly energetic and effective, traveling throughout the region, centralizing data analysis and reporting in Bamako, handing a multitude of tasks and challenges that her largely non-English speaking staff could not effectively address.

3. **Timing.** Program resources came at a time of crisis when traditional resources for research and extension were lacking. WACIP programs filled gaps in research at a time when other funding of research activities had been cut (e.g. cut in half in Benin, and largely eliminated in Mali).
4. **Sustainable counterparts.** Though there were difficulties with some of the counterparts, the projects largely worked with dedicated permanent employees that are supported by local scale salaries and will remain after the aid project is gone. This is in contrast to some assistance programs that hire away local staff at extremely high salaries, divert their attention from their traditional roles and drain expertise needed for long term sustainability.

Weaknesses

1. **Small funding** – for five countries
2. **Short duration.** The program to begin with was quite short for negotiating with the various partners and having an impact on traditional farming sectors. Due to reprogramming begun in March 2008, WACIP operated until January 2009, about nine months, without an approved work plan. This resulted in delays in making sub-grants to some sub-partners, particularly those based in the U.S. The program was slated to end in June 2010, and even though WACIP made some detailed plans with partners for activities for the 2010/11 cropping season, and even though the program was extended until September 30, 2010, there was insufficient funding to do extension programs for the 2010/11 cropping season. For most programs, there was two years or less of program implementation.
3. **Changing signals** caused problems (WACIP asked national committees what they wanted and then narrowed focus, e.g. eliminating some policy studies on effectiveness of reforms, focusing away from policy issues and institution building and toward outreach to farmers and training in input credit management). Some uncertainty over changing plans (revised plan approved in January 2009) led to perceptions in consultative committees of ineffectiveness and disorganization and in some cases delays. It should be noted that major program activities including the large grants to local institutes received approval and thus major activities were continued before the overall program received final approval. Uncertainty on US environment regulations was never fully resolved but individual activities were approved for environmental compliance fairly quickly by USAID as WACIP submitted them for approval. In Burkina there was a perception that there was confusion in what the program was trying to accomplish during the period in 2008 when the program was being revised.
4. **INSAH was criticized** by all researchers in the six cities visited for being very slow, with specific criticism in Benin that they failed for over a year to pray for promised training (apparently refused but it appeared that the Benin researchers didn't get the

message). Training on a scanner was attempted but scanner didn't work due to a missing computer program. Almost a year later the missing computer program for the scanner still had not been sent. Other equipment that arrived (computers) was stored at WACIP, waiting for the full procurement to be completed.

Sarah Gavian said INSAH made a mistake breaking up purchases to remain under the limit that would require tender purchases but then were told by their auditors that they had to change and group like commodities for a tender.

5. **Duration of program** – 6 months for biosafety to up to two years for demonstration plots

Question #3: What were the major constraints facing the programs? How have those constraints been mitigated?

1. **Low funding:** Many countries and many organizations to satisfy.
2. **Late approval by USAID** (some projects went ahead earlier including most of the local grants).
3. **Need for quick action.**

Biggest constraints were low funding and short time to implement coupled with insistence on quick action to address all nine intervention categories set by the 2006 Cotonou meeting while also reaching and raising the incomes of hundreds of thousands of farmers.

In spite of many constraints, major elements of the program were implemented effectively and quickly. The program passed the original laugh test. Partners are hoping it will continue. It was universally seen as a ridiculously short and small program at first but gained respect by reaching the farmers faster and more effectively than aid programs of other donors.

Question #4: To what extent have activities been coordinated with other donor organizations and has the program benefited from any synergies with other donors' activities?

Coordination with other programs seems to have been modest, though some donors (ADB) claim to be copying the WACIP program in Benin. ADB's attempts to copy WACIP demonstration plots in Benin, with late funding and insufficient monitoring failed at first. They tried to do 408 demonstration plots but only 159 were usable due to poor monitoring. Many donors have cotton programs or similar programs to support cotton programs – e.g. nine cotton support programs in Benin. There was some linkage in WACIP seminars to a French research program in Montpellier, coordinating with earlier French work on insect resistance to pesticides. Other donors have participated in consultative committees overseeing WACIP (e.g. French in Burkina) or in regional meetings of the 9 cotton projects in Benin. Some donors (ADB/Benin) copied the successes of the WACIP program and the Dutch program managers in Benin also indicated that they have incorporated some WACIP elements into their programs to help cotton farmers. Brazil recently has been providing new cotton varieties for experimentation and some assistance for cotton research.

In Mali the French had a cotton farmer support program prior to the program and a new one planned, but it was delayed in Mali for three years, during the time that WACIP operated. In Burkina Faso, the French said that the WACIP program was helpful and did not duplicate any of their programs. The French were apparently unhappy with CMDT in Mali because CMDT had a French investment loan that they stopped repaying. The French and Dutch tried to work directly with farmer organizations and not with the cotton ginning companies. WACIP generally worked with the existing structures of the cotton ginning companies and was less active in seeking to build farmer organization structures, though it did try to strengthen the cotton input credit system by working at the local cooperative level.

The Common Fund for Commodities (CFC) is cooperating with IFDC to launch a new program to provide 3,000 farmers with cotton sacks in each of there countries – following up on the contamination problem highlighted by the 2004 fact finding team and addressed by WACIP in providing cotton sacks to organic farmers as its contribution to the organics extension program. The evaluation team met with a number of the key donors (World Bank, EU, Dutch, French, African Development Bank) and did not receive any negative comments about the WACIP program from other donors or complaints of duplication. Some other donors (e.g. in Benin) focused on cotton producers – nine programs including WACIP, but in Mali, some of the programs of other donors focused on more general issues of cotton farmers – e.g. viewing their whole crop planning system, building institutional capacity in farmer organizations, working on literacy programs, rural roads, etc.

A World Bank employee in Mali said that they are launching agricultural programs but not in cotton, but could add cotton if the situation in the cotton sector stabilizes. The representative commented that cotton is the engine of the agricultural sector. An EU representative in Mali indicated that the EU is focusing away from agricultural programs to other types of social programs because there are so many other donors in agriculture and it was decided to different donors should focus on different areas. A Dutch representative in Benin said that while there was a coordination meeting for the nine cotton sector programs in 2008, other attempts at meetings had not succeeded and it would be desirable to have more coordination.

The only donor criticism of US efforts to the evaluation team came from the French representative in Burkina Faso who commented that France had made a modest contribution to the Burkina fond de lissage (stabilization fund) that they felt this was a useful area that needed support and he wondered why the US was not contributing.

The Dutch and the African Development Bank seemed to be following the WACIP activities closer than other donors, perhaps because they were launching similar activities. The French in Burkina Faso and the Dutch in Benin were disappointed that the cotton companies were reducing the influence of (and funding for) the cooperative structure, negating some of their programs in capacity building in those organizations.

Annex VIII includes a listing of some of the major donor programs in the three countries pertinent to cotton

Question #5: Have the positive and negative experiences resulting from activities been adequately recorded, validated, and otherwise made available for future use?

Probably the negative aspects have not been fully recorded. Some of the local managers are reluctant to report negative results (such as the partial failure of an INSAH workshop on the new scanner because lack of a computer program for the scanner). Like most projects, WACIP concentrates on successes, of which there were many. COP Sarah Gavian was extremely open about difficulties and problems – local country managers less so. For instance, the Evaluation Team was warned in advance by the COP about likely negative reaction from the Cotton Companies in Burkina Faso, but the WACIP country manager in Burkina Faso stressed the positive, and didn't prepare the team for the vitriolic attack by some cotton industry counterparts – later mitigated somewhat in a Ministry of Commerce meeting with the evaluation team.. But WACIP reacted quickly and effectively when they found contract violation by use of endosulfan pesticide in Burkina Faso demonstration fields. They used SOFITEX records to identify all the areas where endosulfan has been distributed and eliminated WACIP funding for those farms (endosulfan was not banned locally – but was being phased out – and the USAID environmental assessment said it should not be used in WACIP supported activities).

There was extensive involvement of WACIP staff in planning, in workshops and in visits to demonstration farms provided feedback on implementation problems and contributed to fairly diligent respect of procedures by the extension agents and farmers. WACIP had planned to visit 25 percent of demonstration fields, but Blaise Fagdoenon was frank in telling the evaluation team that actually said they visited about 10 percent, a reasonably good effort at monitoring.

A big problem was in getting some partners to submit acceptable grant proposals (Chad submitted numerous inadequate proposals before USAID permitted WACIP to give them technical assistance – only after they had made the first several requests since WACIP is prohibited from designing grant proposals before requests are made for specific grant activities. Another big problem was in getting partners to respect USAID requirements for monitoring and evaluation, procurement and financial reporting requirements. This was exacerbated by the desire for quick programs and WACIP requests for some organizations to advance-fund some 2008 crop season activities because WACIP did not have the funds available until August. Probably if there is a future program, there is a need to consider an additional staffer at each country office to help partners with some of these issues (a suggestion made by IFDC/Accra to the team).

IMPACT/RESULTS

Question #8: [To what degree did WACIP Address] the targets, especially the main outcome indicators, contained in WACIP's Performance Monitoring Plan (PMP);

WACIP met or exceeded its main targets. Over 900,000 trainees, and a survey of farmer/participants in training programs indicated 43 percent increase income for cotton (well above the 15 percent target), and also substantial increases for the two food crops in the program – maize and cowpeas. There was a substantial training program using each of the demonstration plots as part of the training program for well over a hundred farmers. The trainees were all farm heads, who later trained other farmers in their families. To estimate increased incomes, WACIP took yields of cotton, corn and cowpeas for 2008 and 2009 and

compared to previous three years – showed substantial increase in income – e.g. 43 percent for cotton, 7 percent for maize, 153 percent for cowpeas. There was an extensive monitoring system, visiting many test plots, participating in most of the big training sessions. The evaluation team learned of one serious problem in an INSAH organized scanner training session in Benin that was not reported to WACIP as a problem but generally the monitoring and evaluation system seems to have been excellent for such a large and diverse grants program. It did of necessity rely on local records, which may have had some problems. The evaluation team noticed an anomaly in a supposed 66 percent reduction in input use in Mali, reportedly mostly due to WACIP training on pesticides. Pesticide cost is only about 30 percent of input cost. So the 66 percent reduction was not very plausible. Likely there were carryover stocks or errors in record keeping to produce such a result.

Monitoring and evaluation criteria within the WACIP work plan. WACIP has done extensive work on performance monitoring and getting detailed reports from its grantees. Its PMP says:

> *"The WACIP implementing team worked with USAID to formulate 35 indicators that will measure the program's performance at activity, outcome and objective level This included:*
>
> *• Output indicators (24 total) that track program outputs such as people trained, organizations assisted, technologies adopted and policies analyzed;*
>
> *• Outcome indicators (8 total), such as policy reforms adopted and changes in crop yields, that track progress towards the WACIP outcomes, achieved as a result of project outputs, and contributing in a clear way to project objectives; and • Impact indicators (5 total) that measure the degree of achievement of overall project objectives.*
>
> *All indicators are drawn from USAID's Operating Plan indicators for Agriculture, as described above, from the USAID Initiative to End Hunger in Africa (IEHA) and from IFDC consortium's WACIP proposal. They are classified under three categories: Agriculture Enabling. Environment, Agricultural Sector Productivity and "Custom" indicators, where the Custom category includes certain IEHA indicators. The three tables show the 37 WACIP indicators, indicators at each level, and for each indicator, indicate which category they belong to and whether they are equivalent with IEHA indicators."*

While the evaluation team was not able to exhaustively investigate the logic behind 127 indicators used and cross referenced in the projects targets and monitoring and evaluation system, it was able to judge the overall effectiveness of the program by reviewing claimed activities and verifying the effectiveness of many of these activities with partners and other contacts. The methodology for judging program effectiveness in terms of increasing income was suitable to evaluate many activities. Some other activities are not closely tied to income gains that can be measured: e.g. research that is not yet finalized but is important to the long term viability of the sector, but such measures give some indication of the success of the program.

The M&E work seems quite rigorous in that tables are produced on various targets and estimated results. Obviously they couldn't get completely accurate data on income changes in over 75,000 farms – the surveys were crop by crop and estimated changes in gross margin, not counting the value of unpaid family labor (family labor was probably used more heavily in more rigorous cultivation methods taught by the program). If maize is kept on the farm for the family food, it probably isn't weighed. Cotton records in principle should be fairly good, but errors in the record keeping and reporting would not be surprising given the disruption in the cotton sector in the past few years and the low level of literacy in the region.

The method used for the income for farmers was to get a random sample of 426 farm units for Benin and 2,500 units for Mali, consisting not of the demonstration plot farmers (who got free inputs from the local extension organization – the free inputs were not financed by WACIP) but from among the other farmers who underwent training programs including visiting the demonstration plots to observe the methods and successes of the plots. The demonstration plots were run for one year in Burkina Faso and two years in Benin and Mali. The baseline was the yields of the three previous years for the randomly selected farmers, compared to the yields in 2008/9 or 2009/10 after their exposure to the program (for Mali it was the previous two years due to lack of data).

Anecdotally from contacts reporting results to the evaluation team, there were substantial gains by correct use of inputs and other practices. In Mali cotton farmers reportedly normally averaged 800 – 900 kgs/ha but the test plots averaged 1.6 MT/ha. Similarly in Benin farmers normally averaged 1.2 MT/ha but the test plots averaged 1.6 MT or some said 1.8 or 2 MT/ha was more common as an average yield for good practices. Thus, it appears that if farmers respect the recommendations (and don't have to divert their cotton fertilizer to corn for the family's annual food supply) they could increase yields and their net profits by at least a third, maybe substantially more). Reports from many contacts during the trip indicated that the program did have an effect in improving cultivation practices for the farmers that were trained.

The random sample for yields for cotton trainees showed an average yield increase of only 17 percent – substantially above the target of 15 percent but lower than anecdotal information on average current and average potential crop yields. The random sample showed a gross margin increase of 43 percent (rather high relative to a 17 percent yield increase and partly explained by a 66 percent fall in input costs in Mali – reportedly mostly due to lower pesticide cost. It appears to the evaluator that something may be wrong with the data in this case – both in the lower than expected increase in yield and in sharp fall in input costs in Mali, coupled with an increase in yield. Yields for corn and cowpeas also increased during the base period, modestly for corn, dramatically for cowpeas. Availability and use of pesticide could easily explain the huge increase in cowpea yields from the base period, though supposedly pesticide use for cowpeas went down – probably not a correct report if the production increase is accurate.

In sum, the attempts to measure the outputs seem to have been actively pursued. Intensive planning by WACIP personnel in cooperation with local trainers, WACIP visits to seminars and to demonstration fields seem to have been important in ensuring that the program worked and in increasing the enthusiasm of all participants. A contrast in Benin was with the African Development Bank project, which started about the same time as WACIP but is just getting

started on implementation as WACIP is finishing its first budget tranche. ADB said they asked the extension service to do 408 demonstration plots in a manner similar to what WACIP did and like WACIP in 2008, they promised later funding (near the end of the season to reimburse the agencies implementing the program). But unlike WACIP they did not actively monitor the efforts and as a result they found that only 159 of the 408 were done correctly with proper record keeping. Judging from the reports of numerous interlocutors met by the evaluation team, it seems fairly certain that WACIP surpassed its main target of improving the income from cotton (the main source of money income) by at least 15 percent. It reported over 900,000 farmers trained, including the direct trainees and the family members working on the farms, trained by the farm head who underwent the formal training.

Of necessity, WACIP relied on partners to monitor and report the results of activities in extension and other areas, such as sales of products under the aid to artisans and reduced costs and expanded profits resulting from the pilot programs for ginning companies in Senegal and Benin.

USAID has done a separate evaluation of WACIP's monitoring and evaluation system. While our evaluation team did not have the time to exhaustively analyze all M&E procedures and results, the claims of success in meeting targets seem to be plausible and were verified by numerous public and private contacts met by the evaluation team in the three countries visited. WACIP's exhaustive tables on IEHA categories (number of new technologies introduced, etc) and are useful for USAID etc) reporting but these numerous iterations do not provide much clarification on the success of the WACIP program in reaching its main goals..

Question #9: How successful was the program in meeting the expectations expressed by key stakeholders in the C-4 countries, including (i) cotton producers organizations, inter-professionals, and companies (ginners); and (ii) key officials at Ministries of Agriculture and Trade?

Comment: Partners in Mali and Burkina Faso linked to the Ministry of Trade and the cotton ginners expressed the desire for $400 million in compensation for US cotton subsidies and started off meetings with the team with ritual mention of this issue, quickly dropped for more substantive discussion. It was clear that the program was smaller and of shorter duration than desired. It filled a critical gap as new issues arose threatening farm production (such as pesticide resistant insects, and funding cuts for research), and helped to counteract funding cuts for extension services. Clearly the regional brainstorming meetings followed up by revised training modules and active and carefully monitored programs energized researchers, extension officials and farmers. The farmers were glad to get free inputs for their demonstration plots (supplied by counterpart funding, not by WACIP) and were delighted with the substantial increase of yields. The Ministries cannot be described as universally content with the program. The Ministry of Agriculture contact met in Mali complained that he didn't see the studies done by the WACIP program (some plans for policy briefs were dropped, other briefs were not published yet). The Ministry of Commerce in Ouagadougou complained that the farmers organization got a contract that they thought should have gone to the interprofessional association instead, Ginners in Senegal and Benin seemed quite happy with the ginning humidification and health/safety program and ginners in Mali also seemed impressed and interested in having a trial in one of their gins.

The program generally earned respect as a small, short but useful program, that might have long term benefits if it is continued.

SUSTAINABILITY

Question #11: Is the assistance effective in building local capacity to carry on and sustain development after USG funded technical assistance is ended?

Comment: In most cases systems won't collapse with the end of WACIP. WACIP energized and catalyzed the system, but the research people and most of the extension people have their salaries paid by the government or by the cotton industry, not by donors. WACIP consulted regionally and nationally, slightly modified their training modules for providing advice to farmers and WACIP energized and funded training programs. The local research and extension people will be paid by the government or their organization, though farmers organizations may have trouble generating funds to pay their extension personnel, especially given lack of full cooperation between farmers organizations and the cotton companies in Burkina Faso and Benin. But WACIP was not paying these salaries. In absence of WACIP the research and extension people and farmers wouldn't have had the energy, money and enthusiasm to pursue the activities that were generated by WACIP. A contrast to WACIP success is the African Development Bank program in Benin which tried and failed to copy WACIP demonstration fields as a basis of farmer training – failing because of lack of planning and monitoring by ADB staff, in contrast to the intensive interactive work of WACIP.

If a year is skipped (2010 – cropping season already missed) and programs are resumed for the 2011/12 season (beginning with planning and input supplies in March, 2011), the momentum will still be there. If there is no further program, much of the value of the program will be lost and the memory of successes are likely to turn to criticism of a small and excessively short duration program.

The program filled some very useful funding gaps. It disproved a farmer assumption that seeds were no longer effective, proving that with use of recommended inputs, farmers could increase their yields by a third or more. Probably there will be little lasting effect if it is not continued. In any case, it will provide (hopefully) some useful communications and other equipment to labs.

Question #12: Will the improvements in producer and processor performance be sustained in the absence of the assistance?

The ginnery assistance will last for the two plants helped. Humidification equipment and safety training substantially raised profits and the equipment is expected to last at least 10 years.

Producer performance and input credit control may be influenced by the training, but traditional farmers, many of them illiterate and stuck in old ways have not been fully convinced to create and move many tons of compost (5 – 10 MT/ha) to preserve and renew the structure of their soil. It will take at least several years of similar programs to have a long term impact on farm behavior. SOFITEX was demonstrating on method of composting in 2004 (crop residues in a night holding pen for cattle) when a USG team visited, but it isn't yet widely accepted in Burkina

Faso. The team didn't meet any farmers enthusiastic about composting on their land, though there were reports of voluntary composting in Mali and possibly in northern Benin. Farmers were happy to get free fertilizer and pesticides (provided by the partner, not by WACIP) for their little half or quarter hectare demonstration fields and were happy to see substantial yield increases – often doubling, due to use of proposed inputs plus bovine manure in some cases.

Question #13: Is there a credible exit strategy that will allow USG funding to be phased out efficiently and without undue transition problems?

Comment: US funding was largely used up before June 30, though late deliveries of research equipment through INSAH were still awaited. There is a small amount of residual money ($500,000) that will fund some minor activities and the operating expenses of the no-cost extension through September. WACIP missed the 2010/11 crop season and would need to provide new funding to partners by March 2011 to activate farm outreach programs in the 2011/23 season. Generally the government pays the salaries of the research and extension staff so there will be continuation of the knowledge learned. But resources will be needed. SNV (Holland) is providing some resources for a similar program in Benin (their program pre-dated WACIP). ADB is trying to copy WACIP in Benin, but with poor results so far. The programs of other donors are covering only a portion of farmers and they, like WACIP partners would like to see the WACIP program continued to reinforce its successes into long term sustainability.

The system will not collapse in absence of US funding. In some cases (research) it might be argued that others (Monsanto in Burkina) should provide much of the funding for insect resistance. The phase out was not efficient. WACIP made plans with cotton companies for a 2010/11 season program up to the last minute (June) hoping futilely that funding might be expanded. Local partners will be disappointed if WACIP is not renewed and the US will lose some of the credibility it gained.

The US WACIP program is not the only player. The private sector – including local cotton companies, Monsanto, NGO's, and other donors are supplementing the national government efforts to reach out to farmers with improved and changing technical advice and materials.

But if an important part of the program is credibility, the one-shot program for one or two years will be seen as less sincere, less valuable and less effective if it is not continued.

WACIP is not revolutionizing the system. It is filling some gaps and showing the way for farmers to substantially increase their incomes and for processors to reduce their costs. If they took advantage of these opportunities, it would be more meaningful to farm and processor income than the effect on world cotton prices if the US ended its subsidies.

WAY FORWARD

Question #14: If there turns out be a follow-on project, which components (implementation areas) of the current WACIP should be retained, and which eliminated?

Comment: The main issues are how the credit system for inputs will work and whether researchers will be able to address changing issues of soil fertility and new types of bugs.

Programs to Eliminate:

1. **Equipment.** No more Equipment in a one year extension: The reaction to INSAH equipment purchases was so negative that it is uncertain that this was a useful program. Probably the researchers will be happier once they get their equipment, provided that it works and they know how to use it. Perhaps with more information back and forth in a longer term WACIP program this procurement problem could be mitigated. Apparently much of the complex procurement process was new to INSAH and they made some time consuming mistakes. Contrast with WACIP staff which visited all the labs and got equipment needs, pared them down and quickly determined the list of equipment that INSAH was supposed to buy. INSAH seems much more lethargic from reports from the researchers in all three countries. Perhaps part of the complaint by researchers stemmed from the desire to control the funding themselves, though a Burkina research group was unable to buy one piece of equipment due to poor tendering procedures and reverted to WACIP to purchase it for them from the US instead of Europe (at a third of the price they had estimated).

   The current INSAH program is in the process of buying and delivering the needed equipment and information systems. If there is a one year extension of the program, it would be unwise to add more equipment – not needed and procurement difficulties of INSAH have reduced the perceived effectiveness of the WACIP program among researchers, contributing to a perception among some researchers (Burkina research director) that WACIP is slow and not well managed – unlike WACIP activities not involving INSAH.

   For a longer term multi year program need for additional equipment for researchers could be revisited as an issue if there are new areas of focus in classing, seeds, or other areas. Longer term equipment purchases should not be precluded, provided there is focus on better communication between the purchaser and the beneficiaries.

2. **Pricing policies.** No Policies on Farm Gate Prices: Policy work on internal price setting isn't really welcome and is unlikely to be useful. The system will remain a managed system, with set prices for cotton and inputs and all farmers in a country receiving or paying the same price.
3. **Textiles/garments.** No Textile company support: It appears that the cotton processing industry is not competitive – Asian imports are much cheaper – half or less the price. Used clothing flooding African markets with affordable clothes are even cheaper. There is not much point in trying to prop up non-competitive textile and garment industries.

The key useful parts of the program that should be continued are:

1. **Helping train many farmers** with demo plots and using the existing research and extension services and recommendations.
2. **Helping the research system** test new fertilizers and test insects for resistance, and develop better communication systems.

3. **The successful reduction in ginning costs.**
4. **Some help for highly visible programs** with very limited aggregate impact – help for artisans, organic farmers.

We should continue with most of the same programs for the next year, including extension, research and a pilot ginning program in Burkina Faso and a biosafety program In Burkina Faso and its neighbors – Mali and Benin. We should also include the cameo programs of aid to artisans and organic cotton (not big in impact but big in visibility and with heavier participation by women than the male dominated conventional cotton program).

The main programs with substantial economic impact will be on production issues involving fertility and pests and better management of input credit.

Policy reform for credit on corn fertilizer. For food security – the US should push for reasonable policies to permit cotton farmers who pay their debts to get some corn fertilizer on credit as well through the cotton program. The idea of the President Director General of the CMDT cotton ginning company in Mali to let a debt free farmer have up to 40 percent of his expected cotton value in credit for fertilizer for cotton (30 percent) and corn (10 percent) seems sound. We should push gently perhaps introducing this only in one or two countries and hoping the others will change later if (like SOFITEX in Burkina Faso) they are opposed to this idea.

Ginning Program: The issue of whether to help private cotton ginners is interesting. Ideally they could invest themselves. But raising this question in Mali (CMDT) and Benin (ICA) didn't elicit a response that suggested the investment in humidification equipment for gins would automatically occur, in spite of the demonstrated benefits and one year payback for investment. Financial crises in Mali make it more difficult and the private companies will take over presumably at the end of the year. Probably it would be a good idea to repeat the programs of humidification and health/safety/management procedures in one gin in Burkina Faso, next year, with a Mali program to be considered a year after successful privatization of the ginning industry is completed (privatization is programmed for the end of 2010).

It is questionable to what degree we can/should help the private sector (newly –privatized cotton companies in Mali, the cotton gins with more investment in humidification and accounting and information systems. But these efforts were highly effective and could be extended to Mali and Burkina, which unlike Benin and Senegal, did not have test efforts.

Chad's cotton sector has fallen sharply with stopping of input buying. Without that, there will be no progress and not much point in training. A farmer outreach program for Chad should be dependent on clear signals that inputs are coming in.

New Programs:

Starting new programs on cotton quality, on seed quality and distribution on seed varieties for cotton may be desirable in a multi-year program. A multiyear program could not be approved in time for the 2011/12 cropping season. It would need programs developed and grants funded with partners by March 2011. Composting training programs for 2011/12 should start in October

2010. Ideally the a year extension of IFDC could be supplemented by an RFP later this year for follow on program to begin on In August 2011 for five years building on some of the programs an overlapping with WACIP II.

The BT biotech work is a good opportunity for rapid implementation and could be launched as soon as funds are available in an IFDC one year extension. ANB already proved it can act quickly and effectively. The US will gain if the lies about BT are addressed through public education campaigns. Burkina's neighbors should have a keen interest in avoiding serious problems if mixed BT/non-BT seeds are purchased by their farmers illegally across borders – almost certain to happen without a substantial education campaign for these largely illiterate farmers.

Our main interests continue to be:

1. Improve incomes of farmers;
2. Address inefficiencies that could lead to better cotton price or lower costs (quality, ginning);
3. Have programs that that look good and have good results.

Question #15: What are the main lessons learned from WACIP that should inform any future decisions on additional USAID-funded activities of a similar nature?

A main lesson learned is that is possible to work with local organizations, use their procedures and personnel to have a substantial positive impact on farmer incomes. Many development programs in the past have been stand alone operations, hiring local staff away from their organizations at a multiple of their previous salaries with little sustainability.

WACIP found areas where there was an existing system of dedicated and competent research and extension staffers with salaries paid by the government or the cotton companies (or by the fledgling farmer unions) in a system which had been already traditionally focused on farmers needs. Thus WACIP had sustainable partners that were willing to put in meaningful counterpart funds and efforts.

Clearly communications have been a problem, particularly in Burkina Faso. Financial reporting, tendering procedures, environmental issues, and monitoring and evaluation procedures of grantees have been problem areas that should have more attention (a dedicated staffer in each country) to help partners with these issues in future programs.

IFDC/Accra, overall manager of the program, suggested that another area of focus should be better communications – addition of a bilingual communications expert staff member at the WACIP Head office in Bamako, able to address some of the USAID requirements and help develop reports, websites etc. that report the successes of the program and give continuing access to grantees to keep abreast of plans and progress of the program – mitigating the poor communication among host country agencies.

Clearly part of the problems of this generally very successful program stemmed from the need to move quickly – asking partners to launch activities before funding was ready, moving ahead before the full program was approved, catering to divergent directives from Consultative Committees (wanting a broad scope of activities and wishing for local control of funds) versus USAID's need to focus activities, have adequate monitoring, reporting, and financial records and enforce contractual obligations of the implementing organization (IFDC). Waiting another year to start activities while they were being planned and coordinated could have obviated some of the problems that WACIP faced. WACIP needed to move speedily and it did – with impressive effectiveness.

If there is a WACIP II or WACIP III there is an opportunity to have more careful advance planning and coordination. This would require for a one year extension to implement programs in the 2011/12 cropping season , extension of the IFDC program by October or earlier (to avoid losing all the staff), so that new activities could be launched by March 2011, as inputs are delivered to farmers. A composting program should be launched in October 2010 to compost 2010/11 crop residues for the next season. A WACIP III for a new competitive bid for a three year or five year program should be planned now – and awarded no later than July 2011 to permit implementation and overlap with WACIP II in August/September.

WACIP III should not be done without WACIP II. WACIP II (one year extension of IFDC) could follow up on existing agreements, relationships understandings and is even more important than WACIP III because of the prospect of continuity. Starting over with a multiyear WACIP III program and trying to renegotiate local partner contributions after a long hiatus would be of questionable value.

VIII. GENERAL CONCLUSIONS ON VALUE AND EFFECTIVENESS OF THE PROGRAM

The breakdown of cotton company funding for activities for the cotton sector led to opportunities for WACIP to have a major impact in a potentially sustainable system. The long run sustainability o f WACIP successes is not assured in a system where politics will always influence the setting of farm gate prices for cotton and for inputs. But several elements being introduced in these systems could create a sustainable system. Those elements include:

1. The Burkina Faso "fond de lissage" (stabilization fund) system (based loosely on the former "ristourne" system) for paying farmers a portion of the value of their cotton when they deliver, and the rest later. If farm gate prices are not set too high, this could lead to a sustainable system that would permit fixed prices to farmers in advance of the season (as insisted upon by all the countries) in spite of fluctuating world market prices.
2. Benin's system of charging a fee of 20 cfa/kg to fund essential services including research.

The system is not self sustaining at present but could be. WACIP filled in gaps at a time of crisis and its active involvement in planning and monitoring provided financing for key outreach activities, but also energized all the players, resulting in impressive results.

Whether this can be repeated for other crops is questionable. No other crop has the credit potential of cotton because the cotton farmer (unlike the food crop farmer) has no alternative but to sell to a ginner and thus will be obliged to repay input credit. The cotton ginners and related credit/purchasing systems have strong incentives to ensure that inputs are there on time, of appropriate quality (unlike the open market) and that farmers are paid when or soon after they deliver their cotton. The cotton companies, public (SOFITEX) or private (Benin) have an incentive to fund researchers in high risk areas such as insect resistance to preserve their long run viability.

Food security. All cotton farmers also produce food crops – and most of the farm of a cotton farmer is devoted to those food crops – notably corn, which is stored throughout the year to sustain the family's basic food needs. Surpluses are sold but prices for food crops can be quite low during the harvest season. A controversial but attractive suggestion (By the head of the ginning company in Mali and by the former President of the Farmers union in Burkina Faso) would have farmers who have paid their cotton debts be given the permission to borrow against cotton sales (up to 40 percent of the value according the suggestion of CMDT/Mali) to purchase fertilizer and other inputs – e.g. 30 percent for cotton fertilizer and pesticide and 10 percent for corn fertilizer). SOFITEX of Burkina Faso currently opposes this system, wanting credit only for fertilizer for cotton not for corn. But farmers will divert the fertilizer to their food crops anyway, so it would be sensible for a future program to promote use of the program for much needed input credit for food crops. (Other systems such as warehouse receipts for stored grain have been proposed to generate input credit, by delayed sale of the crop, but are still very experimental and of uncertain success). Cotton credit could clearly be used for food security, if managed correctly. A future WACIP program could explore this issue, though taking account of local sensibilities – if it isn't acceptable in Burkina Faso, it could be introduced in countries where it could be acceptable – e.g. Mali and Benin, just as BT cotton is being introduced in Burkina Faso long before introduction in other countries.

The original reason the WACIP program was begun was to respond to requests of the C-4 Ministers and help to provide credibility to US intentions in the WTO negotiations. The main efforts under WACIP program management were to help farmers, artisans and ginning industries and to provide support for new biotech efforts. Given the short duration, the limited preparation time, the small budget and the diverse groups providing advice and direction, the program was remarkably successful in accomplishing its main objectives of increasing incomes in the farm and processing sectors.

IX. RECOMMENDATIONS FOR FUTURE PROGRAMS

Based upon desk reviews of program documents and interviews with USAID, IFDC, WACIP partners and beneficiaries, and other cotton sector donors, the Evaluation Teams recommends:

1. A one-year extension to the current program implemented by IFDC: This extension would enable the following:
    - Further purchases of equipment through INSAH at this time are not necessary in a one year program. The deliveries, training, implementation of these system should be pursued with close attention from WACIP to ensure that INSAH and researcher understand each other and cooperate on a timely basis.
    - It would be useful to continue work on fertilizer formulation – closely tied to soil fertility and productivity issues.
    - The trapping plants haven't worked yet but researchers want to keep pursuing research – they could become very important in resistance for conventional and biotech cotton. Burkina will have a major problem in keeping the 20 percent of conventional cotton separate from the BT cotton and the trapping plants (keeping alive non-mutant bugs to mate with the occasional mutant resistant bug instead of two mutants mating) could be an alternative to planting conventional cotton. Sarah Gavian seemed doubtful about the value of continuing work on trapping plants since the initial results were negative on finding plants that could attract the bugs away from cotton. But even if success is not assured, it might be useful to continue because success would be very important for delaying insect resistance in BT cotton and could also be useful in conventional cotton.
    - The biosafety program in Burkina Faso and in neighboring countries will have problems and needs a lot of coordination. WACIP can help and WACIP funding could be very useful to combat the propaganda and lies spread by NGO's against biotechnology. The US has credibility in this area and the countries around Burkina are eager for information that could be provided by the energetic and effective head of ANB.
    - The aid to artisans program is of limited economic impact but involves women managers and is highly visible and should be continued. This program includes helping them with designs and getting their products to markets. Funding levels should continue to be modest.
    - The organics program is similar – low economic value but highly visible, but perhaps more problematical. WACIP should be open to assisting in a project if (as in the case of the Burkina organic cotton contract) there is already a buyer willing to pay high (fair trade) prices for organic cotton. WACIP should not offer to find such buyers but may wish to coordinate with private voluntary agencies that can provide such contracts. The risks of marketing problems without such a contract are substantial.
    - In the one year extension, WACIP could pursue a contract with COTIMES to do a ginning humidification/management training program with one of the three Burkina Faso companies similar to the successful efforts in Benin and Senegal. A

regional visit by ginners should be arranged to see the results. A program in Mali should wait until after the new private ginning companies have been in business for at least a year.

- A composting activity could be started with crop residues planned immediately and implemented when crops are harvested in October/December 2010.

2. Follow on three or five year program: To overlap with IFDC program at the end of FY 2011. This follow-on makes sense only if the one year extension is approved. If there is no IFDC extension, momentum will be lost, counterpart contributions might be difficult to re-negotiate, and the value of re-starting a cotton program would be questionable.

   A longer term program (three year $20 million or preferably five year 30 million program-) is desirable and should be developed and approved as early as possible in FY 2011. Areas of interest including continuation of successes from programs in the one-year extension would include:

   - Help with capacity building – interprofessional organization.
   - Cotton classing – bale identification.
   - Cotton classing – use of HVI classing equipment (reportedly, y SOFITEX has bought some of the $2 million HVI machines and is proceeding with this).
   - Seed issues – varieties catalogue, seed delinting, seed storage and distribution systems, possibly research in improved seed varieties. There are other USAID programs for seeds, but generally they do not overlap with research and seed production/distribution for cotton – which is separate from food crop seed.
   - Credit issues for food crops (cotton credit for maize fertilizer, cowpeas insecticides etc).
   - Ginning humidification program with one of the newly privatized mills in Mali once they have been operating under new management for at least a year. Regional visit of ginners to see results.

ANNEXES

ANNEX I: C-4 MINISTERS JULY 2004 REQUEST FOR TECHNICAL ASSISTANCE IN KEY AREAS

In July 2004, after a visit to US cotton producing areas financed by USDA, a visit to Washington and meeting with the USDA and private sector cotton experts, the US Trade Representative, the Secretary of Agriculture and other high officials, C-4 Ministers of Trade and Agriculture jointly drafted a letter asking the U.S. Government to consider funding and technical assistance for the following areas.

1. Improve scientific and technology research
2. Improve farmer access to high quality inputs.
3. Protect the environment and conserve water and soil
4. Strengthen the capacity of cotton sector actors
5. Improve cotton-related infrastructure
6. Provide assistance in cotton processing
7. Biotechnology center of excellence
8. Partnerships: US and African research institutions
9. Bamako Ministerial: Financial and technical support

The USAID-led interagency fact finding visit was sent in response to this request.

ANNEX II: FIFTEEN INTERVENTION AREAS SUGGESTED BY 2004 INTERAGENCY FACT FINDING TEAM RECOMMENDATIONS, PUBLISHED AS PART OF USAID REPORT IN JANUARY 2005

Summary and Findings of the West African Cotton Assessment
September 25 – October 14, 2004

Potential Development Interventions

1. Strengthen Private Agricultural Organizations
2. Link US and West African Agricultural Research Organizations
3. Improve the Enabling Environment for Agricultural Biotechnology
4. Improve Seed Production, Quality, Certification and Utilization
5. Improve Tendering, Quality Assurance, and Distribution of Agrochemicals
6. Expand Agricultural and Rural Credit
7. Develop Alternative Approaches To Technology Generation and Transfer for the Cotton Sector Under the Assumption of Privatization
8. Arrest Soil Degradation and Loss of Fertility in Cotton Areas
9. Expand the Use of Good Agricultural Practices in Cotton Farming Systems
10. Reduce Post-Harvest Losses and Costs Through Better Practices, Handling and Logistics
11. Establish a West African Regional Ginning School
12. Reduce Contamination in C-4 Seed Cotton and Lint
13. Improve the Quality of C-4 Cotton Through Better Seed Cotton Grading and Lint Classing
14. Better Manage Critical Risks Confronting the C-4 Cotton Sector
15. Improve Competitiveness of Selected C-4 Textile & Apparel Enterprises

ANNEX III: NINE AREAS OF INTERVENTION RECOMMENDED BY 2006 BENIN CONFERENCE

WEST AFRICA COTTON IMPROVEMENT PROGRAM PLANNING WORKSHOP
Cotonou, Benin, January 25 – 26, 2006
WORKSHOP REPORT (excerpt)

3.2 Suggested Implementation Plan

Each of the three working groups were assigned intervention areas the following intervention areas: Group 1 - Interventions 1, 2, 3, 4; Group 2 - Interventions 1, 5, 6, 7
Group 3 - Interventions 1, 8, 9. They were instructed to make suggestions for activities that would be carried out for each of the assigned interventions, specifying how the activity would be carried out, by whom and when. Each working group then presented its findings to the plenary, followed by discussions and adoption of the suggestions.

Identified themes and areas of intervention for implementation.

Theme 1: *Increase Productivity*

Intervention 1.1 Expanding the use of good agricultural practices in cotton producing areas, including addressing soil degradation and fertility problems and improving pest management practices.
Intervention 2. Improving access, quality and reduce cost of inputs (seeds, fertilizer and chemicals).
Intervention 3.3 Improving linkages between the U.S. and West African agricultural research organizations involved with cotton.
Intervention 4.4 Improving the technical, bio-safety, and regulatory capacity for biotechnology-Bt Cotton.

Theme 2: *Processing, Marketing and Improving Quality*

Intervention 5.5 Improving the quality of C-4 cotton through better classification of seed cotton and lint.
Intervention 6.6 Establishing a West African regional training program for ginners.
Intervention 7. Improving value added from the cotton sector.

Theme 3: *Institutional/Policy Development*

Intervention 8.8 Supporting policy and institutional reform for private management of the sector.
Intervention 9.9 Strengthening private cotton producer organizations in business management practices in the C-4 countries.

**dTS Note* – the above nine (9) points were either identical or very similar to the 15 areas recommended with a few exceptions:

The Cotonou recommendations did not specifically include the following recommendations from the original 15, though point 7 in the list of 9 (Improve value added) or point 8 (Support policy and Institutional Reform) might be linked to some of them:
6. Expand Agricultural and Rural Credit
7. Develop Alternative Approaches to Technology Generation and Transfer for the Cotton Sector
10. Reduce Post Harvest losses and costs through better practices, handling and logistics
12. Reduce Contamination in C-4 Seed Cotton and Lint
14. Better manage critical risks confronting the C-4 Sector
15. Improve competitiveness of Selected C-4 Textile and Apparel Enterprises.

dTS Comment: It appears that the Cotonou Conference deleted some comments that specified failings of the current system, while welcoming less specific changes, including "policy and institutional reform" that might address some of those problems.

ANNEX IV: EXCERPT FROM 2006 WACIP WORK PLAN IDENTIFYING OVERALL OBJECTIVES AND NINE AREAS OF FOCUS

1.3 WACIP Goal and Objectives

The overall objective of the WACIP project is to increase incomes of cotton-farming households. The project assists these four countries to increase cotton yields and improve sales and income for the cotton sector. Farm-level activities focus on increasing the productivity of cotton as well as increasing income from rotational crops and diversified farm enterprises. Other program elements support the farmers with better access to appropriate and high-quality inputs, farm credit, more effective farmer organizations, higher quality handling and processing, increased value adding enterprises including artisan products, and improved and better targeted marketing strategies. WACIP also helps to build a better supporting environment through direct assistance to agencies and organizations providing services to the cotton value chain, assisting the industry to engage in policy dialog, and by fostering public-private partnerships.

The project aims to:

- Increase productivity of cotton, the quality of cotton lint, and farmers' income from cotton and other crops in the cotton farming systems;
- Create momentum for longer term policy and institutional changes that will encourage investment and value-addition; and
- Improve value addition by exploiting niche processing and marketing opportunities for cotton-based products.

The WACIP strategy is based on the concept that whereas the fundamental reforms in policy in the cotton chain will take a concerted effort over a longer time than the project; opportunities exist now to make significant improvements in yields and rural incomes.

Within the three-year duration of the project, the focus therefore needs to be directed on issues that will have a good likelihood of impact on the incomes of producers in the cotton growing systems of the C-4 countries. Based on this, WACIP overall strategy includes the following:

- Focus WACIP resources on improved agricultural practices, inputs, producer organizations, and ginning efficiency in the cotton sector.
- Explore ways to provide opportunities for crop diversification through the better availability and application of agricultural inputs in both cotton and non-cotton farming.
- Prepare the stage and set in motion elements for longer-term policy reforms and institutions, value-addition processing, and biotechnology
- Take advantage of opportunities to increase marketing of higher value products such as organic or fair trade cotton lint, artisanal cotton products, and oilseed co-products such as oil, soap and livestock feed.
- Determine the allocation of WACIP funds and efforts in each country in a step-wise manner, based on finding promising interventions, providing modest initial grants to partners, and then rewarding good performance with larger follow-on grants.

Input from regional stakeholders, governments, industry and farmers in the C-4 countries has been central to the formulation of WACIP, as well as its first year plan. This input has been provided throughout the project identification, proposal development, and project start-up periods:

1. Recommendations from the Sept-Oct 2004 West Africa Cotton Assessment Team.

2. Recommendations from the January 2006 WACIP Stakeholder Workshop in Cotonou.
3. Guidance from the July 2006 USAID WACIP solicitation
4. Input from meetings with both political leaders and technical organizations involved in the cotton sector in all C-4 countries during the course of:
    a. IFDC's preparation of the WACIP proposal (July-September 2006)
    b. USAID's high-level launch of the WACIP program (January – February 2007).
    c. The initial inception period of the project by the WACIP Implementing team (February-May 2007). During this latter period, the WACIP field teams, under the guidance of the WACIP Chief of Party, were assisted by the US-based members of the team from IFDC, Abt Associates, Aid-to-Artisans, Auburn University, Michigan State University, and Tuskegee University.

The WACIP technical agenda is organized in nine different intervention areas – generally mirroring the links in the cotton supply chain.

WACIP Theme 1: Cotton Sector Policies and Institutions

• Intervention 1: Support policy and institutional reform for private management of the sector.
• Intervention 2: Strengthen private cotton producer organizations in business management practices in the C-4 countries.

WACIP Theme 2: Value Added in Cotton Processing and Transformation

• Intervention 3: Improve the quality of C-4 cotton through better classification of seed cotton and lint.
• Intervention 4: Establish a West African regional training program for ginners
• Intervention 5: Add value to West African cotton through processing and transformation within the region.

WACIP Theme 3: Cotton Productivity

• Intervention 6: Expand the use of good agricultural practices in cotton producing areas, including addressing soil degradation and fertility problems and improving pest management practices.
• Intervention 7: Improve access, quality and reduce costs of inputs (seeds, fertilizer and chemicals).
• Intervention 8: Improve Linkages between U.S. and West African agricultural research organizations in the cotton sector.
• Intervention 9: Enhance capacity to manage the technical issues and establish biosafety, and regulatory procedures for agricultural biotechnology, including Bt cotton.

These nine intervention areas also involve three cross-cutting themes:

- Identify gender issues and ensure participation by women.
- Accommodate needs of disadvantaged groups, especially people living with HIV/AIDS.
- Environmental impact and mitigating measures.

ANNEX V: EXCERPT FROM WACIP 2010 WORK PLAN IDENTIFYING AREAS OF ACTION

Following is description of major program beneficiaries and activities from Sept 15 2008 revised program description:

B.5. WACIP Beneficiary Population

A summary of WACIP beneficiary populations is given in the table below:

WACIP Intervention Area	Direct Beneficiaries
Goal 1: Improved productivity of cotton and non-cotton crops	
Expand the use of good agricultural practices in cotton producing areas, including addressing soil degradation and fertility problems and improving pest management practices	• Farmers and their associations • Researchers and their institutes • Extension agents and their organizations
Improve access, quality and reduce costs of inputs (seeds, fertilizer and chemicals)	• Farmers and their associations • Input suppliers and their associations • Researchers and their institutes
Improve Linkages between U.S. and West African agricultural research organizations in the cotton sector	• Researchers and their institutes
Enhance capacity to manage the technical issues and establish biosafety, and regulatory procedures for agricultural biotechnology, including Bt cotton	• Researchers and their institutes • Bio-safety regulatory bodies • Parliamentarians, scientists, civil society • Cotton companies • Owners of Bt cotton patents
Goal 2: Improved productivity of cotton and non-cotton crops	
Improve the quality of C-4 cotton through better classification of seed cotton and lint	• Cotton Classers and their companies • Researchers and their institutes
Establish a West African regional training program for ginners	• Ginners; cotton companies
Add value to West African cotton through processing and transformation within the region	• Artisanal and industrial spinners, weavers, and clothing makers • Oil seed factories and their

	personnel.
Policy and Institutional Capacity	
Support policy and institutional reform for private management of the sector	• Government policy makers • Cotton companies • Farmers associations
Strengthen private cotton producer organizations in business management practices	• Farmers associations • Inter-professional associations

B.6. Key Impact and Outcome Indicators

The tables below sets out illustrative indicators for the key elements of the project and targets we believe achievable. These together with intermediate indicators will be discussed with the National Advisory Committee and USAID, and will form the basis of the monitoring and evaluation system. These indicators are for the region as a whole.

Key Impact Indicators

Indicator	Overall Project Target
Goal 1: Higher incomes for cotton farmers	
Objective 1: Improved productivity of cotton and non-cotton crops	
1. Gross margin of seed cotton	• **15% increase for (300,000) beneficiary farmers***
2. Gross margin of non-cotton crops (maize and cowpea)	o **10% increase for (300,000) beneficiary farmers***
Goal 2: Higher incomes for cotton processors	
Objective 2: Increased value of cotton products	
o **Value of total trade in cotton products for selected processors**	• **20% increase for selected processors***

* Consistent with FACTS, % change compares current year with baseline year

Key Outcome Indicators

Indicator	Overall Project Target

Goal 1: Higher incomes for cotton farmers	
Objective 1: Improved productivity of cotton and non-cotton crops	
o Yield of seed cotton	• 20% increase for **(300,000)** beneficiary farmers*
• Yield of non-cotton crops (maize and cowpea)	• 10% increase for **(300,000)** beneficiary farmers*
Goal 2: Higher incomes for cotton processors	
Objective 2: Increased value of cotton products	
o Number of new cotton products marketed by artisans	• 40 new products
• Volume of organic seed cotton processed using WACIP-supported new processing techniques	• 1,200 Mt
• Volume of conventional cotton fiber processed using WACIP-supported new processing techniques	• 4,000 Mt
Improved policy and institutional environment	
o Number of policy reforms adopted as a result of USG assistance	• One (1) policy
• Number of institutions /organizations making significant improvements based on recommendations made via USG supported assessment	• Four (4) research institutions

* Consistent with FACTS, % change compares current year with baseline year

ANNEX VI: BRIEF SUMMARY OF WACIP SUCCESSES SENT BY WACIP TEAM (IFDC) TO USDA MAY 2010

Highlights of Results

- **Agricultural productivity:** We ran two years of extension activities focusing on cotton, corn and cowpeas. By the end we had:

    - Developed new training modules
    - Trained over 1100 extension agents
    - Demonstrated improved technologies on over 1000 plots: cotton, corn & cowpeas, each with proper measures for the safe handling of pesticides
    - Provided hands-on trainings for 900,000+ farmers
    - Increased yields for seed cotton (17%), corn (18%) and cowpeas (31%) for 75,944 WACIP-supported farms.
    - Increased gross margins (returns) per hectare for seed cotton (43%), maize (7%) and cowpeas (153%) for those 75,944 WACIP-supported farms.
    - Contributed to a new increase in net revenues for those cotton farmers (on the 75,944 WACIP-supported farms of $64 886 310 (a 43% increase over baseline).

- **Ginning:** We ran a multi-year ginning program which involved a diagnostic, a one-week regional ginner training program, and then investments in humidification, better financial management systems, and integrated information management systems at two competitively selected gins (Sodefitex in Senegal and ICA in Benin). As a result of these efforts, the two target gins enjoyed:

        - $70+ of revenue gain per ton of cotton lint
        - Profits of $580,000 in 2009/10 alone
        - Profits of $6.5 million when assessed at net present value over 10 years

- **Textiles:** We have worked with a small group of export-ready artisans in each country to 1) train in business management, export marketing, and environmental risk mitigation, 2) develop new products, and 3) introduce those products at a number of high profile regional and international handicrafts fairs. As a result, WACIP-supported artisans earned over $700,000 in sales, including more than $220,000 from the New York International Gift Fair and other international markets, more than $295,000 from SIAO and other regional events, and $268,000 in domestic sales. They also created and sold more than 700 new cotton products.
- **Food Security:** Using estimates drawn from local surveys, we estimate that WACIP has in one way or another benefited over 560,000 rural households and over 290,000 impoverished households vulnerable to food insecurity.

ANNEX VII: WACIP REPORT ON SAMPLE RESULTS ON CHANGES IN YIELD, COSTS, INCOME BY COUNTRY AND CROP

Following is WACIP's report of the results of its program in terms of crop yields and income, based on sampling of farmers participating in training programs, with their yields compared to a base period of yields on their farms for the same crops in the previous two (Mali) or three (Burkina and Benin) years. Commentary is from WACIP.

Baseline Yield: As indicated in the PMP, WACIP defined its baseline for agricultural productivity as the average of the three seasons preceding WACIP's intervention: 2005/6, 2006/7 and 2007/8. In the case of Mali, however, the partner did not manage to collect retroactive data for WACIP farmers for 2005/6, so the average of the most recent two seasons, 2006/7 and 2007/8, was used instead.

Baseline and 2009/10 results for WACIP target farm units in Benin are shown in the table below.

Table 1: Baseline and 2009/10 WACIP Agricultural Results: Benin

Crop/Parameter	Unit	Baseline	2009/10	% Change
Cotton				
Area	Ha	65,874	65,874	0%
Production	Kg	81,640,645	95,025,422	16%
Quantity Sold	Kg	81,640,645	95,025,422	16%
Average Sale Price	$/Kg	$0.38	$0.42	12%
Purchased Input Cost	$	$11,067,715	$14,926,786	35%
Yield	Kg/Ha	1,239	1,443	16%
Gross Margin	$/Ha	$300	$382	27%
Net Revenue	$	$19,774,306	$25,195,058	27%
Maize				
Area	Ha	91,395	91,395	0%
Production	Kg	108,785,524	150,744,369	39%
Quantity Sold	Kg	67,305,526	93,265,433	39%
Average Sale Price	$/Kg	$0.29	$0.24	-15%
Purchased Input Cost	$	$895,992	$7,844,014	775%
Yield	Kg/Ha	1,190	1,649	39%
Gross Margin	$/Ha	$334	$317	-5%
Net Revenue	$	$30,530,937	$28,962,473	-5%
Cowpeas				
Area	Ha	19,716	19,716	0%
Production	Kg	6,697,323	8,921,297	33%
Quantity Sold	Kg	3,244,714	4,322,183	33%
Average Sale Price	$/Kg	$0.36	$0.59	61%
Purchased Input Cost	$	$0	$0	N/A
Yield	Kg/Ha	340	452	33%
Gross Margin	$/Ha	$124	$266	115%
Net Revenue	$	$2,440,802	$5,248,249	115%
Net revenue (all crops)	$	$52,746,045	$59,405,781	13%

For cotton, Benin's results are very impressive. Yield increases of 16% were achieved, due mainly to improved adoption of productivity-enhancing techniques. However, expenditures on inputs rose by 35% due to better adherence to recommended input doses. Assisted by a 12% rise in cotton prices, the net result was a 27% increase in cotton gross margins. For maize, however, the yield increases (39%) were even more impressive, but increased input costs coupled with dropping maize prices contributed to a small drop in gross margins. For cowpeas, large yield increases and a huge rise in sale price led to a 115% rise in gross margins. Overall, WACIP farmers in Benin gained almost $7 million (+13%) in additional net revenue.

Baseline and 2009/10 results for WACIP target farm units in Burkina Faso are shown in the table below.

Table 2: Baseline and 2008/9 WACIP Agricultural Results: Burkina Faso

Crop/Parameter	Unit	Baseline	2008/09	% Change
Cotton				
Area	Ha	103,863	103,863	0%
Production	Kg	83,924,505	101,080,629	20%
Quantity Sold	Kg	83,924,505	101,080,629	20%
Average Sale Price	$/Kg	$0.37	$0.37	**0%**
Purchased Input Cost	$	$16,884,702	$16,119,914	**-5%**
Yield	Kg/Ha	808	973	**20%**
Gross Margin	$/Ha	$134	$202	**51%**
Net Revenue	$	$13,887,617	$20,942,983	51%
Maize				
Area	Ha	60,192	60,192	0%
Production	Kg	75,622,032	68,735,167	-9%
Quantity Sold	Kg	46,787,297	30,930,825	-34%
Average Sale Price	$/Kg	$0.26	$0.26	**0%**
Purchased Input Cost	$	$7,717,725	$7,414,893	**-4%**
Yield	Kg/Ha	1,256	1,142	**-9%**
Gross Margin	$/Ha	$195	$171	**-13%**
Net Revenue	$	$11,739,173	$10,270,074	-13%
Cowpeas				
Area	Ha	13,241	13,241	0%
Production	Kg	4,082,607	5,268,197	29%
Quantity Sold	Kg	1,977,938	$895,594	-55%
Average Sale Price	$/Kg	$0.44	$0.44	**0%**
Purchased Input Cost	$	$1,591,807	$133,027	**-92%**
Yield	Kg/Ha	308	398	**29%**
Gross Margin	$/Ha	$15	$164	**1022%**
Net Revenue	$	$193,425	$2,170,638	**1022%**
Net revenue (all crops)	$	$25,820,216	$33,383,695	29%

For cotton, Burkina Faso's results are extremely impressive. Adoption of productivity-enhancing technologies led to yield increases of 20%; and adoption of more efficient pesticide treatment methods led to a 5% decrease in expenditures on inputs despite increases in input costs; thus gross margins increased by 51%. For maize, however, yields decreased, reportedly due to erratic and unpredictable rainfall. Thus, despite a 4% drop in expenditures on inputs, gross margins fell by 13%. It is likely that the effect of improved farmer adherence to correct cotton production practices led to decreased use of cotton labor and inputs on maize farms, resulting in decreases in maize input cost and maize yield. It is interesting to note that the reduction in net revenue from maize ($1.5 million) is far outweighed by the net revenue gains from cotton ($7 million). For cowpeas, huge yield gains (+29%) and large reductions (-92%) in expenditures on inputs led to a huge gross margins gains; it should be noted, however, that despite the large % increase in gross margins, due to the lower value and acreage on cowpeas, the resulting net revenue gain for WACIP farmers is less than $2 million. Overall, WACIP farmers in Burkina Faso gained over $7 million (+29%) in additional net revenue.

Baseline and 2009/10 results for WACIP target farm units in Mali are shown in the table below.

Table 3: Baseline and 2009/10 WACIP Agricultural Results: Mali

Crop/Parameter	Unit	Baseline	2009/10	% Change
Cotton				
Area	Ha	50,573	50,573	0%
Production	Kg	49,510,475	55,216,434	12%
Quantity Sold	Kg	49,510,475	55,216,434	12%
Average Sale Price	$/Kg	$0.36	$0.38	5%
Purchased Input Cost	$	$6,126,027	$2,111,274	-66%
Yield	Kg/Ha	979	1,092	12%
Gross Margin	$/Ha	$232	$371	60%
Net Revenue	$	$11,752,756	$18,748,268	60%
Maize				
Area	Ha	47,928	47,928	0%
Production	Kg	78,575,111	89,678,489	14%
Quantity Sold	Kg	48,614,365	40,355,320	14%
Average Sale Price	$/Kg	$0.20	$0.22	10%
Purchased Input Cost	$	$3,836,155	$978,645	-74%
Yield	Kg/Ha	1,639	1,871	14%
Gross Margin	$/Ha	$247	$391	59%
Net Revenue	$	$11,829,103	$18,750,622	59%
Cowpeas				
Area	Ha	2,845	2,845	0%
Production	Kg	1,004,617	1,259,084	25%
Quantity Sold	Kg	486,716	610,000	25%
Average Sale Price	$/Kg	$0.52	$0.45	-13%
Purchased Input Cost	$	$7,143	$22,218	211%
Yield	Kg/Ha	353	443	25%
Gross Margin	$/Ha	$180	$190	6%
Net Revenue	$	$510,815	$540,173	6%
Net revenue (all crops)	$	$24,092,674	$38,039,063	58%

For cotton, Mali's results are similar to those of Burkina Faso. Adoption of productivity-enhancing technologies led to yield increases of 12%; and adoption of more efficient pesticide treatment methods led to a 66% decrease in expenditures, aided by increases in input subsidies. Due to these factors as well as a 5% increase in cotton prices, gross margins increased by 60%. For maize, however, Mali's case is much than that of Burkina Faso: yields increased by 14% and expenditures on inputs dropped by 74% due partly to increased input subsidies, but largely due to a 28% reduction in pesticide use as a result of the adoption of more efficient treatment methods. As a result, gross margins rose by 59%. For cowpeas, huge yield gains (+25%) were outweighed by large rises in expenditures on inputs and a 13% drop in cowpea market price, leading to modest gross margins gains of only 6%. Overall, WACIP farmers in Mali gained nearly $12 million (+58%) in additional net revenue.

Table 4: Aggregate baseline and final WACIP Agricultural Results
(2008/9 final year for Burkina Faso; 2009/10 final year for the Benin and Mali)

Crop/Parameter	Unit	Baseline	Final	% Change
Cotton				
Area	Ha	220,310	220,310	0%
Production	Kg	215,075,625	251,322,486	17%
Quantity Sold	Kg	215,075,625	251,322,486	17%
Average Sale Price	$/Kg	$0.37	$0.39	6%
Purchased Input Cost	$	$34,078,444	$33,157,974	-3%
Yield	Kg/Ha	976	1,141	**17%**
Gross Margin	$/Ha	$206	$295	**43%**
Net Revenue	$	$45,414,678	$64,886,310	43%
Maize				
Area	Ha	199,514	199,514	0%
Production	Kg	262,982,667	309,158,024	18%
Quantity Sold	Kg	162,707,188	139,121,111	-14%
Average Sale Price	$/Kg	$0.25	$0.24	-5%
Purchased Input Cost	$	$12,449,871	$16,237,552	30%
Yield	Kg/Ha	1,318	1,550	**18%**
Gross Margin	$/Ha	$271	$291	**7%**
Net Revenue	$	$54,099,214	$57,983,169	7%
Cowpeas				
Area	Ha	35,802	35,802	0%
Production	Kg	11,784,546	15,448,578	31%
Quantity Sold	Kg	5,709,369	2,626,258	-54%
Average Sale Price	$/Kg	$0.38	$0.53	30%
Purchased Input Cost	$	$1,598,951	$155,244	-90%
Yield	Kg/Ha	329	431	**31%**
Gross Margin	$/Ha	$88	$222	**153%**
Net Revenue	$	$3,145,042	$7,959,061	153%
Net revenue (all crops)	**$**	**$102,658,934**	**$130,828,539**	**27%**

Overall, increases in yields and gross margins are observed for all crops, as well as aggregate reductions in expenditures on inputs for cotton and cowpeas (the two pesticide-intensive crops). WACIP farmers gained over $26 million (+27%) in additional net revenue. For a region with rural poverty rates of over 50%, the poverty-reduction implications of these results are enormous. In addition, on the same area, as a result of WACIP efforts, production of staple crops (Maize and cowpeas) has increased 18% from 275 to 324 million Kg. With the combined effects of increased revenue and increased staple food crop production, one would expect the effect on rural C-4 food security to be immense.

ANNEX VIII: DONOR PROGRAMS

The team met a number of donors and got a list of all cotton donor programs in Benin. Information on donors for Mali and Burkina Faso was incomplete.

Benin – Nine donor cotton programs from 2008 meeting:

Themes	PAFICOT	PARFCB	PADYP	Procoton	CMIA	WACIP	ALAFIA	GIPD	Alifia
Strengthen actor capacities	X	X	X	X	X	X	X	X	X
Ecological sustainability				X	X	X	X	X	X
Quality of cotton	X	X		X	X	X	X	X	X
Farmer organization functioning	X	X	X	X		X	X	X	X
Extension Service tools, approaches	X	X			X	X	X	X	X
Research and development	X	X		X	X	X	X	X	X
Partnership among actors	X	X	X	X	X	x	X	X	X
Access to Info on cotton actors	X	X		X		x	X	X	X
Counseling and management	X	X	x				X	X	X
Seed & pesticide		X	X	X	X			X	X
Transport, storage of seed cotton	X		x	X		X	X	X	
Ginning Management & fiber quality	X			X	X				
Use of LEC techniques (Pest Management)								X	X
Labeling of Benin cotton							X		
Statistics on cotton							X		
Info on cotton regulation							X		
Other cultivation techniques									X

N°	Institutions	Donors
1	OBEPAB: Organisation Béninoise pour l'Agriculture biologique (organic cotton)	Netherlands-Switzerland
2	GIPD: Gestion intégrée de la production et des déprédateurs des cultures (pests)	United Nations Agriculture Organisation (FAO)
3	"Alafia": Coton biologique et équitable dans la réserve de biosphères de la Pendari (organic & fair trade cotton)	GTZ Germany
4	PROCOTON: Cotton Producer organizations	Netherlands
5	PAFICOT: Projet d'Appui a la filière Coton-Textiles	African Development Bank
6	C FC (Common Fund for Commodities	EU & World Bank
7	PARFCB: Projet d'Assainissement et de Relance de la filière coton au Benin	World Bank
8	PADYP: Programme d'Appui aux dynamiques productives	French Development Agency

Mali Donors (partial list):

Institutions	Domains	Amount	Observations
European Union	Studies on reform	15 million euros	
	Build roads (on cotton production areas)	4 Million euros	
	Literacy programs	1.50 Million euros	Implemented by AFD
	Organic - cotton	600 000 Euros	Implemented by Cooperative Mobiom
	Research and Structuring of cotton producers	350 Millions	Managed by Brussels
ADF (French)	Promote organic and fair trade cotton	11.9 millions d'Euros	Implementing partners: -Association des Producteurs de Coton Africain (AProCA) -Union Nationale des producteurs de coton
World Bank	Granting Fund to the restructuring mission		700 Million was paid to Mali
	PCDA Programme	Value added to cotton production	48 Million US D
SNV (Dutch)	Train in Leadership		

	Extension Training of family exploitation Food security		
Japan International Cooperation Agency (Japan)	Equipment grant for regional Union Cooperative office		
OXFAM AMERICA	Capacity building of cotton producers' cooperatives in organic and conventional cotton production	4 billion CFA	Implementing partners: AOPP, SNV, Helvetas/Mobiom, APROCA, Enda Dialogue Politique
UEMOA-Fond Africain de Developpement (FAD) ECOWAS/African Development Fund	Improve cotton productivity Support processing and marketing Training of cotton producers.		Loan from FAD (72%) Subsidy from FAD (18%) Government contribution 10% Beneficiaries of C4 countries.

Burkina Faso Donors (partial list):

Institutions	Domains	Amount	Observations
European Union	Organic cotton		
	Soil-fertility		
Helvetas (Swiss)	Warehouse receipts		
AFD (France)	Support to union operation		
	Grant fonds de lissage		
	Technical assistance with qualified personnel		
	Training: Literacy campaigns		
	Extension services		
	Rehabilitation of rural roads		
	Bio-security		
	Assistance to cotton companies	Euros: 16 Million loans and 3 million grants	
World Bank			Not disbursed yet

ANNEX IX: COTTON FARMING CHALLENGES

As a World Bank employee told the evaluation team in Mali, cotton is the engine for the agricultural sector and is important for food security. Cotton farmers ideally should have no more than a third of their cultivated land cotton, but cotton provides the main money income for their families and also helps them get fertilizer on credit for their food crops, particularly maize(corn). Cotton farmers usually have some animals (goats, sheep, chickens) and sometimes bovine animals as well for animal traction and milk production. Their crops often include maize (the key food for their family stored throughout the year) and other crops for food and income such as cowpeas, peanuts, yams, sesame, and shea nuts harvested from wild trees and either processed into cooking oil or sold for cosmetics manufacture.

Cotton farms generally range from ½ hectare to five hectares. Exceptionally there are farms of up to 40 hectares worked with tractors. But most farms are worked by family members who are not compensated directly for their work, though they may benefit from the family income in less direct ways.

Many people in rural areas are illiterate. Literacy is only 21.8 percent in Burkina Faso, 34.7 percent in Benin and 46.4 percent in Mali and illiteracy is higher than the average in the rural areas and among older people. Members of the cooperative committees that coordinate input supplies and credit are supposed to be literate. Many farmers identify different types of pesticides, to be applied on different dates, by the colors of the containers. In the most rural areas, many of the children are not in school and thus they are available for farm work. Closer to cities, cash producing activities such as service jobs or opportunities for producing vegetables or ornamental plants for sale are more numerous. But in the more remote rural areas there may be few alternatives to cotton for cash and the perceived opportunity cost of family labor may be close to zero. Near the cities as more children are educated, they become a financial drain but in remote areas, an extra wife may mean extra farming labor and children not in school can help on the farm. The team heard several times that a farmer with a windfall in income might commonly marry an additional wife. The Burkina organics farmer that the team visited was one of six wives in a family with 24 children of which only six were in school – apparently an unusually large family. The school cost was only about $5 per year, but the farmer felt it was more valuable to keep most of the children working on the farm, rather than going to school. The wife we met was allocated three hectares under her control and she could decide to keep or share the money generated.

Farmers generally have hand hoes, backpack sprayers for pesticides (and possibly herbicides), and a hand cart that can haul over a ton of manure or bagged harvested crops. The typical cotton farmer in the three countries has ½ to 5 hectares of cotton and at least three times that amount of land in other crops. It is possible to rent a plowing service or hauling service from either someone with animals and an animal traction plow or someone with a tractor for hire. But often such services require cash payment and farmers usually do not have access to cash outside of the harvest season.

Generally with hand working of farms, labor is a more limiting factor than land. Additional land can be rented – e.g. paying 2 bags of corn (200 kg) at the end of the season to rent a hectare for

a season. But cotton farming is very labor intensive in seeding, fertilizing, weeding, pesticide spraying and harvesting. Cotton also must be rotated with other crops so it is recommended that farmers apply no more than a third of their land to cotton.

The rest of the land is used for other crops, particularly a grain crop (the main source of family food may be maize plus sorghum or millet – stored for up to year in mud silos). Other crops are grown such as such as cowpeas, sesame and peanuts. Women (and often men as well) may grow vegetables to sell outside of the main (June/September) rainy season) if hey can access enough water to hand irrigate their little plots. Vegetable and other off season cash crops such as ornamental plants have better marketing prospects near big cities. Maize and cotton are produced during the rainy season and maize, like cotton, is very responsive to fertilizer in terms of increased yields. Maize production above that needed for the family food is also sold, but prices are low at harvest time when everyone is selling. Cotton has a price fixed before the planting season and because of the guaranteed market and credit for inputs is often much more attractive than maize or other crops as a source of money income.

Cotton is more demanding than other crops in terms of labor and chemical inputs. Recommended inputs include four 50 kg bags of fertilizer and 3 types of pesticides applied in six treatments (sometimes more depending on infestation). Some farmers use herbicides, which can also be purchased for cash or credit. A farmer using recommended inputs would pay 80,000 to 90,000 cfa, and with good practices might get 1.6 MT of cotton, worth about 300,000 cfa, thus netting about 200,000 cfa/ ha worth about $400 for each hectare of his cotton crop.

Farmers in these countries typically cannot save cash due to extended family obligations. Cash almost always disappears into urgent needs for school fees, medical expenses, funerals and weddings, so people with cash tend to spend it quickly. As a result, defaults on loans are common and banks, input suppliers and others generally won't lend money to farmers for their crop inputs. Microcredit for crop inputs in principle is available for crop inputs in Mali (and is commonly used for irrigated rice and for imported seed potatoes in Mali), but generally isn't ideal for crop inputs in the C-4 countries because the administrative costs and interest rates are too high to be supported by the profits of crop farming.

Cotton is more amenable to credit systems than food crops. The farmer must sell the cotton to a gin to take out the seeds – about 58 percent of the weight of the cotton is seed. The ginner and the credit/input system applied by the ginner provide seeds, fertilizer, pesticides and sometimes herbicides to the farmer on credit. When the farmer's cotton is picked up from the village collection point, the debts are deducted from the payment to the farmer.

The farmer also needs fertilizer for his corn crop but can't get credit for it from the network of independent private input suppliers. Another issue is that agricultural chemicals on the open market for other crops are often fake products – adulterated, according to contacts the team met.

The main constraint to increasing farm yields is input credit. Farmers are limited on how much fertilizer they can buy on credit for their cotton, but they typically put some of their cotton fertilizer on maize – increasing their family food crop, but reducing their cotton yields as a result. So farmers who should get an average of 1.5 to 2 MT of cotton, instead get 800 to 1200 kgs/ha,

because they don't use all the recommended inputs and other practices. There were rumors among farmers that the cotton seeds weren't effective and as input prices increased (and farmers had to pay back – getting less and less money and sometimes paid very late), some of them cut back on cotton production in the last few years as purchasing systems for their cotton because less reliable in paying them for their cotton.

WACIP financed training programs for over 1,000 quarter or half hectare demonstration plots planted by private farmers for cotton, maize and cowpeas. Visits to each plot were used as part of a training for over a hundred farmers for each plot. The farmers managing the plots also actively involved 5 or 6 other farmers in their village in following the practices on the demonstration plot throughout the cropping season. This training and demonstration proved to farmers that if they used the recommended inputs, many of them could double their cotton yields and increase their incomes. The farm heads receiving the formal training then trained other farm workers in their families in the improved cropping procedures.

WACIP-supported programs trained over 900,000 people in various training programs. Its methodology, as approved by USAID, counted the trainees in each program, some of them participating in more than one program. Farmer extension training in crop practices, including programs in two years and maize and cowpeas in addition to cotton, totaled 686,991 trainees, including 403,879 in Mali, 162,936 in Benin and 120,176 in Burkina Faso. WACIP estimated that farmers trained gained 57.6 million dollars in increased incomes over the base period following to its extension efforts on cotton, maize and cowpeas. WACIP was not able to provide the evaluators with a firm estimate of the number of cotton farmers in the C-4 countries, but some informal estimates heard by the team from WACIP personnel suggested well over 300,000 cotton farmers in each country – perhaps a million cotton farmers in the C-3. It appeared (as suggested by Benin researchers to the evaluators) that while the training was valuable and reached a large number of farmers, a substantial percentage of the total cotton farmers did not receive crop production training from WACIP-supported programs. Thus, much remains to be done in the future.

Recent Changes in the Cotton Industries

In the colonial system, the cotton sector was run by the French. The African Governments took over this system and the French parastatal company (Dagris – now called Geocoton: reportedly bidding to buy a ginning company in Mali) gradually reduced its role. Farmers' organizations were given more of a voice in setting the cotton price and managing the network of input credits. High cotton prices on the world market in the 1980's and late 1990's encouraged expansion of cotton production as the main cash crop (replacing the earlier cash crop of peanuts after the peanut export market diminished several decades ago). Yields per hectare in other countries expanded as yields in West Africa stagnated or fell. Cotton production in Benin and Mali fell to half of peak production and cotton companies had severe financial strains as a result of reduced domestic cotton supplies and low world market prices. A strong Euro/linked directly to the CFA franc, reduced input prices but also reduced cotton export revenues – a net loss during the middle of this decade. Skyrocketing fertilizer prices in 2008 led governments of the C-3 to subsidize inputs with a subsidy of about 30 percent to maintain fairly stable fertilizer prices for farmers.

According to an ICAC report, prices per pound in Asia for Benin origin 1 1/8 inch cotton were 73.56 in 2002/3 but fell to 53 cents, 59 cents and 61 cents in subsequent years before climbing to 73 cents in June 2008, falling back to 62 cents in June 2009 and climbing to a 85 cents in June 2010 – the latter a very satisfactory price that if maintained would restore the industry to profitability, but a price level unlikely to last as worldwide supply and demand for cotton and synthetic fabrics continue to fluctuate.

Following is production in MT of seed cotton in 2009/10 for each of the C-4 and peak production in this decade (year)

Country	Production 2009/10 (thousand MT of seed cotton prelim)	Peak production (year)
Benin	158	412 (2002/3)
Burkina	394	714 (2005/6)
Chad	50	206 (2004/5)
Mali	236	572 (2001/2)

Privatization

The World Bank and IMF pressured the countries to privatize the cotton sectors, and at the same time world cotton prices fell to low levels, resulting in losses by the cotton companies and the need for subsidies by the Governments and/or donors to keep them in the business of buying cotton from farmers. This year world market cotton prices have climbed to high levels (85 cents/pound in June) and the dollar has also soared against the Euro/CFA franc - leading to prospects of partial financial recovery by cotton companies after experiencing losses in the last few years. It is quite possible that cotton prices may decline somewhat from current levels – ICAC guessed a likely long term price might be 70 cents per pound, a very uncertain outlook creating much risk for cotton companies faced with fluctuating international prices but fixed prices for farmers, announced in advance of the production season.

In the three countries of focus, the cottonseed crushers (buying the cotton seed from gins – about 58 percent of the weight but perhaps 5 percent of the value of cotton) were privatized several years ago and their former monopolies were challenged by new small-scale investors in crushing the diminishing supplies of cottonseed to produce cooking oil and animal feed. Issues of pricing and allocation of seed for crushing were controversial as cotton supplies were reduced, international prices for oilseeds skyrocketed and privatized former parastatal crushers faced financial difficulties. Farmers questioned whether they were getting compensated for the value of the seed as well as the lint – and Michigan State University (MSU, a WACIP partner) studied the issue under the WACIP program and discussed early results in a workshop in Benin – concluding that farmers generally were compensated for the value of both seed and lint and that the seed was of very minor value compared to the lint.

Burkina Faso. Burkina split its cotton producing area into three zones, and set up three ginning companies (one handling 85 percent of total cotton production) sold some shares to the private

sector and said the sector was privatized. But with low world prices, somewhat stable farm gate prices and resulting losses, the state recently re-capitalized SOFITEX, the largest company, and became once again majority stockholder.

Burkina has a fairly stable system and now has replaced Mali as the largest producer n the region. Like Benin, Burkina's "interprofessional" organization is made up cotton companies and farmers and in both countries the cotton companies seem to have a much stronger voice than farmers organizations at present. The interprofessional will increasingly make decisions on providing extension, controlling inputs and other production and marketing issues. Unlike Benin, where the government runs extension, in Burkina both the cotton companies and farmers organizations have extension agents.

Mali. In Mali, at one time the largest producer, the cotton ginning company is in a difficult financial condition, and is in the process of privatizing. Mali resisted privatization but this year expects to complete sale of its cotton gins split into four geographic zones. A number of major companies (mostly European or Asian) are bidding.

Cotton companies in Mali are expected to continue to provide extension. The Government provides the salaries for researchers, but researchers have no funding for activities from the ginners, but hope for resumption of contributions by the cotton industry once the new structure stabilizes. The farmers nominally seem destined to have more of a role in input supplies than in Burkina or Benin, albeit with substantial technical advice from the cotton companies.

In Mali, CMDT – the cotton ginning company reportedly is in a very difficult financial condition. It has tendered to sell its gins to four companies in four geographic zones and several major international companies have registered to bid. The intention is to have geographic regions where the country's privatized gins will have monopolies to purchase cotton. The Malian Ministry of Agriculture told the evaluation team that it has always been the cotton companies that arranged extension and funded research and they expect the extension function to be continued by the private companies, not the government. Input supplies are supposed to be handled by the fledgling "interprofessional" group of cotton ginning companies and farmer representatives. The researchers, with salaries paid by the government but traditionally with cotton related activities funded by CMDT, say that CMDT has recently not been able to provide them with funding for research activities on insect resistance, fertilizer formulas, assistance to extension, etc. So the WACIP funding for cotton research/extension activities came at a key time, energizing the system of extension/research outreach to farmers when traditional sources of funding had dried up.

Benin. Benin privatized its cotton gins, but had huge problems. Ginners had capacity three times the level of production (nearly 600,000 MT of capacity compared to about 200,000 MT of production) and ginners poached farmer/suppliers from the territory of other ginners. Some farmers who owed debts to ginners sold to alternative ginners and didn't pay their debts. Although small voluntary cooperative groups of farmers guaranteed each others' debts there were many instances of non-payment and fraud. Some farmers, often the heads of cooperatives, declared large planting plans to get fertilizer, sold the fertilizer and left the debts to their fellow cooperatives members who had guaranteed repayment as a group. By 2005/06 farmers were not paid for many months (sometimes unpaid for more than a year) and were responsible for debts

of others. There was much fraud in the farmer organizations at the commune and departmental levels that managed input supplies. The system began to collapse and cotton production fell sharply from a peak of 412,000 MT to below 158,000 MT last year.

Benin is now stabilizing its system. The Government sold its 10 cotton gins. Of the country's 18 gins, 15 are now majority controlled by one private sector person, who also is dominant in importing pesticides and fertilizer from Europe to supply to the cotton sector. His ginning group, faced with massive fraud and massive unpaid debts from farmers, undercut the existing cooperative structure, encouraging the setting up of thousands of new small voluntary cooperatives at village level, and made contracts directly with them – ignoring the old debts, partly covered by government subsidies and undercutting the viability of the regional and national cooperative structure. New rules promulgated by the government refused to let any cooperative officers with unpaid debts to be officers on the new cooperative committees.

Sustainable Funding. The new system in Benin developed funding mechanisms that could become workable and sustainable. Ginning companies that want to purchase cotton can get quotas based on their capacity but have to advance up 40 percent of the value of expected cotton purchases from farmers to get a quota to purchase cotton, a procedure providing fairly early repayment to input suppliers in - December. A gin in Benin no longer has a defined monopoly purchasing zone, but does have a defined quota, so gins could purchase from farmers near other gins, but only up to their quota. If there is residual cotton, new quotas are established after the initial ones are filled by all the gins. Input quotas and input distribution are controlled by tenders from a centralized set of organizations. Cotton prices are set by cotton ginning companies in coordination with farmers unions thorough an "interprofessional" organization and with the government as observers; and if necessary as arbiters.

Benin: Stability with a Private Monopoly. As in the past the same price is paid to farmers all over the country and the same price is charged for inputs country-wide (a diversion from a purely private market cost based system). Another system in Benin, not yet fully operational will levy a fee of 20 cfa/kg of cotton marketed to cover urgent needs, including research. So although the farmers' union power was decreased, most people, including the new President of the Farmers Union, who met with the team, seemed to see the changes in 2010 as somewhat positive. On the other hand, some observed that a public sector monopoly was effectively replaced with a private sector monopoly with control over prices of inputs, ginning and cooperatives that could include a lack of transparency and might eventually have negative consequences for the country. But in the short run, most people seemed glad to have the credit system working again so that farmers could get the inputs they needed for good yields and be paid for their cotton. Benin during the transition to privatization, went through several terrible years where farmers weren't paid, were cheated, and suffered from the debts of others. Now the system seems to be stabilizing.

Sector Risk due to Fixed Farm Gate Prices

One dilemma in cotton is that farmers have a fixed price announced before they plant. But 98 percent of the cotton is exported and the world market price fluctuates substantially for the cotton exported nearly a year later. Some of the companies (e.g. Sofitex/Burkina) sell some of the upcoming crop forward to reduce their risk. Burkina also has introduced a "fond de lissage"

(stabilization fund) an end of season profit distribution to farmers in the event world prices and/or cotton company profits are higher than anticipated and a source of supplementary funding for farmers if world prices temporarily fall to low levels. This system – similar to the old "ristourne" system of end of season payments (still theoretically in use in Mali as well) would permit announcing fixed prices for farmers for the greater portion of their payment, but help the industry to adjust to the up and down movement of international cotton prices. But it works only if the price set for farmers over a period of years is on average lower than that indicated by the world market price. Having a portion of payments come to farmers later may be an advantage in a social system where it is very difficult to save cash. But the fond de lissage (or the ristourne system) doesn't create stability if the farm gate price is set too high. While it seems cruel to say that the few hundred dollars a year that farmers earn is too high, there does seem to have been political pressure to benefit farmers at the expense of the financial viability of the cotton sector, as input prices went up and world cotton prices were at relatively low levels in the several years prior to the world cotton price increases in 2010.

ANNEX X: CONTACTS MET DURING EVALUATION VISIT

List of main contacts during visit of Thomas Pomeroy and Hadji Diakite (WACIP Evaluation team) to Bamako, Sikasso, Bobo-Dialosso, Ouagadougou, Cotonou, Bohicon and Parkaou June 6 – 28, 2010.
Prior to the trip, the team leader met with USTR (Liser, Bryan, Agama) and spoke by phone with Washington representatives of USAID (Hobgood), USDA (Simmons), IFDC (Crane) and the U.S. National Cotton Council (Maguire). At the end of the field trip also met Marjatta Elitta of IFDC/Accra and made a presentation of initial findings to USAID/Accra. on June 30.

Principal contacts in Mali:

N°	Surname/Name	Position	Address
WACIP, Bamako			
1	Blaise Fadoegnon	Coordinateur National WACIP/Mali	bfadegnon@ifdc.org/44 90 01 22
2	Djimasbe Ngaradoum	Specialist Regional Suivi-Evaluation	223 76 73 83 19/dngaradoum@ifdc.org
3	Marcos Malaku	Coodinateur Programmes nationaux	223 490 13 01 mmclaku@ifdc.org
4	Sarah GAVIAN	Directrice	Sgavian@ifdc.org
Artisans			
5	Mme Niagale Aissata Namoko		76 32 95 49
6	Mme Baissa Awa Coulibaly		66 71 91 88
7	Mme N'Diaye Founemoussa Sakiliba	President Association des femmes veuves et enfants desherites	76 32 95 49
8	Boubacar Niambele	Tisserand	66 71 91 88
9	Mme Ramatoulaye Sissoko		76 17 85 04
10	Mme Niagale Aissata Namoko	Centre Christine Diamou	76 02 69 90
UN SCP, Bamako			
11	Mady Keita	President	76 36 97 78 unspc_mali**@yahoo.fr**
12	Wamara sanogo		
14	Bachir Diop	President de ACA, DG COTIMES	44 90 13 01/02
15	Marcellin Akpoue	COTIMES	44 90 13 01/02

INSTITUT DU SAHEL			
16	Netayo Laomaibao	Consultant	INSAH/netoyo@insah.org
17	Mahamadina Maiga	Chef UAFCIPI	INSAH
18	Souleymane keita	Charge de logistique	Tel: 223 66 723052
19	Agbuibou Coulibaly	Chef UCID/INSHAH	aguibou@insah.org
20	Dr Amadou Moustapha	Directeur General, INSHA	Directeur general/INSAH
21	Keffing Sissoko	Chef DREAM	ksissoko@insahorg
Compagnie Malienne Des Textiles			
22	Ousmane Cisse	Conseiller trechnique	66 78 77 44
23	Adama traore	Administrateur General	76 476525
24	Issa Sidibe	Recherche Developpement OHVN	issasidibe43@hotmail.com /76 45 61 08
25	Sekou Cisse	Chef secteur formation vulgarisateur	76 45 82 29
26	Mamadou Daba Kouyate	Chef service fianances, CMDT	daba@cmdt.ml 76 47 14 22
27	Moussa Keita	Chef Division Tresorie filiale	
28	Mahamadou Yaressi	Directeur financier et Comptable	76 616773
29	Ishaga thiam	Administrateur General; CMDT Ouest	66 69 88 27
30	Abdoulaye Dako	Administateur General	
31	Sadio Sissoko	Conseiller trechnique Industriel	76 21 07 92
32	Salif A Cissoko	Directeur General Adjoint	76 14 31 52. scissoko@cmdt.ml
33	Tienan |Coulibaly	President Directeur General	76 52 57 47 tcoulibaly@cmdt.m
Direction Nationale IER			
34	Dr Fagaye Sissoko	Agronome Programme Coton	20 12 60 01 /66 79 81 71/fagaye_sissoko@yahoo.fr
35	Dr Abdoulkarim traore	Directeur de Recherche, Coordianteur	66 18 57 58/abdoul_karim_traore@yahoo.fr
36	Mamoutou Togola	Scientifique des cultures fluviales	Antomologiste
Europenan Union-World Bank			

37	DIDIE VERSE	Premier Secretaire	(223) 44 92 92 92/didier.verse@ec.europa.eu
38	Yeyande Kasse Sangho	Chargee principale des Operations AFTARS	(223) 20 22 22 83 /ysangho@worldbank.org
AGNECE FRANCAISE DE DEVELOPPEMENT			
39	Herve Bougnault	Directeur	(223) 20 21 28 42/20 21 49 96/bougaulth@afd.fr
40	Jean Francois Cavana		223 20 21 28 42 cavanajf@afd.fr
Ministere de l'Agriculture			
31	Adama Coulibaly	Conseiller technique, charge des questions economiques	223 20 222979/223 66 76 78 91/adatbct@hotmail.com
INSTITUT D'ECONOMIE RURALE, Sikasso			
42	Djibril Berthe	Chef zone production agricole Klela B	75 25 15 55
43	Drissa Bagayoko	Chef secteur Klela	76 25 97 79
Demonstration plot at Klela, Sikasso			
44	Dramane Bengaly	Demonstration field farmer, Klela	73 10 33 79

Principal contacts in Burkina Faso:

N°	Surname/Name	Position	Adresse
Union Nationale des Producteurs de Coton au Burkina Fasso			
1	Galla E, Cebastien	Secretaire general UNPCB	70 21 72 10
2	Mme Delphine Zoungrana	Charge de Programme sols bio	70 21 72 10
3	Idrissa Sinou	Chef Section Economique	70 21 72 10
4	Yacouba Koura	1er Vice Président	70 21 72 10
5	Ali Badara Diallo	Chef Services Formation	70 21 72 10
6	Georges Quebre	Chef programme coton bio et equite	70 21 72 10
7	Athamase Yara	Chef de service economiques	70 21 72 10
8	Moussa Traore	Responsable adj. Information-communication	70 21 72 10
9	Moussa Sene	Tresorier general	70 21 72 10
10	Tairou Fofana	2eme vice	70 21 72 10

		President	
11	Leonce S. Sanou	Coordinateur	70 21 72 10
12	Karim Traore	President UNPCB	70 21 72 10
13	Moyanga Honore	Assistant WACIP	70 21 72 10
Institut National d'Etudes et de Recherches Agricoles			
14	Bazoumana Koulibaly	Chercheur cotton	bazouna@hotmail.com
15	Oumer Hema	Chercheur cotton	ohema@fasonet.bf
16	Ouola Traore	Programme cotton	Ouela.traore.oraf.org
17	Denys Senfo		senfodenys@yahoo.fr
WACIP/IFDC			
18	Ibrahim Sourabie	Coordinateur WACIP Burkina Faso	
19	Honore Moyencoh	Assistant	
Association Interprofessionnelle du Coton au Burkina (AICB)			
20	Georg Yamego	Directeur National pour la Proudction Agricole SOFITEX	ygeorges@hotmail.com 226 20 97 39 08
21	Wilfried Yamego	Secretaire Permanent AIBC	yamwilfried@yahoo.fr 226 50 34 38 82
22	Aly Compaore	Directeur General SOCOMA	Dgsocoma.net
23	Fousseyni Kabore	Point Focal ACIB	
Agence Nationale de la Biotechnologie			
24	Chantal Zougrana	Directrice	70 72 32 71
25	Jean Simpore	ANB	70 72 32 71
26	Samyouda Ouedrago	ANB	70 33 62 63
27	Adama Compaore	ANB	70 13 30 27
Association Nationale des distributeurs grossistes et détaillants			
28	Noumantie Alphonse Sanou	Directeur	centralphytos@yahoo.fr 226 71 25 27 15
Union des Professionnels du Textile et de l'habillement du Centre (UPROTEX-HAC0)			
29	Dieudonne Zoundi	Ingenieur Textiles	226 78 82 46 70/uprotex@uprotex.org
30	Emmanuel Cachico Ouedrago	Charge de la formation	226 50 34 12 10/uprotex@uportex.org
31	Moumini Lobilo Nikiema	Secrétaire General, charge de l'Administration des Contrats et des Etudes de Prix	226 70 27 39 24/uprotex@uprotex.org
32	Ady Arthur Mava	Président,	226 50 38 02

	IDE	Entreprise IDE MAVA	60 /uprotex@uprotex.org
33	Marcel Ouedrago	Charge de la Communication	226 70 25 45 12 10
Ambassade Américaine, Ouagadougou			
34	Sarah m Gourdes	Attachée Economique et Commerciale Ambassade Américaine	226 50 49 56 gourdesm@state.gov
35	Mr. kabore	Affaire Economique Ambassade américaine	226 50 49 56
36	Dan Clarke	Représentant, USAID	226 50 49 56
Agence Française de Développement			
37	Jean Claude Pires	Directeur Adjoint : Développement rural	piresjc@afd.fr 226 50 30 60 92
38	Mme sandra Ruilliere,	Chargée de mission : Eau-Assainissement	rullieres@afd.fr
SNV			
39	Johnson bien Aime	Directeur	226 50 34 25 23 bjohonson@snvsnvworld.org
Ministère de l'Agriculture			
40	Dr Combari Abdoulaye	Ministre Délégué Charge de l'Agriculture	226 50 49 99 12 acombari@yahoo.fr
Ministère de l'Industrie et du Commerce			
41	Mme Amilie Tamboura	Secrétaire General	226 50 32 48 28/atamboura@fasonet.bf
42	George Wilfried	Secrétariat Permanent	70 24 04 67
Union Economique Ouest Africaine-Banque Africaine de Développement (UEMOA – BAD)			
43	Balla Diong	Directeur de l'Entreprise de l'Industrie et de l'Artisanat	226 50 31 88 73 Bdiong@uemoa.int
44	Charles Nouantin	Appui a la filière Coton Textiles UEMOA-Tchad	226 50 50 06 29 cnountin@uemoa.int

Principal contacts in Benin:

Numero	Surname/Name	Position	Address
WACIP Benin			
1	Gregoire Houngnibo	Coordinateur	229 97 58 21 38
2	Bruno Ouedrago	Interimaire Representant	97 76 44 40
3	Irma Cledjo	Assistante Coordinateur	97 50 33 14
Centre de Recherches Agricoles Coton et Fibres (CRA-CF Sud			
4	Dr. Gustave D Dagbenonbakin	Directeur	229 21 38 80 86
5	Moussibaou Djaboutou	//	229 21 38 80 86
6	Gustave Boni	Entomologiste	//
	Davidoga Nocola Jean Marie	Financier	//
Groupe Artisans, Benin			
7	Clotilde Tomety	Teinturiere	229 90 92 55 03/floridefait@yahoo.fr
8	Francois C. Yemande	Artisan	229 90 03 17 94/yemandjef@yahoo.fr
9	Adanon Constant Senou	Tisserand	90 92 95 03/a.constant3@yahoo.com
Projet D'Appui a la Filiere Coton (PAFICOT)			
10	Joseph A.M.Djogbede	Responsable suivi Evaluation	229 21 36 37 58/josdjobede@yahoo.fr
11.	Justin Z. Houndantode	Responsable suivi environnement	229 21 32 24 61 houndantode@yahoo.fr
Ministère de Commerce			
12	Mme Menou Louise Senou	Directrice de la concurrence et de Lutte contre la Fraude	229 21 14 70 10/alanhoti@yahoo.fr
Centre International d'Etudes et de Management pour le Développement (CIEMD)			
13	Jean Kokoye	Consultant, WACIP Tchad	229 95 84 53 25
Ambassade des Pay-Bas			
14	Marcelin Nonfon	Ingénieur Agronome	229 21 30 04 39
Industries Cotonnières Associées			
15	Eustache Kotinga	Administrateur	229 21 33 58 38 eustache.kotingan@ica-groupe.net
16	Kojori Adjiponda d'Almeida	Responsable audit interne	229 21 33 58 35/kadjinda@ica-groupe.net
17.	Arnauld Delga	Ingenieur Maintenance	229 21 33 58 35 arnauld.degla@ica-

		Industrielle	groupe.net
18.	Alain Ahossi	Responsable gestion des contrats et facturation	229 21 33 58 35 Alain.ahossi@ica-groupe.net
19	Jocelyn Ajavon	Responsable Administratif et Financier	Jocelyne.ajavon@ica-groupe.net
Association Interprofessionnelle de Coton			
20	Kakoye S Jean	RSE	21 33 23 49
21	Emmanuel Sekloka	RSS	95 85 34 17
22	Abdon Adjai	ME	95 85 34 17
23	Jacques Zinzou	RS	97 64 35 75
24	Desire Agoundote	Di Dev	90 02 96 13
Ministère de l'Agriculture : Direction du Conseil Agricole et de la formation Opérationnelle (DICAF)			
26	Gregoire Avoddagbe	Service de Formation	
27	Fassassi Ramanou	Directeur	
28	Ignace Aguenon		
Institut National des Recherches Agricoles du Benin (INRAB)			
29	Jean Tokpessi	Directeur des Ressources financières	229 90 94 86 88 229 21 30 02 64 tokjean@yahoo.fr
Agence Française de Développement (AFD)			
30	Guillaume Salle	Charge de Mission	salleg@afd.fr 229 21 31 35 80
Centrale d'Achat d'Intrants Agricoles			
32	Thomas Atropko	Directeur Commercial	21 30 97 76
33	Pacome Senou	Chef service logistique	
Centre Recherches Agricoles et fibres (CRA-CF) Antenne Sud			
34	Bata Hontounou Dossou	Chef Antenne	97 76 06 72
35	Thomas Hamdete	Agent laboratoire d'Enthomolgie de Cana	95 81 03 21
Union Conseil de Production Contonniere ???			
36	Lucien Noutchogue	Producteur	95 62 97 45
37	Marcel Ayatome	CPV	95 59 43 42
38	Jean Claude Bossou		
39	Samuel Dagbeto	Technicien spécialisé en production végétale (TSPV)	95 35 08 34
40	De Souza Margoleine	Agent vulgarisation	

Centre de Recherches Agricoles et Fibres (CRAF-CF), Parakou			
46	Germain Fayalo	Charge des essais agronomiques	97 08 28 04
47	Marius Sinha	Agent biotechnologie	90 01 10 54.sinham@yahoo.fr
48	Gustave Bonni	Antomoligiste	CRA –CF 229 97 44 96 09.bonnigustave@yahoo.fr
SNV, Parakou			
49	Raymond Afouda	Conseiller, coton	229 23 61 06
50	Gnamou N'Tcha	Conseiller, coton	229 23 61 06 10
Complexe Textiles de Benin (COTEB)			
51	Bachirou Sake	Service commercial	95 84 81 04
52	Ibrahim O Alfa	Contrôle qualite	97 48 39 27
53	Gounou. Mama	Service commercial	95 71 20 32
54	Wahabou Kougba Oumarou	C/SAP	95 72 61 00
55	Yambe Ehabi Chabi	C /SI	95 47 65 51/97 98 84 99/yambechabi@yahoo.fr
Conseil National des Producteurs de Coton			
56	Bio Tourou Bani Gouda	94 23 67 57	
57	Jonas Gbeffo		
58			
Société Cotonnière, N'Dali			
59	Wilfried Adjognon	Chef d'Usine	95 34 14 34/wilfriedadjognon@yahoo.fr
Producteurs Parcelle de Démonstration sur la fertilisation, Dassa			
60	Moumini Laourou	Producteur, Dassa	95 86 17 96
61	Lafia Chabi Ouro	Producteur, Dassa	97 27 76 38
US Embassy and USAID, Cotonoiu			
62	James Knight	Ambassador	229 21 300 650 nightj@state.gov
63	Kevin Amstrong	Mission Director, USAID	229 21 30 05 00 kamstrong@usaid.gov