

USDA CSREES Higher Education Challenge Grant

**New Paradigm for Discovery-Based Learning: Implement Bottom-up
Development By Listening to Farmer's Needs While Engaging Them in
Participatory, Holistic Thinking**

Trip Report

15 November through 22 December 2008

to

University of St. Thomas, St. Paul Minnesota
Virginia Tech, Blacksburg, Virginia
Montana State University, Bozeman Montana

by

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Required Output of Each Faculty Member and Student Traveling on Grant Funding

2.0. Executive Summary

I met and worked with most of the externs who will be visiting and working with farmers in Mali in 2009. These included graduate and undergraduate students at Virginia Tech, University of St. Thomas (UST), and Montana State University (Montana State). In addition I worked with many Masters of Business Administration (MBA) students at UST and undergraduate and post-baccalaureate students Montana State who are working to answer questions and requests of farmers in Mali via mentors in the Mali Agri-Business Center (Mali ABC).

With Dr. Ernie Owens (UST) and Robert Diggs (Montana State), I revised the hard drive and virus protection of my computer that I use for interacting with the team when I am in Mali and for creating documents. I was also able to draft much of the business plan for the Mali ABC with the assistance of Dr. Owens.

At UST, I worked closely with the business teams in the Project Management course taught by Dr. Owens in the School of Business. I also assisted the French and the Sociology teams giving everyone much needed feedback, insight, and information. On 16 Dec 08, I met with Dean Kelly of the College of Arts and Sciences. We discussed the role of UST in contributing to the development of the Mali Agri-Business Center and the Center's role in advancing the education of UST students.

At Virginia Tech, I was able to meet new faculty to the program and interact with faculty involved in a parallel long-term project involving farmers and l'Institut d'Economie Rurale (IER) and 3 of our Mali ABC team members. This project is the Integrated Pest Management (IPM) Collaborative Research Support Program (CRSP).

At Montana State University, I met with students in groups and individually from the undergraduate University Research Core course and grad course, PSPP 465R Health, Poverty, Agriculture: Concepts and Action Research taught by Dr. Florence Dunkel. I also gave a presentation in the class.

During meetings with project director, Dr. Dunkel both at Montana State University (MSU) and at UST, and the fiscal manager for the entire project, Carmen Fike at MSU, I was able to understand the financial process for using the funds that have been allocated to Mali ABC team work. During the meetings with students and faculty at Montana State and at UST, I was able to better understand the holistic process and what action research looks like and feels like from a faculty member's point of view. Now I understand what the US faculty have been calling "the *Quiet Revolution*."

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A draft must be completed before leaving the country. The electronic version is given to Dr. Kadiatou Gamby and the US project director (Dr. Florence Dunkel) and your institution's P.I. for the project you are on if it is different from yourself. A hard copy of the Executive Summary is given to USAID-Mali Accelerated Economic Growth Group (AEG).

3.0. Objectives of Visit

3.1. To work (teach and learn) with Action Research grad and undergrad students at University of St. Thomas (UST) (St. Paul, MN) and Montana State University (Bozeman MT) who are working via electronics with village sites in Mali to address their requests in a participatory, holistic process.

3.2. To meet and get to know and provide predeparture preparation for those graduate and undergraduate students at UST, Virginia Tech (Blacksburg VA) and Montana State who will be in Mali in 2009 working with the Mali Agri-Business Center in the villages of focus, Sanambele, Zantiebougou, and Borko.

3.3. To determine specifically how to use the talents of the 3 groups of US students and faculty who will be coming to Mali to work with the villages and the Mali ABC in 2009.

3.4. To construct a business plan for the Mali Agri-Business Center (Mali ABC) and interact with the rest of the Mali ABC team on its content.

4.0. Accomplishments of Objectives (By objectives what was accomplished)

4.1. Teach and learn with Action Research grad / undergrad students at UST, and Montana State working via electronics with village sites in Mali to address their requests in a participatory, holistic process.

At UST, I primarily met with the MBA students focusing on seed potato marketing. I also met with the groups of students involved with storage and production. We mainly worked on technical issues. It was a very good help for Mali. I thanked Dr. Owens and the students very deeply. These students used Abdoulaye Camara, Aissata Thera, Adama Berthe, and me, Belco Tamboura, for part of the information. The students provided many storage alternatives for the seed potatoes. They provided many alternatives for cooling the potatoes. All of the steps from the Katibougou lab and greenhouses where the nuclear generation of the seed potatoes were grown, all the way to the village were covered by the UST student report. These student analyses were actually used by Aissata and Adama subsequently for their preparation of the seed potato work with the village of Borko. Specifically, Adama and Aissata used a map from the student reports. So the work of the students was very real and very practical. Essentially, the Center used almost all of the information from the students at UST. We, the Mali ABC made one small correction which was the level of taxes paid in Mali from 52% to 35%.

How much of this process was I, Belco, able to incorporate into my courses in Rural Projects and Business Management? The only thing I have been able to do with this is to use the information in a PowerPoint. With a few students this is ok since I can use the program on my computer screen, but for a lot of students it is difficult because the entire IPR/IFRA has only one computer projector and it is not fixed in one room. The computer projector for PowerPoint is moved from classroom to classroom. Sometimes in the 2 classes I teach, I split the class into 3 groups. I especially do this in my Rural Projects class. Then I use the shea initiative, the potato initiative and the honey/beeswax initiative. For this class activity,

actually an involved project, I extensively use the work of Ernie's UST students and of Dr. Rick Fell's students at VTech.

Dr. Florence Dunkel suggested that it would be excellent if some of my students could go to Borko with the UST students. Perhaps 3 to 4 of my students could go. I will talk with Ashley and Florence about what the budget ramifications may be. Florence indicated that any extra expense should come from the Mali ABC budget. I also requested that all the readings that UST and MSU use for their courses on poverty, Mali farming systems and culture be forwarded to me by PDF. Florence suggested to me that I should aim for all students who pass through my courses be trained to have and be able to facilitate the expression of a holistic view with whatever community group with which they work.

4.2. Provide predeparture preparation for grad / undergrad students at UST, Virginia Tech (Blacksburg VA) and Montana State who will be in Mali in 2009 working with the Mali ABC in villages, Sanambele, Zantiebougou, and Borko.

I met with almost all students from the US who will be working in Mali during this coming year (2009). The only students with whom I did not meet were the University of California-Davis students and the University of California-Riverside students (but Sidy Ba was able to meet with each of them). I met with them in classes, in small groups and individually. These discussions were extremely helpful to understand what their interests, backgrounds, and motivations were. The students, I believe, found it very helpful to be able to meet a "real Malian." For many of them I was the first Malian they had ever spoken with.

4.3. Determine specific use talents of 3 of the 5 groups of US students and faculty who will be coming to Mali to work with villagers and the Mali ABC in 2009.

I sent considerable time understanding the participatory approach that Florence's student in collaboration with Keriba Coulibaly are taking to meet the holistic goals of the village of Sanambele. In fact, I was amazed at the approach that included income-generating handicraft enterprises for the women and the beginning of a musical malaria awareness piece. The careful preparation to the work with women taking care of young children by Pauline Powers-Pepurah will surely lead to helpful information for the village of Sanambele in dealing on an emergency basis with mother's who suspect their children have contracted cerebral malaria. The work of Wendy Nickisch on a catalogue in Bambara for the women's handicrafts is also an important idea.

4.4. Construct a business plan for the Mali ABC and interact with rest of the Mali ABC team on its content.

We decided to prepare initiatives on: certified, disease-free seed potatoes, shea butter export, honey / wax exports, and the evaporative cooler. The work that we, the Mali ABC did on technical issues was very valuable as we constructed the business plan.

5.0. Journal (a daily log of what was done, visits, meetings, cultural experiences, other things related to visit objectives or helpful information for the faculty and students who will follow you here to Mali.)

16 November 2008. Picked up at the airport in St. Paul MN from Bamako, Mali by Dr. Ernie Owen's wife. Lived in the Owen's house in Woodbury MN the entire time in Minnesota.

17 November 2008 through 28 November 2008.

Met with Ashley about the budget for this USDA-funded New Paradigm project visit. UST paid the overseas ticket, bought the printer ink and HP laser jet. This was all from the "Belco portion" of the Mali ABC budget. The question was who was to pay for all the luggage fees in the air transport to and from Bozeman and Virginia. Who paid the in US (Bozeman and Virginia) visits? Florence and Bob personally paid all the on-ground costs in Bozeman and the Owens family paid all the on-ground costs in St. Paul.

Met with one of the central administrators for the University, either the director of Sponsored Programs or the Vice President or Provost. There, we talked about the relation of UST to the Mali ABC. The UST higher level administrator we met with was very favorable about this project. I, Belco, stated that I was in the US to pre[are students and faculty to come to Mali in January 2009 and March 2009 and June 2009. I then made an introduction to the functioning of the Center. I summarized our shea for export, seed potato, honey for export (then only a proposed idea), and the evaporative cooler. I explained that there were 3 people from IPR/IFRA and 4 persons from IER that formed the Center, I then described how each mentored the UST students. The UST administrator was also very favorable for the UST system continuing to work with the Center.

I then went to greet Dr. Camille George. She was engaged in another international project. It was in the Dominican Republic and possibly another Latin American country. Camille stated that she wanted to continue with the projects in Mali. Belco invited her to continue working with the Mali Center and the villages. So this worked out well. I did not meet with any of her students or other faculty in Engineering at UST.

Met with Dr. Ashley Shams' French students and with Dr. Sue Smith-Cunnien's Sociology students. Each student told me what questions they would like to ask of the villagers in Borko. Sue then sent the questionnaire instrument that the students developed for Borko. I provided them some advice and the UST professors suggested who they wanted to meet with in the village. We discussed how the men and the women earlier always met in gender-separated groups for meetings but that in Mali now, men and women meet together. Would there be enough land, I asked, for growing the seed potatoes? I realized that Aissata Thera had visited there earlier and probably knew the answer to this question. I expressed my concern about the amount of land available for this new crop. Note that the World Bank project that was forming at this time also for seed potatoes was focusing their farmer work in villages around Niono, not Cercle Nara by Mourdiah in the Sahelian area of Mali where the earlier IER work with the IPM CRSP was conducted. I also worked on an IPR project there with steers and sheep for fattening in the Nara area. Niono where the other seed potato project is underway is in the Segou area, and not in the Sahelian area of Mali.

General adaptation to Mali's environment was also part of my predeparture training with the UST students. I talked about how to bargain in the open markets and not going out alone in the city. UST students were quite comfortable, I thought, about being in Mali. I did not meet with these students individually.

Met the vice-chair of the Business Management Department in the School of Business. We met in the newly constructed building on the St. Paul campus, McNeal Hall. We talked about the Mali ABC and he finally understood what this means. The vice-chair said the relationship between UST and the Center is a long-term relationship, not just a short-term one semester trip. I agreed that this was our Malian view as well.

We also talked about the Spring 2008 semester in which shea quality for export and the process of exporting was a focus of Dr. Ernie Owen's course on Project Management. We also discussed the Fall 2008 Project Management course of Ernie in which the students focused on the entire scope of the seed potato production by the village of Borko. I said clearly that we were very, very excited and very, very happy about these topic choices and all the learning that the Mali ABC was having by participating in the experience. Ernie stated that he will do all possible to continue the relationship. (Note: Ernie is still, 11 months later working with us on the Business Plan for the Mali ABC. On October 15, 2009 a joint meeting with IER provided time to discuss all four of the initiatives in the business plan. Mainly we tealked about the seed potatoe initiative. By October 26 we will be all finished and at that time make the final decision that all is ready to be submitted to USAID.)

I met with two of Ernie's courses, one about Leadership held in McNeally Hall on the St. Paul campus.

26 November 2008. Attended Thanksgiving celebration in Wausau, Wisconsin with Marnie Owens family and Ernie.

29 November 2008. Arrived from St. Paul by airplane at 1pm. We held a meeting regarding the Mali Agri-Business Center and the USDA New Paradigm project with Sidy Ba who was also working in Bozeman at that time. This meeting was focused on Resources. See Appendix 8.1. of this report.

30 November 2008. Held a second meeting regarding the Mali Agri-Business Center and the USDA New Paradigm project with Sidy Ba. This time the meeting was focused on Communications. See Appendix 8.2. of this report. Sidy departed for the airport with a box of samples from the Sanambele Handicraft Enterprise for s

1 December 2008. Worked on my trip report.

2 December 2008. Held a business meeting with Florence. See Appendix 8.3. Met with the Executive Director of the Montana Farm Bureau at his office.

3 December 2008. I met for several hours with Florence's pre- and post-bacalaureate all of whom are working on the bottom-up, village-based, integrated management of malaria in the Village of Sanambele. These included Wendy Nickisch and Pauline Powers-Peprah, both of whom are Mali externs scheduled to work in Sanambele. Pre-meds Kate Hurlbut, Justin Perry, and Andy Peckham were also there as well as Dr. Ada Giusti. Each student presented their own individual projects.

4 December 2008. Gave a presentation on the malaria news from Sanambele and answered questions in Florence's University Core research course PSPP 465R, Health, Poverty, and Agriculture: Concepts and Action Research.

5 December 2008. Met with Carmen Fike, fiscal manager. I met with Avery Old Coyote, an enrolled Crow Nation student I also met individually with Ian Frye, a musician taking Florence's class prior to attending medical school. Attended the American Indian Research Opportunities

(AIRO) fall banquet, was introduced, and enjoyed Crow/Cheyenne drumming and singing, and participated in the round dance.

6 December 2008. Received much help from Robert Diggs on reorganizing my computer hard-drive and using adequate virus protection.

7 December 2008. I was picked up at the airport in Roanoke, Virginia by Dr. Richard Fell and stayed at the University Inn on campus for the entire stay at Virginia Tech.

8 December 2008. Dr. Don Mullins and Rick Fell met me in their offices and then we had an informational meeting in the Library of the Entomology building. Met one of the externs that will visit Mali January 2009 and she took me to visit the honey processing area and the hives area and laboratory on the VTech campus.

9 December 2008. I met with the faculty and Department Head in Agricultural Economics from whose department one of the students will be coming to Mali January 2009. I visited Rick's bee class and learned a lot about the phylogeny and behavior of African bees. In Rick's class was a student from Benin and so I was also able to interact with that student as well as the Mali externs. During dinner that evening I met with the new faculty member in our Mali New Paradigm project, Dr. Art Buirkema. Joining us at dinner were Don, Rick, and a sociologist working in Mali with the IPM CRSP. We talked extensively about future visits and contacts.

10 December 2008. I flew back to St. Paul to continue my work with UST. All in all the VTech visit was invaluable in helping me prepare for the VTech visit to Zantiebouyou and other locations in January 2009. I was able to meet 3 of the 4 VTech externs who I will work with in Mali.

11 December 2008. Attended the presentation of all of the seed potato project management groups in the Project Management course taught by Dr. Ernie Owens at UST School of Business. Dr. Sue Smith-Cunnen and Dr. Ashley Shams were also in attendance. I do not recall if Dr. Camille George was there. I thanked the students very, very much for all that they have contributed to Mali and to the launching of our bottom-up, village-based, certified, disease-free seed potato project in Borko. I pointed out that it was amazing that these MBA students in a non-agricultural university were knee-deep in issues of distribution, quality control, governance, marketing, and storage of an agricultural commodity. This was all very, very good.

12 to 17 December 2008. In St. Paul MN. I assisted the French and the Sociology teams giving everyone much needed feedback, insight, and information.

16 December 2008. On 16 Dec 08, I met with Dean Kelly of the College of Arts and Sciences. We discussed the role of UST in contributing to the development of the Mali Agri-Business Center and the Center's role in advancing the education of UST students.

18 December 2008. Team meeting and dinner with spouses at the home of Dr. P. Jane Saly, Edina MN.

19 December 2008. Met all day on project business with Florence and Bob in UST visiting faculty residence. For details of meeting, see Appendix 8.4. Dinner with Florence and Bob at the faculty residence and dessert at Ernie Owens and family home in Woodbury MN with Florence and Bob.

20 December 2008. Return flight to Mali. Taken to airport by Ernie.

6.0. List of Persons Met (complete name with correct spelling, their title, organization, e-mail)

Dr. Ada Giusti, French language professor at Montana State University

Sidy Ba, engineering professor IPR/IFRA, Katibougou

Crow and Northern Cheyenne students and instructors at Montana State-Bozeman

Dr. Art Buirkema, biology professor, Virginia Tech

Steve Clarke, private consultant for CTI, Woodbury MN

Other CTI personnel, St. Paul MN

Executive Director of Montana Farm Bureau-Bozeman

Dr. Florence Dunkel, entomology professor, Montana State University-Bozeman

Robert Diggs, retired business management instructor, Montana State University-Bozeman

Dr. Richard Fell, entomology professor, Virginia Tech

Carmen Fike, fiscal manager for the entire New Paradigm project throughout the US, Montana State University, Montana Hall, Bozeman MT 59717, phone 406 994 1939

Ian Frye, music (piano) teacher and biomedical student in PSPP 465R Montana State University-Bozeman

Dr. Camille George, professor of mechanical engineering at University of St. Thomas

Dana Gilmore, student majoring in Biosciences at VTech Mali extern (January 2009)

Leah Harris, undergraduate student majoring in agricultural economics at VTech Mali extern (January 2009)

Katy Hansen, student majoring in industrial engineering and economics Montana State University, former solo Mali extern, president of Engineers Without Borders-Bozeman

Katie Hurder, crops science student VTech, Mali extern (January 2009)

Kate Hurlbut, student majoring in neurophysiology in PSPP 465R Montana State University-Bozeman

Tiphani Lynn, student majoring in neurophysiology in PSPP 465R Montana State University-Bozeman

Dr. Keith Moore, international programs, Virginia Tech

Sociologist working on women's issues, International Programs, Virginia Tech

Dr. Don Mullins, Virginia Tech

Wendy Nickisch, student majoring in organismal biology taking PSPP 465R Montana State University, Mali extern-to-be (March 2009)

Avery Old Coyote, student at Montana State University taking PSPP 465R, an enrolled member of the Crow (Native American) tribe

Dr. Ernie Owens, professor of project management, School of Business, University of St. Thomas

Andrew Peckham, graduate in recreational therapy and currently biomedical sciences student in PSPP 465R Montana State University-Bozeman

Justin Perry, graduate in engineering and currently biomedical student in PSPP 465R Montana State University-Bozeman

Pauline Powers-Peprah, women's student graduate and currently biomedical sciences student Montana State University, solo Mali extern-to-be (June 2009)

Dr. Robert Quinn, plant physiologist and organic grain farmer in Montana

Dr. P. Jane Saly, professor of accountancy, University of St. Thomas

Dr. Ashley Shams, French language professor at University of St. Thomas

Dr. Susan Smith-Cunniien, sociology and criminal justice professor at University of St. Thomas

Krishna Witt, student in animal science VTech Mali extern (January 2009)

The entire Plant Sciences and Plant Pathology PSPP 465R class, Montana State University

The entire graduate class in Project Management at University of St. Thomas

7.0. List of Professional Items Exchanged

Various reports, software, peer-refereed journal articles (including a collection of F. Dunkel's underground storage articles).

8.0. Appendices Relative to this Trip Report

- 8.1. *Mali Agribusiness Entrepreneurial Incubator Center*, Meeting 29 November 2008
Bozeman, MT, Focus on Resources
- 8.2. *Mali Agribusiness Entrepreneurial Incubator Center*, Meeting 30 November 2008,
Bozeman, MT, Focus on Communications
- 8.3. *Mali Agribusiness Entrepreneurial Incubator Center*, Meeting 2 December
2008, Bozeman, MT, Focus on Center Collaborations in MT
- 8.4. *Mali Agribusiness Entrepreneurial Incubator Center*, Meeting 19 December 2008, St.
Paul MN, Focus on New Paradigm Deliverables for the Center and by the Center

Mali Agribusiness Entrepreneurial Incubator Center
Meeting 29 November 2008
Bozeman, MT

Focus on Resources

Meeting participants: Belco Tamboura, Sidy Ba, Florence Dunkel, Bob Diggs.

NOTE: Center Resources meeting continues on 30 Nov 08 with a skype conference with Belco, Florence, Jane Saly, and Ernie Owens (Jane Saly will do the notes from that meeting and circulate them.)

Revenue stream/profit opportunities for Center in projects currently underway

- Shea quality testing kit. Several demonstrations were done July 2008 by Katy Hansen for Malians in Zantiebouyou (Coprakazan Cooperative) and for scientists and Center participants at Sotuba. Next step is to show the kit to Binta Bocum, director of national shea project with Ministry of Women and Children. Belco has not been able to reach her since July. Belco is thinking of contacting (or has already contacted?) Souadou Diabate and AMPG in order to move toward the distribution of quality testing kits and training for export (handling and storage of nuts and butter that maintains quality).
- Shea export to US (Minnesota) company buyer. The requests of the buyer were met (purity analysis). Analysis delivered to Coprakazan Cooperative. Next step, provide analysis and samples to buyer (company president). (This item we did not discuss, but it was on FD's list of near term revenue stream opportunities.).
- Wax export to US. The Center may be facilitating the export of pesticide-free wax to the U.S. Pilot testing is going on at V Tech now and an exploratory team will be working in Zantiebouyou in January.
- Evaporative Cooler. ENI is now testing the Prototype that was sent by Camille George to ENI. John Thomas was able to see the cooler during his on-site project visit Dec 2007 before testing began. Sidy has not seen the testing data that has been recorded thus far. The next step is that 8 prototypes will be built for use in ENI classrooms. These will be built at ENI by students and faculty. Prof. Moussa Kante is committed to funding these 8 coolers. Once these coolers are installed in the classrooms, the Center will be engaged to facilitate their commercial production.
- Handicrafts Enterprise of the Women of Sanambele. This cottage industry developed by the women of Sanambele in collaboration with Florence Dunkel and Ada Giusti and their MSU-Bozeman students, has in just one year (Oct 1, 2007 to Sept 30, 2008) developed a steady revenue stream for the Women's Association of Sanambele Village to implement their integrated management plan to reduce childhood mortality due to malaria. Retail prices have been established for 11 products that they make in the village. The Center has been asked to provide some of the transportation and communication for this enterprise.
- USDA New Paradigm grant. \$51,150 is the funding for Center activities in the current grant. Because the Center did not meet the criteria to be a subcontractor, funding had to be

distributed to other partners for use by Center participants. Criteria to be a subcontractor on a US federal grant, are to: 1) be incorporated as a business; 2) to have a transparent and complete accounting system that can meet cash accounting standards as set by US CPA's; and 3) to be able to conduct cost reimbursable transactions. Instead, these amounts were allocated: \$13,890 to UST; \$9,260 to CDKC; and \$27,780 to MSU-Bozeman to be used solely for support of the Mali ABC mentoring activities with USA students.

Center's accounting system:

- No one is keeping permanent records of cash flow on a spreadsheet or any other way. See below for the cash flow that has already accrued to the Center.
- One question that we did not answer is who of the Center in addition to Sidy has Excel on their computer.

To have an appropriate accounting system, one of the center members will need to be able to use Excel and be able to generate invoices and receipts. Sidy uses Excel and Abdoulaye is able to generate receipts and invoices on the Center letterhead.

High speed Internet connection

- The invoices were sent in early November and received by MSU accounting system (Tamara Parnell). No payment information for the Internet Service Provider (ISP) (routing and transit number, bank account number, bank account name) was included and still has not been received as of today.
- Belco will obtain a phone card and call the company to provide the information.

Budget of Center (funds spent, funds remaining)

- **Initial amount** \$51,150
- **Spent as of 29 Nov 2008:** MSU (Bob and Tamara have these figures), UST (Bob Diggs and Ashley Shams have these figures), CDKC (none spent yet)

- **Encumbered**

For highspeed Internet connection

For airfare to US for Adama, Keriba, Abdoulaye to participate in collaborative teaching and research in the New Paradigm grant

M.S. research project on long-term cowpea storage (now incorporated into a village level, holistic site analysis of Sanambele)

Mali-Montana Farmer exchange

- **Remaining funds**

Needs for Center office-

- Scanner and scanning software
- Excel accounting system in operation (developed by Bob Diggs Sept 2007) and person to do receipts and invoices and to communicate with other accountants such as those of MSU (Abdoulaye)

Please do add each of your suggestions to the next meeting agenda and spelling corrections/omissions to today's meeting notes.

Mali Agribusiness Entrepreneurial Incubator Center
Meeting 30 November 2008
Bozeman, MT

Focus on Communications

Meeting participants: Belco Tamboura, Sidy Ba, Florence Dunkel

NOTE: Next meeting of Center will be week of 1 Dec 08 to be scheduled with a skype conference with Belco, Florence, and Jane Saly

1. Programmatic obligations

- **Visit Reports (content and Due Dates)** – Center members want to stick strictly with the format on our project website. Detail on accomplishment of objectives was desired by both the Center and by Florence. Trip reports for everyone, students, faculty, and all Malians are due on the day that that person finishes the professional part of the visit in the host country.
- **Annual reports (Content and Due dates)** – Belco has the first annual report of the Center underway. Belco suggested having more frequent reports due than the annual report. It was agreed that Florence would request formally of the Program Officer in Washington D.C. that we have a 2-week extension (1 week extension for each partner institution). The next annual report will be due to Florence on 1 October 2009.
- **Final report (Content and Due dates)** – The importance is now being understood and this should be easier to obtain each piece for than for our first annual report. The final report for this grant will be due to Florence on 1 October 2010. (Note: since the second annual report was late, this due date will be changed for all partners to 1 September 2010.)
- **Fiscal Reports** – Since we are a transparent project, these should be made available to each other routinely. This will probably be part of the discussion this week with Jane Saly and Belco.
- **Publications of research results and teaching innovations** – By far, this is **the** most important communication of any that we right. It is important to balance our other responsibilities to always make room for completing these manuscripts and ushering them through the publication process.
- **Curricular changes and evaluation of impact** – The Center wants the work “Curricular Changes” modified to changes in teaching.
- **Evaluations by students of professors** – At MSU there is now mainly the Knapp form used.
- **Evaluation of faculty visits by externs, Malians, Project director**
- **Evaluation of Center visits to US partners** – Florence needs to draft a form for this. She will solicit help with questions from Ashley, Susan, Ernie, Camille, and other New Paradigm faculty.

2. Contracts for each year and each visit.

Thus far, the yearly contract has been the subcontract for each institution. The contract for each visit with the Mali ABC has been on an individual basis only, but the entire Mali ABC has been aware of

the contract. These contracts are very important because they delineate responsibilities for budget and for deliverables. They are, in fact, essential for smooth functioning of our project to avoid misunderstandings.

3. Evaluation obligations

Reports needed by Malian institutions – This was not really discussed. It was discussed that a clear business plan created by the Center would be a good way to indicate to their partner organizations that the Center was serious. No negative reaction by IER or IPR is anticipated to this report. Florence noted that during this past year, Mali ABC members from each institution asked her to detail how the New Paradigm grant is assisting or contributing to the mission of the Malian organization.

4. Reporting system within the Center – Belco has several ideas here, some of which he has already implemented.

- Written reports need to be completed on a quarterly basis.
- Meetings need to be held regularly, every 2 weeks is ideal.

Mali Agribusiness Entrepreneurial Incubator Center
Meeting on 2 December 2008, Bozeman, Montana
Focus on Center Collaborations in Montana
Present: Belco, Florence

Agenda

1. CTI (Steve Clarke) needs Malian niebe for testing grinder. Both Maimouna Coulibaly (Village of Sanambele) and the Village of Katibougou have requested to be able to grind niebe (cowpeas) with the grinder that CTI gave each village via Belco. Steve will call me.
2. Written report from Belco with details of the Sanambele visit about the grinder and malaria and handicrafts. Circulate to Ada and the handicraft team. Discuss in class this Thursday.
3. Visit reports. Faculty and everyone new to project send draft to Florence on a weekly basis, but well before the end of the visit to be sure the type of detail needed is being recorded. All faculty and students and scientists record visit notes on a daily basis.
 - Responsibility of Mali Agro-Business Center (ABC) leader is to set an example with their own report and to be sure that members of Mali ABC turn their trip reports on or before the deadline.
 - Thus far no visit reports have been received or have been previewed. The last trip report received was from Yacouba Kone on the previous grant in 2006.
 - Due dates for current visit reports.
 - Binta Bocum**, Ministry of Women and Children and director of 100 village shea butter project, Project Karite. Report on US visit due 2007, August 30 (in French, English, if possible)
 - Aissata Thera**, IER IPM potato project. Report on US visit due 1 June 2008. (This has now, Oct 2009 been received in final form)
 - Sidy Ba**, IPR/IFRA water project. Report on US visit due to Belco and Florence 8 Dec 2008. (This has now been received in final form)
 - Belco Tamboura**, IPR/IFRA Center leader and shea project, specifically. Report on US visit due to Belco and Florence 8 Dec 2008. (This has now been received in draft form.)
4. “Birddogging” a great term used for following an important document through to action. How to apply it to the High Speed Internet connection?
5. Farmer exchange. Belco will draft a summary of the meeting today. Florence will contact Robert Quinn
 - Montana Farm Bureau Meeting, meet with executive director
 - Kimm family, particularly Jason Kimm
 - Micheal Pollen video view this
 - Organic farmer Dr. Robert Quinn, Big Sandy area farmer meeting
 - Seed Potato farm association (contact Dr. Nina Zidack)
6. Prepare for Thursday class
7. Do individual student meetings

8. Administrative meetings at MSU and with Florence and Accountants (called our Fiscal Manager for meeting)
9. Itinerary for the week.

***Mali Agribusiness Entrepreneurial Incubator Center
Meeting 19 December 2008, St. Paul MN
Focus on New Paradigm Deliverables for the Center and by the Center***

Present: Belco, Florence, Robert Diggs

Deliverables that the Center Provides for the US Partners and the Malian Villages

1. For the New Paradigm grant, the Center serves as a liaison, a language interpreter, and a cultural interpreter between the US partners of the New Paradigm and the villages of focus, namely Borko, Sanambele, and Dangeuri-Maliki.
2. For the New Paradigm grant, the Center also serves as part of the team to search for ways to express and address the holistic goals of these villages.
3. Other Deliverables are specifically provided by individuals in the Mali ABC. Examples

Aissata Thera, while in the US for one month thanks to this grant, has provided extremely valuable assistance in assisting 3 partner universities in preparing faculty and their students for understanding the situation in Malian villages. These 3 partner universities were University of California-Riverside, Montana State University, and University of St. Thomas. Aissata met with multiple classes at all 3 schools, met individually with research students, and provided the official welcome for the 225 people attending the sixth annual community Mali Night in Bozeman MT.

Fall semester, Aissata provided information on a weekly basis to Dr. Ernie Owens' M.B.A. course in Project Management. Students in Minnesota were divided into 5 teams to develop a project management plan for the production of certified disease free seed potatoes.

Deliverables that the US Partners Provide for the Mali Agri-Business Center (Mali ABC) and the Malian Villages

1. For the Mali ABC the US partners are assisting in the Mali ABC getting up and running independently. That is the US partners are providing ideas for revenue streams that the Mali ABC can use to become sustainable.
2. The US partners have also advised the Mali ABC with the forming of the business plan for Mali ABC.
3. The US partners assist / advise when asked by the Mali ABC members for assistance with their research or to address directly the needs of local farmers.
4. For example, Aissata has received special assistance with:
 - Surveying issues that the Borko farmers have in initiating a certified disease-free seed potato production in their village
 - Developing a certification protocol that the Borko farmers can manage

- Keeping a working relationship with the tissue culture laboratory for seed potatoes at IPR/IFRA in Katibougou.

Deliverables that the Mali Agri-Business Center (Mali ABC) provides for the Malian Villages

1. The Mali ABC will register themselves as an Entity with the Malian government.
2. The Mali ABC will also open a bank account with a completely transparent accounting system.
3. serves as a liason, a language interpreter, and a cultural interpreter between the US partners of the New Paradigm and the villages of focus, namely Borko, Zantiebourgou, Sanambele, and Dangeuri-Maliki.

Budget discussion

The Mali ABC was allocated \$51,150 for 3 years. Because the Mali ABC was not a government recognized entity when the grant contract was signed, this funding could not be issued in a sub-contract as with the other partners in the project. Instead, the funding had to be incorporated into 3 of the partner's budgets, UST, Chief Dull Knife College, and Montana State University. This funding was to include a visit of 4 to 6 weeks to the US for each Mali ABC team member to assist in teaching the New Paradigm Action Research courses at partner universities.

The \$51,150 was equally divided into 11 "slots" to be defined in joint discussion with the Mali ABC and US partners. Each "slot" was to be \$4,630. These slots are now defined in agreement of all partners, as follows:

- Keriba Coulibaly (funds located in budget of Montana State)
- Keriba Coulibaly (originally designed for Assa Kante, but with her matriculation designated to Keriba so that he could complete his MS degree with the University of Mali, particularly in conducting a holistic site analysis of Sanambele where CDKC is also developing curriculum ideas.) (funds located in budget of CDKC)
- Sidy Ba (funds located in budget of UST)
- Abdoulaye Camara (funds located in budget of Montana State)
- Belco Tamboura (funds located in budget of UST)
- Adama Berthe (which is being requested by Adama to be applied to complete his Ph.D. at University of Bamako)(funds located in budget of Montana State)
- Aissata Thera funds (located in budget of Montana State University; \$240 was provided by UST)
- Malian traditional, village subsistence farmer(s) visit to Lame Deer / Northern Cheyenne Reservation to discuss traditional ways in the face of technological invasions and to local organic farms in Montana (funds located in budget of CDKC)
- IPR/IFRA one new member of the Center – This was used in part for the high speed internet connection, local area network, and service for one year (Jan to Dec 2009) at IPR/IFRA (located in budget of Montana State University)
- IER – Sotuba. one new member of the Center – This was used in part for the high speed internet connection, local area network, and service for one year (Jan to Dec 2009) at IER-Sotuba. The other part was later (officially in August 2009) designated by IER-Sotuba

(Aissata Thera and Dr. Kadiatou Gamby) to be used for enzyme kits for potato diseases and for transportation to Borko to assist farmers with beginning their certified, disease-free seed potato production)

- IPR/IFRA or IER one new member of the Center, or, in part, for continuance of the high speed internet connection at IER and IPR/IFRA.

Summary of income / fees received for services provided by Mali ABC

- 1, \$1000 from Dr. George Ayittey to get the Mali ABC registered and up an running as an entity
2. \$51,150 from the USDA Higher Education Challenge Grant (Management Entity Montana State University) to provide mentors for the project New Paradigm for Discovery-Based Learning: to Implement Bottom-up Development by Listening to Farmer's Needs While Engaging Them in Participatory, Holistic Thinking.
3. Estimated \$6000 fees for shea quality analysis on-farm analysis kit development, cultural and linguistic services relating to the shea quality analysis kit demonstration and to the the Holistic Site Analysis of Sanambebe, including malaria IPM and production of public TV film regarding traditional wisdom and technology.

Summary of Immediate Profit Streams

1. Shea quality analysis kit for use in villages by villagers.
2. Facilitation of export process for handicraft enterprise in Sanambebe

Summary of Near Future Profit Streams

1. Evaporative Cooler (2 years)
2. Seed Potatoes (3 to 4 years)
3. Organic beeswax (2 to 3 years)