FINAL REPORT

Evaluation of Research Cooperation: Burkina Faso and Sweden
Sida

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ACRONYMS AND ABBREVIATIONS

AU	African Union
BCEAO	The Banque Centrale des États de l'Afrique de l'Ouest
CAMES	Conseil Africain et Malgache pour I'Enseignement Supérieur
CGIAR	Consultative Group on International Agricultural Research
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CNRST	Centre National de Recherche Scientifique et Technologique
DAC	Development Assistance Committee (OECD)
DFID	Department for International Development (UK)
ESI	Ecole Supérieur d'Informatique
EU	European Union
F. CFA	Franc - French West-Africa
FEER	Fonds de I'Eau et de I'Equippement Rural
FNR	Fond National de la Recherché
FORMAS	Swedish Research Council for Environmental Agricultural Sciences and Spatial Planning
GNI	Gross National Income
HDI	Human Development Index
ICRAF	International Centre for Research on Agro forestry
ICT	Information and Communication Technology
IDR	Institut de Développement Rural
IDRC	International Development Research Centre
IFORD	International Forum of Research Donors
IFS	International Foundation for Sciences
INERA	Institut de l'Environ ment et des Recherches Agricoles (CNRST)
INSS	Institut des Sciences Sociétés (CNRST)
IRD	Institut de Recherche pour le Développement
IRSAT	Institut de Recherche en Sciences Appliquées et Technologies
IRSS	Institut de Recherche en Sciences de la Santé
IUT	Institut Universitaire de Technologie
ISP	International Science Program
LDC	Least Developed Countries
LFA	Logical Framework Analysis
LIC	Low Income Countries
LMIC	Low and Middle Income Countries
MDGs	Millennium Development Goals
MESSRS	Ministère pour l'Enseignements Secondaire et Supérieur et la Recherche Scientifique
NEPAD	New Partnership for African Development
NGO	Nongovernmental Organization
OECD	Organisation for Economic Co-operation and Development
OU	L'Université de Ouagadougou
RPSUD	African Research Program on Sustainable Use of Dryland Biodiversity
S&T	Science and Technology
SAREC	Department for Research Cooperation of Sida
Sida	Swedish International Development Cooperation Agency

UFR	Unîtes de formation et de recherche
UPB	L'Université Polytechnique de Bobo-Dioulasso
UB	University of Bobo-Dioulasso
UO	University of Ougadougou
UNCCD	United Nations Convention to Combat Desertification

EXCHANGE RATES (for reader convenience)

January 2009	F. CFA	SEK	Euro	US Dollar
F. CFA	**1**			
1 SEK	**61.5**	**1**	**0.094**	**0.12**
1 Euro	**656**	**10.654**	**1**	**1.285**
1 US Dollar	**515**	**8.30**	**0.779**	**1**

(Rates taken from the Bank of Sweden and the Central Bank of West African States web sites)

EXECUTIVE SUMMARY

1. Sida support to bilateral Research Cooperation between Burkina Faso and Sweden started in 2001 and built on some earlier small grants made by Sida. A first phase of cooperation for three years was extended for a second period, for 2004-2008. The overall objectives of the research co-operation have been to contribute to human capacity development by training high-level scientists capable of addressing central development issues related to the management of Natural Resources that constrain development. This report is part of an effort by Sida/SAREC to evaluate the achievements and the failures of the cooperation program and to outline directions for its future evolution.

2. The intended audience for this evaluation are the staff of Sida/SAREC, the sponsors of the study and the participants, beneficiaries and stakeholders of the research cooperation. It is also expected that this study will be of interest to senior policy makers in Burkina Faso, who are engaged in improving national capacities in higher education and research. It should also be of interest to other donors and their developing country partners concerned with higher education and research.

3. The main report is organised, first, with an introduction, which discusses the methods, limitations and constraints of the study. The second section of the report presents the organization, objectives, and details of the research cooperation program in the context of Swedish policy and Burkina Faso, together with some key background information on the sector and organisations. It concludes with a description of the program of research cooperation and some key developments. The third section gathers the findings of the review and the interviews. Some of the threads that emerge from the reviews and discussions with stakeholders are pulled together to answer the questions posed by Sida. The detailed findings in section three are used to draw the final conclusions and recommendations in section four. There are also several annexes. They list the terms of reference, short biographies of each team member, the organization of the questions and more details on several principal components and outputs of the program.

4. The report notes the development policies of the Swedish government guide the contributions of Sida/SAREC and that the research co-operation with Burkina Faso was begun in accordance with the Africa policy. The Swedish parliament has specified that Sweden will focus its contributions towards poverty reduction, and on low-income countries (LIC), especially with partners who are working towards the same goals as Sweden. Sweden, as a member of the EU, is among the countries emphasising the Paris Agenda. Sweden has very few, free standing projects in Burkina Faso, and, this is one of the few. The focus of Sida/SAREC support – research for development broadly and within that - of research capacity building, generation and application of knowledge, is a special component of Sida activities, mandated by the government.

5. Burkina Faso is a poor, landlocked country, which ranks low on the Human Development Index (HDI) and has a per capita income of only US$430 but also the country has an especially positive development record over the past decade. In 2007, Burkina Faso received Swedish support valued at SEK148 million with this support for research capacity at around 5% of the total support provided. The low productivity of land, high population pressure, over-harvesting of arable land, are critical factors affecting Burkina Faso in its development. The primary sector (agriculture, livestock, fisheries), provides 35% of GDP, employs 80% of the population and accounts for 60 percent of all exports. This is a priority for the government of Burkina Faso and so the research cooperation focused on issues relating of natural resource management. The report notes the very large gaps in most relevant indicators between Sweden and Burkina Faso, the partner countries, and it is suggested that the gaps between the two countries make it difficult to fully apply egalitarian principles in cooperation activities between two highly unequal partners.

6. In Burkina Faso, higher education and scientific research – the focus of the cooperation program - are the responsibility of the Ministry of Secondary, Higher Education and Scientific Research. The Universities of Ouagadougou and Bobo-Dioulasso are the two largest public universities. The UO is the dominant teaching institution in the country with it alone having an enrolment of almost

80% of all Baccalaureate students of Burkina Faso. The universities face several challenges including a lack of infrastructure; shortages of laboratory equipment and research lab; low financial resources; high demands on the faculty for increasing teaching loads and to undertake research; poor integration of research into the course content; poor ICT facilities and also a poor state of libraries with low subscriptions to scientific journals.

7. The CNRST is the main research organization in the country. Burkina Faso has a very small number of R&D personnel, estimated at below 1,000 (20% female) full time equivalent (FTE) for 2005 by Unesco. Out of them only 301 are full time researchers and 12% are female. The largest percentage is in agriculture (around 25%) and the country has a relatively well trained agricultural research staff. Based on the gender disparities in all levels of education, large gender disparities in the participation rates of males and females are prevalent in research positions. The CNRST budget from the state is extremely limited for research and research infrastructure. The two universities are provided with budget support primarily for teaching. Hence the fraction of funds spent on research in Burkina Faso is overwhelmingly (estimated over 90%) from external sources. Burkina Faso as in most of sub Saharan Africa has almost no special research funds and this was one important objective of the Swedish cooperation.

8. The aim of the research cooperation program is to strengthen research capacity at the two institutes for higher education and at CNRST with links to three Universities in Sweden. It also provided for support to information and communications technology infrastructure. The financial inputs were planned at SEK 23 million for 2001-2003 and SEK 66 million for 2004-2008. In the first period 15 PhD students were registered (11 in Sweden and 4 in Burkina Faso) and 8 students were trained (7 Burkina Faso and 1 in Sweden) towards a Masters degree and in Phase I an ICT Policy and a master Plan were completed through the Swedish support.

9. The second period continued support for the training, and allocated funds to build the institutional platforms to promote research, and build an ICT infrastructure. It increased provisions for the number of PhD students (including continuing support for those partially completed) to 22. A local research fund was a major new initiative suggested by Sida in the second phase. It was to serve a number of possible purposes: for post doctoral research at the universities in Burkina Faso, for small research project grants, and possibly to remedy access by women. It was also hoped that Sweden could assists in an update and revision of the Strategic Plan for Scientific Research in Burkina Faso previously undertaken in 1995.

10. The program was to be managed by a steering committee, a scientific implementing committee and a co-ordination unit. The steering committee, composed of the heads of the three participating organisations, was to define the policies and the general philosophy of the program and to ensure follow-up and evaluation of the project activities. The implementing committee included the supervisors in charge of the research projects and the co-ordinator with the mandate to ensure that the objectives of the projects are fulfilled and to plan joint workshops, meetings and seminars. The co-ordination unit was established at CNRST, with the CNRST director responsible for international cooperation designated as the coordinator. This office was responsible to organise and coordinate all activities, to distribute funds, support the two committees above, and provide feedback and periodic reports on the progress of the over all project. The research projects were allocated 41% of the financial support, the ICT component – 21%, the local research fund – 12% and for management and coordination the sum of 2% was allocated directly but if other management provisions in subprojects is taken into account it increases to almost 8%.

11. In the first phase Sida planned for a peer review committee to monitor the scientific quality and stated that in order to maintain the quality of the overall program and increase learning there would be a monitoring team involved throughout the project, and a management review to cover all participating institutions. These ideas appear to have been dropped for reasons not stated. In the second phase Sida intended to follow the progress of research cooperation through annual and biannual review meetings; and externally audited reports in support of annual reviews. Progress was to be judged based on achievements in capacity building and the production of research

results. Sida prepared and shared with the project participants an excellent template for reporting on inputs, activities, research results and other outputs. There were no plans as in the first phase for external reviews of the project to monitor progress and challenges or to review changes in circumstances and deviations requiring corrective actions, as the main problem seen by Sida was poor financial management to be addressed through the financial reviews.

12. Sida started and prepared well for the cooperation project and took some excellent steps in planning for the increased investments in Burkina Faso. However a number of organizational problems and misunderstanding between the partners, in particular Sida/SAREC and CNRST had become apparent by 2003. A number of adjustments to the processes were made but the adjustments made by the two partners proved inadequate to the challenges.

13. In 2006, an audit found that a little over 55 million F. CFA worth of expenditures did not have supporting justification and so Sida froze all further payments through CNRST. A second audit in 2007 reported that the unjustified expenditures were lower at around 20 million F.CFA. and all unjustified expenditures were assigned to activities at UO. Sida requested, following its strong stand against corruption, that the unjustified amount be returned before further disbursements could be made. But the partner organisations believed this to be neither reasonable nor feasible leading to a stalemate. Sida made a number of praiseworthy efforts to ensure that the funds continued to flow for the PhD students and their progress was not jeopardised. For this the Sida local office in Ougadougou was pressed into service for making many small ongoing payments and this stretched the resources of the local office to undertake this task on an exceptional basis for which it was not staffed. Finally, through the interventions with high level officials and ministers, in mid 2008, the government of Burkina Faso announced that acknowledging the importance of this cooperation program to the nation, it has decided to reimburse Sweden for the disputed amount of 20 million F. CFA. This was done a few months later. It was then jointly decided that CNRST would no longer be responsible for other local institutions. Each local institution then made independent agreements with Sida. This process was underway when the evaluation was started. There has been no formal or legally constituted local coordination since 2006 nor is it clear how that will be reconstituted keeping in mind the local reality and Sida policy and philosophy. Ironically for a project that started with the objective of letting the Burkinabè have full control of the program, it ended by the beginning of the second phase with the Burkinabè having no control of the program.

14. Given the challenges faced by the program in management and administration, at the end of 2008 the actual financial inputs for Phase II remained at 47% of the planned level (see table 3 for details). The actual inputs to coordination have been much less than that had been allocated. The new activities planned in the second phase – ICT is likely to be at 10% of plans and for the efforts to create a local research fund, expenditures are at 6%. Essentially, for the latter components there has been too small a level of input to begin to expect significant outputs and outcomes. But it should be noted that even for these tiny expenditures there have been some small and positive outputs that are commensurate with the inputs. Within the 11 research, training and capacity building projects – the major component- the range of inputs are all much higher ranging from 50 to 100%, with the overall average at around 60% of the target.

15. The outputs of research and training have been outstanding. Out of the 22 Burkinabè participants, enrolled in the PhD program, to the end of February 2009, 15 Burkinabé PhD students had defended their thesis. Almost all of them are in Burkina Faso with no known issues of "brain drain" and almost all are employed in teaching and research at the national institutions. The thesis completion dates suggest a remarkable success rate. Their capacity, dedication and hard work are remarkable given that most of them had to learn English before they could participate in the Swedish program. And for all Sweden was a completely new place with new ways of working. They also did their field work in Burkina Faso and suffered from many delays due to the administrative difficulties discussed. It also speaks well of their supervisors' dedication to the

individual student participants, the process of selection of the PhD students and their prior training in Burkina Faso.

16. The publication count is very high at 131 entries. It is another outstanding achievement of the program. Publications in scientific journals are the main outputs with 64 publications. The 64 publications (or submitted) are in 44 journals of which four are local and 40 are international journals, on average of a high quality. The mean number of publications per participant into the program (3.37) is an outstanding achievement given that six of them are yet to defend their thesis. English is the main language of publication with only 6 out of 64 (or 9%) in French. The number of Conference and poster presentations (27 and 10), one book, and note for extension services also speak well of the effort to disseminate the findings.
17. Another important outcome of the program is the fact that 71 authors/scientists are involved in co-authoring the 64 publications, well beyond the number of participants and supervisors involved in the cooperation program. This also indicates that supervisors, overall, are keen on sharing the reward of publishing with their Burkinabè students. This is also a very important part of the learning process and a good indication that this learning process has been successful. Supervisors and students that were interviewed unanimously praised the value of the program. The program has succeeded in creating a spirit of friendly exchanges among those engaged, even when belonging to different organisational structures. They stressed the value of learning together, to share information, and build networks. The program has fostered interaction between projects and institutions and has laid the groundwork for an intensification of exchanges in the area of training and research within Burkina Faso. The program provided an opportunity for Burkina Faso researchers, especially the students, to learn a new way to design and prepare for their PhD.
18. Positive outcomes have accrued to Sweden as well, a factor in Sweden's policy. The cooperation has allowed the fairly small group of Swedish experts on natural resource systems and those with some experience in Burkina Faso to continue to build on their expertise. This is a valuable expertise for the Swedish researchers to access and build upon the specific expertise on dry tropical agriculture, natural systems and the society. With climate change, some of the expertise can be valuable to Sweden and also to Sweden's foreign policy agenda. The cooperation with Burkina Faso provides an opportunity and platform for Sweden to engage more deeply in science for development in Francophone West Africa, in collaboration with their Burkinabè partners.
19. The program provided specific measures to compensate for the existing gender imbalance but unfortunately the local research fund could make no contribution to this as it was not operational. The over all anticipated output PhDs would include 7 females and 14 males, for a ratio of 33:67. Among the Masters students the female to male ratio is 42:58. Two female participants confirmed during interviews the program intentions to provide additional opportunities for female participants. It is also a positive finding that the female participants have performed as well as the males in terms of completion rates, speed and research outputs.
20. In conclusion several key outputs have been achieved at a very high level of efficiency and effectiveness. These provide the building blocks for the future for the plans to improve capacity for research management, for improving the ICT infrastructure for research and higher education, and to improve skills in wider numbers of people through improved capacity for Masters training and extension services and linking these to the productive sectors, people and firms. But also clearly, the complexity of the problems of management was underestimated, largely because for both partners this is the first program of bilateral research collaboration.
21. The evaluation concludes that it is very important to continue this cooperation, expand the areas covered and build on the capacity developed. The results are outstanding along the research dimension and the shortcomings are not surprising for a first cooperation effort. In terms of science, human resources development, potential contribution to the preservation of natural resources, environment, and, the promotion of women, the results are tangible.

22. The research projects have achieved their goals and they have laid the grounds for future cooperation. These achievements have been accompanied by a number of significant and ongoing organizational challenges and misunderstandings between the partners in the two countries, especially between Sida/SAREC and CNRST. The misunderstandings were compounded by administrative difficulties at CNRST and they became a major source of delays, frustrations and difficulties for all. Many were first noted in 2003 and they slowly snowballed. The challenges began with inadequate attention to conditions in Burkina in the design of the project even though the broad objectives and approaches were often excellent. The weaknesses in design were compounded by weaknesses in local management, administration and procurement and by well meaning but ponderous processes mandated by the state and imposed by donors to improve accountability. They festered by a lack of attention to processes such as an outside monitoring team involved, that could have provided corrective feedback, given this was the first effort of its kind by Sweden in the region and in a Francophone country. They were compounded by slow and inadequate responses by most partners in the program. Overall the management of the project remained deficient at CNRST and also at Sida.

23. The final section of the report on the way forward was written based on the feedback from the presentations made at Sida offices in Sweden and to stakeholders in Burkina Faso at CNRST. Two almost opposite views have been suggested with regards to the way forward. At one extreme is the highly pragmatic focus on the needs of the research cooperation and to make this as efficient and effective as possible. Towards this end, many stakeholders support a Sida managed project office that can operate outside the constraints and barriers of the local bureaucracy. This is highly unlikely to win support in Sweden and cannot be recommended because the narrow efficiency gains can be at the expense of building longer-term research management capacity in Burkina Faso. The other is the polar opposite and is completely bureaucratic and it holds the global Paris Agenda as the source of all good principles of aid effectiveness. In this view the program must be fully embedded in local institutions and follow all local regulations, however inappropriate or inefficient, so as to increase local ownership and appropriateness. The evaluators hold that when this belief is held in a dogmatic fashion it can so damage effectiveness that it can have negative contributions to the desired goals of the Paris Agenda.

24. The evaluation team recommends measures that attempt to apply the principles of aid effectiveness to the needs of the activities supported and matched to the local context. The dominant view that finally emerged would see a larger and stronger Burkinabé management role. If the details proposed are acceptable to both partners, it is suggested that the current Phase be extended for a period of 2-3 years with an overall goal of undertaking the tasks that have not yet moved to any significant level. Some supplementary funds or some reallocation of the budget is likely to be required. It is the view of the evaluators that the recommended path could provide the best platform for moving towards both faster and more efficient implementation as well as planting the seeds of a local national research coordination and management capacity that will evolve more appropriately in tune with the local needs, while learning from experience and practice as opposed to theory. Should this new structure be able to not only support the current research cooperation but also provide a base for a new national research strategy, add greater national and international resources and partners, it would then meet the test of what the Paris Agenda sets out to achieve and the mandate provided to Sida/SAREC by the government of Sweden.

EVALUATION OF THE RESEARCH CO-OPERATION BETWEEN SWEDEN AND BURKINA FASO: PAST EXPERIENCES AND FUTURE DIRECTION

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15 April 2009

1. BACKGROUND AND PURPOSE

1.1 Background

1. Sida support to bilateral Research Cooperation between Burkina Faso and Sweden started in 2001 and is provided by SAREC[1]. A first phase of cooperation for three years was then extended for a second period, for 2004-2008[2]. The overall objectives of the Swedish research co-operation with Burkina Faso (BF) have been to contribute to human capacity development by training high-level scientists capable of addressing central development issues related to the management of Natural Resources that confront Burkina Faso and constrain its development. This report is part of an effort by Sida/SAREC to evaluate the achievements and the failures of the cooperation program and to outline directions for its future evolution.

1.2 Purpose

2. Sida decided to undertake an evaluation of the research cooperation with Burkina Faso, covering the period 2001- 2007[3] (both phases of support) and to include the coverage of all three cooperating institutions in Burkina Faso. It then decided to engage Policy Research International Inc. to perform the evaluation. The evaluation team is composed of Dr. Amitav Rath (team leader), Dr. Hocine Khelfaoui and Dr. Jacques Gaillard[4].

3. The overarching objective of the evaluation is to evaluate the achievements and the failures in relation to the set goals, lessons learnt including the pros and cons of the administrative set-up of the program, the quality of research administration in the context of the situation at the time of initiation of the program and at present. The evaluation is expected to provide suggestions for the future direction of possible continued research co-operation with Burkina Faso[5].

4. The overall objective, to contribute to human capacity development by training high-level scientists, was narrowly focused on the management of Natural Resources. Its primary goal was

[1] SAREC, is the special Department for Research Cooperation within Sida.
[2] All activities have not been completed and the project remains open until the end of 2009.
[3] It is assumed that Sida specified 2007 so that the evaluation would only look at completed activities. The interviewees and the data did not make such a clear time distinction. The report covers most issues up to December 2008.
[4] A brief description of their background is provided in Annex 2.
[5] From the terms of reference, Annex I.

to increase the research capacity of a number of staff and students through a sandwich model PhD program jointly supervised by Swedish and Burkinabé supervisors. The program also aimed to improved local capacity for research management; increase international knowledge inputs to and exchanges with the research system in Burkina Faso, and, thereby to provide new ideas for the organization of research and training. There was also a component to develop and improve the ICT infrastructure at two public Universities and the national research body – CNRST. In the second phase there was also provision for a competitive national research grant process. The ultimate goals of Sida were to increase applications of the additional capacities created for research and training to generate and apply new knowledge and findings towards poverty reduction and sustainable development in Burkina Faso.

5. The intended audience for this evaluation includes first, the staff of Sida/SAREC, the sponsors of the study. It also includes the participants, beneficiaries and stakeholders of the research cooperation activities in Sweden and Burkina Faso. Sida wished that the findings from the evaluation will be used in the preparatory process in identifying the components and the direction of a possible future research co-operation with Burkina Faso and provide information to the stakeholders on how to further improve the research cooperation.

6. It is also expected that this study will be of interest to senior policy makers in Burkina Faso, who are engaged in improving national capacities in higher education and research and their application to national development. Finally, the evaluation will be of interest to other donors and their developing country partners concerned with higher education and research.

1.3 Methodology

7. The overall methodology was guided by the Sida Evaluation Manual, supplemented by OECD guidelines and the findings from related studies of similar institutions and efforts (such as DFID, IDRC, and the World Bank) to use an iterative and cross-checking process, incorporating several types of information inputs. Efforts were made to make the methods used consistent with the questions posed by the evaluation terms of reference and also to meet the perceived and expressed needs of the project participants besides Sida. In discussions with Sida the guidance was to limit the stakeholder analysis and involvement to those who are directly involved in the cooperation activities. Hence wider stakeholder and deeper analysis of the local context was not carried out.

8. A systems perspective was used, given that Sida/SAREC operates within the larger context of existing and evolving Swedish, Sida, and global policy for development, and within the contexts of Burkina Faso as well as the context of individual institutions that were both participants and sometimes beneficiaries of the project together with standard models of inputs, outputs and outcomes.

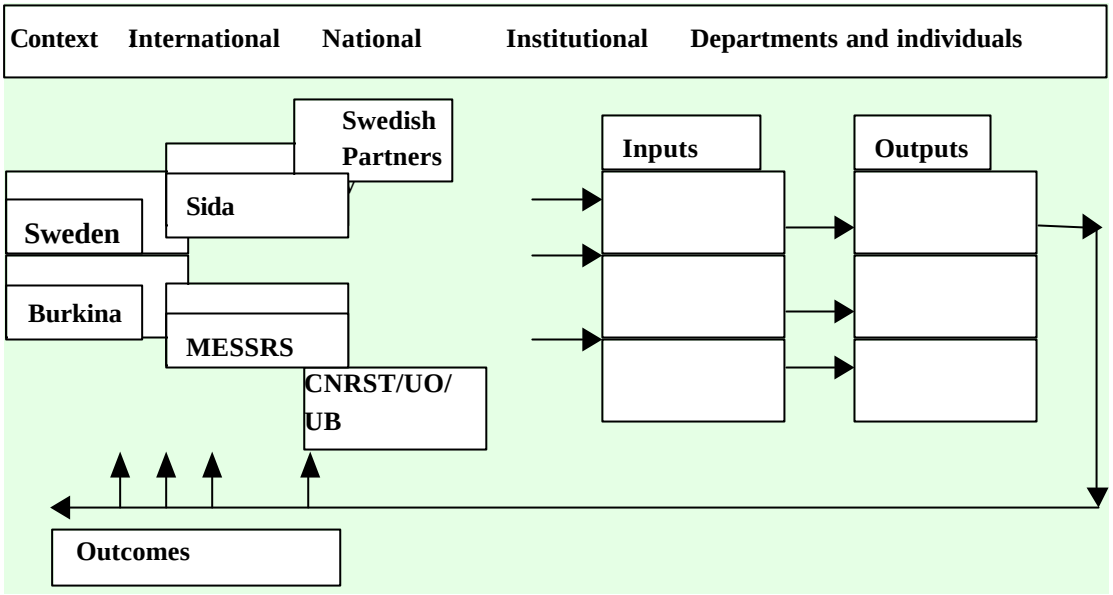

Figure 1: A Systems Framework for the evaluation

9. The systems map above makes clear that the interventions supported by SAREC, with the inputs provided for capacity building, belong to the set of interventions that are inherently long term in nature. Building human capacity for research and applications alone take many years, and the subsequent chain of outputs and outcomes take more time. The final outcomes and impacts on ultimate development objectives such as poverty are indirect and structural in nature. The theory of research use and capacity developed to reach its ultimate application provides for a long logic chain from activities supported to final impacts, and, this chain operates at a high level of generalization and is mediated by contextual factors and complementary inputs.

10. Many of the discussions with stakeholders were focused on "learning" – learning by the evaluation team from the documents and interviews. These were shared continuously with the key stakeholders to build a common framework of understanding. The terms of reference emphasized learning from the past- to improve understanding of the research efforts, the nature of the problems faced by different individuals and their causes - to provide an opportunity to reflect, and feed back into the plans for the future. At the same time the detailed 20 questions provided by Sida were also used as a reference and guide to the processes used.

11. The first set of meetings and the information from supporting documents provided by Sida were used to prepare an initial outline, a set of hypotheses, and a possible structure for the main report. Several key decisions were made on the methodology to be adopted. These included a priority given to the required (short) time line for the report, a focus on the organizations and individuals involved in the project, including the cooperation partners who implement some of the administrative activities. Emphasis was placed on iterative and participatory processes. The participatory process included not only the work within the team, and cooperation partners, but

also the staff of SAREC, with whom interim findings were shared and discussed[6]. The outputs of the team were arrived at in a fully transparent manner.

12. Participatory processes involving stakeholders in the evaluation has been used for their instrumental value to make the findings more accurate and relevant. It is also intended to contribute to the future strategy development by stakeholders by making it more meaningful to them through their participation and their engagement in the issues and for the stakeholders to have an opportunity to know where the findings come from. Participation is seen to be important by both Sida and the evaluation team as the evaluation is seen as a process for learning and improvement. This also allows the stakeholders to own the findings and develop the recommendations further for detailed implementation plans than can be elaborated further here.

13. Participatory methods adopted include, first, the sharing of the purpose and TOR of the evaluation with stakeholders prior to the interviews. Second, during the interviews and especially in Burkina Faso, the team has constantly shared its interim findings with the interviewees and stakeholders. Third, many interviews were carried out in groups as well as individually to allow sharing of information. Fourth, a workshop and focus group was planned for Dec 12-14 and then was conducted on January 7 where all Burkina Faso stakeholders were invited to participate[7]. The evaluators presented their preliminary findings at that time, reviewed and revised these based on feedback received and also use the meeting for transparent discussions on options for the future. Two sets of final meetings, in Sweden, on February 6, 2009 and in Burkina Faso, on February 9, 2009 were used to discuss the main findings, incorporate feedback from the workshops, to make changes to the report and submit the final draft. These should allow for a degree of self-evaluation by the stakeholders involved. It is anticipated that with this process, there should be few surprises at the end of the process and the diagnosis and prognosis will find wide agreement and support.

14. The evaluators continually requested additional relevant documentation from SAREC on the program issues and these additional documents provided the base for the individual and group, interviews and at other times provided a cross check. The interviews were primarily with the beneficiaries of the research programs, and they included managers at the Burkinabé institutions. They generally involved face-to-face discussions, and in many cases relied on follow up by telephone or e-mail. The interviews focused first on individual views on their roles and their perceptions of the activities in which they had participated. During the discussions the key informants were encouraged to reflect not just on the lessons of the past, but also on ways in which their experience can lead to improved future programming. Interviews were also held with staff of the Swedish Embassy and some donor agencies active in Burkina Faso. The list of documents used and the people consulted are listed in Annexes 3 and 6 respectively. The interviews incorporated over 80% of the researchers and supervisors involved in the project and the resource allocations to them comprised almost 100% of the funds used. This was supplemented in a very small number of cases with potential users of the knowledge where possible.

15. The individual project notes and field visits notes are in some cases summarised in separate Annexes. They are a part of the working notes of the team and are provided here to give

[6] Participatory processes are always subject to the concern that the gains in the knowledge and context can be at the expense of objective, independent and expert judgment. The team is aware of these potential dangers and believes the triangulation process avoids many of the dangers while adding greater accuracy of observations.
[7] The date was shifted by three weeks to accommodate local constraints.

additional details on the issues reviewed. The sources of information, including the documents reviewed and the people interviewed, are provided Annexes 3 and 6.

1.4 Time frame

16. The work was begun on September 15 on confirmation from Sida that the work could begin. Immediately, the Sida project officer was asked to provide all relevant project documents electronically, and lists and contacts of participants and stakeholders in Sweden and Burkina Faso. Some were provided right away but many more had to be asked for along the course of the evaluation. All project documents consulted and other sources are provided in the references in Annex 3. Further documents were collected from individual participants in the research. Additional documents were received through the course of the evaluation.

17. The team began work with a common set of planning and review sheets and developed several activities in parallel based on the project inputs, activities and planned outputs. The review of documents provided by Sida proceeded together with further elaboration of plans and evaluation design; preparation of generic and audience specific questionnaires (as appropriate these and all communications have been prepared in English and French, as appropriate); and initiation of contacts by email with project participants in Sweden and Burkina Faso to plan for interviews.

18. The feedback from the Swedish supervisors led to the finding that a large number of them were only available during the first week of October (70%) and also many of the Burkinabé PhD students (8) and some supervisors were in Sweden at the same time. Meeting this deadline of the first week of October in Sweden also required follow on visit to Burkina Faso to be set for October second and third week. This early deadline required a rapid ramp up of planning activities for the evaluation, for the travel and for the interviews planned.

19. Prior to the travel and interviews, a note containing the evaluation framework and terms of reference as provided by Sida, a short bio of the team members and a list of questions were sent to the project team leaders. In turn they were requested to provide their own CV and a most recent report on the status and outputs of the project (see Annex 4). Unfortunately while most did send their CVs, very few provided any electronic information on the project. In general written information provided by project participants needed to be asked for repeatedly.

20. On the other hand the team was able to meet with 10 out of 14 Swedish supervisors and associates involved in the project in the first and only field trip to Sweden (October 7-11). For the meetings an interview schedule had been prepared (Annex 4), which was used as a guide to ensure that all questions in the evaluation were consistently dealt with. From the remaining 4 – two supervisors were travelling of whom one made arrangements for an interview in Paris. One supervisor was no longer involved (project number 3) and yet he responded by email to the questions. Only one person did not respond at all, most likely because he was also no longer involved as the student moved to a different supervisor. Thus 11 of the 12 active Swedish supervisors could be interviewed in considerable depth. Also all 8 PhD students at different stages of their PhD in Sweden and one Burkinabè supervisor who were also in Sweden were interviewed. The interviews in Sweden were carried out by Jacques Gaillard and Amitav Rath. This was followed by the first interview with the Sida officer (October 9) regarding his inputs to the evaluation team and discussions on general and specific issues, together with the methodology adopted including the nature of the participatory approach to be followed. The preliminary views from the interview prior to the meeting on October 9 were presented. There

were some discussions on the challenges faced in the project, especially the issues raised by different audits and their final resolution. There was one final meeting with the ICT team in Sweden.

21. This was followed immediately with the trip to Burkina Faso by Amitav Rath and Hocine Khelfaoui (October 11-23/25). The trip was highly successful in meeting the primary objectives of holding interviews with all supervisors, with most PhD students, with all key administrative persons (except the DG of CNRST)[8], representatives of the Government, and, the Head of Sida local cooperation office. Most interviews were held in the offices and laboratories of the project participants. A small number of visits were carried out to other organisations relevant to the area of work but not directly involved in the Sida project. (See Annex 3 for details on all meetings and interviews).

22. Subsequent to the interviews, electronic communications were used to collect missing project information, to confirm specific pieces of information provided, and to plan the interim workshop/focus group meeting scheduled in Ougadougou between December 12-14, 2008. This was rescheduled in December to January 7 due to local scheduling conflicts. The delay and uncertainty required additional electronic follow up through another questionnaire focused on the publications and to get individual feed back on 4 pending issues. An outline of the early findings were discussed on January 7. The summaries of these discussions and suggestions are appended as Annex

1.5 Constraints and li mitations

23. This report has been prepared under several constraints, and a number of limitations need to be noted. Time was a constraint in unexpected ways. The assessment was begun just when people were returning from summer vacations in Sweden to a busy fall schedule that required an earlier schedule of field visits, to ensure a large number of interviews, than had been planned. The time and resource constraints[9] also prevented any serious effort at making contacts with other researchers not in the project or who had dropped out, potential users or indirect beneficiaries of the research support and of users of the knowledge generated.

24. The time constraints were accentuated by the information and data constraints[10] due to the apparent lacunae in annual reporting in the project. This prevented timely access to many internal and process documents and required constant efforts to ensure full capture of all outputs and resolve the mismatch between the overall evaluation objectives specified and many of the questions formulated in the terms of reference. The constraints do affect some of the issues that are NOT covered in the report, especially with regard to uses and users of research, and the current overview of the larger institutional organisational, structural issues of higher education

[8] The evaluators are pleased to note that this was rectified in February with a final presentation of the findings.

[9] The travel days alone, for interviews and workshops, used up three quarters of the time available. This left very little time for extensive reviews and for writing the report. PRI determined that irrespective of the constraint it would complete the work agreed to and deliver the outputs to the agreed timeline.

[10] The Sida document approving the first phase of cooperation 2001-2003 – Sida, 2001, INSATSPROMEMORIA, 17 April 2001 and Sida, 2001, Bilateral Research cooperation with Burkina Faso: Sida Assessment of cooperation; was provided on 16 February 2009. Initially the evaluators surmised some of the plans, goals and activities for the period 2001 to 2003 from interviews, and, from summaries provided of earlier events in documents written after 2004. This has been rectified in the final draft. Some key audit reports were made available late. Systematic annual reports on the project as specified by Sida for the project were not available for all years. Each research project, and the program as a whole, was required to have annual reports whose format was specified by Sida (Appendix 5 and 6). These were unavailable for all activities and years.

and research. A small effort has been made on the last question posed by Sida and it is suggested that answers to some questions are correctly located among one the planned outputs of the research collaboration program that have not yet been undertaken.

25. Measuring some of the achievements requires wider and base line studies of the situation before and after the intervention. These do not exist and could not be addressed in a short study. Comparative analysis with other bilateral projects could draw important conclusions on "successes," including cost effectiveness and efficiency but these were not available.

26. A major challenge in Burkina Faso that emerged during the October visit from the ambiguous situation of the program on the ground, where new contracts had not yet been signed by the Burkinabè organisations after all local funding had been stopped by Sida. The discussions inherently veered into the uncertain status of the project as perceived by local stakeholders and the fact that the coordinator's office had no contract and resources to undertake any coordination. The goodwill of the coordinator and many project stakeholders was mobilized to structure a full and complete set of interviews while in Burkina Faso.

27. Another challenge encountered is the highly complex set of issues that face three key areas of the research cooperation. These include management and coordination of the cooperation, the work planned and achieved in the areas of ICT and the establishment of a research fund. The evaluation design assumed the central managerial role of the CNRST continued as specified in the Phase II documents. But this role has been unclear and an area of challenges both before and during the evaluation. Management issues have affected the above important components and will require careful handling. Additional time was allocated for these discussions.

28. The evaluation used the "program logic model" with a mapping of all inputs, (all resources which contribute to program activities); all activities of supported by the Sida contributions; and the outputs (products of the activities). It was assumed that these could be assembled without great difficulty. While much of this has been provided by Sida as expected and some have been by the Burkina based project teams, there remain unanticipated gaps (see footnote 10).

29. It is also noted that the TOR specified by Sida does NOT ask for much information on two components – ICT and the research fund and this was clarified and confirmed by Sida. But the evaluators noted that the local stakeholders are very keen to see a resolution that promotes speedy and effective implementation of these two components, and also given the importance of these two critical and complementary activities to the final impact of research training, they are discussed to some extent.

1.6 Scope and organization of report

30. Following the introduction above, the second section of the report presents the organization, objectives, and details of the research cooperation program in the context of Swedish policy and some relevant background to Burkina Faso, with some key information on the sector and organisations.

31. The third section gathers the findings of the review and interviews. Some of the threads that emerge from the document reviews and the discussions with stakeholders on the processes within Sida/SAREC are pulled together to answer the questions posed by Sida. The detailed

findings in section three are used to draw the final conclusions and recommendations in section four.

32. There are several annexes. They list the terms of reference, short biographies of each team member, the organization of the questions, methods, sources of information and more details on several principal outputs of the program.

1.7 Acknowledgments

33. We wish to record our thanks to the many individuals who gave so much of their time. They are listed in Annex . We also wish to thank the Sida staff member – Dr. Kwame Gbesemete, Research Advisor Sida/SAREC for his considerable effort in making available the many documents requested in spite of organizational constraints. We thank all project participants for their time, patience, thoughtful discussions and their insights. We also wish to thank the many individuals from the three participating Burkinabé institutions who took a especially proactive role in helping to informally coordinate the activities of the evaluation and to constitute an informal reference group in the absence of a more formal structure available at this time.

2. GOALS, OBJECTIVES, AND ACTIVITIES

2.1 The Partner countries

2.1.1 THE SWEDISH CONTEXT

34. All contributions of SAREC, including the support provided to the thematic programs, follow from the Swedish government policies and goals for global development policy.[11] Sida initiated bilateral research co-operation with Burkina Faso (BF) in accordance with the Africa policy adopted by the Swedish Parliament in 1998[12].

35. Swedish parliament has specified that Sweden will focus its contributions towards poverty reduction, and on low-income countries (LIC), especially with partner countries, which are working towards the same goals as Sweden. The Swedish development policy elaborates eight central thematic areas and their component elements: human rights, democracy and good governance, gender equality, sustainable use of natural resources and protection of the environment, promoting economic growth, social development and social security, conflict management and human security, and global public goods. The sectors in which Sida works are: capacity development; conflict management; corruption; culture and media; democracy and human rights; education; environment; gender equality; health; HIV/AIDS; humanitarian assistance; information and communication technologies (ICT); infrastructure; NGOs; private sector development; program support; urban development, and finally, research cooperation.

36. Sweden, as a member of the EU, is among the countries emphasising the Paris Agenda, under which coordination among the donor countries should strengthen development effectiveness. The Paris Agenda stresses several issues: stronger ownership by the developing countries, increased partnership and coherence with development partners, and improved coordination by donor countries. The overall aim of the Swedish cooperation with Burkina Faso is to assist in poverty reduction and Sweden provides almost all financial assistance directly through budget support to the national government[13] and aims to help build on the recent good performance in various sectors. There are some, relatively few, free standing projects supported by Sweden,

[11] Shared Responsibility: Sweden's Policy for Global Development, Gov. Bill 2002/03:122. Approved by the Riksdag on 16 December 2003, available at www.riksdagen.se. It emphasises the importance of closer collaboration with domestic actors in all sectors of society. Sweden has been a strong supporter of international development. It is one of a small group of countries that meet the UN targets to allocate at least 0.7% of their gross national income (GNI) to international development. In 2003 Sweden presented an integrated policy for global development titled Shared Responsibility: Sweden's Policy for Global Development, with the specific aim to mobilize and align all national instruments at Sweden's disposal in support of a global effort to reduce poverty, and to achieve the MDGs. The bilateral development focus is on poor people and poor countries.

[12] PROMEMORIA Sida, page 2. The PROMEMORIA is the Sida approval document for the project.

[13] Donor coordination. The Donors have established a technical secretariat in 2005 to support the donors in the implementation of the Rome and Paris recommendations on aid effectiveness. In 2007, the donors agreed to prepare a joint strategy in support of Burkina Faso's "Plan d'Action National de l'Efficacité de l'Aide''(PANEA) and this is expected to be finalized in 2009. The government is taking the lead in donor harmonization and an Aid Management Platform, based on web technology, will help the Government monitor systematically aid flows and will support the National Action Plan for Aid Effectiveness (PANEA), improve predictability and strengthen coordination. To improve the effectiveness of their aid, promote harmonization, alignment on the country's PRSP and a focus on country results, donors have been providing direct budget support while financing sector-wide programs in basic education, health, HIV/AIDS and water supply. Donor harmonization has helped more predictable aid flows and encouraged the use of country systems. Sweden and Sida are among the leading donor countries in Burkina Faso that have channelled most financial resources through national government structures.

and, one of the few free standing projects is this one to improve research capacity through postgraduate training and related services[14].

37. The focus of SAREC support – research for development broadly and within that - of research capacity building, generation of new knowledge, and the application of knowledge, is a special component of Sida activities, mandated by the government. These discussions are provided here because they provide for the context of the research cooperation between the countries. Hence they provide some background to the choices made by Sida and a basis for overall judgements of relevance, efficiency and effectiveness, though these will also be judged more narrowly within the project specific design and goals.

2.1.2 BURKINA FASO

38. Burkina Faso is a poor, landlocked country and it ranks at 173 out of 177 countries on the UNDP's Human Development Index (HDI) in 2008[15]. In 2007 per capita income was US$430 (on an exchange rate basis).

39. With an area approximately two thirds of Sweden, Burkina Faso has over 13 million inhabitants, mainly dependent on self-subsistence agriculture. Owing to low rainfall, the agricultural sector, which employs the majority of the population, seldom yields harvests that are sufficient for domestic consumption. Environmental conditions are harsh, with recurring periods of drought. This causes challenges in terms of food security, land degradation and natural resources management. The low productivity of land, high population pressure, over-harvesting of arable land, all are critical factors affecting Burkina Faso in its development[16]. The primary sector (agriculture, livestock, fisheries), which provides 35% of GDP, employs 80% of the population and accounts for 60 percent of all exports. The rapidly growing population (at 2.8% annually) puts additional pressures on land and water resources, which reinforce the need for sustainable use together with higher productivity. [17]. It is for this reason that the government of Burkina Faso has emphasized the need to strengthen the agricultural sector in order to improve the income and welfare of the people; achieve food self-sufficiency and food security notably in agro-pastoral and forestry products; and improve conservation of natural resources through improved planning and management. Sustainable management of natural resources is one of the priorities established in the national PRSP (2002). Given the nature of the resource endowments and economic activities in Burkina Faso the research cooperation focused on issues relating to sustainable development and natural resource management.

40. The country has a especially positive development record over the past decade. It is implementing a Poverty Reduction Strategy and over the past five years growth rate has been relatively good at around six per cent annually, an increase of over 50 percent since 1994. Poverty incidence decreased from 55 percent in 1998 to about 43 percent in 2007. Positive

[14] There is a view among some in Sida, stated at the final presentations, that the Paris Agenda discourages such freestanding activity and this anomaly should be rectified.
[15] UNDP - Burkina Faso, The Human Development Index, 2008 at http://hdrstats.undp.org/2008/countries/country_fact_sheets/ cty_fs_BFA.html The HDI is a composite measure of three dimensions of human development: living a long and healthy life - measured by life expectancy, where Burkina Faso ranks at 145 (51.7 years); education measured by adult literacy for ages 15 and up (26%) and combined enrolment at the primary, secondary and tertiary levels (30.2%) and standard of living, measured by income at purchasing power parity, where Burkina Faso ranks 159.
[16] See Bolay, Jean-Claude, et. al. 2008.
[17] Some of the information is sourced from http://www.sida.se/sida/jsp/sida.jsp?d=274&language=en_US. Other data is taken from UNDP and the World Bank.

trends in social welfare have accelerated, with infant mortality rates falling from 107 per 1,000

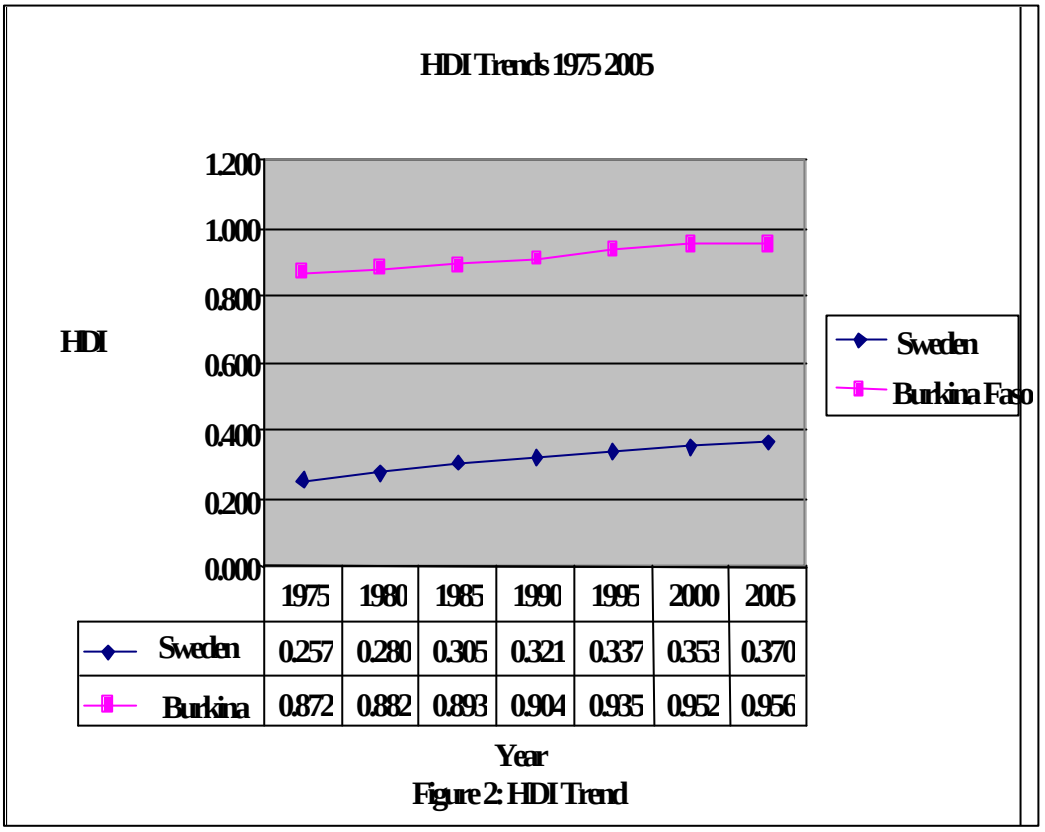

Figure 2: HDI Trend

live births in 1995 to 96 in 2005. The gross primary school enrolment rate has also risen quickly, from 57 percent in 2005 to 72.5 in 2007[18]. The positive developments – economic and social are reflected in the steadily improving HDI for Burkina Faso over the past 30 years.

41. Burkina Faso has stepped up its investments in education, which is picking up from a very low level and is a high priority in the national poverty reduction strategy. But gender disparities between men and women are prevalent and will take time to change. Only 15 per cent of women and 35 per cent of men can read and write. This disparity continues through at all levels of education including higher education and research. At the same time it must be noted that over the past decade, the gender disparities at all levels of education are becoming reduced with the increased development expenditures especially on primary and secondary education and increasing development in the country.

42. In 2007, Burkina Faso received Swedish support valued at SEK148 million. The principal areas included Health, Education, Natural resources and environment and for Human Rights & Democratic governance. The support for research and higher education was around SEK7 million or around 5 % of the total support provided by Sweden[19].

[18] Source - World Bank at http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ AFRICAEXT/ BURKINAFASO EXTN/0,,menuPK:343886~pagePK:141132~piPK:141107~theSitePK:343876,00.html updated October 2008, seen October 20, 2008

[19] Source: 2007 Sida Annual Report.

43. It is useful to note here, the very large gaps in most relevant indicators between Sweden and Burkina Faso, the partner countries. This makes it difficult to fully apply egalitarian principles in cooperation activities between highly unequal partners and this too has an impact on perceptions, design and the actions within the research cooperation activities reviewed here[20].

		Burkina Faso	Sweden
	Indicator	Value	Value
1	Human development index	176	6
2	Human development index value, 2005	0.37	0.96
3	Population, total million, 2004	13.90	9.10
4	GDP (current US$ billions), 2005	5.20	357.70
5	GDP per capita (US$), 2005	391	39,637
6	GDP per capita (PPP US$), 2005	1,213	32,535
7	Life expectancy at birth, annual estimates (years), 2005	51.4	80.5
8	Under-five mortality rate (per 1,000 live births), 2005	191.0	4.0
9	Adult literacy rate (% aged 15 and older), 1995-2005	24	..
10	Net primary enrolment rate (%), 2004	45	96
11	Electricity consumption per capita (kilowatt-hours), 2004	31	16,670
12	Electrification rate (%)	7	100
13	Telephone mainlines % 2005	0.7	72
14	Cellular subscribers % 2005	4	94
15	Internet users % 2005	0.5	77
16	Research and development expenditure (% of GDP), 2000-2	0.17	4
17	Researchers in R&D (per million people), 1990-2005	17	5,416
	Source: UNDP HDI Tables 2007		
	Table 1: Some Basic Indicators		

2.2 Research and Higher Education

44. Higher education and scientific research are the responsibility of the Ministry of Secondary, Higher Education and Scientific Research (MESSRS)[21].

2.2.1 HIGHER EDUCATION IN BURKINA FASO

45. Early structures in the country were established by France. The French systems and traditions remain to a large extent though this cooperation project and some others are introducing additional models into the country[22]. The Institute for Teacher Training (CPES), created in 1965, later became the Higher Education Training Centre of Ouagadougou (CESup), and at first encompassed all higher education and research structures of the country. The research institute was withdrawn from the CESup in 1972 and the balance was renamed the University of Ouagadougou (UO), the first University with an estimated number of 374 students. The number of students at UO have grown rapidly in recent years, from around 4,000 in 1995, it reached

[20] This is a common issue for all aid supported North South research cooperation activities as noted in Rath, A and C. Smart, 2006. Promoting North South Research: Report of a Workshop, IDRC REFERENCE: 103469-005, Policy Research International, December 2006. Some relevant recommendations from the workshop emphasize wider and strategic alliances with multiple partners; the beneficial use of donors' influence to improve the commitment of Southern governments; and, clear joint monitoring and evaluation and dispute resolution mechanisms, among others.

[21] This section is a summary of information provided in Hagberg, S. 2000; PROMEMORIA, 2003 or 2004, Khelfaoui, Hocine, 2002; Stads and Boro, 2004; Bolay, et al. 2008 and Guenda, 2003.

[22] It should be noted that the French system also continues to change over the past decades. Partnerships with French scientists, especially at IRD and CIRAD, based in Burkina Faso, and with Burkinabè scientists visiting France, mostly from CNRST and the two main universities, remain important influences.

10,000 in 1999. The UO has seen a number of changes, first in 1985 with the creation of new institutes and schools. In 1991, they were restructured into schools and again decentralized in 1996.

46. Burkina Faso's public expenses on Secondary, Higher Education and Scientific Research were 8.8% of the government budget for (1993-2002) with the amount increasing from 12.6 billion (F CFA) in 1993 to 24.0 billions (F CFA) in 2002[23]. Burkina Faso also received external support for higher education and research, estimated at about 6.1 billion CFAF in 1996 and 9.6 billion CFAF in 2002. In 2002, the Universities of Ouagadougou and Bobo-Dioulasso received a total of 2.9 billion F. CFA whilst the CNRST was provided with 2.3 billion F. CFA. This suggests that in 2002, donor funds provided for almost two thirds of the total research and higher education expenditures in the country, most likely a higher share of the research budget. Sida estimated (above) that during the project period Sweden provided for between 20 – 30% of all external support to the sector.

47. UO remains the dominant teaching institution in the country with it alone having an enrolment of almost 80% of all Baccalaureate students of Burkina Faso. Gender disparities are reducing but as in 2003, only one in three students was female[24]. The number of students in universities is increasing rapidly with 27,942 in 2004-2005; 34,253 in 2006-2007; and estimated at 42,000 for 2008. It is estimated that 65,000 students are likely to be enrolled in 2009 with the over whelming majority in UO[25].

48. The University of Bobo-Dioulasso is in the city of Bobo-Dioulasso with three main institutes. It was created by a transfer from the University of Ouagadougou in the mid-1990's and became fully independent in 1997-98. It is the first outside the capital and is based on national policy for decentralisation. In 1999-2000 it had 33 academic staff (of whom two were women) and had 436 students (124 women)[26]. Rural development is an area of special focus, and it maintains links to both the CNRST and the Ouagadougou University. The university receives financial and institutional support from countries such as the Netherlands, Denmark, France and Belgium.

Private Education

49. There are a small number of new private higher education institutions. They number around 12 and focus on Computer Sciences and management. The total enrolment is low.

50. The three public universities - the University of Ouagadougou (UO) Polytechnic University of Bobo Dioulasso (UPB) and the University of Koudougou provide the bulk teaching and training of senior staff for basic and secondary education and in other disciplines.

2.2.2 ISSUES IN HIGHER EDUCATION

51. A recent analysis of the challenges of the Universities reports that they face many challenges with the rapidly growing enrolment:

    - lack of infrastructure- lecture, seminar and tutorial rooms;
    - shortages of laboratory equipment and research lab;
    - low financial resources;

[23] Promemoria Sida, page 20.
[24] Guenda, 2003 and can be found at http://www.bc.edu/bc_org/avp/soe/cihe/inhea/profiles/Burkina_Faso.htm.
[25] Bolay, et. Al. 2008, p. 107.
[26] Hageberg, 2000, pages 7 and 22-24.

- faculty under pressure with increasing teaching requirements and to do research;
- declining ratio of teachers to students;
- poor integration of research into the course content;
- the training is often considered too general and needs updating;
- The ICT facilities
- The poor state of libraries, lack of books and low subscriptions to scientific journals;

52. Wages and benefits have remained stable, but inflation and devaluation have significantly reduced the standard of living for teachers. As a result, teachers resort to private courses, consultations, and other projects. Teachers face tremendous difficulties to obtain teaching materials. This has demoralized the university community is accompanied by frequent disputes, work stoppages and strikes[27].

53. The faculty student ratio is the worst at UO while the Polytechnic University of Bobo-Dioulasso has the best ratio. The universities rely on the state budget, which insufficient to cover their expenses and provides for teaching and not research. Research is primarily supported through external resources.

54. The administrations of the Universities are made up of five levels of decision making: the board of directors, the university assembly (or the council in charge of training and university life), the university council, institutions, and departments. A survey in 1998 found that 56% of teachers thought that the management of the administration was not efficient. Faculty often complain about administrative bottlenecks, and the lack of autonomy of the institutions[28].

2.2.3 RESEARCH IN BURKINA FASO [29]

55. In 1995-6, Burkina Faso adopted a Strategic Plan for Scientific Research (PSRS) that set out the essential needs for the social development of the country and the well-being of the population. Several publications in Burkina Faso publish academic research. These include The Annual Annals of the University of Ouagadougou, The Annual Scientific and Technical Review of CNRST, The Half Yearly Review: CEDRES Studies, and The Annual Burkinabè Review of Law.

56. CNRST - the National Centre for Scientific and Technological Research is the main research organization in the country. The others include the two main public university and a few other research organizations.

57. The bulk of Burkina Faso research activities measured in number of publications and indexed in international databases is concentrated in a few institutions. Nine institutions account for nearly 90% of the overall number of publications indexed in SCI over the period 2001-2008. See Annex 9 (see Figure 4), the most visible institution is by far the University of Ouagadougou. It is followed by an applied research center in the field of public health, the Muraz center[30], and the largest of the four research center of CNRST: l'Institut de l'Environnement et des

[27] Bolay, et. Al. 2008, p. 173 and Guenda, W, 2003 and also at http://www.bc.edu/bc_org/avp/soe/ cihe/inhea/profiles/ Burkina_Faso.htm.
[28] ibid, page 171.
[29] For a more detailed discussion on research outputs measured in number of publications in international databases see Annex 9 entitled "Sida-SAREC supported work in the context of Burkina Faso scientific production: a bibliometric analysis".
[30] The MURAZ centre, based in Bobo Dioulasso, is a public health research centre under the Ministry of Health. Its main mission is to promote the fight against communicable diseases through research, training, expertise and medical analysis.

Recherches Agricoles (INERA). This top three institutions account for nearly half of the overall production (46%). They are followed by a French public research institute: The Institut de Recherche pour le Développement (IRD)[31]. Then comes several institutions specialized in medical and veterinary sciences:

- The Centre National de Recherche et de Formation sur le Paludisme (CNRFP)
- The Centre de Recherche en Santé de Nouma (CRSN)[32]
- The Centre Hospitalier Universitaire (CHU) de Ouagadougou; and
- The Centre International de Recherche-Développement sur l'Elevage en zone Subhumide (CIRDES)[33].

58. The main institutions of CNRST include –

- INERA for agriculture, natural resources, environment and ecological research;
- INSS for social sciences;
- IRSAT for applied technologies;
- IRSS for research in traditional medicine and pharmacy;

Of these INERA is the largest and the primary institute from CNRST involved in the Sida project, with the majority of participants, though there is some involvement of INSS and IRSS. At the CNRST efforts at dissemination and use of research results led to the creation of two national agencies (under the CNRST) for dissemination of research results (ANVAR) has along with the scientific forum every two year (FRSIT) increased communication with outside actors[34].

59. Burkina Faso has a very small number of R&D personnel, estimated at below 1,000 (20% female) full time equivalent (FTE) for 2005 by the Unesco Institute for Statistics (UIS). Out of them 301 only are full time researchers and 12% are female[35]. The largest percentage is in agriculture (around 25%) and it has a relatively well trained agricultural research staff. In the 1990s the World Bank program together with the French and the United States government supported the training for 19 persons to the PhD level. The training was conducted at the University of Abidjan-Cocody in Côte d'Ivoire, as well as in French and American universities. The program also supported workshops on scientific writing, as well as statistical software training and English language courses. In a second World Bank program another 23 researchers were scheduled for doctorate-level training.

60. Burkina Faso also benefits from other training programs. For the period under review (2001-2008), it is estimated that close to 30 Burkinabè students were trained to the PhD level with support from IRD (France) alone. They all work under the supervision of an IRD scientist in partnership with a Burkinabè supervisor with the students enrolled in Burkina Faso, France,

31 The IRD in Burkina Faso is involved in carrying out research programs in partnership with Burkina Bé institutions and teams focusing on three areas: environmental studies, health and nutrition, and social sciences.

32 Le CRSN a vu le jour au début des années 1990 sous le nom de Projet de recherche-action pour améliorer les soins de santé, un partenariat entre le département d'hygiène tropicale et de santé publique de l'Université de Heidelberg et le ministère de la Santé du Burkina Faso.

33 The international development-research center on animal husbandry in sub-humid (CIRDES) is based in Bobo-Dioulasso. It is an internation institution, established in 1991, including five countries in the region : le Bénin, le Burkina Faso, la Côte d'Ivoire, le Niger et le Togo.

34 The IDRC has an ongoing program of work with FRSIT to increase the applications of research results.

35 It should however be noted that these statistics include only staff at CNRST. As in many other countries in Africa, R&D indicators are not adequately collected and analysed. To adequately represent the overall national scientific community, R&D statistics should not only include CNRST but also staff at public and private higher institutions (with an estimate of their FTE), as well as R&D personnel at other public and private research institutions.

Switzerland and Benin as appropriate. Disciplines include social sciences, biology, microbiology, nutrition, hydrology, earth sciences and others. Although the exact numbers are not known, the total number of Burkinabè PhD students trained with support from other French programs and institutions is estimated to be at least as large as those trained through IRD[36]. This would suggest a total number around 60 PhDs that have been supported by the French programs during the period of the Swedish cooperation.

61. Based on the publications indexed by SCImago for the period 1996-2007 (cf Annex 9), we find three main areas dominate Burkina Faso scientific production: medicine, agricultural and biological sciences and immunology and microbiology (see Figure 2). Given that most of the work in immunology and microbiology is related to medicine, medicine is by far the most important scientific domain in Burkina Faso today.

62. The CNRST budget from the state is extremely limited for research and research infrastructure. The two universities are provided with budget support primarily for teaching. Hence for the fraction of funds spent on research in Burkina Faso is overwhelmingly (estimate over 90%) from external sources. This correlates with the fact that up to 95% of the publications indexed in an international database having an institutional address in Burkina Faso are co-authored with foreign scientists (cf. Annex 9, Figure 5). France (and IRD) is by far the main European partner (cf. figure 6 in Annex 9). Between 30-40% of the publications are co-authored with French scientists. UK, Belgium, Germany, Italy, Netherlands and Sweden follow suit at a lower level (5-15%). The impact of the Sida-SAREC program is already visible (see in particular Figure 7), showing that Sweden's share of co-authorships has increased significantly and steadily since the beginning of the project up to 2007

63. A research project points out that technical and financial partners often encounter difficulties in the management of contracts at the CNRST[37]. The difficulties were largely with administrative and financial services of CNRST, including a dysfunctional relation between the central accounts and other institutes and research centres. There is often lack of communications from both sides. It suggested a need for better communications, operational linkages, transparency, responsibility for actions, are required to promote good financial governance. Based on the gender disparities noted earlier in all levels of education, large gender disparities in the participation rates of males and females are also prevalent.

64. "The principles of good governance in the administration and public financial institution of the state, require the CNRST to adopt good governance, to identify the constraints of budget management, devolve budgetary and financia l management by improved systems and people on the accounting side. It suggests the need for procedures manual applicable to all institutes and centres for management of research contracts. Improved management will promote research activities and transparency.

65. Researchers at UO have performed the best in the region on various tests organized by the CAMES and by the bibliographic analysis (see annex on outputs).

66. International, Regional and Sub-regional research institutions such as ICRISAT and WARDA, INSAH (Institut du Sahel) have a presence and French research institutions - IRD and CIRAD

[36] Personal communication from IRD. Exact figures (even estimates) are very difficult to get. Although one of us is an IRD staff member, there has been considerable difficulty to get an accurate official number from IRD. It is likely that neither the local IRD office in Ouagadougou nor the training program at IRD has an accurate record.

[37] Ouedraogo, Boureima, bonne gouvernance au CNRST. The jury appreciated the work according him Magna Cum Laude.

continue to play an important role in Burkina in research and cooperating with the CNRST and Universities.

Research Funding Programs

67. Burkina Faso as in most of sub Saharan Africa has almost no special research funds. This was an important objective of the Swedish cooperation that has yet to materialise. It is worth noting here, the experience in Senegal that can provide some lessons. A National Agricultural Research Fund (NARF) was established in 1999[38]. It is established as an independent entity providing a competitive means for research funds to qualified public and private agricultural research agencies and among its objectives are increased collaboration among researchers and their organisations. For the period 2000–05 it was allocated US$13.2 million for the period with funds from the national government, the World Bank, foreign donors, and the local private sector.

68. NARF has a Technical and Scientific Committee (CST) with 15 scientists (including six from outside Senegal) which reviews all proposals and makes recommendations. The Management Committee (CG), is responsible for final selections based on the scientific and technical quality of the team and the proposal, and the proposal's relevance.

69. Stads, and Sène report that availability of funding and delays are major constraints affecting the research fund. Also financial and legal difficulties delay the execution of research projects. They conclude that despite the difficulties, the competitive nature of the funds has changed the behaviour of agricultural R&D organisations in the country.

70. Rwanda has recently announced plans to launch the first endowment fund for Rwandan researchers in early 2009[39]. The fund will be part of the 2009 budget and will be run by a team from a variety of ministries and research institutes. Priority areas include biotechnology, agriculture, telemedicine and renewable energy. It is not yet clear exactly how much money will be allocated, when it will become operational and other operational details remain to be spelt out. Many other countries in Sub-saharan Africa have already launched (e.g. Nigeria), or have plans to establish a national research fund (e.g. Benin, Madagascar). National Research Funds have also been in operation in North African Countries (e.g. Algeria, Morocco and Tunisia) for the last ten years or so. There are several ongoing discussions between the EU and the AU and NEPAD for a research fund for Africa to make "research cooperation between Africa and Europe to become more substantial, more focussed and more relevant," but it is not known when this could materialize[40].

CAMES

71. Le Centre Africain et Malgache d'Enseignement Supérieur (CAMES)[41] is an international body responsible for African assessing scientific outputs of individual researchers and career management in almost all Francophone African countries, including Madagascar. Earlier it reviewed the work of teachers at universities only. Subsequently, the CAMES review and

[38] Stads, G. and Louis Sène, 2004.
[39] Aimable Twahirwa and Christina Scott in Scidev, http://www.scidev.net/en/news/rwanda-set-for-first-research-endowment-fund.html, 1 October 2008. The lack of communication between the Anglophone and Francophone world leads Scidev to state this to be the first in sub Saharan Africa.
[40] David Dickson, Europe backs African research grants project, Scidev, 6 October 2008.
[41] The member countries of CAMES include Burkina Faso, Burundi, Central Africa, Congo, Côte d'Ivoire, Cameroun, Gabon, Guinée, Mali, Niger, Rwanda, Sénégal, Chad, Togo and Madagascar.

jurisdiction was expanded, based on a proposal from Burkina Faso, to incorporate the assessment of all researchers. The benchmarks and reviews by CAMES provides an important mechanism for the advancement of researchers and professors in Burkina Faso. It also provides for a regional comparison of research capability and no parallel mechanism exists in Anglophone African countries.

72. The role of the evaluation of research performance by CAMES at periodic intervals is critical to the life of researchers and their progress in their research careers. Their several levels of researchers defined by their experience and research outputs as judged and certified by CAMES. An important test of the recent PhDs who have been trained in Sweden will be their evaluation by CAMES of the relevance and quality of their research training and outputs. In an interview with CAMES the evaluators learnt that no discussions have as yet taken place between the CMES and the cooperative research program with Sweden. It was the view of the officer at CAMES that the issues of equivalence and formal recognition between systems are best handled globally and not left to each individual researcher at the time of their CAMES evaluation.

2.3 The Research Cooperation Program

2.3.1 BACKGROUND

73. The Sweden Burkina Faso bilateral research cooperation program was launched in September 2001, with the approval of Sida/SAREC of a first phase cooperation program. As noted this followed Sweden's new policy on Africa[42] and the research cooperation built on some small grants made by Sida/SAREC and Sida/NATUR which had supported earlier work on the management of dry forests, since 1993[43]. This support had built a small network of Burkinabé and Swedish researchers who had good experiences of working together albeit in smaller and less complex project activities. The support to Burkina Faso was built with inputs from two Sida supported studies[44] and the author of the study was also a member of the Swedish team of supervisors.

2.3.2 GENERAL OBJECTIVES AND GOALS

74. The overall aim of the cooperation program is to strengthen research capacity at two Burkina Fasos institutes for higher education: Université de Ouagadougou, Université Polytechnique de Bobo-Dioulasso; and at the Centre National de Recherche Scientifique et Technologique (CNRST). The research collaboration agreement established a partnership between Sida/SAREC and the national research institutes and the two important public universities covering natural resource management, forest ecology, animal husbandry, forestry, social anthropology and socio-economics and it linked them to three Universities in Sweden. It provided for support to information and communications technology at the organizations. The prime objectives of the cooperation are to improve research capacity at the Burkinabè universities and support postgraduate training[45].

75. The program began with a meeting between Burkinabè and Swedish researchers identifying issues of unsustainable management practices, land degradation and poverty; the environmental problems of dry areas and the degradation of the ecosystems; and the consequences of unsustainable practices on food security, migratory movements and the environment.

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[42] The new policy called for an increased focus by Sweden on West Africa, recognising that earlier recognition that Swedish presence in the region was limited. Burkina Faso and Mali were selected in the region for the extended co-operation with Sweden as they were seen to be among the poorest in the region; stable politically and had shown a number of positive developments, including a move towards democracy. Burkina Faso alone has a bilateral cooperation for research and improving capacity in higher education in nation.

[43] See Rudebjer, P. 1997. Promemoria Sida notes that between 1992 and 1999, Sida supported a research project in Burkina Faso concerning the sustainable use of dry forests and this received additional funding through SAREC for 2000 and the research collaboration builds partly on these earlier experience and knowledge. See also, page 23, in Sida, 2001(?). Bilateral Research Co-operation with Burkina Faso 2001-2003. The earlier contacts led to a proposal for research support by a Burkinabè delegation to Sweden in 1999.

[44] Hagberg, S. 2001 and also 2000.

[45] This was the only clearly stated objective in the first phase approval document, Sida, 2001, page 8. There were a number of additional outcomes that were hoped for and these include the development of cross cutting postgraduate courses, funding of post doctoral research, other small research studies, some attention to the needs of ICT were mentioned. The initial Sida approval document also concluded that this was a pilot and experimental phase for the first bilateral cooperation with a country in West Africa, the first with a Francophone country, and hence it will provide a framework for understanding one another, serve to increase mutual learning and also support the Burkinabe in their efforts to increase capacity in English but the scale of involvement was limited.

76. They agreed that a multidisciplinary approach would be required and together formulated a number of projects for SAREC support. Ph.D. training and increasing staff capacity was seen as the central objective in the research cooperation. The research program was first grouped under 8 project areas and later under 11 areas, which involved the three collaborating institutions forming several multidisciplinary teams. The research proposals were assessed externally prior to the commencement of the first phase of the research co-operation (2001-2003).

2.3.3 SPECIFIC OBJECTIVES

77. The objectives of the Sida/SAREC financed research co-operation with Burkina Faso (BF) are[46]: as follows:

- To contribute to human capacity formation by training high-level scientists capable of addressing central development issues confronting Burkina Faso.
- Production of research findings related to poverty reduction.
- Good capacity for research management.
- Develop the ICT infrastructure at the Universities and CNRST.
- Open the research systems in BF to international knowledge exchange and ideas on how to organize research and research training.

2.3.4 INSTITUTIONS:

78. The support has been mainly directed at research capacity building in the country's two universities -

- At Ouagadougou and,
- Bobo-Dioulasso, and at the national research institute -
- Centre National de Recherche Scientifique et Technologique (CNRST).

79. Collaborating institutions in Sweden include:

- Uppsala University and
- The Swedish University of Agricultural Sciences (SLU) in Umeå and Uppsala.
- The ICT support has been through the collaboration of the Department of Computer and Systems Sciences (DSV), Stockholm University/KTH

80. The Financial Inputs were planned at[47]:

2001-2003 - SEK 23 million.
2004-2008 - SEK 66 million.

[46] As stated in the project approval document, Promemoria Sida, 2004 (?). Also note that in the first phase the objectives were not as clearly stated as noted in the previous footnote.

[47] The first phase budget was very roughly divided into three parts. A coordination component for SEK 2.3 million; an open fund of SEK 2.5 million; and, the balance of SEK18.2 million for 10 research projects of which only three had a budget at the time of approval. Source Sida, 2001, Assessment, page 2. As there are no further reports on the allocations and use of the resources in the first phase this is not discussed further in this report. The allocations in the second phase were clearer and are provided in Table 2.

2.3.5 ACTIVITIES

2.3.5.1 Research Projects

81. In the first period 15 PhD students were registered (11 in Sweden and 4 in Burkina Faso) and 8 students were trained (7 Burkina Faso and 1 in Sweden) towards a Masters degree[48].

82. The second period continued support for the training, to build the institutional platforms to promote research, and build an ICT infrastructure. It increased the plans for the number of PhD students (including continuing support for those 15 who were partially completed) to 22. The research and capacity building activities supported by Sida are distributed along three main themes – ecology, animal husbandry and socio-economic issues[49]. [50]

2.3.5.2 ICT

83. SAREC has found that good use of computers and access to the Internet are prerequisites to improved higher education and research. Since 1998, SAREC has supported projects to build or strengthen the ICT infrastructure in the organisations, mainly Universities, with which it has bilateral partnerships[51]. In Burkina Faso it was anticipated that improved Internet access could reduce the barriers to expensive journals and serve a number of additional functions. At the end of Phase I (2003), an ICT Policy and a master Plan were completed by CNRST and the two universities (UO and UPB) through Swedish support[52].

84. The plans envisaged an improved communication system for the institutions that makes for better communications between researchers and support staff by phone and e-mail; an improved a website as a communications and dissemination tool on research activities; access to research data bases and documents; support ICT tools for training and distance education; increase capacity among users to make use of applications; computerized management information systems for materials, students and academic staff, human resources, finance and accounting and to manage research projects and activities; and to improve data security and control systems. The ICT support provides for connections between the research institutes, the universities and the field stations in Burkina Faso, and should also improve the contacts with foreign institutions. SEK 12 million was allocated to this component[53].

2.3.5.3 Local Research Fund

85. This was a major new initiative in the second phase of the cooperation but not fully formulated in the project documents[54]. A local research fund was suggested by Sida to serve a number of

[48] See complete list in Annex 8.
[49] The initial proposal from Burkina Faso had five, three and two research projects, a total of 10 projects, proposed in the three areas, source Sida, ISATSPROMEMORIA, 17 April 2001, page 7. Some did not progress to completion.
[50] There are some discrepancies in the Sida documents. The Promeoria, approval document of 2004 lists 11 project areas, one in social science, three in animal husbandry and seven on agriculture, forest and environment and an output of 15 PhD student and between 15 to 19 to receive Masters training.
[51] Greenberg, A. and Americo Muchanga, 2006.
[52] It is presumed that this used the SEK2.5 million set aside as open funds in Phase I, see footnote 44.
[53] This was a subset of the proposals made in the master plan of 2003. The complete implementation of the Master Plan was estimated to cost almost four time as much and was considered too large.
[54] The first phase had discussed wider objectives of the development of cross cutting postgraduate courses, funding of post doctoral research, other small research studies, but these were never supported as far as it can be ascertained. Funds from the open funds were used to pay some small activities including a female master's student in Sweden; one workshop of research supervisors; scientific committee meetings and some English courses for new PhD students and the coordination staff.

possible purposes: for post doctoral research at the universities in Burkina Faso, for small research project grants, and possibly to remedy access by women – where research grants could be used to finance female students to pursue Master's training and thereby facilitate their recruitment into PhD programs in the future. It was suggested that the same fund could be used for developing "crosscutting courses and thematic research programs for graduate students" and that the fund was a prerequisite for the sustainability of the program in the short run. It was also hoped Sweden could assists in an update and revision of the Strategic Plan for Scientific Research in Burkina Faso previously undertaken in 1995[55].

2.3.5.4 Management and Coordination

86. The research program was designed to be managed by a steering committee, an implementing committee and a co-ordination unit. The steering committee is composed of the heads of the three participating organisations and was to meet twice a year. This was to define the policies and the general philosophy of the program and to ensure a follow-up and evaluation of the project activities. The implementing committee includes the supervisors in charge of the research projects and the co-ordinator with the mandate to ensure that the objectives of the projects are fulfilled and to plan joint workshops, meetings and seminars.

87. A co-ordination unit was established at CNRST, with the CNRST director responsible for international cooperation designated as the coordinator. This office was responsible to organise and coordinate all activities, to distribute funds, support the two committees above, and provide feedback and periodic reports on the progress of the over all project together with its various components[56].

2.3.5 INPUTS

88. The table below shows the resource allocation to each component of the cooperation activities. The research projects were allocated 41% of the support, the ICT component – 21%, local research fund – 12% and for management and coordination the sum of 2%[57].

BUDGET 2004-2008	SEK						
	2004	2005	2006	2007	2008	Total	%
Co-ordination Unit	200,000	400,000	400,000	400,000	400 000	1,400,000	2
Local Research Grant	-	1,000,000	1,000,000	3,000,000	3,000,000	8,000,000	12
Project support	800,000	136,000	8,600,000	9,000,000	8,600,000	27,136,000	41
ICT	1,000,000	6,000,000	5,000,000	1,600,000	-	13,600,000	21
Total	4,000,000	21,000,000	15,000,000	14,000,000	12,000,000	66,000,000	100

Table 2: Allocation of Sida Resources 2004-2008 (Source: PROMEMORIA SIDA, Sida 2004

[55] The possible uses of the research fund allocations are taken from PREMEMORIA Sida, 2004, pages 19 and 26.

[56] A fundamental error in project design was made at this point in order to counteract potential imbalances between the partner organisations in Burkina Faso. "CNRST hosts the co-ordination unit, which could be seen as further strengthening of an already strong institution. However, very limited resources will accompany this responsibility to the CNRST and should not contribute to the existing financial imbalance. The management of the project is carried out by all involved institutions acting as equal partners in the steering committee and in the implementing committee. It is assumed that the joint activities planned for the scientific committee along with gatherings of all participants, Burkinabè and Swedish will improve the inter-institutional collaboration." Promemoria Sida, 2004, page 22, 5.2 on risks. The direct resources for coordination in the second phase was reduced to SEK1.4 million from SEK2.3 million in the first phase for an activity that had doubled in its time frame and almost tripled in budget, which in retrospect is a stunning design oversight. Sida has pointed out that there were additional funds within the subprojects available for management, see below.

[57] There was a sum of 10% in each research project for overheads and 5% for contingencies or an additional sum of 3.5 million SEK potentially available for management and coordination also. If this is included, which Sida believes is more appropriate, the figure for all management increases to almost 8%.

2.3.6 OUTPUTS

Sida defined the anticipated outputs to include:

A. Research capacity outputs
   1. Research Training
   2. Research Management
   3. Research Infrastructures
   4. Local Research Funds
   5. Research Activities (project plan)
   6. Research Policy and Reforms

B. Research results
   1. Publications
   2. Research Meetings
   3. Curriculum
   4. Dissemination
   5. Innovation

C: Other
   1. ICT infrastructure and capacity
   2. National study and strategy development for R&D

89. In the area of research policy and reform, there were a number of activities that are not fully specified. But possible ideas suggested to improve research management capacity and to strengthen coordination, included workshops for administrative personnel and academic staff. Efforts were to be made to support the development of a new strategic plan for scientific research in Burkina Faso, previously undertaken in 1995. Finally, the application of research findings to alleviate poverty was to be achieved by improving linkages with the productive sector, promoting dissemination of research and finding ways to assist people to implement the research findings. These components above, supporting the different outputs, are to meet the ultimate objectives of Swedish cooperation to help improve sustainable economic and social development and improve the living conditions of the poor.

2.3.7 MONITORING AND EVALUATION

90. In the first phase approval document, it stated that there would be a peer review committee to monitor the scientific quality of the project. It also stated that in order to maintain the quality of the overall program and increase learning there would be a monitoring team involved throughout the project. And a management review was proposed to cover all participating institutions at the beginning to review issues requiring attention[58]. Unfortunately these ideas appear to have been dropped for reasons not stated.

91. In the second phase these ideas were not revived. It is stated instead that Sida intended to follow the progress of research cooperation through annual and biannual review meetings. It was planned that an externally audited report would be submitted to Sida in support of the annual review to provide the "basis for the financial follow-up". Progress was to be judged based on achievements in capacity building and the production of research results. Sida prepared and shared with the project participants an excellent template for reporting on inputs, activities, research results and other outputs. There were no plans for external reviews of the project to monitor progress and challenges or to review changes in circumstances and deviations that might require attention or adjustment.

[58] Sida, 2001, pages 8 and 9.

2.4 Key Developments

In 2008 the project showed the following picture of disbursements:

Budget and Actual Expenditures SEK			
	Revised	Actual 2005-2008	% Budget to actual
Coordination Unit	1,800,000	363,155	20
Local Research fund	8,000,000	500,000	6
ICT	14,000,000	3,540,923	25
Proj 1	2,195,875	1,143,756	52
Proj 2	2,509,280	2,493,670	99
Proj 3	2,150,869	526,035	24
Proj 4	3,821,000	1,584,000	41
Proj 5	4,592,599	3,321,537	72
Proj 6	2,355,141	1,178,996	50
Proj 7	1,974,000	1,034,500	52
Proj 8	4,164,700	1,944,800	47
Proj 9	1,457,680	1,018,030	70
Proj 10	1,994,958	1,071,600	54
Proj 11	3,844,717	2,516,997	65
Total for projects 2008 Special measures	8,600,000	7,529,465	
Swedish Institute, Sida Office, Special Audit			
TOTAL	63,460,819	29,767,462	47
Source: Sida			

Table 3: Budget and Expenditures, Phase II
Source: Sida documents

92. Sida had started and prepared well for the cooperation project and had taken an excellent step in planning for its increased investments in Burkina Faso. It had contracted Uppsala University to first analyse the issue of poverty in Burkina Faso and Sida/SAREC had supported a study to survey the state of research, higher education and funding in Burkina Faso. This knowledge together with earlier very small cooperation activities provided the kernel of Sida/SAREC's first research cooperation project in Francophone Africa.

93. In October 2003, CNRST, the main coordinator of the research program was invited by Sida to prepare applications for continued support in a second phase. In January 2004 at an annual review meeting in Burkina Faso, the progress of the co-operation and its future was discussed. In March 2004, the CNRST, OU and UPB together presented a proposal for continued research co-operation for the period October 2004 to December 2008.

94. The research proposals included the eight ongoing projects (they had been assessed externally prior to the first phase 2001-2003). For the period there were 8 new projects and they were assessed in-house at SAREC. Out of the 8 new projects, 2 were rejected because of the view that they were not well formulated, leaving six[59].

95. For the second agreement period, 2004-2008, an application to support Information Communication Technology (ICT) at the "Centre National de Recherche Scientifique et Technologique" (CNRST) and the two universities was submitted to Sida by CNRST. The proposal for ICT support concerns mainly the connections between the research institutes, the universities and the field stations in Burkina Faso.

96. A number of organizational problems and misunderstanding between the main partners, in Sweden - Sida/SAREC, and in Burkina Faso represented by CNRST, had become apparent as the second phase was begun[60]. There were a number of adjustments to the processes including

[59] That should have resulted in 14 research projects but as three of the proposed projects were folded into others, there were a total of 11.
[60] See Promemoria Sida, 2004 for a number problem areas as well as of statements about basic information on Burkina Faso rules, regulations and procedures, germane to the project about which Sida stated that it lacked full knowledge and understanding after three years of involvement in Phase I.

fund flows, student visa, English training, each of which improved and resolved difficulties. But the two partners did not resolve the issues related to the overall management and coordination of the program. CNRST requested and Sida agreed to provide a small additional amount of resources for project coordination, which would support the hiring of one local staff assistant. This was inadequate and the assistant, hired after considerable effort, left within a few months[61].

97. It appears that at some point in 2006, the project expenditures for the period 2003 to 2005 were audited by Deloitte & Touche[62]. This audit found that a little over 55 million F. CFA worth of expenditures did not have supporting justification. This triggered a series of set backs to the project that are not fully resolved at this time. To the questions of Sida as to how CNRST managed its responsibilities for financial management, the CNRST responded that the problems are at the universities and it has no legal authority to oversee the internal management of two legally independent organisations. Sida argued that CNRST was in fact responsible to Sida, as it had signed a legal agreement with Sida. Sida then withdrew all management functions and further funds transfers to CNRST. In the meanwhile there was a rejoinder from Burkina that the 2006 audit was in error and there were supporting justifications for much of the expenditures. A new audit by Ernst & Young in 2007 reported that in fact the unjustified expenditures cannot be stated as 55 million F. CFA but are a little over 20 million F.CFA[63]. The unjustified expenditures are all assigned to activities undertaken at UO.

98. Sida made a number of praiseworthy efforts to ensure that the funds continued to flow for the PhD students and that their progress was not jeopardised. For this the Sida local office in Ougadougou was pressed into service for making the many small ongoing payments for local field work, student maintenance, equipments and so on. This created considerable demands on the resources of the local office to undertake this task on an exceptional basis for which it was not staffed. Sida also requested, following its strong stand on anti corruption, that the unjustified amount be returned before the other elements of the project could move forward. But none of the partner organisations believed this demand to be either reasonable or feasible leading to a stalemate for a period. Finally through the interventions with high level officials and ministers[64] Finally in mid 2008 the government of Burkina Faso announced that given the importance of this cooperation program to the nation it has decided to reimburse Sweden for the disputed amount of 20 million F. CFA and it did so a few months later. It was then unanimously decided by the local partners that CNRST will no longer be responsible for the other two institutions and three separate agreements were made, by each local institution independently with Sida. This process was underway when the evaluation was started. Until the conclusion of the evaluation there has been no formal or legally constituted local coordination nor is it clear how that will be reconstituted keeping in mind the local reality and Sida policy philosophy as stated.

[61] The level of micro-management by Sida of the details in the hiring of the assistant as exemplified by the correspondence between the local coordinator and Sida clearly violates both philosophical principles and practical management rules but Sida believed that was required to do so given the administrative difficulties that had plagued the activities.

[62] The project agreement called for annual audits of expenditures by an independent auditor. Annual audits had been conducted for 2002 and 2003 and seen by the evaluators. But still there were unresolved questions regarding the earlier expenditures, which required a new audit in 2006, focused on the years 2003-2005 inclusive. See Deloitte & Touche Burkina, 2006.

[63] Ernst & Young, 2007. The UO provided some explanation as to why the supporting documents for the years 2000-2004 were unavailable in their entirety and hence the University could not present any documents. For the convenience of readers, the original disputed amount was approximately one million SEK or over one hundred and thirty thousand USD and the final amount was approximately five hundred thousand SEK or sixty five thousand USD.

[64] Meetings and representations were made by Sida, some supervisors and most notably by a group of PhD students and newly formed Burkina Sweden Association. It is not possible to state which intervention had the most result and most likely they all complemented each other.

99. Ironically for the objective of letting the Burkinabè have full control of the program – the program started in the first phase, as designed by Sida, with the Burkinabè partners having full control of the program, and it ended by the beginning of the second phase with the Burkinabè having no control of the program mainly because of the escalating local administrative challenges. Initially the entire budget was transferred to CNRST, the Swedish institutions were asked to negotiate with the CNRST and all decisions were to be made by CNRST. This did lead to some highly inefficient processes whereby the money was first transferred to Burkina, converted to F. CFA and then transferred back to Sweden and reconverted to SEK. Similarly in the very early period the living expenses for the students were converted from SEK to F. CFA. That was then was reconverted to Euros that the students carried in cash with them. They then deposited that to new accounts in Sweden in SEK. But the principle of local autonomy increasingly ran afoul of the poor processes and controls within CNRST and partner Universities (see paragraphs 149-159 which discuss these in detail). In the end the entire expenditure for 2008 was handled by Sida in Sweden and in the local office, a situation completely against Sida philosophy. The choices were made by Sida as it increasingly felt that its counterparts had not lived up to the agreements made. Retrospectively neither partner was ever fully aware of each others processes and constraints, which then led to a series of misjudgements on both sides. Operationally, within Sida, there appeared to be an ongoing conflict between several excellent principles[65] and a propensity to allow principles to override practical issues and local context[66].

100. Similarly philosophy appears to have over ridden the needs of the local context, particularly with respect to the ICT project and to the question of coordination. In answer to the question as to whether Sida/SAREC, first, at the design stage of the first phase consider a stronger coordination component[67] or did it consider redesigning the coordination component subsequent to 2003 when the issue was raised formally by supervisors in 2004, 2005 and 2006, again recourse to sweeping declarations appear to have replaced any concern for the actual conditions and for solutions that keep both the context and the philosophy in congruence. The evaluators do not believe this answer is a satisfactory one and Sida must find practical solutions for its projects in LICs if it wishes for greater efficiency and effectiveness.

101. Finally at the end of 2008 the actual financial inputs for Phase II remain at 47% of the planned level, see table 3 for details. The actual inputs to coordination has been a meagre 20%

[65] Here the conflict is between the principle of local management and control versus efficiency, speed and appropriate management controls to ensure effective use of resources provided by Swedish tax payers. Also note below.

[66] The nature of difficulties in the management and coordination of the project were clearly noted starting in 2003 – these are recorded and noted in Sida staff reviews, in supervisors meeting notes, in supervisors annual submissions to Sida, too numerous to detail here. It is noteworthy for the fact that almost all difficulties are on record and yet the two sides could find no arrangement that could resolve the fundamental problem of not having an effective Burkinabe project coordinator and management over a four-year period.

[67] The evaluators asked whether an independent, Burkinabe staffed and locally managed project management office was ever considered as an alternative to making do with an ad hoc arrangement with CNRST with their ex-officio co-ordinator of all international activities, responsible for project management of an activity that was many multiples of his normal and day to day work, without any considerations of the other ongoing demands of the office and the resources available for the purpose of supporting the Sida funded activities. The response by Sida/SAREC was "This issue was raised years ago but Sida objected to the idea. According to Sida we are not allowed to create our own structures in a recipient country. In accordance with the Paris Agenda, all donors are supposed to use the available national administrative structures. We have however, offered to finance a position at the CNRST to assist the coordinator. A woman was employed but she left after few months due to the poor salary structure at the CNRST." It adds that "Sida was not allowed (by the CNRST) to offer a higher salary. For the CNRST, it was vital that we adhere to the prevailing salary structure at the research institute" – and in the Sida view a project management office "violated principles of equity, ownership, respect for local structures, etc." The evaluators consider this too simplistic. Any donor support, ipso facto, violates some element of the local structures and processes. The end result was much greater violation of local autonomy than to have a local management team, fully paid by the project. This issue of appropriate management and coordination for the future was discussed extensively at the final presentations in Sweden and Burkina Faso and the recommendations that emerged are discussed in paras. 195-199.

of the already miniscule 2% that had been allocated to help bring about a number of larger outcomes from the second phase of cooperation. The new activities planned in the second phase – ICT is likely to be at 10% (not 25% shown) and for the efforts to create a local research fund[68] is at 6%. Essentially there has been too small a level of inputs to begin to expect any outputs and outcomes from these components, though even for these tiny expenditures there have been some small and positive outputs commensurate with the inputs.

102. Within the 11 research, training and capacity building projects, the range of inputs are all much higher ranging from 50 to 100% but still the overall average is possibly around 60% of the target[69]. It will thus not be surprising to find the distribution of out puts commensurate with the distribution of inputs.

[68] In developing the plans and structure for the local research funds it will be useful to examine the experiences of Sida/NATURE which has provided support to a water and rural development local fund at the Ministry of Environment. It will also be useful to examine the experiences of a World Bank supported local research fund established in 2000.
[69] It is not possible here to disaggregate the information on inputs by projects given the information available.

3. MAIN FINDINGS

3.1 Outputs

103. A full and complete description of research, training and capacity out puts is provided in Annex 8 with a shorter summary here. Out of the 22 Burkinabè participants, enrolled in the PhD program, to the end of 2008, 13 Burkinabé PhD students had defended their thesis (one in 2006, seven in 2007 and five in 2008). By the end of February 2009, the total number of defended thesis will be 15. Almost all of them are in Burkina Faso with no known issues of "brain drain" and almost all of them are employed in teaching and research at the national institutions.

104. The thesis completion dates suggest a remarkable success rate. The students have often completed their PhD in 4 and in some cases 5 years, considering that 4 years is the normal rate for completion of Swedish students. Their capacity, dedication and hard work are remarkable given that most of them (if not all) had to learn English before they could participate in the Swedish program. And for all Sweden was a completely new place and they faced new ways of working. They also did their field work in Burkina Faso and suffered from many delays due to the administrative difficulties discussed elsewhere. It also speaks well of their supervisors' dedication to the individual student participants, the process of selection of the PhD students and their prior training in Burkina Faso.

105. The publications count is 131 entries[70]. Not surprisingly, no work was published during the first two years of the program. The first publication appears in 2003, followed by two publications in 2004. Logically, the number of work published and of presentation of papers to conferences (including posters) increases in the following years as more PhD theses are defended. In 2007 it reached 17 and in 2008 there were 16 publications (see Figure below).

106. Publications in scientific journals are the main outputs with 64 publications altogether during 2001 and 2009 (cf Table 1). Among the 2009 publications four are in press and 13 have been submitted for publication with good likelihood of acceptance. Whether all PhD Burkinabè will continue to publish in the coming years after resuming their work in Burkina Faso remains to be seen but we have already good indications that it is the case. Burkinabè scientists who defended their thesis in 2006 and 2007 continued to publish during 2008 and 2009. The mean number of publications per participant into the program (3,37) by itself is an outstanding achievement given that nine of them are yet to defend their thesis as of today and that one (anthropologist) has published a book based on her thesis work, contributed papers in four workshops and conferences but no publication.

107. The most visible and prolific scientists in the group are those who defended their thesis earlier in the program and who co-publish with other participants in the program. A typical and rather unique case is the tandem Didier Zida and Patrice Savadogo and to a lesser extent Issa Ouédraogo and Patrice Savadogo in research project Vb later numbered as XI. Taking co-authored publications into account, the top two participants in the program, Didier Zida and Patrice Savadogo, are respectively credited with 16 and 26 publications!

[70] Out of the 22 Burkinabè participants, 19 have sent their publication outputs. For more details on methods and data see Annex 8.

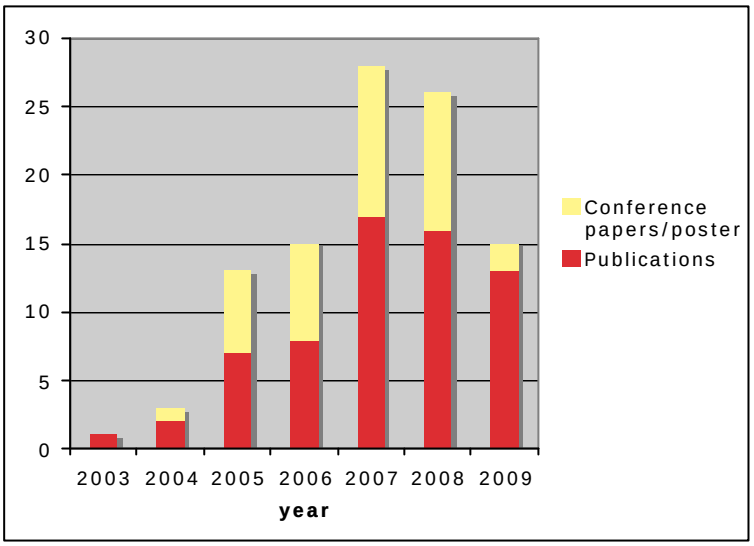

Figure 3: Chronology of Publication outputs (2001-2009)

108. English is by far the lingua franca of publication. Only 6 out of 64 (or 9%) are in French. It is another outstanding achievement of the program. Not surprisingly, PhD students enrolled in Burkina Faso tend to publish more in French, although most of them would also publish in English. There are two exceptions of participants in the program publishing and communicating only in French (one being enrolled at Ouagadougou University and the other one at the University of Uppsala).

109. The number of Conference and poster presentations (27 and 10), one book, and one note for extension services also speaks well of the effort to disseminate the findings. The PhD students all spoke during the interviews of additional plans to disseminate the results of their research in Burkina Faso so it can reach users.

110. The 64 publications have been published (or are being submitted) to not less than 44 journals (see Table 3 and 4) out of which four only are local national journals. Journals of publication are, on average, high quality journals, but not necessarily very high impact journals. Impact factors and their related tools and possible uses are however recurrently discussed in the scientific literature and have been the object of a lot of criticisms leading to subsequent corrections of the impact index. They most often measure the attraction and the visibility of published articles, and not necessarily its quality. When it comes to quality alone, we take for granted, given the close supervision by senior and internationally recognized scientists, that the 64 publications are of good quality. Regarding their potential impact, overall, articles published by developing country scientists are less cited than those authored by leading scientific countries. A number of reasons contribute to this bias, of which most have nothing to do with quality. All outputs recorded in Annex 8 (mastering English, number of PhD completed, mean number of publications and papers presented at conferences, etc.) point to the main outstanding achievements of the program. The table below summarizes the research capacity outputs as defined (see 2.3.6) and as actually achieved:

	Research Capacity Outputs as Defined	Evaluators' Judgments
A.	Research capacity outputs	
1	Research Training	Excellent
2	Research Management	Variable across research projects. Ranged between excellent for many to poor for a very small number. Overall quality good to very good.
3	Research Infrastructures	Significant to those facilities where researchers belonged
4	Local Research Funds	Remains at design stage
5	Research Activities	Very good. Some opportunities for synergy lost
6	Research Policy and Reforms	Little direct contribution.
B.	Research results	
1	Publications	Outstanding. Relevant
2	Research Meetings	Some.
3	Curriculum	Great interest but little contribution yet.
4	Dissemination	Modest and has begun.
5	Innovation	Yet to start.
C:	Other	
1	ICT infrastructure and capacity	5-10%
2	National study and strategy development for R&D	not started.

Table 4: Defined and actual Outputs and Quality

3.2 Outcomes

111. An important outcome of the program refers to the total number of scientists involved in co-authoring the 64 publications and 71 authors. This goes well beyond the number of participants and supervisors involved in the SAREC cooperation program both in Sweden and in Burkina Faso. Co-author names also indicate that supervisors, overall, are keen on sharing the reward of publishing with their Burkinabè students. We also know from the many interviews conducted that they greatly contributed to improving the quality of the papers through guidance and advice. This is also a very important part of the learning process and a good indication that this learning process has been successful. At the end of the process, it is a true win win operation. Here again, a particular group is standing out as the most visible and the most productive, notably participants and even more the supervisors involved in projects 2, 5 and 11. Thus, two supervisors in 5 and 11 are both credited with 30 publications each and one assistant supervisor with 29 publications. The two Sweden-based scientists are also the two supervising the highest number of Burkinabè students in the program. The research cooperation program is distinguished by a collaborative approach. Collaborations occur in both multidisciplinary (including several researchers from different projects) and trans-disciplinary ways (each project incorporates an approach based on multiple disciplines). The collaborative approach that enables teams to work together and benefit from the lighting of each other, thus the approach of modern science.

112. Supervisors and students that were interviewed unanimously praised and stressed that program characteristics and provided examples of insights from other disciplines. The program has succeeded in creating a spirit of friendly exchanges among those engaged, even when belonging to different organisational structures. They stressed the value of learning together, to share information, and build networks. The program has fostered interaction between projects and institutions. As a result the program has laid the groundwork for an intensification of exchanges in the area of training and research within Burkina Faso.

113. The program provided an opportunity for Burkina Faso researchers, especially the students, to learn a new way to design and prepare for their PhD. In Burkina Faso, the older French (and common elsewhere too) tradition of the thesis is universal. In this the student/scholar usually takes a single "deep" problem that is analysed and reported upon as a single monograph. In the modern Swedish system (also adapted in many countries, especially in the sciences) the thesis research is first presented within a general problem, then broken down to sub problems, experiments and a report for each defined sub problem. This leads to a number of advantages – easier monitoring of student progress, greater efficiency in the degree process, and most important, a series of research articles/papers that can stand on their own. Thus, most of the PhD's were required to produce two to four refereed and published articles as a condition of their PhD degree[71].

114. Without debating here, the scientific merit of this or the more traditional approach, what can be said here, is that this new approach from Sweden, transmitted through the students, is an innovation in the Burkina Faso research system with a high potential to boost national research outputs and thereby a new way to enhance the research.

115. The Swedish approach, both culturally and expressed in the academic context - seen by the Burkinabé participants to be both more pragmatic and with low hierarchy, was often mentioned as a breakthrough for the Burkinabé who are keen to promote these characteristics. "What attracted me is the pragmatic approach of Swedish. In addition the system is flat, with low hierarchy. It really changed my ideas. " The program has produced changes in the research system of Burkina Faso by changing ideas within a small cohort - "We learned a lot from the Swedish work, seriousness, humility, egalitarianism ...."

116. The program allowed the students to master the English language[72]. This is an achievement in itself that is very important given the increasing domination of English as the language of world scientific communications and publications. The access to English has considerably expanded the field of scientific information and exchange of the cohort of students and gives them new opportunities for learning new methods, new approaches and new scientific knowledge. It allows them to discover the work done in other tropical countries, which share with Burkina some natural or social characteristics, as in Anglophone Africa, Asian and sometimes South American countries. It multiplies the opportunities for scientific exchanges

[71] It must be noted here that this is not universal in Sweden and it is not the only method and that the requirements for the minimum number of published papers varied even within departments of the same University. It should be also mentioned that two PhDs produced the more traditional monograph, one in social science and the other in biological science.

[72] A number of students mastered the English language under a brutal regime of "sink or swim" as they neither knew enough English nor did they have an opportunity to learn the language before starting their regular classes. Many Sweish supervisors have stressed the amazing motivation of the students that they survived and also succeeded. Many got more formal and structured opportunities to improve their English language skills before the classes began. A number of them were able to use a period in Ghana to immerse themselves in the language and thereby increase their skills greatly. A few supervisors with weak English regretted that they could not avail of such support.

and meetings. For Burkina Faso, access to the English language is one of the strategic outcomes of the program.

117. The positive outcomes are not restricted to Burkina Faso but have accrued to Sweden as well, a factor in Sweden's policy. The cooperation has allowed the fairly small group of Swedish experts on natural resource systems and also those with some experience in Burkina Faso to continue to build on their expertise. This is a valuable expertise for the Swedish researchers to access and build upon the specific expertise on dry tropical agriculture, natural systems and the society. With climate change, some of the expertise can be valuable to Sweden and also to Sweden's foreign policy agenda. The cooperation with Burkina Faso provides an opportunity and platform for Sweden to engage more deeply in science for development in the West African region, especially in the Francophone countries, in collaboration with their Burkinabè partners.

118. The program has provided a tremendous opportunity to strengthen human and scientific relations between the two countries. The Burkinabé students and alumni of the program, in partnership with Swedes, have revived an association for Burkina Faso-Sweden friendship, which had become moribund many years earlier. The association has set itself the objective of working to strengthen ties between the two countries. And the association distinguished itself by taking up the achievements and problems of the project with the highest level authorities in the country, to see that they remove obstacles, solve some of the problems and ensure the continuity of cooperation[73]. They also requested the government to reimburse the disputed expenses so that the program could resume. At the time of the interviews, they were preparing for a television broadcast on the subject of the research cooperation.

119. While Sida has wished to and designed the cooperation program to support participatory processes and increased collaboration between natural and social sciences, unfortunately, with the many difficulties encountered the collaborative processes and wider impacts on the organisations and national knowledge system has been potential that remains unmet. While much more could have been achieved, there have been a number of useful outcomes - improved networks and cooperation that were observed, which provides a positive foundation to build on.

3.3 Gender

120. Promoting gender equality between women and men Sweden and in partner countries is an important goal of Sweden's domestic and development cooperation policy. This is also Sida policy[74]. It has been mentioned in the background to Burkina Faso that there are considerable gender disparities in education though they ratios are improving steadily. It will take time to increase the ratios females to male in higher education and research.

121. The research co-operation program provided for specific measures to compensate for the existing imbalance through several steps. One was through the local research fund where priority would be given to female students in the award of research grants for writing Master thesis. Sida hoped that this measure would increase the pool of qualified female Masters students for the PhD program. Second, Sida also provided for a "Gender Dimension Program Committee" and a "Gender Management Committee" in the Universities in Burkina Faso, which

[73] They received an assurance from the Prime Minister that he would take an interest in the program and will do his best to solve the problems.
[74] Sida, 1997. Promoting Gender Equality between Women and Men in Partner Countries.

were to be encouraged to expand gender research, gender mainstream the teaching curricula and undertake gender sensitization at the universities.

122. Unfortunately as the local research fund has not yet been operationalised it could make no contribution to this dimension. Mention has been made by one of Burkinabé coordinators and in one annual report that some gender sensitization workshops were held. But no further details on this are available and none of the reports make any mention of the efforts or the outputs in this dimension.

123. There are five females of the fourteen participants who will complete their PhD by the first quarter of 2009 or 36%. In the remaining 7 candidates who are anticipated to finish later in 2009, 2 are female (29%). The over all anticipated total is 7 female PhDs and 14 male for a ratio of 33:67.

124. Among the Masters students the data is more uncertain but we estimate that of the twelve participants 5 are female for a better female to male ratio of 42:58. Two female participants confirmed the fact of the program intentions to provide additional opportunities for female participants during interviews. One mentioned that she had options of applying to another competitive grant for PhD and decided that her chances in the Swedish supported research would be better given the objective of increased female participation.

125. It is also a positive finding in the interviews and in the examination of the outputs that the female participants have performed as well as the male participants in terms of completion rates, speed of completion and research outputs.

126. It is unfortunate that the two main measures for greater support for gender balance, namely the local research fund and the project coordination have suffered during the entire period 2005-2008. This provides another reason to expedite solutions to these two components as recommended in this evaluation.

3.4 Efficiency

127. There can be several different estimates for efficiency. At one level, for the limited resources actually spent compared to the budget to obtain the outputs appear outstanding[75]. On this measure the program can be considered highly efficient. Similarly the program can be considered efficient, in misguided view of efficiency, under the criteria of "lean overheads" where the resources used directly for management are well below one percent[76]. It is unfortunate that too often programs are held to such misguided efficiency standards in their design and review.

128. Another measure efficiency can be the actual delivery of the inputs to the program compared to what was planned. At below 50% of the inputs provided the program would be considered inefficient. If one adds the fact that the inputs towards the local research funds, ICT and local coordination were in fact complementary inputs to ensure better utilization of the

[75] A rough comparison with other older and more established Sida/SAREC bilateral research cooperation program suggests a very high production of trained PhDs and Masters and also research outputs to the funds invested. See Boeren, A. et. Al, 2006. Sida/SAREC Bilateral Research Cooperation: Lessons Learned, Sida Evaluation no. 06/17, 2006.

[76] It must also be noted here that this figure of one percent represents only the money spent on local coordination. It hides the expenditures made through the Swedish institutions to support the students as well as the significant expenses incurred by Sida staff especially at the local office in direct management of program expenditures.

capacity built then the program would be considered highly inefficient. This last judgement must be seen in the context of the many impediments faced by the cooperation program and does not negate the many positive achievements discussed above.

3.5 Effectiveness

129. It is the judgement of the evaluators that based on the outputs of the main objective – training, research and capacity building in Burkina Faso, the project has been very effective.

130. Unfortunately, if the criteria were widened to encompass all the different objectives, which were stated for the project, in the two phases, shown in Table 4, it has to be said that the effectiveness has been highly uneven across the range of outputs and outcomes. Some elements have been highly effective while other activities simply did not take place due to implementation challenges.

3.6 Relevance

See discussions below on question 2.

3.7 Sida Questions

Sida has specified the following questions for the evaluation in the TOR and some of the findings are organized according to the list provided by Sida:

1. To what extent, at a general level, have the support to the two universities and the CNRST reached the general objectives of the research co-operation between Sweden and Burkina Faso.

131. The program has moved very positively towards achieving its first long-term objective, namely, generating a critical mass of qualified researchers in selected areas. It has stirred up interest in improved management of research by the debate and controversy it has generated. It has brought attention to the heavy bureaucracy and the slow administrative systems.

132. It has supported the incipient development of a more coherent and collaborative system of research, exemplified by the collaborations within the 11 research projects between the three institutions of the country undertaking research and teaching in natural resource management.

133. The achievements of the first objective are rated as outstanding.

134. It has also produced results that *could* contribute to poverty reduction; created the conditions for mutually beneficial cooperation for both countries; not established a permanent research strategy through the establishment of a National Research Fund; partially disseminated research results in both the scientific community; and it has not addressed any new strategic research themes earlier planned.

2. Analyse and describe the relevance of the research projects in the program to the development goals of Burkina Faso especially in light of the aim to reduce poverty in the country.

135. The importance of improved natural resource management in Burkina Faso based on its climatic, resource and economic profile has already been discussed (in pages 10 and 11). The fact that the government of Burkina Faso has emphasized the need to strengthen the agricultural sector in order to improve the income and welfare of the people; achieve food self-sufficiency and food security notably in agro-pastoral and forestry products; and that improved management of natural resources is one of the priorities established in the national PRSP (2002) add to the relevance of the area of research chosen.

136. At the same time it should be noted that in theory and practice, not everyone agrees that improved natural resource management is the optimal route out of poverty. Some would argue that even if it were, that there is no need for research on the topic as enough could be known already to take actions to ameliorate the situation and finally, even if there is a need for new knowledge it may not best be undertaken in a poor country such as Burkina Faso. Finally, a larger group of people can concede all the above points and still believe that research should not be supported through the ODA envelope as there are other priority needs that must first be met.

137. The evaluators disagree with the simple views of the lack of relevance of research in poor countries as a part of their development. Our view is that the productivity and state of natural resources is a complex outcome of the natural environment, the balance between different uses, their intensities, the techniques of production and management, and social, micro and macroeconomic factors, and policy. While the underlying scientific basis – fundamental properties of physical and biological processes and human behaviour *can* be considered basic knowledge that do not require research, the local causes and their manifestations will always require local research capacity. Socio-economic causes, their actual manifestation and complex interplay can only be understood by building local knowledge capacities and resources[77].

138. Among positive dimensions of the Sida support is that the program included animal husbandry which is important in Burkina Faso, and, which often has received less attention in earlier programs of Sida[78]. The projects are ultimately in good harmony with the objectives of the research in Burkina Faso. The scientific results obtained do not deviate from the objective they should all being potentially relevant to development.

139. Obviously, the objectives in terms of achieving measurable impacts on development are more difficult to reach, and also to measure. The application of scientific results in the development involves many other actors and inputs, normally beyond the power of the researcher and the research institutions. It requires the mobilization of a number of complementary factors - the users and producers for one, governments, financial institutions, and development support organisations such as Sida among others.

140. As the development dimension is a requirement of the program, students and supervisors do what is within their capacity. Some have reached out to educate farmers, and people on the techniques of conservation of natural resources or improved animal husbandry. Some students have produced, in addition to scientific articles, fact sheets available for development, and these are also a requirement of CAMES.

[77] As Sida 2004 states - Knowledge about drylands and causes of desertification is still not satisfactory and these issues are more important for poor countries such as Burkina Faso and will not emerge from outside.

[78] Rudebjer, 1997 (p. 2 and 3) mentions that animal husbandry had received less attention in the reviewed Sida programs and were a necessary part land use and need to be factored in to management practises for reversal of land degradation, to increase farmers' income and reduce unsustainable environment practices.

141. Although often and in Burkina Faso, the interest of users of research remains relatively low, in many cases the program has begun a process of feedback from users and some are beginning to use the skills available in the program. There are many cases of user interaction, interest and use, in small ways, in each program.

142. The relevance of the research program is judged to be very high. It could be more relevant by the inclusion of wider disciplines and by introducing complementary activities such as the delivery of improved training programs locally.

3. Analyse and describe the relevance of the program in relation to other developments of research and research training at the universities and the CNRST, including funding from other donors, external training (full time scholarships).

143. The program has provided an opportunity to strengthen the participation of Burkina Faso researchers in the international scientific community. It has increased opportunities for exchanges and scientific meetings with colleagues working in the same fields, and participation in seminars and conferences at the international levels and in the region.

144. Program participants have been successful in raising research funds with proposals in competitive research grants and from other research donors, including Denmark, the European Union, IFS and IDRC.

4. Analyse the present situation of resources (both human and instrumental) for research at the participating institutions.

See general description of Research and Higher Education in Burkina Faso (P. 14-18). See also Annex 9 on research profile of Burkina Faso.
More details should be sought through the planned study of research in Burkina Faso planned for the research cooperation.

In terms of Institutional administration and management:
5. Describe the present research management at the participating universities, comparing it with the general situation at the start of the cooperation and assess improvements and possible bottlenecks.

145. In 2004, Sida/SAREC made an optimistic assessment that by the end of the first phase, a period of only three years, the "research groups at the universities have grown stronger" and " … platforms have been created to promote research and research training and the universities are continuously improving their routines for the management of external funds"[79]. Based on our interviews we find that from the earliest period the enthusiasm for the cooperation program was very high. This is one of the largest single programs of its kind in the country and the design has a number of positive, unique and relevant features.

[79] Promemoria Sida, , K. 2004. The same document correctly noted "that building up an effective research environment in a country like Burkina Faso takes time due to the weak research tradition", (and resources-our comment) and …"it is too early to evaluate the institutional effects of Sida support".

146. In our view it is too optimistic to expect major institutional changes in the very short period of three years in the first phase. The second period has demonstrated a number of structural deficiencies in the local organisations directly participating in the cooperation program due to their own structures and also because of the context and historical background in Burkina Faso.

147. If appropriate management solutions could have been taken to resolve the challenges that the project faced in coordination, management, procurement, functioning of the local research fund and the major changes to the ICT infrastructure, they *would have made possible discernible improvements in research management at the participating universities*. But without these, there is no objective reason for changes and no changes could be observed.

148. On a positive note there are a significant group of beneficiaries and stakeholders who have individually improved their capacities and recognition of the structural difficulties and appear highly motivated to bring about positive changes. It provides an opportunity for Sida to make the necessary changes in cooperation with the stakeholders to make this incipient potential a reality.

6. Assess the research co-operation's impact on the research management; and the extent to which the research co-operation has contributed to improved research management.

(See 5 above)

7. Analyse the main bottlenecks and courses of delays in the set up and administration of the research funds from CNRST.

149. The bottlenecks, delays and the administration difficulties faced by the project stemmed from multiple factors. One is the complexity of local procedures and poor management processes. The local procedures for financial transactions are complex, slow and have many points of control and approval. These were not well understood by the Swedish partners and it led to many misunderstandings. An example of misunderstanding is the difference between funds committed towards a payment, where normal regulations require to payments to be made after the service or purchase. Thus money in the account does not mean that funds remain available for other purposes. Some times there has been confusion in this and conclusion drawn that the work is not being done when only the payment was not made. Because of the lengthy and slow the process, very often the timings of payments did not match the activities that were to be supported in time. This problem was recognized and discussed by Sida, the Swedish and Burkinabè supervisors and students as early as 2003 and 2004. But no solution could be found as of now.

150. The Burkinabè system has total separation of powers between the administrator of appropriations (officer) and the accountant. The accountant is not attached to the operations office and is even almost independent from the institution where she is placed, as the accounts staff are a part of the system of public accounts and belongs to and reports to the Ministry of Finance and the Court of Auditors.

151. When there is any procurement, the national regulations require that any expenditure in excess of 1 million F. CFA (only around US$2500) must be done through a public tender. This adds a completely new layer of procedures, which not only lengthens the procedure; it involves a new layer of bureaucracy. It is said that the uncertainties and length of time to obtain payments makes

suppliers increase the price from what is the market price, to compensate for the time and risk. This led many project participants to question the cost and quality of some of the purchases. Even where the money is external as from a donor, such as Sida, when it flows through a public agency, such as CNRST or the universities, they must follow national procedures.

152. There have been a number of major misunderstandings on the authority of the CNRST. It has no ability to demand accountability from the other institutions such as the universities even though the Ministry of Higher education designated CNRST to be the legal recipient and coordinating partner. CNRST coordinators pointed out that they also had to go through the ministry to obtain information from the Universities. However, the agreement that was signed between the three organizations, anointed the CNRST in charge of all project management when it could not fully perform the oversight required.

153. Such incidents have retarded progress and affected the working environment and performance. These facts of the local context cannot be altered easily at the project level and will only improve slowly as the state improves its processes and capacity. Most interviewees do not believe that the new agreements signed by three institutions individually with Sida will resolve any of the main issues of process and delays.

154. The problems were compounded by the fact that key persons with the responsibilities for efficient program management changed frequently – this includes the heads of the two universities and the local coordinator at CNRST and also the Sida officer.

155. Problems of information flow - the financial management difficulties should be reviewed with all stakeholders to make information available to all involved: students, supervisors, and accountants. This was often not taken care of. Many students remain unaware of the reasons for their difficulties, and almost no one considered it a priority to keep them informed. Many complained of their "uncertainty and the resulting stress", not knowing what was the problem and how it would be resolved.

156. The collaboration between coordinators was sometimes difficult due to language problems, cultural differences, coupled with the fear of failure that became dominant at several points during the course of cooperation.

157. The regulation of Burkina Faso provides for management and supervision fees for projects of the nature of the Sida/SAREC program. However, the project design did not take these costs into consideration during the first phase. During the second phase, Sida/SAREC made some adjustments to meet local practices[80]. During both phases, the program has suffered from difficulties in judging the needs of financing and timeliness for both students and supervisors. The program tensions affected interpersonal relations and reduced cooperation. The unavailability of funds when required by the research process (such as the unavailability of seed sowing time, the loss of laboratory animals for lack of feed or to maintain them, the loss of experimental strains ...) slowed the pace of work and created embarrassing situations. When the seeds arrived they were sometimes to meet the farmers' planting season. For travel, some times students paid themselves though they were reimbursed later. Similarly, slow acquisition of equipment created delays.

[80] Sida has responded that "There has never been a consensus on this issue. The Burkinabé claimed that in Burkina Faso thesis supervisors are paid extra allowance for thesis supervision apart from their monthly salary. Being the case, we requested that they provide Sida with an official (government) decision on this form of remuneration. Unfortunately, this was never done. Of course, Sida will not hesitate to pay if it is an official government decision but up till now we have not received any supporting document on this issue."

158. Overall, acquisition of equipment is a common subject of criticism from both students and supervisors, who find the process too long, the quality of equipment purchased sometimes poor, and the costs high. The counter response of the accountants and managers has been that they buy in accordance with the requirements of the purchaser as supplied the local market. The researchers felt there was a considerable inefficiency in financial management and procurement and the problem lay with accounting officials who "seek to show they are the masters".

159. On the other hand the financial and accounting services persons argued that their job was to work strictly according to procedures, and comply with the regulations. They argue that it is for researchers to make their purchase application in time to avoid delays. Both sides agree on a long and involved process with many layers. Financial services (DAF) and accountants believe that the program does not present a management problem but the problem lies in the researchers who are "allergic to the procedure, finding it cumbersome" Some said that decentralization to 3 institutions may actually multiply the problems by three.

8. Analyse and describe past and existing mechanisms for setting the priorities and strategies for research and research training at the universities. Describe present strategies and how the Sida-financed projects have contributed to achieving the above goal.

See from before.

160. Overall, the program directly and indirectly has involved a multitude of actors: managers at the central CNRST, the UO and UPB, officials from the Ministry of Secondary Education and Higher Education and Scientific Research, financial services and accounting at the three institutions, supervisors and scientists in Burkina Sweden and doctoral students and master. There are a large number of people who have learnt from the experience that there is a need for much better management and there is an increasing core group with the capacity to do so provided they are given the opportunity.

161. Although the program placed the training at the heart of the activities the operation of each project required the identification, selection and training of students involved in the research at both Ph.D. and master that the choice of correspondents scientists (supervisors) in each country. These activities have contributed informally to improved capacity for planning and cooperation.

9. Analyse and describe the past achievements in the co-operation in terms of outputs; number of students enrolled, general progress and number of graduated PhD and MSc students, also in relation to the number registered at the start of the program.

162. This has been the most outstanding success of the program. This is discussed fully in Outputs and outcomes and in greater detail in Annex 8.

10. Analyse the extent to which research capacity has been built. Assess to what extent the program has contributed to research capacity at the institution and in Burkina Faso, as well as creating a "critical mass" of competent researchers in specific areas.

163. Research capacity has been built amongst a core group of 15 PhD students and before the end of 2009 it should reach 21. Their competency and contributions to Burkina Faso research output has been significant and outstanding. See details in Annex 8.

11. Analyse the feasibility of implementing the original goals of research capacity and improving research environment. What have been the opportunities and bottlenecks of the co-operation (i.e. quantitative and qualitative experiences).

164. The original goals were excellent and completely feasible with alternate management and design. They were and remain infeasible with the problems of management and design discussed earlier unless these are resolved.

12. Analyse to what extent the "comité de pilotage" and the "comité scientifique" have contributed to the execution of the program.

165. The "steering committee" and the "Scientific Committee" are common mechanisms in Burkina Faso. The money for the Coordination, initially served primarily to cover the meetings of these two committees. The steering committee met a few times during the first phase with two meetings per year, but never resolved any issues. Over time, with several members of both committees from Bobo Dioulasso and Koudougou and the fact that its members are very busy, meetings were difficult to coordinate and steering committee ceased to function.

166. The Scientific Committee had worked relatively well at an earlier period. Some of its members said they were discouraged by the ongoing challenges and delays in program management and that their views and decisions were not taken into account. It should be noted that the absence of these two committees did not stop the research projects to continue working. This in itself is certainly a sign of maturity of Burkinabè researchers. During the second phase, without the committees, the 11 projects have been operating separately and less connected, other than connections made by individual supervisors and students. Thus much of the collaborative scientific work that was done was undertaken within a framework lacking any formal coordination.

167. However if the steering committee had worked better it could have been a mechanism to solve the problems and avoided the tensions between the CNRST and the two universities, and subsequently with Sida. Unfortunately, the evaluators conclude after many discussions and reading of documents, that neither CNRST nor Sida were ever fully aware of each other's processes and constraints. This led to a continued series of misjudgements on both sides. These were then exacerbated by ongoing micro level efforts on both sides to resolve individual problems without taking a fresh look at the structural and design issues affecting the project.

13. Assess to what extent the research co-operation has contributed to viable and sustainable research environments; to what extent does the program lead to capacity to formulate research problems and proposals as well as design research projects?

168. See earlier discussions. This is very good for the persons who were the direct beneficiaries of the research program at an individual level. Much of the institutional benefits require complementary inputs that were planned but not delivered.

14. Analyse the effectiveness of the co-operation. Has the research training contributed to the achievement of both project specific goals and general objectives, has it influenced the overall research culture, the MSc and undergraduate training?

169. Effectiveness for the first goal is outstanding and it will reach numbers of PhDs trained at 21 – considerably higher than 100% of the specified target of 15.

170. In goals 2-5 the effectiveness has been between 5-10%.

In terms of Academic quality;
15. Assess the scientific quality of the research conducted and results obtained.

171. The scientific quality of the research conducted and results obtained are very high. See Annex 8.

16. Assess the scientific value of the projects.

172. Very high in terms of peer reviewed publications.

173. High based on the sample of articles meant for local audiences.

174. High based on the sample review (25%) of research outputs such as published papers and thesis.

17. Assess the applicability of the research project results obtained from a Burkinabé and developing country perspective.

175. Very high based on the interviews with the students and supervisors.

176. The applicability is high in the national context.

18. Assess the capability of the project leaders and staff both in Burkina Faso and in Sweden for achieving the set goals.

177. The capabilities of the project leaders in Burkina Faso and Sweden are rated on the whole as high. There is a considerable range with a small number of very highly capable leaders and a smaller number who were less capable than the needs. These individual variations will always remain.

178. The project leaders and staff need to be compensated in the project design for activity management and coordination that is beyond their normal work and according to local regulations but this has been a weakness.

19. Assess the adequacy of the original and existing research, facilities and equipment.

179. Equipment - Through the program, all students have laptops and required software. Some supervisors and students who were already employed at a research laboratory have sometimes been able to equip their laboratories with new and better equipment and also have in the short to medium term access to spare parts and consumables.

180. The program has been successful in remedying some of the weaknesses of applied research in Burkina through the access to documentation, vehicles, some lab equipment and software.

20. Assess other considerations or viewpoints, which may be of importance for the research cooperation.

181. By the very difficulties it has encountered, the program has contributed to the improvement of project management. Indeed, despite the difficulties, which have been discussed, we believe that the program has improved the financial management and accounting of the three research institutions in Burkina Faso. These difficulties provided an opportunity to debate the local procedures and both directly and indirectly raised awareness that management process for research projects need to improve. It has helped to raise and discuss important issues and make amendments to the manuals and procedures for financial management and accounting and the introduction of accounting software to improve reliability.

Based on the above, Sida seeks recommendations and lessons for the future on:

1. How can present research co-operation with Burkina Faso be improved and made more effective?

182. Add a local program management and coordination unit, fully Burkinabé managed and operated on a full time basis and fully paid by the Swedish funds.

183. Complete all activities planned to date.

184. Expand areas of support to more disciplines and problems.

185. Take an explicit 10-year framework for future cooperation.

2. How can the research co-operation's contribution to viable and sustainable research environments be further improved?

Above.

3. How can the research co-operation's contribution to improved research management be enhanced?

Above.

4. Discuss the pros and cons of a thematic and/or a multi-disciplinary set-up or design of the research co-operation in the future.

186. Research and development should work closer together. This would improve the dissemination of research results and facilitate farmers' participation in technology development. West Africa, which is particularly stricken by desertification and drought, had received very little Swedish support. Increased attention to the region would strengthen the Swedish profile in combating desertification. All development is an interdisciplinary task. This should be reflected within the Sida cooperation. The research collaboration can have more value with greater integration with other Sida sponsored work. Thus while the program should and must be thematically oriented and multi disciplinary in nature, individual training is often disciplinary in the first instance and two should not be confused.

4. CONCLUSIONS AND RECOMMENDATIONS

187. Ultimate impacts from the research capacity building require further inputs for research and their dissemination, for wider knowledge in the challenges of natural resource management and for the application of the knowledge to alleviate poverty. This is a long chain of cause to effect with many elements that the two phases of research cooperation have not provided for and key elements provided for could not be implemented. There is sufficient evidence that increased knowledge by local people of their conditions and on options to improve them are a critical component of sustainable development and poverty reduction. But it is inappropriate to judge the outcome of this cooperation activity by that yardstick at this time.

188. It is important for all stakeholders to note that several key outputs have been achieved at a very high level of efficiency and effectiveness.

189. These provide the building blocks to move forward and continue with the plans to improve capacity for research management, for improving the ICT infrastructure for research and higher education organise, improve research and other skills in wider numbers of people through increased capacity for Masters training, for extension services and further research and linking these capacities to the productive sectors, people and firms.

190. A significant number of Swedish universities have worked in drylands, through Sida financed collaborative research programs and many Swedish scientists have the relevant experience both of the science base and the conditions in arid, semiarid and dry areas.

191. For effective research programming participation and priority-setting by the research community is an essential priority. The complexity of the problems of both management and of study was underestimated. This is partly because for Sweden and Sida this is the first bilateral research collaboration with West Africa. It is also the first in a French-speaking country. There were similarly many problems of understanding from the Burkinabé side. It is important to note that the project has evolved almost empirically by a process of trial and error. Like many new projects, its practical implementation has encountered many unforeseen challenges; some ad hoc found answers were found on a case-by-case basis. This has increased the learning opportunities for everyone - the students, supervisors, coordinators, accountants and financiers, and we assume Sida/SAREC. This alone suggests that the next phases will certainly be easier to manage, the first having somewhat cleared the ground as long as the lessons are taken to heart.

192. The evaluation concludes that it is very important to continue this cooperation and build on the capacity developed. Its results outstanding along one dimension and the failures are not surprising for a first cooperation effort. Whether in science, or in terms of human resources development, or potential contribution to the preservation of natural resources, environment, and, the promotion of women, the results are tangible. The research projects have not only achieved their goals, but they have laid the grounds for future cooperation. The program has found some solutions and recommendations for sustainable development, and also identified many areas for further investigations and new research. They all have very close links with the development needs of conserving natural resources, for forest management, animal husbandry, and others.

193. It is important to continue to build on the critical mass of researchers in various fields of cooperation and expand it to new fields. However, at the same time, the continuation of the program requires a clear new thinking in management and coordination, acceptable to all through the removal of red tape in the management of various projects. This requires reducing or eliminating the slow acquisition of equipment, in compliance with the quality and cost of equipment, access to operating funds for projects within the deadlines for submission of various reports, administrative, financial processes. Some problems are of an organisational, some regulatory, some behavioural and others due to design deficiencies. Solving them all is ultimately the responsibility of Burkina Faso. But Sida as a helpful long-term partner can assist by being more proactive and by suggesting useful options that it is prepared to support.

4.1 Concluding Recommendations

194. This final section is written based on the feedback received at the presentations made to stakeholders at Sida offices in Sweden on February 6, 2009 and to stakeholders in Burkina Faso at CNRST premises on February 9, 2009. As has been discussed through this report, the program has some outstanding achievements and at the same time a large number of significant and ongoing organizational problems and misunderstandings between the partners in the two countries, especially between Sida/SAREC and CNRST, became a major source of delays, frustrations and difficulties. Many were noted in 2003 and they slowly snowballed into insurmountable barriers from 2004 onwards.

195. The challenges began with inadequate attention to conditions in Burkina in the design of the project even though the broad objectives and approaches were often excellent. The weaknesses in design were compounded by weaknesses in local management, administration and procurement at all three local institutions and by well meaning but ponderous processes mandated by the state and imposed by donors to improve accountability. These were compounded by a lack of attention to details that could have provided corrective feedback such as “a peer review committee to monitor the scientific quality of the project”; or mechanisms to “increase learning” when it was acknowledged to be the first effort of its kind in the region and in a Francophone country by Sweden; or plans to have a “monitoring team involved” throughout the program. The challenges were further compounded by slow and inadequate responses by both partner organizations. Overall the management of the project remained deficient at CNRST and also at Sida.

196. The care and attention paid by Sida to the difficulties faced by individual PhD students is notable and required considerable work above and beyond normal demands and processes. Similarly in discussions the CNRST also mentioned their reluctance to confront Sida in ways

that could halt or damage the PhD program. This attention and care to the individuals in the PhD program is laudable but the larger systemic challenges, which led to many delays and to the complementary components not moving at all, were never addressed and are not yet resolved.

197. There is general agreement that the project as designed does need an effective coordinating mechanism located and managed in Burkina Faso. Two opposite views have been suggested with regards to the way forward. One is highly pragmatic and focused on the specific activities of research cooperation to make them as efficient and effective as possible. Many stakeholders support a Sida managed project office that can operate outside the constraints and barriers of the local bureaucracy. This is highly unlikely to win support in Sweden and cannot be fully justified because the local efficiency gains can be at the expense of building longer-term research management capacity in Burkina Faso. The other is the polar opposite and is completely bureaucratic and it holds the global Paris Agenda as the source of all good principles of aid effectiveness. In this view the program must be fully embedded in local institutions and follow all local regulations, however inappropriate or inefficient, so as to increase local ownership and appropriateness to local context. The evaluators hold that when this belief is held in a dogmatic fashion it can so damage effectiveness that it can have negative contributions to the desired goals of the Paris Agenda.

198. The evaluation team recommends measures that attempt to apply the principles of aid effectiveness to the needs of the activities supported and to the local context. In discussions the dominant view that finally emerged would see a larger and stronger Burkinabé management role. Ideally this could be initiated by a special decree by MESSRS for the management and coordination of any donor and national research and capacity building funds, with the donor country retaining the option of participation in this structure. Sweden and Sida could indicate that they would be prepared to participate in such an organisational innovation as a lead partner. This new organization thereby would start off with the responsibilities for management and coordination of the current research cooperation program.

199. The structure will have two main semi permanent bodies – one responsible for overall policy and guidance and review. This would be composed of appropriate individuals nominated by organisations participating in the program and chaired by an eminent academic and researcher nominated by MESSRS. It should be open to the participation of donor representatives as observers. Reporting to this management/supervisory body would be one coordinator with a small team of staff with the appropriate skills for coordination of research, capacity building and management of funds. Every approved research activity, the resources required and its operational management, reporting and accountability should devolve down to the level closest to where the research is being undertaken taking into account national laws and local capacity. The coordinator and staff would be all local Burkinabé staff with the right mix of skills, experience and motivation to achieve the goals set out for the research and capacity building efforts. They should be selected from the participating institutions, for periods of 2-4 years, paid their normal salaries together with additional compensation as allowed by Burkinabé laws. They will retain the right to return and would be expected to return to their original positions after serving the coordination function for a period.

200. Besides the above there would be one or more scientific committees that review and approve the selection and use of research funds and also review the quality and value of work supported. These must be composed of a mixture of local, regional and international experts. Provisions can be made for ongoing external monitoring of the entire exercise and changes made as deemed appropriate from the experiences gained and lessons learnt. The full costs of

the coordination as exercised by this new organization must be borne by the cooperation partners in keeping with their relative resource availability.

201. If these broad details are acceptable to both partners, it is suggested that given that less than half of the funds for Phase II have been used so far, that the current Phase be extended for a period of 2-3 years with an overall goal of undertaking the tasks that have not yet moved to any significant level and achieving the complementary objectives of the research cooperation program. Some supplementary funds or some reallocation of the budget is likely to be required.

202. It is the view of the evaluators that such a process will provide the best platform for moving towards both faster and more efficient implementation as well as planting the seeds of a local national research coordination and management capacity that will evolve more appropriately in tune with the local needs, learning from experience and practice as opposed to theory. Should this new organisation be able to not only support the current research cooperation but also provide a base for a new national research strategy, add greater national and international resources and partners, it would then meet the test of what the Paris Agenda sets out to achieve and the mandate provided to Sida/SAREC by the government of Sweden.

ANNEXES

ANNEX 1: TERMS OF REFERENCE FOR THE EVALUATION PROVIDED BY SIDA

Sida has decided to undertake an evaluation of the research cooperation with Burkina Faso, covering the period 2001- 2007 and all three institutions in Burkina Faso. It has decided to engage Policy Research International Inc. to perform the evaluation. Dr. Amitav Rath is the team leader for the evaluation. The team includes two additional members, Dr. Hocine Khelfaoui and Dr. Jacques Gaillard[81].

The overarching objective of the evaluation is to evaluate the achievements and the failures in relation to the set goals, lessons learnt including the pros and cons of the administrative set-up of the programme, the administration in the context of the situation at the time of initiation of the programme as well as in the current context. The evaluation is expected to provide suggestions on the future direction of a possible research co-operation with Burkina Faso. The evaluation will thus be formative and analyse the effectiveness, impact, sustainability and relevance of the research co-operation. The design of the research co-operation with Burkina Faso (channelling funds to the universities through a research institute, CNRST) was new and experimental, and the evaluation must analyse lessons learned in terms of how this concept has worked, its strengths and weaknesses. Findings from the evaluation will be used in the preparatory process in identifying the components and the direction of a possible future research co-operation with Burkina Faso and provide information to the stakeholders on how to further improve the research cooperation.

Sida has specified the following questions for the evaluation:

1. To what extent, at a general level, have the support to the two universities and the CNRST reached the general objectives of the research co-operation between Sweden and Burkina Faso.
2. Analyse and describe the relevance of the research projects in the programme to the development goals of Burkina Faso especially in light of the aim to reduce poverty in the country.
3. Analyse and describe the relevance of the programme in relation to other developments of research and research training at the universities and the CNRST, including funding from other donors, external training (full time scholarships).
4. Analyse the present situation of resources (both human and instrumental) for research at the participating institutions.

In terms of Institutional administration and management:

5. Describe the present research management at the participating universities, comparing it with the general situation at the start of the cooperation and assess improvements and possible bottlenecks.
6. Assess the research co-operation's impact on the research management; and the extent to which the research co-operation has contributed to improved research management.
7. Analyse the main bottlenecks and courses of delays in the set up and administration of the research funds from CNRST.
8. Analyse and describe past and existing mechanisms for setting the priorities and strategies for research and research training at the universities. Describe present strategies and how the Sida-financed projects have contributed to achieving the above goal.

[81] A brief description of their background is provided in Annex 2.

In terms of Research capacity and research environments,

9. Analyse and describe the past achievements in the co-operation in terms of outputs; number of students enrolled, general progress and number of graduated PhD and MSc students, also in relation to the number registered at the start of the programme.
10. Analyse the extent to which research capacity has been built. Assess to what extent the programme has contributed to research capacity at the institution and in Burkina Faso, as well as creating a "critical mass" of competent researchers in specific areas.
11. Analyse the feasibility of implementing the original goals of research capacity and improving research environment. What have been the opportunities and bottlenecks of the co-operation (i.e. quantitative and qualitative experiences).
12. Analyse to what extent the "comité de pilotage" and the "comité scientifique" have contributed to the execution of the programme.
13. Assess to what extent the research co-operation has contributed to viable and sustainable research environments; to what extent does the programme lead to capacity to formulate research problems and proposals as well as design research projects?
14. Analyse the effectiveness of the co-operation. Has the research training contributed to the achievement of both project specific goals and general objectives, has it influenced the overall research culture, the MSc and undergraduate training?

In terms of Academic quality;

15. Assess the scientific quality of the research conducted and results obtained.
16. Assess the scientific value of the projects.
17. Assess the applicability of the research project results obtained from a Burkinabé and developing country perspective.
18. Assess the capability of the project leaders and staff both in Burkina Faso and in Sweden for achieving the set goals.
19. Assess the adequacy of the original and existing research, facilities and equipment.
20. Assess other considerations or viewpoints, which may be of importance for the research cooperation.

Based on the above, Sida seeks recommendations and lessons for the future on:

1. How can present research co-operation with Burkina Faso be improved and made more effective?
2. How can the research co-operation's contribution to viable and sustainable research environments be further improved?
3. How can the research co-operation's contribution to improved research management be enhanced?
4. Discuss the pros and cons of a thematic and/or a multi-disciplinary set-up or design of the research co-operation in the future.[82]

[82] The terms of reference as specified by Sida in the public notice for the evaluation.

ANNEX 2: THE EVALUATION TEAM

Amitav Rath is the team leader for the evaluation. He was trained in science and engineering at the undergraduate level in India. He then worked on his Masters and Ph.D. at Berkeley in Operations Research with a focus on economics and systems analysis. He has taught in India, Canada, Jamaica, Sweden, and the USA in areas of management, economic planning, technology and innovation, and, on energy and environment. He worked at the International Development Research Centre (Canada) for over ten years and was the manager of programs in Science, Technology, Energy and Economics during this period. At present he directs a consulting practice at Policy Research International based in Ottawa. He has undertaken a number of evaluations of programs to increase capacity in higher education, research, science and technology and knowledge systems in Africa, Asia and Latin America.

Currently he has been a member of the Technical Advisory Group for the World Bank trust funds on energy for five years, which requires ongoing reviews, monitoring and strategic advice for the programs. He is appointed Professors Extraordinaire at the Institute for Economic Research on Innovation (IERI) at the Tshwane University, South Africa. He is an editor of the journal *Comparative Technology Transfer and Society*. He has recently completed work on Biotechnology for Development, a review of selected S&T capacity building issues for IDRC, worked on South-South cooperation for the UNDP, evaluated several science support initiatives of the IADB, DFID, IDRC and Sida. He is also an adviser to the large DFID funded project on *Research into Use*, focused on applications of natural resources research in poor countries of Africa and to IDRC on science indicators in Africa.

Hocine Khelfaoui has a PhD in Sociology of Sciences and is a researcher at the Centre Interuniversitaire de Recherche sur la Science et la Technologie, Université du Québec à Montréal, and coordinator of Sociology of technologies at École Polytechnique de Montréal. He is associated with Policy Research International and also as a researcher in the Institut de Recherche pour le Développement (Paris) and the Centre de Recherche en Économie Appliquée pour le Développement (Alger), and a member of International Scholars at Johns Hopkins University (2002-2005).

His main areas of interest and expertise are science, technology and innovation policies in the developing countries contexts, the development of scientific community in developing countries, evaluation of science and technology impact studies; higher education and training, international scientific cooperation policies; international scientists mobility. He took part or directed more than ten international research projects relating to countries in East, North Africa and West Africa including Burkina Faso.

He has more than 40 publications in peer-reviewed journals in sociology of science and work, three of which are books and the rest are papers in scientific journals and chapters in books. He has more than 20 report papers and more than 60 papers presented in scientific meetings and congress. Recently published books and papers are: « Les ingénieurs dans le système éducatif », Publisud, Paris, 2000, 216 pages. « L'intégration de la science au développement : expériences maghrébines », Publisud, Paris, 2006, et « Professions scientifiques et techniques au Maghreb et au Machrek » (Élisabeth Longuenesse), 2008, L'Harmattan, African Higher Education and the Bologna Process,

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Jacques Gaillard is at present researcher at the Institut de Recherche pour le Développement (IRD) in Paris, France and an associate consultant of Policy Research International. He was earlier a deputy and acting director of the International Foundation for Science (IFS) in Stockholm, and then the director of the Office of Policy and Coordination of the Department of Technical Cooperation at the International Atomic Energy Agency (IAEA).

A trained agricultural engineer with a PhD in Science, Technology and Society (STS), his main areas of interest and expertise are science, technology & innovation policies and indicators, evaluation and impact studies; comparative analysis of international S&T cooperation policies for sustainable development and environment; international S&T migration. He has more than 40 publications in peer-reviewed journals in S&T policies, sociology of S&T, scientometrics, evaluation and impact studies, more than 50 papers presented in scientific meetings and more than 30 chapters in books, 14 books as editor and 5 books as author

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ANNEX 4: INTERVIEW INSTRUMENTS - PROFESSORS/SUPERVISORS

Depending on the general atmosphere, we may start with a general question on their overall motivation such as: What made you decide to get involved in the Sida research programme with Burkina Faso (BF)? (e.g. your own interest for (research) development cooperation with Africa / BF? Strengthening the research capacity of my own research group by adding foreign PhD students ? International knowledge exchange? The possibility to travel to Africa? … etc.).

We should also ask them to provide us their CV and list of publications (make sure that the CV includes an indication of their past experience in supervising PhD students from Sweden and from abroad).

To what extent, does the support to the two universities and the CNRST achieve the general objectives of the research cooperation According to your own experience, did the Sida research programme with BF contributed to human capacity building in BF (and in Sweden)? If not what went wrong? According to your own experience, are the trained Burkinabé scientists capable of addressing central development issues confronting BF, in particular issues related to Natural Resources Management (NRM)? Are the research findings produced related to poverty reduction? Did the training contributed to improved capacity for research management? According to your own experience, has the Sida research programme with BF contributed to developing/improving the ICT infrastructure at the Universities and CNRST? According to your own experience, to what extent did the Sida research programme with BF contributed to opening the research systems in BF to international knowledge exchange? According to your own experience, to what extent did the Sida research programme with BF contributed to improve research organization and research training in BF ?
What is the relevance of the research projects in the programme to the development goals of BF, especially in light of the aim to reduce poverty a) According to your own experience, would you say that the PhD thesis / research programme(s) supervised by you are relevant to the development goals of BF ? To what extent do they contribute to poverty reduction ?
Relevance of the programme in relation to other developments of research and research training at the universities and CNRST, including funding from other donors, external funding. Comment: this question may not be central / pertinent for Swedish professors. a) To what extent did the PhD studies supported by the Sida research programme with BF contributed to attracting funding from other donors or any other external funding ?
The present situation of resources (both human and instrumental) for research at the participating institutions. Comment: this question may not be central / pertinent for Swedish professors.

According to your own experience, how adequate are the human resources at the participating institutions in terms of qualification, experience, age, level of involvement and "devotion", numbers … etc ? What are the main strengths, weaknesses and threats?
According to your own experience, how adequate are the "instrumental" resources at the participating universities in terms of research equipments, supplies, scientific literature, labs and offices spaces? What are the main limiting factors?

Describe the present research management at the participating universities, comparing it with the general situation at the start of the cooperation and assess improvements and possible bottlenecks. Assess the research co-operation's impact on the research management; and the extent to which the research co-operation has contributed to improved research management.

Comment : this question may not be central / pertinent for Swedish professors.

a) Has the research cooperation with BF contributed to improving research management at the participating universities? Please give concrete examples to illustrate the extent to which it has improved.

Analyse the main bottlenecks and courses of delays in the set up and administration of the research funds from CNRST.

Comment: this question may not be central / pertinent for Swedish professors.

What are the main bottlenecks in the set up and administration of the research funds from CNRST?
What delays did you experience in the set up and administration of the research funds from CNRST? Please give concrete examples.

Describe past and existing mechanisms for setting the **priorities and strategies** for research and research training at the universities. Describe present strategies and how the Sida-financed projects have contributed to achieving the above goal.

Comment: this question may not be central / pertinent for Swedish professors also depending on when they got involved in the programme.

a) Have the Sida-financed projects contributed to improving mechanisms for setting priorities and strategies for research and research training at the universities?

Research capacity and environment
Analyse and describe the **past achievements** in the co-operation in terms of outputs; number of students enrolled, general progress and number of graduated PhD and MSc students, also in relation to the number registered at the start of the programme.

Comment: already answered in 4, 5, 6 and 7 above.
+ general statistics

Extent to which **research capacity** has been built. Assess to what extent the programme has contributed to research capacity at the institution and in Burkina Faso, as well as creating a "critical mass" of competent researchers in specific areas.

Comment : Swedish PhD supervisors may not be the best to judge ?!

Has the Sida programme with BF contributed to build and strengthen research capacity in BF ? Please give concrete examples
Has the Sida programme with BF contributed to creating a « critical mass » of competent researchers ? In what specific areas ?

Feasibility of implementing the original goals of research capacity and improving research environment. What have been the opportunities and bottlenecks of the co-operation (i.e. quantitative and qualitative experiences).

Reflecting on the original goals of the programme (i.e. improving research capacity and improving research environment, what have been the main opportunities of the cooperation (i.e. quantitative and qualitative experiences) ?
Reflecting on the original goals of the programme (i.e. improving research capacity and improving research environment, what have been the main bottlenecks of the cooperation (i.e. quantitative and qualitative experiences) ?

To what extent the "**comité de pilotage**" and the "**comité scientifique**" have contributed to the execution of the programme.

Comment: Swedish PhD supervisors may not know ?

Are you aware of the existence of a « comité de pilotage » and of a « comité scientifique » ?
From your own perspective, would you say that the "comité de pilotage" has contributed to the execution of the programme? How and if not why?
From your own perspective, would you say that the "comité scientifique" has contributed to the execution of the programme? How and if not why?

Extent to which the research co-operation has contributed to viable and **sustainable** research environments; to what extent does the programme lead to capacity to formulate research problems and proposals as well as design research projects?

Comment : the first part of the question may not be relevant to Swedish Professors.

a) Based on the experience of the PhD students you supervised, to what extent did the programme lead to capacity to formulate research problems and proposals as well as design research projects?

The **effectiveness** of the co-operation.
Has the research training contributed to the achievement of both project specific goals and general objectives ? Please specify.
Has the research training contributed to influence the overall research culture (including the MSc and undergraduate training)?

14. Academic quality

a) How would you assess the scientific **quality** of the research conducted and results obtained.
b) How would you assess the scientific **value** of the projects.
c) How would you assess the **applicability** of the research project results obtained from a Burkinabé

and developing country perspective.
15. Academic quality How would you assess your **capability** as PhD supervisor and/or project leader to achieving the set goals ? How would you assess the capacity of staff both in Burkina Faso and in Sweden for achieving the set goals. How would you assess the **adequacy** of the original and existing research, facilities and equipment. How would you assess other considerations or viewpoints, which may be of importance for the research cooperation?
16. **RECOMMENDATIONS AND LESSONS FOR THE FUTURE** a) How can the present Sida research programme with BF be improved and made more effective? b) How can the research co-operation's contribution to viable and sustainable research environments be further improved? c) How can the research co-operation's contribution to improved research management be enhanced? d) What would be the pros and cons of a thematic and/or a multi-disciplinary set-up or design of the research co-operation in the future.

ANNEX 5: QUESTIONNAIRE FOR ALL RESEARCH PARTICIPANTS

Evaluation of Burkina Faso Sweden Research Collaboration

December 20, 2008

Dear Team Member,

By this time all of you have received our earlier emails on this evaluation and we are pleased to have met many of you. We have found that all activities were to report to Sida in the format provided under Appendix 5 and 6 but we have seen no reports after 2004.

To enable us to complete the assessment of the project SIDA, it is important that we provide an accurate account of the outputs as current as possible. We request you to fill in the attached form which seeks information to the end of 2008 on the results obtained in the production of theses, articles written, published and any other applications of the work done. This will enable us to highlight the scientific achievements by the various components of the project.

This also has a short list of four questions on which we seek your opinion. Please do not restrict yourselves to the space provided and please feel free to add any other comments. In advance, we thank you for your assistance and collaboration and individually we look forward to seeing you again in the January workshop or the final presentation of the evaluation on February 9, 2009 in Ouagadougou.

Amitav Rath
Hocine Khelfaoui
Jacques Gaillard

_____

Name of respondent -

Title component: Project (eleven numbers filled in)
Name supervisors:

(as per project number)

List of PHD students who have been supported – (as per project number)

Ph D Students
(Please add if there are any others not listed here)

NAME	Thesis Title	Date of defence	University
as per project number			

Masters students:

Name	Title of the dissertation	Defence date	University

Below please supply for yourself (we would like each individual to supply his own list of research outputs) - List of all publications that have been a result of the cooperation project below (OR in more detail below):

1.
2.
3.

OR Provide the same in greater DETAILS if possible -

	Output Name/Title	Journal/Conference	Publisher	Location	Date
Books or theses					
Peer reviewed Journal article					
Conference/Other Items without peer review					
Research Reports					
Fact Sheets					
Intervention with the media, account newspapers					
Other Local					

1. Do you believe there have been any applications of your work that could have an impact on the economic development of Burkina Faso.

Yes, no or not yet.

Please explain.

Below we would like to have your opinion on the following four questions:

2. Everyone agrees that the project suffered from many administrative difficulties.

What steps do you think could be taken in the future, if the program is continued, that will reduce administrative difficulties and increase efficiency?

3. The cooperation program has been unsuccessful so far in establishing arrangements for the research fund. The money has been allocated and remains available for immediate use for this purpose if the right administrative home and arrangements can be made.

The suggestions that have been made for the administrative home for such a fund include the following:

It should be at CNRST.
It should be located at a new institution such as FIRSIT or ANVAR that have a different mandate with new management structure for the funds.
Or at a new institution yet to be established. This could be within the Ministry of Education and Research (MESSRS).
3.4 Any other – including if you think that the establishment of the research fund is not desirable for any reasons.

Each of the options has its advantages and disadvantages. The first option leaves unresolved the administrative issues and the role of Universities. The second has similar issues but the advantage of a fresh start in a smaller establishment with some of the mandate of the research fund. The third moves it up to a higher national level with possible advantages of greater national oversight and possibly greater difficulties in management.

All would require an appropriately structured management and research selection structures. It is also possible to start quickly in 2009 at a smaller and pilot scale and then restructure and expand as experience is gained.

Please provide your views with some explanation -

In any future phase of the research cooperation you believe the following to be important –
4.1 Ensure agreement between the Universities in Burkina and Sweden on joint degrees.
4.2 Involve the faculty and PhD students in also developing and delivering similar courses in Burkina as the ones they have been trained in so as to expand local training capacity.
4.3 Ensure application of the research and the capacity developed for development impact – how?
4.4 Any other elements -

4. If you wish to comment on any other question or issue that you believe is important either to the past or to the future of such a cooperation program please feel free to do so.

ANNEX 6: PEOPLE MET AND INTERVIEWED

Visit to Sweden and Interview Programme
Amitav Rath and Jacques Gaillard

Monday 6 October

Swedish University of Agricultural Science, Ultuna
Inger Ledin, Professor (supervisor)
Kerstin Svennersten
Sigrid Agenäs
Alice Gisèle Anago-Sidibé, PhD (2008) interviewed by JGa
Salifou Ouedraogo-Koné, interviewed by AR

Prof. Georges Anicet Ouedraogo, vice rector, Bobo Diolasso University (supervisor)

Université d'Uppsala
Département d'Anthropologie Culturelle et d'Ethnologie

Sita Zougouri, (PhD student), met and interviewed at Uppsala Hotel

Tuesday 7 October

Swedish University of Agricultural Science (SLU), Umeå

Faculty of Forest Science
Department of Forest Ecology and Management

Anders Malmer, Professor, Tropical Forest Ecology and Management - Soil Science (Supervisor)
Ulrik Ilstedt (assistant supervisor)
Zacharia Gnankambary, PhD (2007)
Korodjouma Ouattara, PhD (2007)

Wednesday 8 October

Swedish University of Agricultural Science (SLU), Umeå
Department of forest genetics and plant physiology
SLU-KBC

Per Christer Oden, Professor (supervisor)
M. Tigabu, Assistant Professor (assistant supervisor)
Patrice Savadogo, PhD (2007)
Souleymane Paeé, PhD (2008)
Fidèle Bognounou, PhD students (2006-2009)

Thursday 9 October

Sida-SAREC - Kwame M. Gbesemete, Sida Officer
Björn Pehrson, KTH

Friday 10 October

JG : International Foundation for Science (IFS)
Michael Ståhl, Director
Nighisty Gheazae, Head of Programme

AR : KTH, Institutionen för data- och systemvetenskap
Johan Ernberg
Love Ekenberg

Tomas Kjellqvist, Director Sida-SAREC

Visit to Burkina Faso and Interview Programme
Amitav Rath and Hocine Khelfaoui

PROGRAMME DE TRAVAIL DE LA MISSION D'EVALUATION DU PROJET ASDI-SAREC

Dimanche 12 octobre 08	Arrivée des évaluateurs à Ouagadougou
- Lundi 13 octobre 08	
? 08h 00 – 09 h 00	Séance de travail avec DCCS - CNRST
? 09h 00 – 10h 00	Visite de courtoisie au Secretary Général - CNRST
? 10h 00 – 12h 00	Focus group avec Didier Zida, Issa Ouedraogo et Catherine Dembele
15h30 – 16h30	Rencontre avec Blanchard E.Bayala, Prime Minister advisor
? 17h 00 – 18h 00	Rencontre avec Pascaline Lingani
- Mardi 14 octobre 08	
? 08h 00 – 12h 00	Séance de travail avec le superviseur du Volet 1 : OUATTARA B. (volet 4 - Victor Hien not well)
15h 00-16h 00	Séance de travail avec le cabinet sur le Fond de Recherche – M. Robert Foro
? 16h 00 – 18h 00	Séance de travail avec le superviseur du Volet 2 : Guinko Sita et Joseph Boussim
- Mercredi 15 octobre 08	
? 08h 00 –10h 00	Prof Jean-Marie Ouadba, INERA, station (Kamboinsé) - le superviseur du volet 5.
? 10h 00 - 12h 00	Visit to IRD (Hocine)
? 15h 30 – 18h 00	Prof. Jean Koulidiati, Président de l'Université de Ouaga
- Jeudi 16 octobre 08	
? 08h 00 –10h 00	Séance de travail avec le superviseur du volet TIC (Pr. Sié), Catherine Dembele, TOURE Hamidou (University of Ouagadougou)
? 10h 00 - 12h 00	Continue – TIC (Amitav) Séance de travail avec le superviseur du volet 10 (Pr SOULAMA) Hocine
12h00 – 13h00	Séance de travail avec Mamadou M. Sall, SG du CAMES (Hocine)
? 15h 00 – 17h 00	Séance de travail avec le superviseur du volet 3 - Prof Pierre Guissou and Aristide Traoré (Hocine)
17 :00 – 18 :30	Séance de travail avec le superviseur du volet 9, Pr GOMGNIMBOU (Hocine)
16 :15-18 :00	Professor Hamidou BOLY, Président de l'UPB et le superviseur du volet 7 (Amitav)
18h 00 – 19h 00	Salimata Pousga, Ph. D. (Amitav)
Vendredi 17 octobre 08	
? 07h00	Départ pour Saria
? 08h 00 –11h 00	Séance de travail avec le superviseur du volet 11 (Dr Louis SAWADOGO) et Didier Zida, PhD ; Korodjouma Outtara, Ph.D.
? 14h 00	Départ de la mission pour Bobo-Dioulasso

1700-1900	Séance de travail avec le superviseur du volet 6 : Pr Chantal ZANGRANA-KABORE à Bobo Dioulasso
- Samedi 18 octobre 08	
9 :00 – 11 :00	Séance de travail avec Sanou Hadja, à Bobo Dioulasso
	Retour de Hocine à Ouagadougou
-Dimanche 19 octobre 08	
09h 00- 11h 30	Niéyidouba Lamien, Ph. D. Chief Saria Station
12h 00 –14h 00	Professor Hamidou BOLY, Président de l'UPB
- Lundi 20 octobre 08	
? 08h 00 – 08h 30	Séance de travail avec Hervé Savadogo - Hocine
08h 30 – 10h 00	Professor Georges Anicé Ouédraogo, UB (le superviseur du volet 8) – Amitav
15 :30 – 17:00	Nouvelle rencontre avec Pascaline Lingani et Issa Ouedraogo
- Mardi 21 octobre 08	
10h 00 – 12h 00	Professor Roger Zangré (ANVAR) (Amitav) Professor Philippe Sankara (FRSIT) – away on travel. (Amitav)
8h00-10 :00	Lazare Sawadogo: agent comptable, CNRST (Hocine)
10 :00- -12 :00	Adolphe Zongo, Directeur administrative et financier, CNRST (Hocine)
1600-1800	Professor Sié (Ouagadougou University). TOURE Hamidou (University of Ouagadougou), SANAGO Oumar (CNRST), Hervé SAWADOGO (Amitav)
Mercredi 22 octobre 08	
? 08h 00 – 12h 00	Séance de travail Tounga Ouedraogo, agent comptable de l'UO – Hocine
9:00 - 11:00	Cecilia Gjerdrum, Conseillère - Chef de Bureau Section de Coopération au Développement (Asdi) Amitav
11:30 - 12:30	Professor Traoré, Hervé SAWADOGO, (CNRST)
? 15h 30 – 17h 00	Séance de travail avec le cabinet sur le Fond de Recherche - M Foro
20h 00	Depart Amitav
Jeudi 23 octobre 08	
? 08h 00 – 10h 00	Séance de travail avec Traoré
? 08h 00 – 10h 00	Rencontre avec le DG du CNRST, (canceled : visit of Prime Minister to CNRST
- Vendredi 24 octobre 08	
8 :00 – 10 :00	Séance de travail avec Vincent Sodogo
18 :00 – 20 :00	Dîner and discussion with Maxime Compaoré
- Samedi 25 octobre 08	Depart Hocine

ANNEX 6.1 PRESENTATION AND FEEDBACK

Visit to Burkina Faso – January 2009 and workshop on January 7, 2009. Location – Ougadougou.
Hocine Khelfaoui - Structure of discussions:

I-PART I: OBSERVATIONS ON CURRENT STATE

1.1-ON THE NATURE OF PROGRAM

PROGRAM (1ST AND 2ND PHASE)
FEATURES OF PROGRAM: DESIGN, ACTORS, CONTENT AND OPERATION

1.2-RESULTS OF PROGRAM

1.2.1 HUMAN RESOURCE TRAINING (PhD and Masters)
1.2.2-SCIENTIFIC OUTPUTS: THESIS, BOOKS AND ARTICLES
1.2.3-DEVELOPMENT CONTRIBUTION: TO THE PRESERVATION AND THE DEVELOPMENT OF NATURAL RESOURCES AND SUSTAINABLE DEVELOPMENT, THE ADVANCEMENT OF WOMEN
1.2.4 - NEW RESEARCH CULTURES, RESEARCH MANAGEMENT, OPENING FIELDS OF RESEARCH, INTERNATIONAL PUBLICATIONS, VISIBILITY
1.2.5- RELATIONSHIP TO SWEDISH RESEARCH
1.2.6-INTERNATIONAL COMPARISON- THIS COOPERATION, AREAS OF CHOICE, PRIORITIES

1.3- CHALLENGES IN THE IMPLEMENTATION OF THE PROGRAM

1.3.1- TRAINING
1.3.2-RESEARCH
1.3.3 IMPLEMENTING PRACTICE OF RESEARCH RESULTS (RESEARCH AND DEVELOPMENT)

1.4-GENERAL PROGRAM MANAGEMENT

1.4.1-ADMINISTRATIVE
1.4.2-FINANCIAL
1.4.3- RESEARCH FUND
1.4.4-ICT PROJECT

TWO-PART II: POINTS OF DISCUSSION FOR THE FUTURE

2.1- PROGRAM DESIGN AND CHANGES
2.2-ADMINISTRATIVE MANAGEMENT
2.3-FINANCIAL MANAGEMENT
2.4-TRAINING
2.5-THE FUTURE OF TRAINED PhD
2.6-THE CHOICE OF RESEARCH AREAS
2.6-INTEGRATION STRATEGY TO BURKINABE NATIONAL STRATEGY

2.8-THE FUTURE OF SCIENTIFIC COOPERATION BETWEEN BURKINA FASO AND SWEDEN

PARTICIPANT INPUTS

1. SUMMARY OF DISCUSSIONS ON 7 JANAUARY 2009

TRANSLATED Minutes of the workshop on the results of the preliminary evaluation of the Sida / SAREC program

First, a preliminary meeting took place with a smaller group, in the meeting room of CNRST, on Tuesday, 6 January 2009; to prepare for the plenary meeting scheduled the following day. Minutes of this preliminary meeting are available in French. The main objective of the plenary meeting that took on Wednesday 7 January 2009 was to discuss the preliminary results of the evaluation and receive participant feedback on the findings and suggestions for the future. The workshop brought together the evaluator, the coordinator of the program, supervisors, students and former students and representatives of the administration (see list of participants).

Following the welcome by the program coordinator, Professor Seydou Traore, the floor was given to Professor Hocine Khelfaoui to present the preliminary results of the evaluation. Subsequently there were considerable discussions and comments by the participants. All stakeholders present agreed with the results that were presented and praised the quality of the evaluation. The main additional points discussed relate to the future and are summarized below.

Several suggestions were discussed to explore how the management of the program could be changed to reduce the difficulties that were experienced in the management of the program. One possibility raised and discussed was whether it was possible to by-pass the onerous public expenditure procedures through different management structures. But the Secretary General of CNRST informed the participants about the laws in force in the country and they required that any funds derived from an agreement signed by the government with technical and financial partners should be regarded as public funds. Thus they would be administered in accordance with the public expenditure procedures unless waived by the Minister of Finance at the time the Convention is signed. This provision is intended to avoid multiplication of procedures on the basis of individual donor requirements, which could complicate the accounting and oversight. All external funds received for projects and conventions are housed at the Treasury Department unless an exemption from the Minister of Finance is granted at the signing of the Convention. In the case of SIDA funds were deposited to the BCEAO.

Regarding the Fond National de la Recherche (FNR), the Secretary General of CNRST reminded the participants about the background to the discussions that took place within the framework of the « Loi d'Orientation de la Recherche » (law on research) in which the creation of FNR was mentioned Unfortunately, this law has not been adopted. Important issues still remain to be clarified before the creation of this fund can be effective. These include the problem of sustainability of FNR, and its management and use. It was hoped that the Swedish partner could accompany Burkina Faso in the thinking on the FNR to solve these issues raised prior the creation of FNR. These issues remain unresolved after many discussions. Given the slow implementation of FNR, it was suggested by participants that other possibilities of using of the Swedish contribution to fund a competitive research scheme should be considered. The participants stressed that the work planned for a review of the national strategic plan for research provided an opportunity for Burkinabè researchers to

define the future research strategies for the country and as a part of this effort they should seek the support of Sweden for organizing, planning and review meetings.

Participants suggested that there should be recommendations to improve the working conditions of Burkinabè supervisors and they should be placed on an equal position with their Swedish counterparts. It was mentioned that there was a need for a fee for supervision that should be given to the supervisors and this was important. The participants said that this rule was challenged by the Swedish coordinator of the program. They felt it was regrettable that the program did not provide this as it damaged the performance and were unanimous that it needs to be put in place in the future stages.
From the Burkinabè side, the participants acknowledged the weak functioning of the steering committee and agreed with the many reasons for that, which have been mentioned. The participants felt that the scientific committee comprising the heads of research components around the coordinator of the program had worked well until the suspension of disbursements by SIDA. This view was contrary to the view expressed in the preliminary evaluation as reported by the evaluators.

The researchers and students have attributed the bulk of the difficulties experienced with the Sida program to the failure of administrative and financial systems. Representatives of the administration present stated that the problem lay with the procedures they must follow that are not adapted to research and teaching. Faced with this situation, the participants recommended the holding of a meeting between researchers, and, administrative and financial structures of the three institutions involved in the program to discuss the possibilities of improving the management of the program. Such a meeting could seek to reconcile the constraints and demands of the research activities that require resources at specific times with the essential and required procedures for financial administration.

To avoid disruption of student activities, Sida had made use of the services of the Swedish cooperation office in Burkina when transfers to CNRST were stopped. The participants supported the Sida efforts to minimize disruption and also noted several difficulties in managing activities with this structure. Some supervisors stated that they had some scepticism at the beginning of this transfer of responsibilities.

The need to strengthen scientific animation in the program was also expressed.

It was mentioned that the ICT component had not been addressed in the presentation. Many participants were expecting that this component would help improve the communication, including information access, and, exchanges between researchers. Hocine Khelfaoui explained that this aspect has been treated as a sub component between the evaluation team leader and the head of the ICT component. The latter took the opportunity to express his views. He welcomed the fact that unlike the past, the new coordinator had invited the ICT team to meetings, which allowed for exchanges on the expectations and constraints of each side. He provided a background to the ICT component, which he said was initiated in 2004 but for many reasons only really started in 2007. He also stressed that the ambition is not simply to allow research actors to access the Web but also to disseminate what they produce on the web. He provided a number of reasons why the implementation was complex and delayed.

Participants noted the need to emphasize the development of communication technologies to benefit students, supervisors and other researchers. The specific case of the research station INERA-Saria, which still has no Internet access, was presented. The optical fibre is about ten kilometres from the

station and the connection to the fibre was estimated to be 32 million F.CFA a few years ago. The station hosted the first ever research project funded by Sida, from 1992 to 2001, implemented to the satisfaction of the Swedish partners. In addition, six of the completed PhD are in this office or have completed their work at Saria. Given the importance of access to the Internet for research, participants recommended taking into account the problem of access to the Internet at the Saria Research Station in the next phase

It was suggested that to help bring about the objectives of the program, a workshop would be needed to launch the next phase. It will allow all players to be at the level of information before the start of activities. This would also provide an opportunity to clarify the objectives that should serve as a reference later.

It was stated that decentralization of financial management to the three structures had become operational with the newly signed agreements. For the future phase it is suggested that such decentralization is accompanied by a reorganization of the bodies of program management. Among the suggestions one was not to have the heads of institutions in the steering committee, as they often do not have much time given their many responsibilities. Instead the highest group responsible for the program structures should have nominated representatives representing the Scientific Directorate, Office of Cooperation, the Chief Financial Officer and the Project Coordinator.

The idea of focal point that was to have been in place was welcomed. However it was suggested that the point of focus must be different from the Director of Coordination, who has many responsibilities but the focal point could remain under the administrative supervision of the DCCS.

On the idea of sub-contracting with the components, the risk of adding to the burden was reported. Similarly, the idea of imposing deadlines for meeting various procedures was resisted as it was felt that there are few means of coercion across institutions. Improved awareness and a more active supervision by the new steering committee, whose members would remain from the primary institutions responsible, should help improve management. It was also suggested that any new coordination unit should be supported by a bilingual secretary and an accountant/finance officer who can control and report on funds at a satisfactory level. For the projects and activities within CNRST, a further decentralization of funds to the level of the institutes was proposed.

Finally, lack of an agreement between CAMES and Swedish institutions on the recognition of Swedish diplomas was discussed. It was agreed that while individuals can undertake issue of recognition, it could be a long process. Participants suggested that to avoid long individual steps, the existing CNRST Coordinator might take some initiatives to discuss this situation with CAMES to enable the recent graduates to obtain early recognition of their diplomas.

2. Proposal of the Group of students and alumni on the effective implementation of the Research Fund

In the framework of collaborative research between the Swedish and Burkina Faso, funded by Sida / SAREC, a workshop for the results of the preliminary assessment of the first two phases (2001-2003 and 2004-2008) was held on 07 January 2009 at CNRST. In the light of information provided during the workshop by Mr. Secretary General of the National Centre for Scientific Research and Technology (CNRST) concerning the procedure for the creation of the National pour la Recherche (FNR), it appears that the establishment of an effective FNR the following existing procedures could

take more time. Indeed, substantive issues on the FNR (sustainability, operating and power) that are prerequisites are not yet clarified.

Considering the provision by Sweden to contribute to funding for research into 8 000 000 SEK (560 000 000 CFA francs) for the period 2005-2008 which could not be implemented.

Whereas the objective of this fund is to enable students of the program to support their thesis, as well as other researchers and teacher-researchers to pursue their research activities;

Considering the objective limits of the state for funding of research activities;

Considering the availability of proven experience in research facilities and universities in managing competitive funds (developing criteria for selecting research projects, development of selection committee for a research project);

We, students and alumni of the Sida / SAREC PhD program, the signatories to this, suggest the implementation of the Research Fund's Swedish component (already available) in the form of competitive funds open to all researchers (including "enseignants-chercheurs") through the structure that will support the national coordination of the Sida Program pending the establishment of the NRF that will benefit from the achievements of this transitory management.

Prepared in Ouagadougou, 7 January 2009. Signed by:

1. Dayamba Djibril
2. Dembélé Cathérine
3. Dr Lamien Niéyidouba
4. Lingani Pascaline
5. Dr Ouattara Korodjouma
6. Ouédraogo Issa
7. Dr Paré Souleymane
8. Dr Pousga Salimata
9. Dr Sanfo Rahamané
10. Dr Sanou Adja Oumou
11. Dr Traoré Saran
12. Dr Zida Didier
13. Dr Zougouri Sita

Approved by:

1. Bognounou Fidèle,
2. Dr Gnakambary Zacharia,
3. Millogo Vinssoum,
4. Dr Ouédraogo Salifou,
5. Dr Savadogo Patrice,
6. Dr Sidibé Alice,
7. Dr Sidibé Amadou,
8. Zomboudré Georges

LIST OF PARTICIPANTS AT BURKINA MEETING, JAN 6 AND 7, 2009

Meeting on January 7, 2009

1 Traoré Nafonyi, DCCS CNRST
2 Adolphe Kere, SG CNRST
3 Chantal ZounganaKkabore, superviseur volet 9
4 Didier Zida, PhD ASDI programme, volet 11
5 Louis Sawadogo, superviseur volet 11
6 Boussim L. Joseph, superviseur volet 2
7 Sye Oumarou, volet TIC
8 Hervé Savadogo, CNRST, coordination ASDI programme
9 Dayiamba S Djibril, PhD ASDI programme, volet 11
10 Nikiema Chantal Marguerite, chef de service suivi de projet, Univ. Ouaga.
11 Jean Marie Mouadba, superviseur volet 5
12 Sagnou Gisèle, Chef comptable, CNRST
13 Issa Ouédraogo, doctorant, volet 5
14 Pascaline OuedraogoLingani. Doctorante, volet 5
15 Souleymane Paré, CNRST
16 Korodjouma Ouattara, PhD, ASDI programme
17 Badiori.ouattara, superviseur volet 1
18 Traoré Saran, Phd, Programme ASDI, volet 2
19 Sita Zougouri, PhD, volet 9
20 Pousga Salimata, PhD ASDI programme, volet 7.
21 Victor Hien, superviseur volet 4
22 Garané Issa, chef de service des marchés
23 Lamien Nyéidouba, PhD Programme ASDI
24 Pierre Guissou, superviseur, volet 3
25 Aristide Traoré, PhD, volet 3
26 Salimata Pousga, Ph D ASDI programme
27 Oumou Sanon Hadja, PhD, ASDI programme, volet 6
28 Catherine Dembelle, PhD, ASDI programme, volet 2

Present 14 Ph D program participants, 7 PhD supervisors, and 7 administrators

Meeting on January 6

1 Traoré Nafonyi, DCCS CNRST
2 Adolphe Kere, SG CNRST
3 Chantal ZounganaKkabore, superviseur volet 9
4 Didier Zida, CNRST, Station Saria
5 Louis Sawadogo, superviseur volet 11
6 Boussim L. Joseph, superviseur volet 2
7 Sye Oumarou, volet TIC
8 Hervé Savadogo, CNRST, coordination ASDI programme

ANNEX 7: REPORT ON ICT AND RESEARCH FUNDS

ICT

Evaluation Notes on the Project component - Development of the ICT infrastructure - CNRST, UO and UPB, Burkina Faso.[83]

Background Information

Information and communication technologies (ICT) are indispensable tools for the scientific and academic work and for tapping into global and local knowledge networks. The project stakeholders recognized from the beginning that Burkina Faso has very limited access to these resources and the first phase of the Sida Burkina Faso cooperation program provided for a study to define the situation and develop options and plans for improvement of the situation.

Phase I

In March 2002 the three Burkinabé Institutions in partnership with, and supported by Sida/SAREC, started a survey of the needs and priorities for ICT development in the three institutions and which resulted in a series of detailed reports describing the situation with reference to ICT in the three institutions. Following the study and analysis, a draft ICT policy document was prepared in September 2002 by a working group with 12 members. With assistance from the Department of Computer and System Sciences (DSV) of the University of Stockholm, (financed by Sida) this was further reviewed in 2003 by a working group composed of five staff members of the three partner institutions[84] - two representatives of University of Ouagadougou (UO), two from the CNRST and one from the Polytechnical University of Bobo-Dioulasso (UBP) and a workshop to develop a consensus among stakeholders regarding the ICT policy and the priorities of actions required was organized.

The result of all this was a draft ICT Development Policy and Master Plan (MP) for its implementation, which were subsequently adopted by the three partner institutions by the end of 2003[85]. The partners included the three Burkina institutions, the Department of Computer and Systems Sciences (DSV), Stockholm University/KTH and the SPIDER[86]

Phase II

[83] The TOR provided by Sida for the evaluation did not ask for comments on the ICT and Research Funds. Yet these are two important components both for their potential impacts and in terms of funds allocated and are seen as such by the local counterparts. Hence the team did allow for some examination and discussion of the issues but at the same time the reports on the two components have been kept to the Annex.

[84] The workin group (later project team) is composed of Pr. Oumarou SIE, team leader, UO, Dr SANOGO Oumar, CNRST Ouagadougou, Pr. TAPSOBA Théodore, UPB, Pr. TOURE Hamidou, UO, Dr. SANON Amadou, CNRST, Bobo

[85] This report was seen on the UO website in October 2008 at http://www.univ-ouaga.bf/. It did not appear to be there in December 2008. Surprisingly this document nor any activities in Burkina Faso were available at the Spider website, see below, which has considerable information about activities in other countries. It has been added that the document has always been available at on http://www.univ-ouaga.bf/html/partenariat/frcoopInternationale.html. . SPIDER web site is devoted to the projects financed by SPIDER. Nevertheless, SPIDER has decided to place a one-page summary of the project on its web page and link it to the project site in Burkina Faso. The bilateral ICT projects (and research cooperation too) should have their own web sites for their activities and outputs.

[86] SPIDER is collaboration between Sida and the Royal Institute of Technology in Stockholm, KTH. SPIDER draws on resources from several additional resources from academia, private and public sectors, and non-governmental organizations (NGOs) – see http://www.spidercenter.org/ SPIDER was created in July 2004 and discussions about SPIDERs involvement in the projects were taken up in 2005.

The Master Plan completed in the first phase provided the framework for the ICT project and the budget for this component. This aimed to
Build and improve the physical network infrastructure
Strengthen ICT Units at the 3 institutions, and,
Human Resources Development and Training for the end users.

The aim was to provide Internet connectivity to all the institutions where Sida supports long-term research co-operation, and following the joint ICT Policy and ICT Master Plan developed to build a reliable and secure backbone for the ICT network. Specifically, the following goals were set out:

A communication system, which makes it possible to reach researchers and support staff by phone and e-mail in the various sites.
To reach people both inside and outside with information about the Institutions' activities (through a website)
To make data bases and information about available research documents accessible on line (library information systems).
ICT tools for self training and distance education.
To ensure widespread use of simple office application software and have access to specialized application software, such as Geographical Information Systems (GIS) and statistics software tools.
Computerized management information systems for materials, students and academic staff, human resources, finance and accounting.
Computerized information systems to manage external relations, research projects and activities.
Data security and integrity control systems.

A subset of the master plan activities was selected for implementation. Capacity development of ICT users were to be provided with basic training in around 48 course modules with about 24 trainees each. Also some 30 courses on special application software as described above, will be arranged for students and researchers[87]. The data communication infrastructure would support all functional applications, such as library information system, a corporate financial system, an academic register information system and others. LANs will be set up at institutions where research collaboration is supported by SAREC. The network will provide e-mail and Internet/Intranet services to all three partner institutions. Within the scope of the project, initial steps will be taken to develop Library Information System[88], whereas it is hoped that the sub-projects concerning financial and academic information systems will be financed by other bilateral agencies. Access to different applications and sources of information such as: libraries, scientific exchanges groups, scientific reviews, scientific and technological database, open source software, computerized management systems of administrative and financial services, training material, are all possible uses of an improved ICT capacity and infrastructure in the 3 partner institutions that can improve the management, research and teaching[89]. This component was to be executed during the four-year

[87] Source - Sida, 2003 or 2004? Kwame Gbesemete - PROMEMORIA - Support for Bilateral Research Co-operation with Burkina Faso for the period 2004-2008, p. 25. It stated that "SEK 12 million will be devoted to improving the ICT infrastructure at the applying institutions" – p. 26. Yet, in table 7.1 of the same document, it proposed an allocation of 13.6 million SEK.
[88] Sida 2004, page 27.
[89] The full details are available in the "Draft Proposal for Development of ICT Infrastructure for CNRST, UO and UPB in Burkina Faso" UPB in Burkina Faso, Version 3, 20040625.

period - 2004-2007. The teams remained the same as in Phase I. The earlier working group was formally established as the Project Team (l'Equipe de Projet)[90].

Findings

Three meetings were held with the ICT team members and others involved in the project.

Stockholm – 10 October 2008 at KTH - the Royal Institute of Technology, Stockholm
Afzal Sher, Director, SPIDER
Anders Hillbo, Network coordinator, KTH.
Johan Ernberg, Project coordinator DSV (Department of Computer and Systems Sciences, University of Stockholm)
Love Ekenberg, Head of Department, Professor,. DSV
Rodolfo Candida, DSV,

At Ougadougu - 16 October 2008 and 21 October 2008
Professor Oumarou Sié (Ouagadougou University) - Project coordinator.
Professor Hamidou TOURE (University of Ouagadougou),
Dr. Oumar SANAGO (CNRST),
Hervé SAWADOGO (CNRST)

No contact was possible with the team member from UPB.

The principal observation to which there are no disagreements is that the ICT component has faced a number of challenges and is considerably behind on the schedule of implementation and hence on all planned outputs.

The discussions and submitted documents suggest that following can be agreed to as the basic facts.

The project start date was delayed to the end of 2004, allowing an effective start date of 2005[91]. At project initiation the first tranche of 2.5 million SEK was allocated to CNRST for project expenditures.

During the year 2005 preliminary work to specify the equipment to be purchased and to begin the public procurement process was begun. Then at the end of the year 2005 all disbursements by CNRST were frozen by Sida following the lack of resolution to the issues raised in the audits. The project activities came to a stop.

In May 2006, Sida authorized the resumption of work in this component by the Swedish partner, with travel to review the situation with the national team and taking into account the changes in local situation since the proposal date, to make appropriate changes and relaunch the ICT project[92]. This report found that with the delay in the ICT project the partner institutions had provided for four

[90] The team included members from the three institutions and is composed of Pr. Oumarou SIE, team leader, UO, Dr SANOGO Oumar, CNRST Ouagadougou, Pr. TAPSOBA Théodore, UPB, Pr. TOURE Hamidou, UO, Dr. SANON Amadou, CNRST, Bobo.
[91] It is noteworthy that the formal contract to begin the work for 2005 covered the period 1 January to 31 December 2005 and was actually signed and operational on 1 September 2005, with an operational validity of only 4 months.
[92] Ernberg, Johan, 2006. Report on a Mission to Burkina Faso, 15-23 July 2006, version 15 August 2006.

independent internet access points instead of working together with a common shared resource[93]. This would require a reconfigured infrastructure with higher capital and recurring costs than had been budgeted. However, it also found that with the delays, technology had evolved allowing for Wirless LANs and open source software to be used instead of proprietary and licensed software and hardware allowing for reductions in initial and ongoing costs.

It also found that there were gaps in expertise available locally for implementing the work and there was a need to increase training in network management and maintenance. It found that the project team required additional budget support to cover communication and management and administration costs. It also stated that the local rules did not allow the team to tender for all the equipment unless the entire funds were available and so recommended that the amount budgeted for the procurement of equipment be transferred to CNRST.

A meeting with Sida was held in September 2006 to review the new workplan, and an agreement was reached to implement the project with the money that was available with CNRST disbursed earlier by Sida (around 2.5 million SEK). A request made by the ICT team for larger review of the conditions and requirements was turned down by Sida. In March 2007 Professor Sie reported that the specifications for the components to be purchased had been prepared during January – March, and the invitation to tender would now proceed through the concerned procurement authorities[94]. The call for tender was made in April 2007; the tenders were reviewed in June 2007; choices were made in July 2007; reviewed again in September. Some companies appealed the decision, that was reviewed and companies were then informed in October 2007[95]. Unfortunately, one company missed the tender deadline; of 5 submissions 3 were approved and 2 rejected in the first round. Certain equipment could only be supplied by those no longer in the procurement process and hence for those equipment the process has to be restarted.

In 2008 some of the equipment tendered was finally received and we were told that the equipment had been installed, tested in September 2008 and confirmed to be working. Documents presented by the ICT team and memorandum prepared by MESSRS show that as on June 2008 the project had acquired Computers and Informatics equipment (37, 640,000 FCFA), copiers and video projectors (55,895,500 F CFA), equipment for local fibre network for optical connections between CNRST, UO, UPB (33 957 228 F CFA) and had made upgrades to the ongoing network security system (14 943 183 F CFA) for a total expenditures of 150,355,770 F CFA (approximately 2.3 million SEK)[96]. Thus as at the end of October 2008, only a part of the available resources of 2.5 million SEK, which already represented less than 20% of the inputs allocated to be used by the end of 2007 had been availed of.

The ICT team has prepared a work plan (see annex) that expects to complete all work under this component by the year 2009.

Given the above situation no significant changes in the ICT capacity could be observed.

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[93] It also commented that the institutions did not have the necessary mechanisms to work together as had been envisaged in the policy and project plans – ibid, page 1. This is a larger problem for the entire research cooperation goals beyond the effects on the ICT project.

[94] In keeping with national efforts to increase transparency and competitive processes, there is an independent authority DCMP?? located within the CNRST, reporting to the Ministry of Finance, that takes the specifications, prepares the tender documents, makes the announcements, reviews the submissions and then announces the winners of the tender.

[95] From discussions and notes in Sie, 28 October 2007 and J. Ernberg, 5 Dec 2007. Again Sida approved the project activities for 2007-2008 on 3 October 2007.

[96] Memo to Sweden from the MESSRS, 30 May 2008.

Some information on the local context

In the discussions the Burkinabé team mentioned that a number of difficulties had been due to the lack of institutional cooperation arrangements in Burkina Faso. The project team is located in organizations having many constraints and great shortage of all resources. For instance, there was not enough recurrent budget to pay for licenses for software that had become dated and were no longer performing well such as firewall software and anti-virus. This led to frequent attacks on the local servers and the network was clogged and performed poorly. Recent support from Belgium has allowed this problem to be resolved for the time being.

It is notable – see paper INTERNET ET LMD: LES STRATEGIES DES ETUDIANTS BURKINABÉ – that the Burkinabé researchers and students appear to make fairly high use of ICT resources even though they do not have much access at their institutions. Many use commercial services and some researchers have purchased services at their homes, at costs higher than in richer countries, in spite of their much lower incomes.

Conclusions and Possible Directions for the future

1. The ICT project has suffered from the same management and organizational difficulties that the overall project suffered from but given the nature of the tasks the negative impacts have been greater.
2. In addition this project suffered additional challenges specific to its goals and objectives. These include the fact that this project had large expenditures planned under local auspices – making it more subject to the difficulties encountered due to the interim halt in expenditures, annual agreements to proceed which are always signed in the second half of the operating year.
3. The difficulties of local coordination affected this project the most as the project was designed from the beginning as a cooperative effort of three organizations that appear to have very few mechanisms and experiences in cooperation.
4. The timeline of the procurement process once it began in earnest in March 2007 and was only partially completed by June 2008, provides an important lesson and should provide significant caution to the immediate future plans for the utilization of the balance of almost 80% of the funds allocated towards the ICT component in the remaining one year.
5. This component has always suffered from a continuing optimistic projection by the project team and simply based on that, the reviewers lack confidence that all activities planned in 2009 will be completed as proposed.
6. The project team needs to provide better documents and demonstrate wider consultations and support by stakeholders to the plans than can be seen to date. It has been noted that the original master plan on which the project was based was very ambitious and also did not take into account a number of local and project factors into account. The difficulty of availing the master plan on the UO project web site, and/or any updates on the progress of projects, does not allow the large and varied groups of stakeholders to know and provide feedback on the progress.
7. The currently available documentation on the project status and plans can be significantly improved.
8. The team believes this is a very important component of the Sida project support for increased capacity in the country for higher education and research and the use of knowledge for development.
9. The evaluation team has noted that the TOR specified by Sida does NOT ask any questions on the ICT component. Sida has only asked for an analysis of reasons of the bottlenecks and only

seeks to understand the past. Sida confirmed (on 21 November 2008) that it does NOT wish for the evaluation team to spend additional time on recommendations for the ICT component.

10. The evaluators note that the local stakeholders are very keen to see a resolution that promotes speedy and effective implementation of this and the research components.
11. As with the larger project, there is a strong view that the entire procurement should have been and could still be managed by the Swedish counterparts and there by remove the local bottlenecks. This step would undoubtedly make the process more efficient and the equipment can be installed quickly but this loses sight of the larger objectives of the Swedish cooperation to build and improve local capacity. This is against Sida policy.
12. In our view a fully functional and independent project coordination unit could provide the answer to many of the administrative difficulties. This is discussed more fully in the main report. Without accepting the previous or current recommendation Sida could fall foul of efficiency and effectiveness.
13. An unanticipated and positive outcome of the challenging experiences within the ICT component has been an increased knowledge within the local team on how to improve and expedite the local procurement processes that could be useful in the future and also significantly greater awareness of the inefficient local processes. This awareness and learning could be valuable for future work in the country.
14. Keeping in mind the points made in 7-10, the team stops with a few general and broad recommendations. It strongly recommends that Sida, the Burkinabé stakeholders and the ICT team should review the ICT plans in greater detail, with wider participation, and with some urgency.
15. The ICT team could provide an important mechanism for bringing together several project components to achieve the long term goals of the Sida project – it could provide a home not only for its own plans and outputs the improved website should allow for information on the outputs of the project as well as announcements of new activities and research funds when these become operational[97]. The plans going forward must have benchmarks on outputs and outcomes, which are missing so far and all possible measures should be considered to make this component more efficient and effective given its obvious potential for wide and valuable impact on Burkinabé development outcomes.

References:

Ernberg, Johan, 2007. Report on a Mission to Burkina Faso, 15-24 November 2007, 5 Dec. 2007.

Ernberg, Johan, 2006. Report on a Mission to Burkina Faso, 15-23 July 2006, version 15 August 2006.

Sida, 2003 or 2004?. Kwame Gbesemete - PROMEMORIA - Support for Bilateral Research Co-operation with Burkina Faso for the period 2004-2008.

Sida, 2004. BILATERAL RESEARCH CO-OPERATION WITH BURKINA FASO, October 2004 - December 2008, Sida's Assessment of the co-operation.

[97] It is highly unfortunate that for a capacity building project focused on research and knowledge, there is no central repository of all research outputs produced by the project. This could easily be provided by the ICT team for the project outputs.

O. Sie, 2007. Note on ICT Project, 28 October 2007. and J. Ernberg, 5 Dec 2007

Burkina Faso Project, 2004. Draft Proposal for Development of ICT Infrastructure for CNRST, UO and UPB in Burkina Faso" UPB in Burkina Faso, Version 3, 2004-06-25.

Proposed Work Plan by ICT Team – October 2008 – Dec 2009

Activities	**Progress/Deadline**	**Executed by**
Pending		
1 Fix problems in Electrical networks	October/nov 08	CNRST, UPB
2. Preparation ToR for site survey	Debut October 08	Mr. Hillbo
3. Recruitment of Adm. Assistant	Oct. 08	UO
Infrastructure — acquisition of equipment for all sub-projects		
6. Site survey for P-t-P wireless systems	November 08	BF contractor
7.a. Preparation of specifications and tender doc's for the above.	Nov. 08 ~	Swedish consultant (Mr. Hilibo?)
7. b. Purchase of equipment	December 08	Stockholm University/KTH
7.c Transport, installation of P-t-P WL systems	January — March 09	mt. Expert assisted by Univ. staff
8.a Preparation of specifications and tender documents for the remaining hardware and invitation to tender	October — Nov08	Burkina Team
8. b. Evaluation of the above tenders and choice of suppliers	January 09	Burkina committee
8.c Installation of remaining equipment	February - March 09	Suppliers
ICT Unit		'
9. Recruitment of ICT Units' staff	January-April 09	Partner Institutions (CNRST, UP)
10.1 .Mgmt courses ICT staff		November 08-Feb 09
10.2 Basic Networking courses	November 08-June 09	International experts or courses
10.3Advanced networking	Jan-June 09	International experts or courses
10.4 Mtce course	Oct. 2008 - june09	Prof Sie et al. + International experts
11. Development of web sites	December 08-March 09	UO, UPB CNRST
12.Equipment and furniture	PM March 09	See infrastructure
HRD		
13. Specification of competence requirements for different categories of users, maintenance staff & developers	October-08	Burkina Team
14. a Assessment skill/knowledge levels of	November 08	Burkina Team

target populations (revision of trg. needs analyses and baseline for evaluation)		
14.b.Specification of training courses to be organized (objectives, target group, how)	End November 08	Burkina Team
15.Development/adaptation of Training modules	Dec. 08-Feb. 09	
16.Training of trainers	Jan-March 09	Local & International. Experts
17. User training	Dec. 08 – Dec. 09	Local trainers
18. Sensitization seminar	Dec. 08-Jan.09	Local partners
19. Acquisition of equipment	PM March 09	See infrastructure
Library Information System		
20. Preliminary study	November 08	?
21. Development of library system	Jan. – June 09	BF team + Intern. Experts
22. Acquisition of equipment	PM March 09	See infrastructure
23. Development and adaptation of manuals and regulations	Jan. - June 2009	Local partners
24. Information and awareness building activities	Jan – Dec. 09	Local partners

Source: Meetings in Burkina with ICT Team

LOCAL Research Funds

Sida had allowed for resources for a local fund to finance research studies of different kinds (see paragraph 86 in the main text)[98]. To this end, Burkina Faso stated that there was a structure called the National Fund for Education and Research (FONER). Having seen that the FONER was mainly for the provision of training grants, the Swedish partner, however, requested MESSRS to clarify the mission so that the research fund will be used only for research.

The MESSRS then hired a consultant to draft a report for a possible structure for the research funds. The consultant produced a document outlining the duties and lines of research that could be financed, which was submitted to Sida. There were several comments from Sida as well as a number of other experts. Since then, the project is pending at the Ministry of Secondary and Higher Education and Scientific Research.

Among the comments there was a general worry that its location at the ministry may not be the most effective as it raised fears of possible political influence in the eyes of many and all generally worried about possible red tape on the functioning of research. In addition, the operational rules and administrative role of scientists have not been clearly defined. The evaluators also remained unconvinced that this is the most ideal formulation for the local research funds planned in the project. Ultimately, there has been little progress in the establishment of this fund. Several documents were submitted, including a draft decree, which are potentially ready for immediate promulgation but similar documents have been shown to Sida some time ago. As a result, a sum of 70 million CFA francs (8 million Swedish kronor) is still pending in a CNRST, unused for lack of clear regulatory framework for the research funds.

There is a draft decree pending signature that defines a National Research Fund (NRF) with three management bodies: a management board, a scientific council and a coordinating unit. The Management Board is composed of 7 members representing the MESSRS, the Ministry of Finance, two representatives for CNRST, two representatives for the two universities and a representative of the technical and financial partners. Decisions are taken by simple majority, which means they can be made without the consent of the donor. Board members receive an allowance to be paid by the Government of Burkina Faso.

The Scientific Council is composed of 9 members: universities (two), CNRST (two), private research (a), Department of Health (one), agriculture (a) technical and financial partners (one), MESSRS (one). It is defined as a decision support under the authority of the management board. The organization and operation of the SC are defined by internal rules adopted by the board of management. SC members are appointed by decree of MESSRS.

The evaluators have several concerns:
If the SC members are appointed by decree, this means they are somewhat permanent. But members of the SC should be selected according to the nature of research projects and in that case its membership may need to be more fluid. The organization and operation of the SC are defined by

[98] The TOR provided by Sida for the evaluation did not ask for comments on the ICT and Research Funds. Yet these are two important components both for their potential impacts and in terms of funds allocated and are seen as such by the local counterparts. Hence the team did allow for some examination and discussion of the issues but at the same time the reports on the two components have been kept to the Annex.

internal rules adopted by the board of management. There is a high risk of dependence of the SC to the Management Committee. If the SC members are under the authority of the management committee, the choices of the SC is likely to be superseded by the Management committee and thus a high risk of dependence of the CS to the Management Committee. The power of SC should be final and binding in all areas of scientific assessment. It must be totally independent of the management committee.

The coordination unit is the executive body of the Board of Management. It is headed by a coordinator appointed by decree and acts on behalf of the Board of Management. The coordination unit is defined with great specificity with a secretariat, a study and project staff, an administrative and financial staff headed by an accountant and a financial controller. A key issue for the NRF will be the amount of resources available and the purposes. Unless there is significantly more national and foreign resources, the unit could become a very "heavy" bureaucratic machine rather than a light structure that will promote efficiency and learning.

There are increasingly urgent needs to have this fund operational, if only to continue the research undertaken in the framework of the successful PhD programme. Most PhDs will need funds to continue the cooperation they have started with Sweden in their doctoral studies. In addition, this fund has the potential to allow integration of research activities with teaching, extension and broaden the spectrum of development cooperation.

Discussions on the NRF with stakeholders shows three different perspectives:
The first is that proposed by the ministry[99] - in this, the ministry intends to move forward in this version of the draft decree, as it also fits in an initiative supported by UNESCO. In this view, if the Swedish did not agree, Sweden could also can create its own funds and perhaps join the NRF if and when it deems appropriate. Ironically, this approach could find support from some parts of Sida where the decree and the creation of the NRF will make it easier for Sweden to follow the principles of national ownership and national structures.

The second view is proposed by many research stakeholders – that pending the finalization of the NRF, which may take much more time, and also may not be structured right, the Swedish partner helps to create a local research fund to continue, without further delay, the support required for their cooperation program in Burkina Faso. This local fund could be converted to or merged with the NRF when it is fully operational and seen to be appropriate.

A third perspective, possibly the most distant but the most ambitious, is suggested by some senior researchers, that to ensure the sustainability of a research fund and an active role of the state and local producers and users, the fund must be mainly financed by the state and the resources raised by levies on certain products such as alcohol. After the state creates such a fund, the donors can be invited to join and they will support this locally defined NRF as a national structure in which the State controls the structures and functioning.

The evaluators consider the last to be a much larger issue than can be covered here. In the final concluding section the evaluators propose an immediate plan for moving forward that incorporates features of the first and second and allows for an experiential and evolutionary approach.

[99] As presented by the person in charge in the Ministry for developing the National Research Fund:

ANNEX 8: REPORT ON SCIENTIFIC OUTPUTS

Publication outputs of Burkinabè students and scientists participating in the Sida-SAREC cooperation programme.

The 22 Burkinabè participants enrolled in a PhD programme have been requested to provide their list of publications derived from their research work supported by Sida-SAREC (including papers presented at conferences). A reminder was also sent to non-respondents.
The publications were gathered in one excel file (cf. annex) by alphabetical order of authors (surname first; given name second; e.g. Savadogo Patrice). Double entries of publications have been marked in yellow. The latter refers to three authors only (Issa Ouedraougo, Patrice Savadogo and Didier Zida) being co-authors in a few publications. A separate working file excluding the double entries has been used to analyse the data.

Out of the 22 Burkinabè participants, 19 have sent their publication outputs. The three missing so far (Sunday 25 January) are: Milogo Vinsoum, and Ouedraogo-Kone Salifou who has defended last December 2008. Traoré Aristide also did not respond and he is no longer a member of the Swedish program.

It should be noted that up to the end of 2008, 13 Burkinabé PhD students had defended their thesis (one in 2006, seven in 2007 and five in 2008). By mid February 2009, the total number of defended thesis will be 14 (cf table 5). The thesis completion dates suggest a remarkable success rate of the students who have often completed their PhD in 4 and sometimes 5 years, considering that 4 years is the normal rate for completion of Swedish students. Their capacity, dedication and hard work is remarkable given that most of them (if not all) had to learn English before they could participate in the Swedish program and for all this was a completely new place and new way of working, they also did their field work in Burkina Faso and suffered from many delays due to the administrative difficulties. It also speaks well of their supervisors' dedication to the individual student participants.

The excel file (excluding the double entries) includes 131 entries. Not surprisingly, no works was published during the two first years of the programme. The first publication appears in 2003, followed by two publications in 2004. Logically, the number of work published and of presentation of papers to conferences (including posters) increases in the following years as more PhD theses are defended. In 2007 and 2008 it reached 17 and 16 publications (cf. Figure 1 and Table 2).

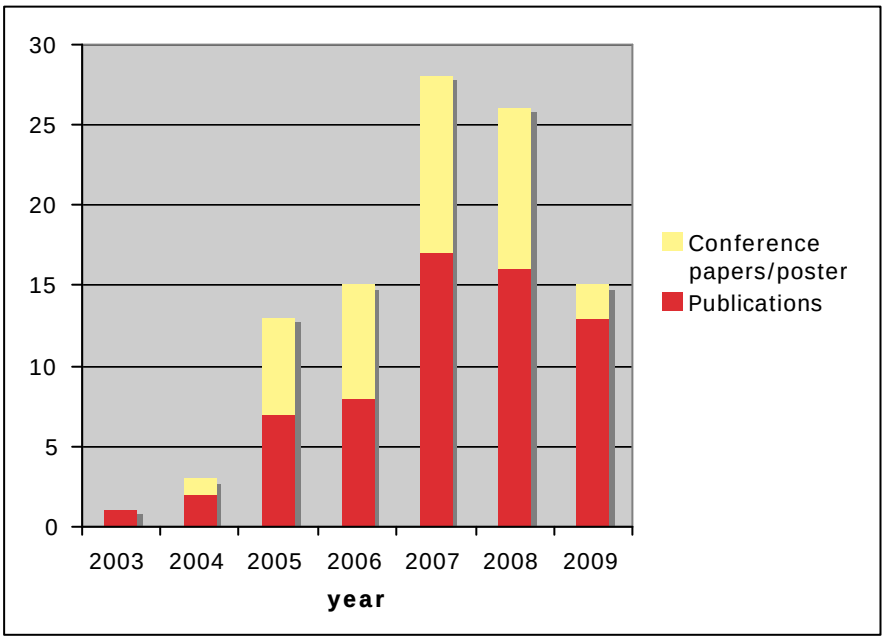
Table 1: Main outputs of Burkinabè students (2001-2009)

Output type	Number
Publications	64
Conference papers	27
Posters	10
MSc thesis	6
PhD Thesis completed and defended	14
Forthcoming PhD thesis	5
Book	1
Missing information	3
Grey literature	1

Publications in scientific journals are the main outputs with 64 publications altogether during 2001 and 2009 (cf Table 1). Among the 2009 publications four are in press and 13 have been submitted for publication with good likeliness to be accepted. Whether all PhD Burkinabè will continue to publish in the coming years after resuming their work in Burkina Faso remains to be seen but we have already good indications that it is the case. Burkinabè scientists who defended their thesis in 2006 and 2007 continued to publish during 2008 and 2009. The mean number of publications per participant into the programme (3,37) by itself is an outstanding achievement given that nine of them are yet to defend their thesis as of today and that one (anthropologist) has published a book based on her thesis work, contributed papers in four workshops and conferences but no publication.

The most visible and prolific scientists in the group are those who defended their thesis earlier in the programme and who co-publish with other partic ipants in the programme. A typical and rather unique case is the tandem Didier Zida and Patrice Savadogo and to a lesser extent Issa Ouédraogo and Patrice Savadogo. Taking co-authored publications into account, the top two participants in the programme, Didier Zida and Patrice Savadogo, are respectively credited with 16 and 26 publications!

Figure 1: Chronological progression of Publication outputs (2001-2003)



English is by far the lingua franca of publication. Only 6 out of 64 (or 9%) are in French. It is another outstanding achievement of the programme. Not surprisingly, PhD students enrolled in Burkina Faso tend to publish more in French, although most of them would also publish in English. There are two exceptions of participants in the programme publishing and communicating only in French (one being enrolled at Ouagadougou University and the other one at the University of Uppsala).

The number of Conference and poster presentations (27 and 10), one book, and one note for extension services also speaks well of the effort to disseminate the findings. The PhD students all spoke during the interviews of additional plans to disseminate the results of their research in Burkina Faso so it can reach users.

The 64 publications have been published (or are being submitted) to not less than 44 journals (see Table 3 and 4) out of which four only are local national journals. Journals of publication are, on average, high quality journals, but not necessarily very high impact journals. Impact factors and their related tools and possible uses are however recurrently discussed in the scientific literature and have been the object of a lot of criticisms leading to subsequent corrections of the impact index. They most often measure the attraction and the visibility of published articles, and not necessarily its quality. When it comes to quality alone, we take for granted, given the close supervision by senior and internationally recognized scientists, that the 64 publications are of good quality. Regarding their potential impact, overall, articles published by developing country scientists are less cited than those authored by leading scientific countries. A number of reasons contribute to this bias, of which most have nothing to do with quality[100].

Another important outcome of the programme refers to the total number of scientists involved in co-authoring the 64 publications: 71 authors (cf. Table 6). This goes well beyond the number of participants and supervisors involved in the SAREC cooperation programme both in Sweden and in Burkina Faso. Co-author names also indicate that supervisors, overall, are keen on sharing the reward of publishing with their Burkinabè students. We also know from the many interviews conducted that they greatly contributed to improving the quality of the papers through guidance and advise. This is also a very important part of the learning process and a good indication that this learning process has been successful. At the end of the process, it is a true win win operation. Here again, a particular group is standing out as the most visible and the most productive one: participants and even more so supervisors in project 2, 5 and in particular 11. Thus, Prof. Per Christer Oden and Prof. Louis Sawadogo are both credited with 30 publications each and Prof. Oden's assistant Prof Mulalem Tigabu with 29 publications. The two latter Sweden-based scientists are also the two supervising the highest number of Burkinabè students and scientists in the programme.

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Gaillard J., J.M. Russell, A. Furo Tullberg, N. Narvaez-Berthelemot and E. Zink. 2001. "IFS Impact in Mexico: 25 years of support to scientists", The International Foundation for Science (IFS), MESIA Impact Studies, Report No.3, Stockholm, 152 pages.

[100] On this issue of lack of citation and visibility of third world science, see Gaillard, 1989 and 2001.

Annex

Table 2 : Year of publications and conference papers/posters

Year	Publications	Conference papers/poster
2003	1	0
2004	2	1
2005	7	6
2006	8	7
2007	17	11
2008	16	10
2009 (in press, submitted or scheduled)	13	2
Total	64	37

Table 3: PhD thesis completed and forthcoming

G	Name	Date of defence	Place of Thesis Defence
M	Lamien Nieydouba	2/06/06	Ouagadougou Univ.
M	Sanfo Rahamane	1/02/07	Ouagadougou Univ.
M	Savadogo Patrice	29/05/07	SLU/Umea
M	Zida Didier	30/05/07	SLU/Umea
M	Ouattara Korodjouma	14/09/07	SLU Umea
F	Sanon Hadja Oumou	24/09/07	SLU Ultuna
F	Pousga Salimata	14/12/07	SLU Ultuna
M	Gnankambary Zacharia	21/12/07	SLU Umea
F	Zougouri Sita	25/09/08	Uppsala University
F	Traore Saran	22/09/08	Ouagadougou Univ.
F	Sidibe-Anago Alice	7/10/08	SLU Ultuna
M	Pare Souleymane	7/11/08	SLU Umea
M	Ouedraogo-Kone Salifou	02/12/08	SLU Ultuna
M	Zomboudre Georges	14/02/09	Ouagadougou Univ.
Forthcoming PhD thesis			
M	Bougnounou Fidèle	2009	Ouagadougou Univ.
M	Sidibe Amadou	2009	?
M	Dayamba Djibril	2010	SLU Umea
F	Ky-Dembele Catherine	2010	SLU Umea
M	Ouedraogo Issa	2011	SLU-Umea /Alnarp
F	Lingani Pascaline	2011	SLU-Umea /Alnarp
M	Milogo Vonsou	?	?
M	Traore Aristide	?	No longer in the program.

Table 4 : Journals of Publication - African and international (1)

1. African Journal of Agricultural Research (2)
2. African Journal of Biochemistry Research (1)
3. African Journal of Ecology (4)
4. African Journal of Range and Forage Sciences (1)
5. Agriculture Water Management
6. Agriculture Ecosystems & Environment (1)
7. Agroforestry Systems (2)
7. Animal Feed Science and Technology (1)
8. Ann. Bot. Afr (1)
9. Biotechnol. Agron. Soc. Environ (1)
10. Bois et Forêt des Tropiques (2)
11. Ecosys. and Environnement (1)
12. Environmental and experimental botany (1)
13. Eurêka
14. Flora (1)
15. Forest and Policy Journals
16. Forest Ecology and Management (5)
17. Fruit
18. Fruits (2)
19. Insectes Sociaux (1)
20. International Journal of Poultry Science (1)
21. International Journal of Wild land Fire (2)
22. Journal of Arid Environment (1)
23. Journal of Environmental Management (1)
24. Journal of Hydrology (1)
25. Land Degradation & Development (1)
26. Livestock Research for Rural Development (1)
27. Livestock Science (1)
28. Nutrient Cycling in Agroecosystems (1)
29. Perspectives in Plant ecology Systematics and Evolution (1)
30. Plant Ecology (1)
31. Revue d'élevage et de médecine vétérinaire des pays tropicaux (1)
32. Seed Science and Technology (1)
33. Small Ruminant Research (1)
34. Soil Biology and Biochemistry (1)
35. Soil Tillage Research (1)
36. Soil Use and Management (1)
37. Tropical and Subtropical Agroecosystems (1)
38. Tropical animal Health and Production (1)
39. Tropicultura (3)
40. Umoja (1)

Table 4 : Journals of publication - Local journals

41. Annales de l'Université de Ouagadougou (1)
42. Revue Sciences et Techniques (2)
43. Cahier du Centre d'Etude et de Recherche en Lettre, Sciences Humaines et Sociales (1)

44. Notre Environnement, (1)

Table 5 : Author's name and (number of publications)

Balima J (4)
Bayala J (1)
Bognounou F (2)
Boly H. (11)
Bouda H.-N. (1)
Boussim I. J. (6)
Brannlund R. (2)
Brian O. (5)
Cole R. (1)
Dabiré R. (1)
Dama M. (1)
Dayamba D.(7)
Diallo O.B. (2)
Elfving B (1)
Gnankambary Z. (6)
Gong P. (2)
Guinko S (15)
Hansson L. (2)
Hien V. (2)
Ilstedt U. (5)
Kanwé A. B. (1)
Koné N. (1)
Ky-Dembele C. (3)
Lamien N.(6)
Ledin I (14)
Lepage M. (5)
Lindberg J. (4)
Lingani Pascaline (1)
Malmer A (8)
Millogo V. (1)
Millogo-R J.(2)
Murdiyarso D. (1)
Nyberg G. (8)
Nygård R.
Nygard R. (3)
Oden P. C (30)
Ogle B.(5)
Ouadba J.M. (7)
Ouattara B.(2)
Ouattara F. (1)
Ouattara K. (2)
Ouedraogo B (1)
Ouédraogo G. A. (5)
Ouedraogo I (9)

Ouédraogo M (2)
Ouédraogo S.J.(9)
Pallo F (1)
Paré S. (2)
Pousga S. (6)
Roy macauley H. (1)
Sandewall M. (2)
Sanfo R (6)
Sanon H.O.(10)
Savadogo P. (26)
Sawadogo L (30)
Schelin M. (1)
Sedogo M.P. (2)
Sidibé A (4)
Sidibe-Anago A.G. (5)
Soderberg U. (1)
Söderberg U. (1)
Somé L. (4)
Thiombiano A (2)
Tigabu M (29)
Tiveau D (18)
Traoré S (5)
Zida D (16)
Zomboudré G (5)
Zombré G.(1)
Zougouri Sita (5)
Zoungrana C.I. (7)

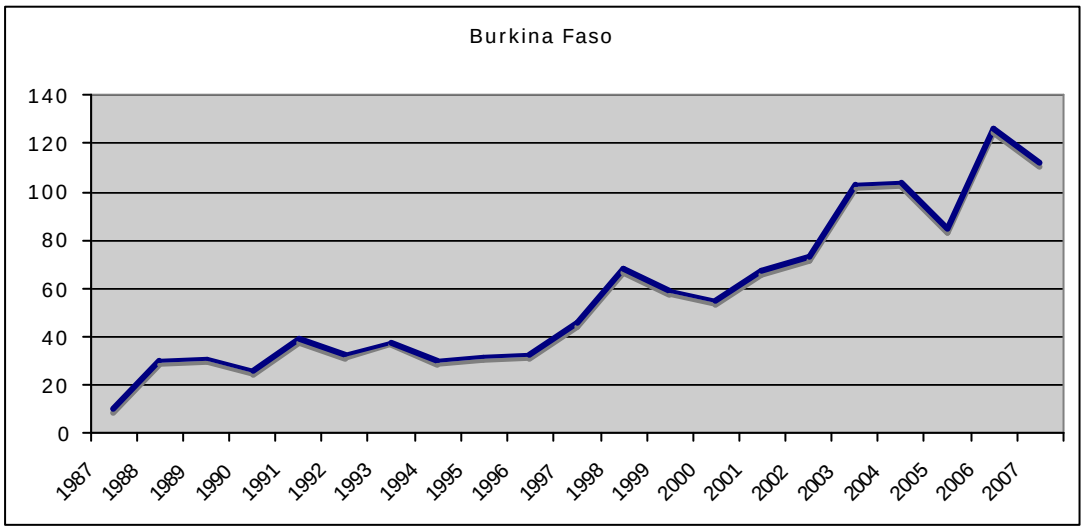
ANNEX 9: SCIENTIFIC OUTPUT AND INTERNATIONAL COOPERATION

Sida-SAREC supported work in the context of Burkina Faso scientific production: a bibliometric analysis

In order to analyze the main characteristics of Burkina Faso scientific production as well as recent trends, we used the US-based Science Citation Index (SCI) [1] and the Spanish-based SCImago[2]. SCI as well as other international bibliometric databases (e.g. PASCAL) have their limits and drawbacks. They are highly selective and screen only the world's most prestigious journals (in the case of SCI, the ones whose articles are most frequently cited) most of which are published in the North. Burkinabé scientists, as most scientists in developing countries, often publish in local or regional journals not indexed by SCI or by PASCAL. When they publish in journals in the North, they also often publish in journal with lower impacts not indexed in international databases. Numerous studies indicate that in any given country-specific field, much of the research produced by developing country scientists is published in local and/or lower impact journals (Russel and Galina, 1987; Chatelin and Arvanitis, 1989; Gaillard, 1989; Gaillard *et al.*, 2001). Although the tendency of Burkinabé scientists to publish in mainstream journals has been going up over the last decade, a large part of their scientific writings remains locally or regionally published and has low visibility. Measuring and analyzing the total scientific production of Burkinabé researchers would provide interesting additional information. It would however require a different but complementary methodological approach using the complete publication lists of a selected population of Burkinabé scientists[3].

1. A modest but increasing production

Figure 1: Number of publications in SCI (1987-2007)



Source: SCI data, IRD/P.L. Rossi computing.

[1] The Science Citation Index (SCI) provides access to current and retrospective bibliographic information, author's names and addresses, abstracts, and cited references found in 3,700 of the world's leading scholarly science and technical journals. The SCI Expanded format, available through the Web of Science and the online version, SciSearch, covers more than 5,800 journals.

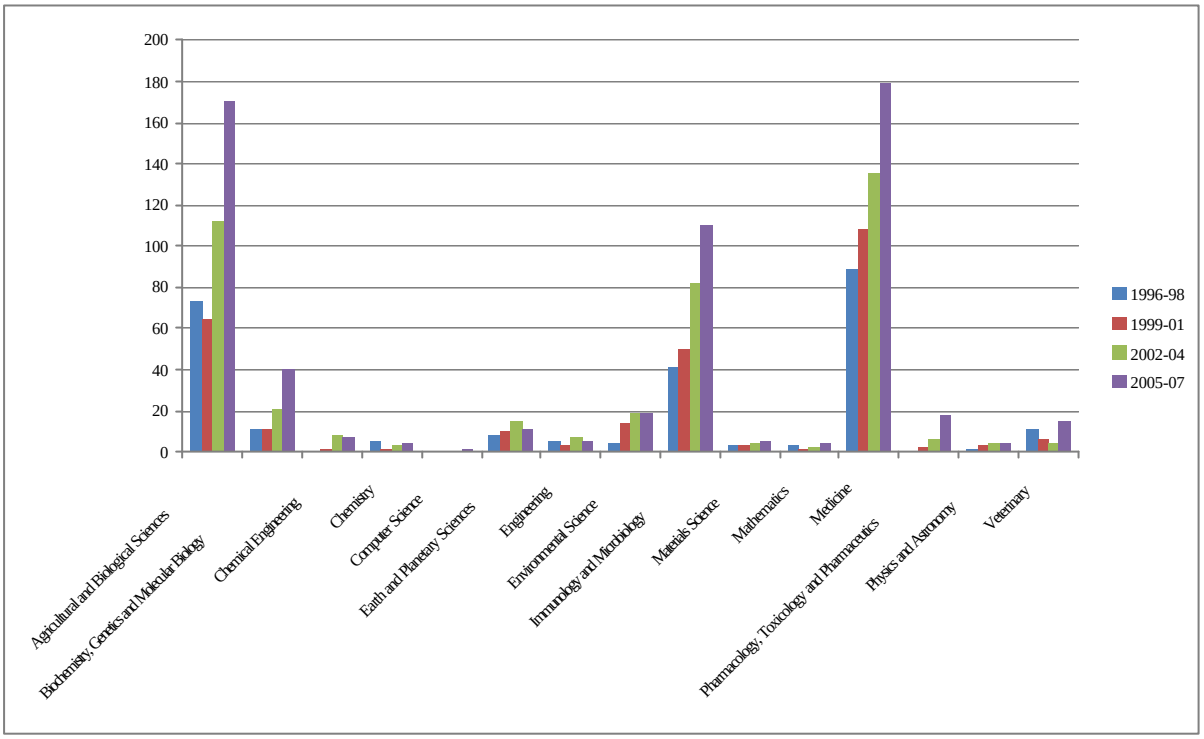
[2] SCImago is a research group from the Consejo Superior de Investigaciones Científicas (CSIC), University of Granada. SCImago indexed 15922 journals in 2007.

[3] For a detailed presentation see Gaillard *et al.*, 2001: 49-64.

2. A marked concentration in medicine, agricultural and biological sciences, and immunology and microbiology

Based on the publications indexed by SCImago for the period 1996-2007 we find three main areas dominate Burkina Faso scientific production: medicine, agricultural and biological sciences and immunology and microbiology (see Figure 2).

Figure 2: Distribution of indexed publications by main scientific areas (1996-2007)



Source: SCImago. (2007). SJR — SCImago Journal & Country Rank. IRD/P.L. Rossi computing

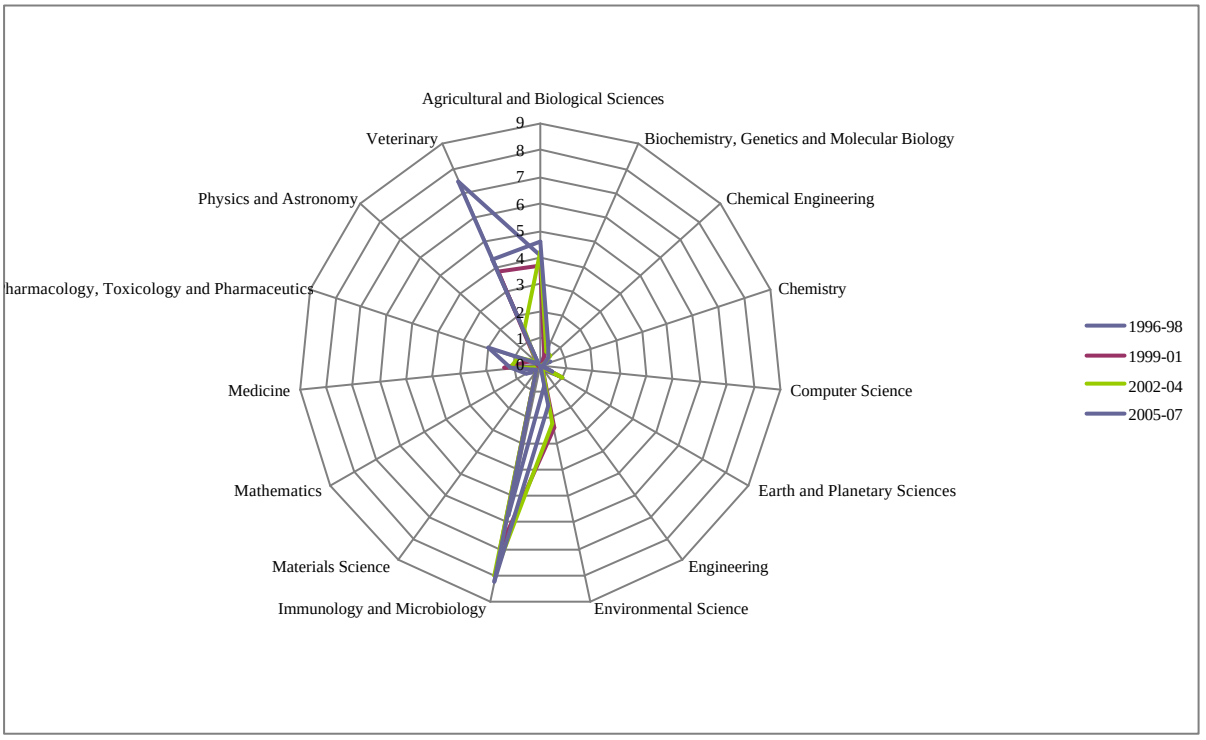
Given that most of the work in immunology and microbiology is related to medicine, medicine is by far the most important scientific domain in Burkina Faso today. This is confirmed when looking at the most recent papers published during 2008. Based on the publications indexed in ISI extended Web of Knowledge 2008 (not complete when writing this paper), we find that tropical medicine; public health and infectious diseases are by far the most important areas accounting for 75% of the overall number of indexed publications. Assuming that Sida-SAREC wishes to work in areas for which a science capacity exists, Medicine may be an area worth considering for Sida-SAREC's future programme in Burkina Faso.

Research activities supported by Sida-SAREC are to be found mainly in "agricultural and biological sciences" and in "veterinary sciences", the latter being, comparatively, a rather small but increasing area (particularly during the last period 2005-2007) showing a marked specialization (see below).
Publications in the basic sciences (i.e. chemistry, mathematics and physics) as well as in engineering sciences are particularly low. Yet, most other sciences need a strong basis in basic sciences to progress satisfactorily. Here again, capacity building in the basic sciences in Burkina Faso may be an area worth considering by Sida-SAREC for its future programme in Burkina Faso.

Marked specialization in immunology/microbiology and veterinary sciences

Beyond global scores, each country may have a particular interest or may specialize in a particular research area or scientific discipline. This could constitute a special asset while marked weaknesses in other disciplines may be detrimental. The degree of specialization or *specialization index* can be measured. It is the ratio of the world share of publication in one discipline to the world share of publications in all disciplines. Specialization exists when the index is above 1, and under-specialization means that the index is below 1; an index equal to or around 1 is considered neutral.

Figure 3: Specialization index for Burkina Faso in 15 research areas and 4 periods



Source: SCImago. (2007). SJR — SCImago Journal & Country Rank. IRD/P.L. Rossi computing

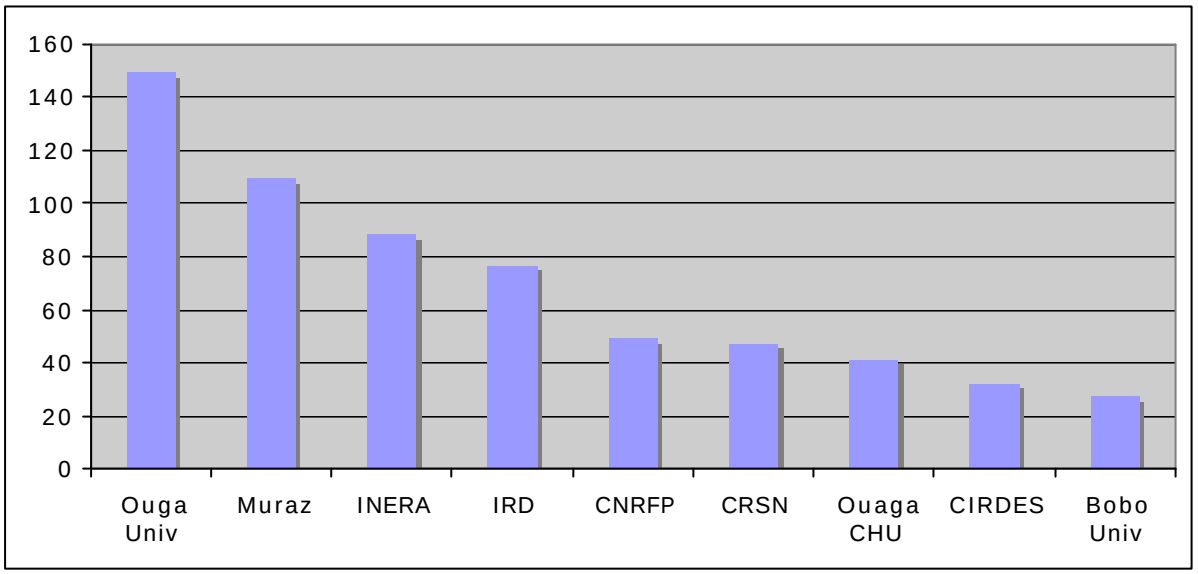
In order to analyze Burkina Faso specializations, we considered the 15 research areas presented in Figure 3. Burkina Faso showed a strong and stable specialization particularly in « immunology and microbiology » as well as « veterinary sciences » and to a lesser extent « agricultural and biological sciences » over the last 12 years (see Figure 3). Except for the area of immunology, Sida-SAREC cooperation programme with Burkina Faso is so far concentrated in the main areas of specialization for Burkina Faso.

« Pharmacology, toxicology and Pharmaceutics » can also be considered as an area of specialization but at a much lower level as well as medicine to an even lesser extent. All other areas show a marked under-specialization. Whether Sida-SAREC should also consider strengthening capacity in a few well-targeted areas showing today a marked under-specialization, including the basic sciences, should be open for discussion.

3. The most visible institutions

The bulk of Burkina Faso research activities indexed in international databases is concentrated in a few institutions. Nine institutions account for 86,9% of the overall number of publications indexed in SCI over the period 2001-2008 (cf. Figure 4).

Figure 4: The top producing scientific institutions in Burkina Faso (2001-2008)



Source: SCI data, IRD/P.L. Rossi computing.

The most visible institution is by far the University of Ouagadougou with 148 publications or nearly 20% of the total number of indexed publications. It is followed by an applied research center in the field of public health, the Muraz center[4], and the largest of the four research center of CNRST: l'Institut de l'Environnement et des Recherches Agricoles (INERA). This top three institutions account for nearly half of the overall production (46%). They are followed by a French public research institute: The Institut de Recherche pour le Développement (IRD)[5].

Then comes several institutions specialized in medical and veterinary sciences:
The Centre National de Recherche et de Formation sur le Paludisme (CNRFP)
The Centre de Recherche en Santé de Nouma (CRSN)[6]
The Centre Hospitalier Universitaire (CHU) de Ouagadougou; and
The Centre International de Recherche-Développement sur l'Elevage en zone Subhumide (CIRDES)[7].

[4] The MURAZ center, based in Bobo Dioulasso, is a public health research center under the Ministry of Health. Its main mission is to promote the fight against communicable diseases through research, training, expertise and medical analysis.
[5] The IRD in Burkina Faso is involved in carrying out research programmes in partnership with Burkina Bé institutions and teams focusing on three areas: environmental studies, health and nutrition, and social sciences.
[6] Le CRSN a vu le jour au début des années 1990 sous le nom de Projet de recherche-action pour améliorer les soins de santé, un partenariat entre le département d'hygiène tropicale et de santé publique de l'Université de Heidelberg et le ministère de la Santé du Burkina Faso.
[7] The international development-research center on animal husbandry in sub-humid (CIRDES) is based in Bobo-Dioulasso. It is an internation institution, established in 1991, including five countries in the region : le Bénin, le Burkina Faso, la Côte d'Ivoire, le Niger et le Togo.

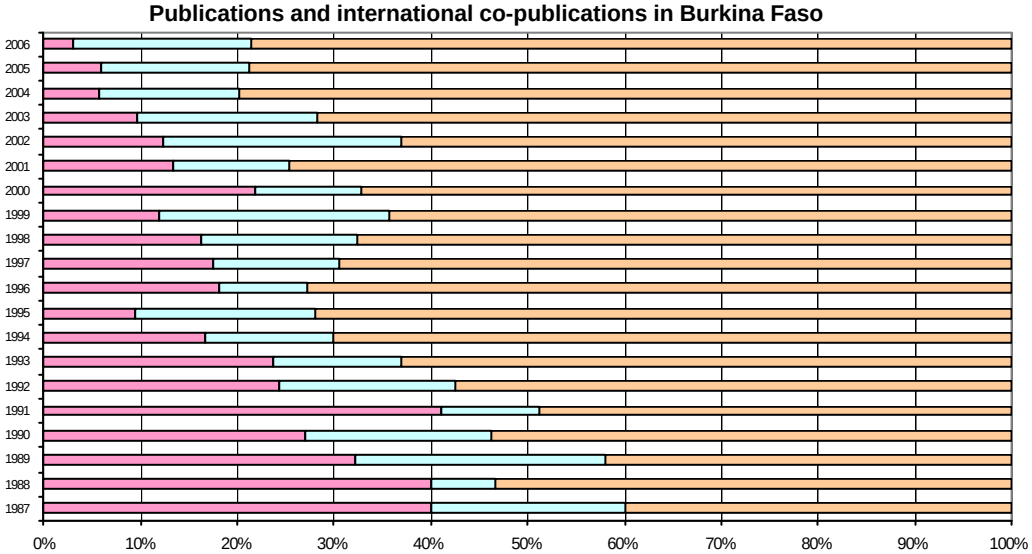
The presence in Burkina Faso of an international research institution active in animal husbandry and veterinary medicine contributes to the strong specialization in veterinary sciences developed by Burkina Faso.

Among these nine institutions, Sida-SAREC has concentrated its support on two among the most important ones (the University of Ouagadougou and INERA) as well as on one of the provincial universities: the University of Bobo Dioulasso ranked ninth with 27 publications over 8 years.

4. An extremely high level of international collaboration (co-authorship)

In response to the growing complexity of science, the ease of face-to-face contact, the Internet, and government incentives, S&T activities are being conducted in an increasingly international manner. International co-operative activities in science can take on different formal and less formal forms, e.g. the mobility of students and researchers, the reading and exchange of papers, personal correspondence, the participation in collaborative projects, and the co-publication of scientific papers. Sida-SAREC experimented all theses forms in Burkina Faso. Some forms are easier to measure than others. For our purpose we looked at the level of co-operative activities, as expressed by the number of international co-publications (scientific articles co-signed with foreign authors). The number of international co-publications as a percentage of a given country's scientific publications is, in part, a measure of the degree of the internationalization of its scientific production.

Figure 5: Relative share of scientific publications (national and international co-authorships)



	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
With EU	4	16	13	14	19	19	24	21	23	24	32	46	38	37	50	46	74	83	67	81
Without EU	2	2	8	5	4	6	5	4	6	3	6	11	14	6	8	18	19	15	13	19
Burkina Faso only	4	12	10	7	16	8	9	5	3	6	8	11	7	12	9	9	10	6	5	3

Source ISI-SCI, computing P.L. Rossi/IRD

The ratio of the international co-publications (publications co-authored with foreign scientists) has increased steadily over the past 20 years to reach more than 95% in 2006. This is an extreme case of highly internationalized science with the share of national publications amounting today to a tiny portion of the total Burkinabé publications (cf. Figure 5). The Sida-

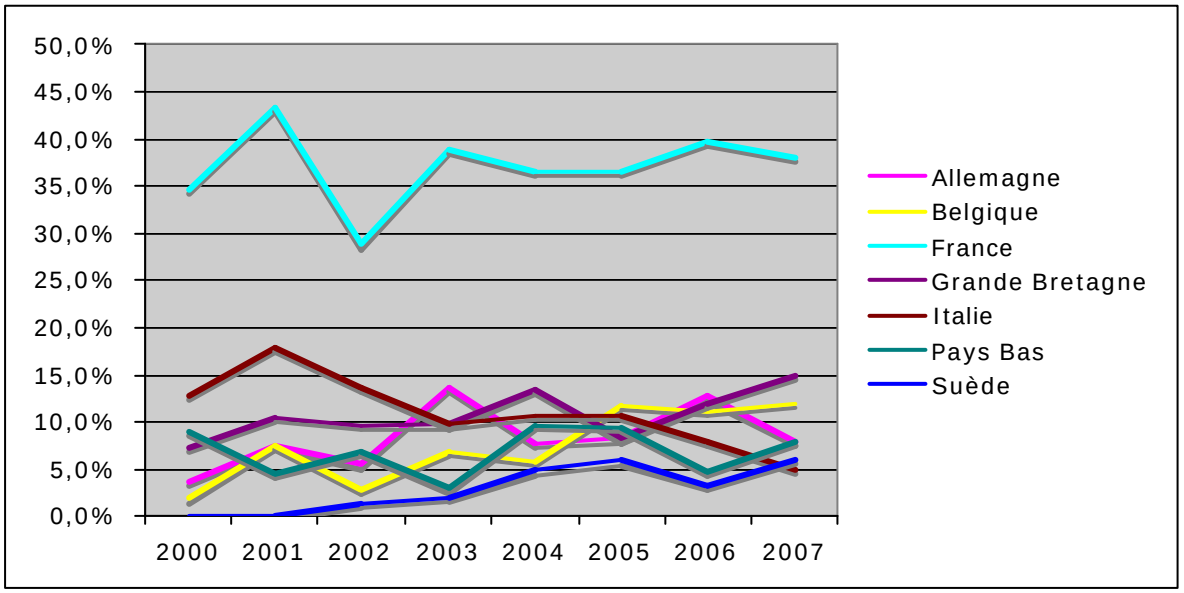
SAREC programme is contributing to this trend to the extent that all publications by Burkinabé PhD students in the programme (with the possible exception of social sciences) or co-signed with PhD supervisors.

Science is unarguably becoming increasingly dependent on international collaboration. But although international collaboration is part of the strength of a national science system there is a limit beyond which it can become a threat or at least a major weakness. In the case of Burkina Faso, this threshold has no doubt been passed and leads to a number of questions. Is Burkina Faso national science increasingly embedded in international science or is it simply vanishing as the share of international co-authorship increases? Is the impact of foreign scientists on the Burkina Faso scientific production too predominant? Is Burkina Faso science a national science? Has enough been done to ensure the long-term sustainability of a local science base in Burkina? To what extent does the globalization and internationalization of science make the notion of national system irrelevant, particularly in smaller developing countries such as Burkina Faso?

France (and IRD) is by far the main European partner (cf. figure 6). Between 30-40% of the publications are co-authored with French scientists. UK, Belgium, Germany, Italy, Netherlands and Sweden follow suit at a lower level (5-15%). The impact of the Sida-SAREC programme is already visible (see in particular Figure 7), showing that Sweden's share of co-authorships has increased significantly and steadily since the beginning of the project up to 2007

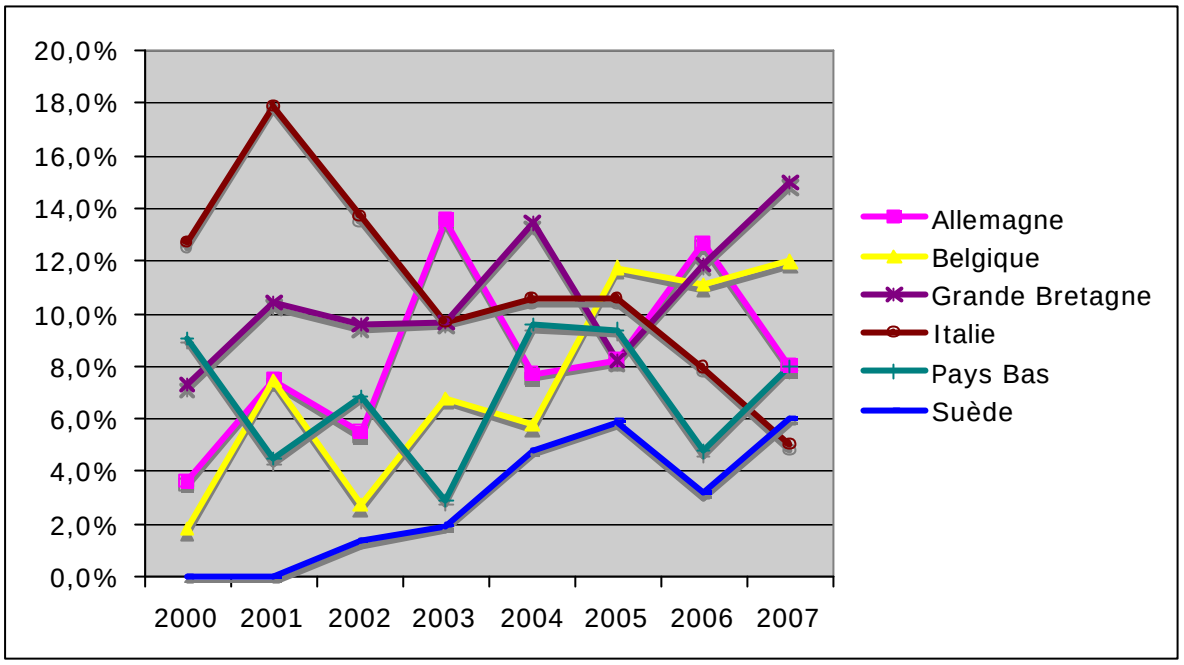
Sweden's share is even more important when looking at the latest available (incomplete) figures in ISI extended from 2008 (15 co-authored publications out of 118 or close to 10%), placing Sweden as one of the most important European partners after France. Publication data, compiled from the participants to the Sida's programme (in particular number of recent works submitted for publication), indicate that this figure and percentage will further increase in the coming years.

Figure 6: Main European partners: relative importance of foreign co-authorships (2000-2007)



Source: SCI data, IRD/P.L. Rossi computing.

Figure 7: Main European partners (except France): relative importance of foreign co-authorships (2000-2007)



Source: SCI data, IRD/P.L. Rossi computing.

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ANNEX 10: PRESENTATION OF FINDINGS IN SWEDEN AND BURKINA FASO

The following presentation using fifteen MS PowerPoint slides was made to stakeholders in Sweden on February 6, 2009 and to stakeholders in Burkina Faso on February 9, 2009.

Evaluation of Research Cooperation: Burkina Faso and Sweden 2001-2007

Presentation by:
Amitav Rath

At Sida, Stockholm, February 6, 2009
At CNRST, February 9, 2009

Introduction

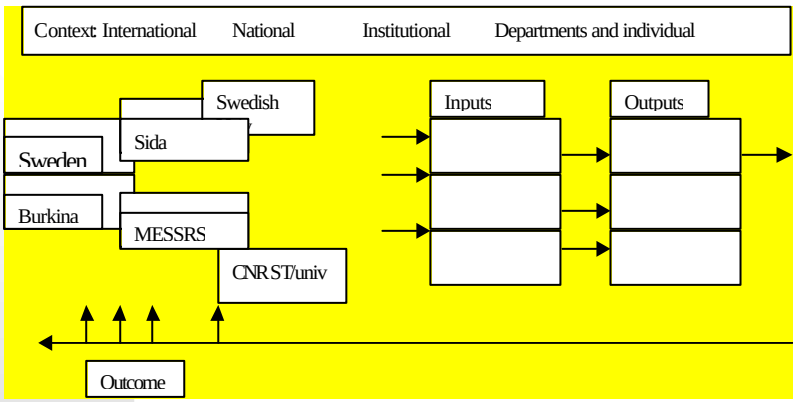
I will follow the same structure as the report.

Sida determined to undertake this evaluation. It set the TOR, selected PRI through a competition. The PRI Team also includes: Hocine Khelfaoui

Jacques Gaillard

Work was begun middle September.
Field visits to Sweden and Burkina Faso – October.
Preliminary presentation workshop in Burkina Faso – Dec/Jan
Draft presentations – Sida Feb 6; CNRST – Feb 9.

A Systems Framework



The dominant frame

Human centred development – poverty, equity, security, human rights, environment, knowledge; partnership and local capacity building

The Research Cooperation

It built on small cooperation experiences in the 1990s.

The objectives were stated as:

1. Contribute to human capacity – train new PhDs and also Masters who will be capable of addressing development issues of Burkina Faso.
2. Production of research findings related to poverty reduction.
3. Good capacity for research management.
4. Develop ICT infrastructure - two Universities and CNRST.
5. Increase knowledge exchange between the research systems in BF and globally on how to organize research and research training.

Institutions and Resources

In Burkina Faso it involved the two main public universities:

- · University of Ouagadougou (UO)
- · Polytechnic university of Bobo-Dioulasso (UB)

and the national research institute: CNRST.

CNRST was designated as the coordinating institute.

Collaborating institutions in Sweden include:

University of Uppsala

Swedish University of Agricultural Sciences (SLU - Umeå and Uppsala.

ICT support to be through the Department of Computer and Systems Sciences (DSV), Stockholm University/KTH

The Financial Inputs allocated were:

- · 2001-2003 - SEK 23 million.
- · 2004-2008 - SEK 66 million

Design Features – 2004 2008

BUDGET 2004-2008	SEK						
	2004	2005	2006	2007	2008	Total	%
Co-ordination Unit	200,000	400,000	400,000	400,000	400 000	1,400,000	2
Local Research Grant	-	1,000,000	1,000,000	3,000,000	3,000,000	8,000,000	12
Project support	800,000	136,000	8,600,000	9,000,000	8,600,000	27,136,000	41
ICT	1,000,000	6,000,000	5,000,000	1,600,000	-	13,600,000	21
Total	4,000,000	21,000,000	15,000,000	14,000,000	12,000,000	66,000,000	100

Actual

Budget and Actual Expenditures SEK			
	Revised	Actual 2005-2008	% Budget to actual
Coordination Unit	1,800,000	363,155	20
Local Research fund	8,000,000	500,000	6
ICT	14,000,000	3,540,923	25
Proj 1	2,195,875	1,143,756	52
Proj 2	2,509,280	2,493,670	99
Proj 3	2,150,869	526,035	24
Proj 4	3,821,000	1,584,000	41
Proj 5	4,592,599	3,321,537	72
Proj 6	2,355,141	1,178,996	50
Proj 7	1,974,000	1,034,500	52
Proj 8	4,164,700	1,944,800	47
Proj 9	1,457,680	1,018,030	70
Proj 10	1,994,958	1,071,600	54
Proj 11	3,844,717	2,516,997	65
Total for projects 2008 Special measures	8,600,000	7,529,465	
Swedish Institstute, Sida Office, Special Audit			
TOTAL	63,460,819	29,767,462	47
Source: Sida			

Outputs

Table of defined and actual outputs:

	Research Capacity Outputs as Defined	Evaluators' Judgments
A.	Research capacity outputs	
1	Research Training	Excellent
2	Research Management	Variable across research projects. Ranged between excellent for many to poor for a very small number. Overall quality good to very good.
3	Research Infrastructures	Significant to those facilities where researchers belonged
4	Local Research Funds	Remains at design stage
5	Research Activities	Very good. Some opportunities for synergy lost
6	Research Policy and Reforms	Little direct contribution.
B.	Research results	
1	Publications	Outstanding. Relevant.
2	Research Meetings	Some.
3	Curriculum	Great interest but little contribution yet.
4	Dissemination	Modest and has begun.
5	Innovation	Yet to start.
C:	Other	
1	ICT infrastructure and capacity	5-10%
2	National study and strategy development for R&D	not started.

Table 4: Defined and actual Outputs and Quality

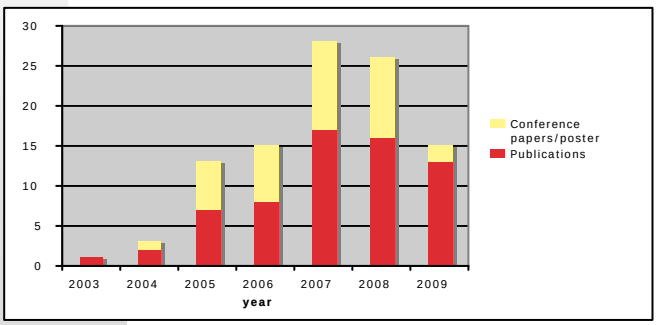
Research and Publications

22 participants enrolled in PhD programme.

14 have completed the PhD successfully as on Feb 2009.

19 sent their publication outputs. There were 131 in total.

Peer reviewed scientific papers produced are 64.



Outcomes

Outcomes - Burkina Faso

Collaborations – multidisciplinary, trans-disciplinary, team work, friendly exchanges and engagement with different organisational structures.

Networks created. Learn new ways to design and prepare for PhD.

Ideas of different work culture, pragmatic approach of Swedish.

Mastery and use of English, important for scientific communications.

Groundwork laid improved training and research.

For Sweden: Nurturing and adding to small group of Swedish experts on topic and region

Opportunity and platform for Sweden in West Africa

JOINT - Strengthen human and scientific relations between two countries.

Burkina Faso-Sweden friendship – role in problem solving

Gender

Specific design to compensate for existing imbalance. Some could not be implemented. Five females of fourteen PhD by Feb 2009 or 36%. In the remaining 7 candidates who are anticipated to finish later in 2009, 2 are female (29%). The over all anticipated total is 7 female PhDs and 14 male for a ratio of 33:67.

The female participants have performed as well as the male participants in terms of completion rates, speed of completion and research outputs.

Challenges

A number of organizational problems and misunderstanding between the partners in the two countries and especially between Sida/SAREC and CNRST became a major source of delays, frustrations and difficulties from 2004 onwards.

Overall the management of the project remained deficient at CNRST.

The challenges began with inadequate attention to conditions in Burkina in the design.

They were compounded by weaknesses in local management, administration and procurement at all three local institutions and mandated processes imposed by the state and donors.

Further compounded by slow and inadequate responses.

The care and attention paid by Sida to the difficulties faced by individual PhD students is notable and required considerable work above and beyond normal demands and processes.

But the larger systemic challenges which led to many delays and components not moving at all are not yet resolved.

Conclusions

The results are outstanding along one dimension – research outputs and PhD training

The failures are not surprising for a first cooperation effort.

Contributions in science, in terms of human resources development, potential contribution to the preservation of natural resources, environment, and, the promotion of women, the results are tangible.

The research projects have achieved their goals.

They have also laid the grounds for future cooperation.

It is important to continue to build on the critical mass of researchers in various fields of cooperation and expand it to new fields.

However, the continuation of the program requires a clear new thinking in management and coordination, acceptable to all.

Application of knowledge to development

- Research and Science - necessary not sufficient
- Production/supply side questions - where, by whom, quality
- Demand or use is the other side of the problem
- Use requires linkages – knowledge producers and users
- Is complex, involves interactions, exchanges
- In Burkina Faso:
- Supply is very small.
- Total numbers of researchers below 1,000
- Resources low. Below 0.2% of small GDP
- Linkages to extension and applications require work
- Poor organization, policies and delivery

The Two Partners

Some Indicators	Burkina Faso	Sweden
Ranking in Human Development Report 2007 (out of 177 countries)	174	6
Population 2005	13.9 million	9.0 million
Per capita GDP	1,213 USD ppp* 2005 and USD 440	USD 32,550
Total aid from all countries, 2005	659.6 million USD	
Total aid as proportion of GDP, 2005	10.5 per cent	
Foreign assistance per capita	USD 60.5	
Swedish aid	147.5 million SEK	
Swedish support to HE Research	7% (average annual share)	
R&D expenditures to GDP	0.17	3.74
Researchers per 1 million pop	17	5,416
Adult literacy, 2005	23.6 per cent	
Telephones (per 1000)	7	717
Cell phone (per 1000)	43	935
Internet users (per 1000)	5	764
Doctors (per 100,000 population)	5	328
Access to adequate sanitation, 2005	13 per cent	

- Research enterprise and need different
- Dominance and differences between partners makes partnership highly uneven
- Hence requires greater effort at understanding between the partners and to reduce the effect of asymmetry

Recommendations

- Note Research and Science are necessary
- It is very important to continue this cooperation and build on the capacity developed.
- It is important to continue to deliver on the activities which have not yet commenced – ICT, Research Funds and Policy
- Future expansion should be open to additional areas
- Increase use of research capacity – in developing new masters programs
- Build Linkages with extension and applications focus
- In the longer term assist in improving organization, policies and delivery