



SICD

SCANDINAVIAN INSTITUTE
FOR COLLABORATION & DEVELOPMENT

ANNUAL REPORT 2012

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1: BACKGROUND

1.1: Mission

The mission of SICD is to support social and economical development by facilitating development of clusters, innovations and innovation systems.

1.2: SICD

The background of the SICD includes collaboration between Swedish and East African partners since 2003. And Bolivian partners since 2007.

The funding partners were during 2012 mainly Sida, VINNOVA and BTH.

SICD is situated at Blekinge Institute of Technology (BTH), Campus Karlshamn, Sweden.

The SICD team includes

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Senior Advisor in R&D projects, supporting Innovation Systems and Clusters Program in the frame of PACF

Peter Kempinsky, Director, Kontigo

Supporting Innovation Systems and Clusters Program in the frame of PACF as well as in Bolivia

Tomas Kjellqvist, Research manager, BTH

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Research Project Manager

Dan Sjögren, Consultant, Facilitera

Supporting Innovation Systems and Clusters Program in the frame of PACF as well as in Bolivia

Lena Trojer, Professor, BTH

Director of SICD

The functions of SICD are

- Supporting Cluster Development and Innovation in Africa and South America
- Initiating International Graduate School on Innovation Systems, Clusters and Development
- R&D projects in Innovation and Development

1.3: Cluster development and innovation – a general picture

Policy and practice

It is evident in Economic theory that co-located and clustered firms within the same sector perform better than others. Clusters can develop organically were links between firms tends to grow stronger over time, driven by mutual benefits. "Clusters are building blocks of modern economy".

Clusters have become a policy issue. What if an external or internal actor intervenes to stimulate cluster development? Organic growth of a cluster is to *let it happen*. Doing an intervention as a cluster initiative is to *make it happen*.

Since the last twenty years Cluster Development has become a mainstream policy all over the world, in developed economies as well as in emerging economies. Programs and policies have

been implemented in many countries in order to use Cluster Development as a tool for cooperation, competitiveness and economic growth.

VINNOVA, the Swedish Agency for Innovation Systems, pioneered in combining cluster development and innovation within the broader context of innovation systems. The program on "Dynamic Innovation Systems in Regions" VINNVÄXT made a breakthrough and set a new standard by combining challenging framework conditions with a bottom up approach. Among framework conditions the long-term commitment of VINNOVA (ten years), the qualifying decision process and the process support were among the most important success factors. The VINNVÄXT program was launched in 2002. Ten years later significant impact has been made on industrial performance, regional prioritizations and policies and national policies.

At the Gothenburg cluster conference 2003 the major theme was "Innovative Clusters" attracting a delegation from Tanzania, Uganda and Mozambique. The conference ignited Innovation Systems and Clusters Program in East Africa (ISCP – EA).

Innovative clusters

A cluster consists of specialized firms or farms co-located within a geographical area with linkages to suppliers, supporting organizations and knowledge institutions. Firms in a cluster can benefit from common assets as natural resources, good infrastructures and access to specialized and qualified workforce.

A cluster initiative is an intervention that deliberately attempts to infuse organization into a cluster. This organized effort involves cluster stakeholders and incorporates Government (local, central, federal), academia (knowledge and research institutions) and private sector operators in the cluster. These actors are aligned to realize a common vision for the cluster initiative. To achieve the objectives derived from the common vision will be an action plan that details out what is to be done and when. The overarching objective for the cluster initiative is to enhance its competitiveness. The success of a cluster initiative then will be determined by the extent, to which they have implemented their action plan, the rate at which innovation, institutional collaboration and enterprise proactivity contributes to the prosperity of the cluster, the region and the nation and raises the competitiveness of the cluster generally.

A cluster initiative is not a project. It has some features similar to a project including being a conscious effort with starting moments and intended results. A cluster initiative does not have a fixed closing date or defined resources like a project.

Cluster initiative activities (meetings, planning, collaborative activities) depend on situational analysis of a particular cluster. Cluster initiative activities will change as the business competitiveness environment changes. Members of a cluster initiative must reflect on the prevailing situation and define collective activities to overcome the challenges of the time continuously. A cluster initiative is not a project where is a continuous conscious effort to organize resources to make businesses more competitive.

Innovative clusters have capacity for renewal and innovation that spur competitiveness and growth. Triple Helix based collaboration creates a policy framework that stimulates joint vision and joint action. Trust among cluster firms and other cluster actors create a social capital, which is an important cluster asset. An innovative cluster is the deliberate action of embracing innovation, knowledge application and sharing, which transforms a cluster into an innovative cluster. Innovation becomes the key driver for achieving competitiveness of the cluster. A cluster initiative that embraces innovation is an innovative cluster. An important condition for an innovative cluster is the conscious attempt to organize key actors in a cluster by engaging Government, academia and the private sector in what is commonly referred to as the Triple Helix configuration for collective action.

One important factor to sharpen the competitive edge of cluster firms is innovation. A successful cluster initiative promotes environments and functions for innovation. By openness and trust among cluster firms, innovators and entrepreneurs creates a flow of knowhow,

experience and teamwork, which benefits the development of new products, services and processes of cluster firms as well as continuous improvements.

1.3.1: Cluster development and innovation in Africa – to make a difference

After one year of awareness building and anchoring, the first pilot program started 2005 in Tanzania and Uganda and in Moçambique 2006. Implementation was in focus, facilitators the prime target group and the forming of the cluster initiatives the objective. The activities included kick-start training and seed funding of the cluster initiatives, followed by evaluations, retraining, follow up facilitator's workshop and local cluster workshops. This approach has been developed into a comprehensive methodology - the process support. The yearly conferences within the East Africa university collaboration were used to gather facilitators from the three countries to spur exchanges of experiences and cluster businesses. Cluster and innovation was not just a program, it emerged as a movement of dedicated individuals making difference.

Sida made an evaluation 2011 about the progress and the results and impact are evident¹.

During the years 2005 – 2009 the SICD team was engaged in several trainings, facilitator workshops, local workshops, strategic meetings and so forth. Cluster development and innovation were taking root. Especially in Uganda and Tanzania institutions for collaboration were built up, the national programs were successful to make an impact on the national policy agenda, successful in raising resources from national and international sources not just in money but also in kind. The most important achievement in the outcome of the Cluster initiatives is economic and social growth for the firms, farms and the local community. In summary Uganda and Tanzania have reached sustainability in six years, impressive even compared with international experiences.

During the years 2011 – 2014 SICD is working with another phase of cluster development processes, se below.

A new cooperation was developed with Rwanda and the national university of Rwanda, NUR, within the frame of Sida's call for a new bilateral agreement, see below.

1.3.2: Pan African Competitiveness Forum (PACF)

Cluster development as a policy and a practice was an issue in several African countries. The TCI conferences in Lyon 2006 initiated formation of a Pan African Network on Cluster Development and Innovation. In Addis Ababa 2008 the PACF was formally established.

The organization PACF consists of a general assembly with an initial representation of 16 African countries, an executive board and regional chapters. Since the first meeting PACF has had yearly conferences and meetings as well as conducted other activities as cluster facilitators trainings.

One of the strategic initiatives is "the 1000 fires competition". The aim is to ignite at least 1000 Cluster Initiatives around Africa.

¹ Sida evaluation 2012:5 see
<http://www.sida.se/Svenska/Om-oss/Publikationsdatabas/Publikationer/2012/oktober/Evaluation-of-Sidas-Support-to-Innovation-Systems-and-Clusters-a-Research-Cooperation-Initiative---Main-report/sicd.se/wp-content/uploads/2012/04/Final-Individual-Cases-Volume.pdf>

1.4: Reminder of General observations and conclusions

Before presenting the activities for 2012 a reminder of the Sida evaluator from 2012, Amitav Rath, is given. The conclusions of the cluster development and innovation in Africa and Bolivia are as follows.

- Well rooted in the theories and concepts of Innovation Systems, Triple Helix and Cluster Initiatives
- The outcomes and results from the evaluated Cluster Initiatives are very positive, cost effective and scalable
- The Triple Helix approach creates a stable framework
- Innovations are basically on the firm and farm level, user driven and in line with the expectations.
- Innovations are built on teamwork, the interaction between the experienced based knowledge and the scientific based knowledge, and this is a main factor for success.
- Cluster firms and farms are more productive and successful at the markets.
- Significant raise in income among cluster firms/farms and in the local communities.
- Universities play an important role as catalysts and providers of knowledge and expertise

Sida is recommended by Mr Rath to continue and enhance the cluster development and innovation approach

2: ANNUAL REPORT 2012

The report is structured by country for the cluster development and innovation function. Separate chapters will report on the International Graduate School and R&D&Innovation projects.

In the following chapters each country, where SICD has been involved 2012, is described in terms of background, actual situation and the art and extent of SICD involvement. Some general comments are given as well. In the African countries the SICD collaborative program is called by country chapter of PACF. SICD collaboration in Bolivia is called the Innova Project. Special attention is given to the result and impact at the cluster level as well as on the level of national policies.

2.1: Moçambique

2.1.1: Background

ISCP-Mç was a part of the pilot program within the framework of ISCP-EA. A training in June 2006 initiated the ISCP-Mç, by the time hosted by Eduardo Mondlane University - UEM. Eight Cluster Initiatives (CI) were selected by the National Steering Committee and evaluated by the VINNOVA team. Due to administrative constraints concerning the seed funding, the CI did not work. An attempt to restart the pilot program took place 2008. Later, Sida and the Ministry of Science and Technology agreed to transfer the ISCP-Mç to the ministry and a new institution, namely The National Fund for Innovations (FNI). The Cluster Development became an important issue for the Moçambique Government and within the four-year bilateral R&D Program between Sweden and Moçambique the Cluster Development and Innovation Program become a vital component. Still, in spite of the initial difficulties, some CI did continue their efforts by voluntary forces.

Within the collaboration between SICD and FNI a first group of Moçambicanian Cluster Facilitators was trained in Maputo in October 2011. A second training was planned to take place in Nampula, Northern Moçambique, 27th to 30th of August 2012.

2.1.2: Actual situation and SICD related activities

The mission August and September 2012

- Strategic meetings with FNI, Innovadore Moçambicano and the Swedish Embassy
- Follow up, coaching and learning workshop with facilitators from batch 1, 2011.
- Training of facilitators in Cluster development and innovation

The second training Training in Cluster Facilitation was held in Nampula. In total 42 persons attended the training, mostly representing local institutions and institutes. 30 men and 12 women.

The new version of the Training Program was designed in order to emphasize the role of innovations in cluster development and also how cluster initiatives can contribute to create a better platform for innovations. The training and the training material express clearly the development process of a cluster from early stages to sustainability, the role of a cluster facilitator and her/his hard and soft tools, innovations and the design of draft business plans. The content of the training program is entirely based on African experiences and results. By day 4 all Cluster Initiatives presented a draft version of their business plans for colleagues and the trainers. Every proposal received valuable feedback from the team of trainers.

Follow up meeting with Innovadore Moçambicano
Eng Langa underlined the potential to combine innovators and clusters and referred to the expertise of Prof Cumbane and his colleagues at UEM.

Meeting at Swedish Embassy

Meeting at Swedish embassy, Anita Sandström, Joao Jussar, Lisa Ilskog, Peter Kempinsky and Dan Sjögren. The purpose of the meeting was to report on the training and other activities, but also discuss the outcome and deviation of the activity plan in ToR.

At the meeting it was decided that Lisa Ilskog and Joao Jussar from Embassy should join the meeting at FNI a discussion on outcome and deviations so far. At the meeting at FNI it was agreed:

- Evaluation of the business plans for Cluster Initiatives from the training in Nampula will be made in collaboration between SICD and FNI
- Learning and competence building workshop for facilitators from the first two Training Programs will be held yearly
- A third training program will be held in 2013 in Beira, given that budget restrictions can be handled
- Strategic support to FNI by SICD to build a support and monitoring structure on Cluster and innovation to secure results and transparency in the implementation of the program
- An external Advisory Board with a Triple helix representation to build trust among stakeholders.

It was also agreed that FNI provides SICD with a budget status of the SICD mission and SICD develops a plan and a budget according to items above.



2.2: Bolivia

2.2.1: Background

Sida financed a delegation from Bolivia to visit the TCI Conference in Ottawa, Canada, 2004. The aim of the participation at the TCI conference was to explore the concept and experience of "innovative cluster". VINNOVA (later on SICD) became the Swedish partner to UMSS (Universidad Mayor de San Simon) in Cochabamba. In 2007 the collaboration was established, and the INNOVA project started with a delegation from UMSS participated in a study tour in the Swedish Innovations Systems and Cluster world. The VINNOVA team has visited Bolivia two times every year, for two weeks each visit, from 2008.

The approach in Bolivia is in some extent different from East Africa. The team from Sweden was engaged to facilitate and support the Cluster Initiatives, but also as a strategic support to UMSS in order to develop a policy framework for cluster development and innovation at regional level (Cochabamba region) as well as at the national level (the Viceministry of Science and Technology) To conclude, the contribution of VINNOVA team has been far more operative than in the contribution in East Africa. By time, the Unit for Technology Transfer (UTT) responsible for the Innova project at UMSS has built up capacity and competence to support

cluster development, innovation and relations between the SME in the Cluster Initiatives and the university (Research Centres and Faculties)

The collaboration with UMSA (Universidad Mayor de San Andrés) was started in 2009. The role of SICD team has been to support the establishment of the Wood Cluster Initiative.

2.2.2: Actual situation and SICD related activities

The INNOVA project in its first phase ended 2012. The SICD team visited Bolivia two times during 2012. Representatives from the UMSS partner visited Sweden once. During the year a number of telephone meetings with our partners at UMSS and UMSA were conducted primarily for planning and follow of the project.

Visits to Bolivia

February 13th – 17th

The main objectives of visit to UMSS and UMSA were to

- reflect on the INNOVA-program so far and its results
- prepare for the next phase of the INNOVA-program in the 5 year bilateral proposal to Sida
- agree on a first draft of Letter of Intent for the proposal
- discuss the further INNOVA-program with university authorities, viceMinister of Science and Technology and Swedish Embassy.

Activities:

Cochabamba

February 13th Preparatory meeting, Initial discussion of the Letter of Intent (LoI), Meeting with DiCyT Director Mt Guillermo Bazoberry.

February 14th Preparatory meeting at UTT, Workshop at UMSS Primer Encuentro de Conglomerados Productivos de Cochabamba

February 15th Preparatory Meeting UTT, Meeting with CADEPIA, the draft of the LoI

La Paz

February 16th Meeting with Rector of UMSA, Meeting with viceRector of UMSA, Inauguration program for wood research equipment, Meeting at DIPGIS concerning continued collaboration and planning of the joint LoI

February 17th Meeting with the Minister of the Viceministry of Science and Technology and his staff at the building of the Ministry of Education.

Meeting with Ann Stödberg at the Swedish Embassy



November 27th – December 6th 2012.

The mission of the visit was to follow up the on going experiences and to have strategic discussion on the way forward – for UMSA an UMSS. Another mission was to report to Ann Stödberg at Swedish Embassy in La Paz and to discuss further development of Wood Cluster.

Activities:

La Paz

November 27th Workshop Wood Cluster, UMSA

November 28th Planning meeting with Eng Sanabria, Meeting at Swedish Embassy, Cochabamba

November 29th Planning meeting, UMSS

November 30th: Preparations for the Food Cluster Conference December 4th, discussions on implications and design of workshop material

December 4 th Conference of the international network of Food research on collaboration and innovation with the productive sector

December 4 th: Telemeeting with Eng Fernando Sanabria, UMSA

December 5 th: Evaluating the yesterday conference of 4th December and a general discussion on the way forward 2013-2017 by UTT-team and SICD

December 6 th: Strategic discussion on the Food and Leather Clusters. UTT team and SICD team.

Visit to Sweden

October 19th to November 3rd 2012.

The delegation from UMSS participated in a study tour in Sweden to gain experiences in cluster development and innovation in a Swedish context and to meet and exchange experiences with colleagues in Sweden. The study tour included visits to Food Cluster in Skåne, Furniture Cluster in Småland, University of Lund, Centre for Wood Technology in Småland, Region of Skåne, Region of Blekinge and Blekinge Institute of Technology.



2.2.3: Sida bilateral program 2013 – 2017

The concept notes from UMSS and UMSA for Sida Research Training Partnership Program included emphasis on innovation development components. The required Letter of Intent (Loi) for this component was formulated jointly with a Swedish partner and delivered to Sida both from UMSS and UMSA with SICD as the Swedish partner. The Loi from UMSS was accepted and developed into a full proposal. The Loi from UMSA was not accepted. A revised Loi was requested in a second round.

2.2.4: Reminder of evaluator's comments

The evaluator addressed the important role of UTT to enhance the relations between UMSS and private sector. The interface between UMSS and SME is covered by a multitude of activities like training, prototyping, marketing, sales promotion, student projects, ITC support etc. The cluster development and innovation approach is seen as a promising way forward in building relevance and promoting impact.

2.3: Rwanda

The call from Sida concerning Research Training Partnership Program, 2013 – 2017 was also directed towards Rwanda and National University of Rwanda (NUR). The concept note from NUR highlighted also the importance of innovation development. Already established contact with colleagues at NUR was activated and SICD was asked to be the Swedish partner. A joint Letter of Intent was formulated and accepted. The project title is “Innovation and use of research results as an Integral Part of NUR Institutional Research Capacity Strengthening”.

A full proposal was developed with the following summary.

The Innovation Program proposed has the aim to develop the capacity at the National University of Rwanda (NUR) in relation to the following three objectives; i) to increase the use of research results produced within Rwanda to benefit the country's development, ii) to increase participation outside the university of Rwandan researchers to benefit national and regional development and iii) to increase the use of research in policy debates in Rwanda. The innovation program will link NUR with the public sector (government, ministries), private sector (SMEs) firms, farms, cooperatives, etc. and civil society. This will boost the role of NUR as an important actor in disseminating research findings, influencing their use in solving problems in the society. The innovation program thus falls mainly into the research supporting components of the NUR-Sida program. The proposed support to innovation development at NUR will focus on development of models, strategies, processes and infrastructure, which research, innovations and knowledge development at university are linked to society and industry in joint collaboration.

Based on assessment of practices and experiences from elsewhere and particularly in East Africa, a Rwanda specific model in IISCED (Innovation, Innovation Systems, Cluster and Entrepreneurship Development) will be developed in prioritized sectors of Rwanda. At various stages of the implementation, different trainings will be organized for NUR staff to enable them to drive the knowledge transfer, as well as commercialization of research results.

This program will be implemented by CEESD (the Centre for Environment, Entrepreneurship and Sustainable Development) at NUR in collaboration with SICD (Scandinavian Institute for Competitiveness and Development) at BTH. One of the goals of CEESD is to provide an interdisciplinary and supportive environment for entrepreneurship research and business development aimed particularly at rural development and poverty alleviation in environmentally sound and sustainable ways. For years SICD has been involved in innovation initiatives in developing countries such as Tanzania, Uganda, Mozambique, Nigeria, Ghana and Bolivia.

In spite of a relative good assessment the full proposal was not accepted within the frame of the Sida call. The identified relevance of the project from Sida has resulted in a process of finding other funding paths within the Sida support to Rwanda. This work continues beyond 2012.

A visit to NUR was conducted in late April for discussion and anchoring of the joint project with our CEESD partner, the VC and deputy VC of NUR.



East Africa

2.4: Uganda

2.4.1: Background

The ISCP Uganda started 2005 and is hosted by Makerere University, Faculty of Engineering². ISCP-Ug is a program that aims at making Uganda's businesses more competitive locally and globally, through innovation and cluster initiatives.

2.4.2: Actual situation and SICD related activities

Within USCP-Ug new Cluster Initiatives continues to be launched representing different sectors of Uganda's economy - agricultural, metal fabrication, creative industry and service based industry. The Secretariat gave continued information at its website www.clustersuganda.com.

ISCP-Ug been successful in raising support and resources from the Ugandan government in the so called 'Presidential money'. As a result of this a Memorandum of Understanding Between Ministry of Trade, Industry (MTIC) and Cooperatives and Makerere University, ISCP-Ug was signed during 2012. This MoU can be seen as an explicit step towards a concrete innovation system based on triple helix processes. It includes e.g. the following.

Context of the MOU

The Government of Uganda recognizes the importance and contribution by the Micro, Small and Medium enterprises to the Gross Domestic Product and employment creation. The Ministry of Trade, Industry and Cooperatives is engaged in provision of relevant services to Micro, Small and Medium Enterprises (MSME) and currently it is in the process of setting up an MSMEs Directorate that will act as a focal point and lead institution, specifically to address challenges in this sector. Implementation of the Innovative Industrial Based Cluster Development Program is one intervention to promote competitiveness, innovation and entrepreneurship. A collaborative arrangement of the Triple Helix that includes the Government, the Academia and the Private Sector will lead to successful implementation of the this program and this has called for signing of an MOU between MTIC and Mak-ISCP (U), for the implementation of this program.

Scope of the MOU

² later on becoming CEDAT, College of Engineering, Design, Arts and Technology

This Memorandum of Understanding establishes a framework for co-operation between the two institutions and establishes the modalities within which the parties will collaborate to achieve their common objectives.

This Memorandum spells out the intended areas of co-operation and collaboration as well as the modalities for implementing the program/strategy. The MOU shall outline the collaborative arrangements between MTIC and Mak-ISCP (U) Partners in promoting research, technological development and innovations, entrepreneurship development and competitiveness.

Objectives:

The following are the specific objectives of this Memorandum of Understanding for the achievement of a high level of sustained growth rate and competitiveness in local firms;

- i. The two parties will collaborate with relevant stakeholders in developing a Clusters Development Policy that will lead to the development of a strategic plan to guide the implementation of the clusters program
- ii. To build the Triple Helix partnership for implementing the planned activities and jointly review the implementation of the program
- iii. To establish coordinated structures for planning, monitoring and evaluation to, effectively, implement the clusters development program and ensure transparency within clusters
- iv. To establish support systems and business networks within the supported cluster firms
- v. To improve the efficiency and productivity of firms through development of entrepreneurial capacities under the cluster training programs as well as nurturing of industrial clusters and enhanced flow of information.

SICD has been supporting the development of ISCP-Ug by an extensive process support since 2005 up to 2009. SICD has delivered several trainings, facilitators update workshops, local workshops, workshops with policy makers. The mind-set and practice of SICD is to make sustainable commitment to keep and develop the relations to ISCP-Ug. This is not a project - this is a process. ISCP-Ug has since some years reached a sustainable level, self-organized and self financed. ISCP-Ug is well rooted at the cluster level but also as a mainstreamer in economic policy of Uganda and has brought together University, Government and the private sector. The role of SICD today is to be a collaborative partner in disseminating the Ugandan experiences in cluster development and innovation to other African countries. Within the frame of the International Graduate School on Innovation Systems, Clusters and Development several experienced cluster facilitators are PhD students. This is an on-going and long-term activity.

Dr Ziraba has participated in the development of the second generation of training and support program. During 2012 Dr Ziraba participated in the facilitators training in Moçambique within the bilateral program between Sweden and Moçambique.

2.4.3: Reminder of evaluator's conclusions

The evaluator noted the support from a good number of national organizations collaborating with ISCP-Ug. It says "This is very important for the sustainability of the project (ISCP-Ug) and also spill over to the broader national economy" (p 46). The evaluator appreciated the governmental funding of the coordinating unit of ISCP-Ug at Makerere University. It promotes sustainability and the positive outcome. One major obstacle for the Cluster Initiatives is the lack of capital, which prevents the cluster firms to invest in necessary equipment.

2.5: Tanzania

2.5.1: Background

ISCP-Tz started 2005 and was hosted by Dar es Salaam University until 2011, when the program was transferred to COSTECH (Tanzania Commission for Science and Technology)

were a coordination unit has been built up. Started in 2003 as a concept, ISCP-Tz has gone into a process of creating innovative minds and innovative products that are slowly coming up as a pronounced economic endeavour. With time and more efforts, ISCP-TZ is able to change Tanzania's economy, employing its large population with economic achievements that can change the economic position of Tanzania in the world economic map. Through mainstreaming the ISCP-Tz program into government policies and regulations, much more can be done³.

2.5.2: Actual situation and SICD related activities

Clusters

A number of new Cluster Initiatives was launched during 2012. The trainings were conducted by the staff of the Cluster secretariat at COSTECH headed by Mr Omar Bakari. The National Steering Committee did not have any meeting during the year. COSTECH was focused on consolidating a fundamental reorganization.

Visit to Dar Es Salaam

Birgitta Rydham and Lena Trojer visited University of Dar es Salaam and its College of ICT for the defence of Fatma Simba's doctoral thesis within the area of e-learning and conductivity. A meeting was held at the Swedish Embassy arranged by Dr Afzal Sher. His colleagues at the Embassy, Stellan Arvidsson-Hyving and Maria van Berlekom, were also present at the meeting. The issue of not Sida resources by Cluster secretariate at COSTECH was discussed as well as SICD's experience of cluster development in East Africa and elsewhere.

In the year 2011 nineteen Cluster Initiatives were operating in different locations and sectors of the Tanzanian economy, bringing in innovation and value addition in sectors such as agribusiness (food processing, seaweed farming) metal works, mining and tourism.

As for ISCP-Ug SICD has been supporting the development of ISCP-Tz by an extensive process support since 2005 up to 2009. SICD has delivered several trainings, facilitators update workshops, local workshops and workshops with policy makers. As for Uganda the operational process support ended 2009 and ISCP-Tz has proven the ability to uphold and develop ISCP-Tz at the cluster level as well as a contribution to national economic policy. To repeat: *This is not a project - this is a process*. ISCP-Tz has since some years reached a sustainable level, self organized and self financed. ISCP-Tz has brought together University, Government and private sector. The role of SICD today is to be a collaborative partner in disseminating the experiences from Tanzania in cluster development and innovation to other African countries. Within the frame of the International Graduate School on Innovation Systems, Clusters and Development there is an expressed interest Tanzanian actors to join as PhD students.

Dr Flower Msuya, Mr Sosthenes Sambua and Eng. Peter Chisawillo have during 2011 participated in the development of the second generation Training and Support Program based on African experiences and evidence of cluster development and innovation. Mr Sosthenes Sambua participated in the training of cluster facilitator in Moçambique 2012.

2.5.3: Reminder of evaluator's comments

The evaluator identified positive outcomes from many cluster initiatives when it comes to economic indicators, which the evaluator comments: "have been the most impressive achievements of the work done in Tanzania" (p 26). However, it was stated that innovations are incremental and to introduce research based innovations should demand far more resources. One weakness is the lack of a M&E system. Plans have been made but not implemented so far. The evaluator addressed the transfer of ISCP-Tz to COSTECH. This means that the ISCP-Tz now can be coordinated at a national level, which enables ISCP-Tz to meet challenges at national level as well as cluster and firm/farm level.

³ in a foreword by Prof Burton Mwamila the first chairperson of ISCP-Tz.

2.6: Pan African Competiveness Forum

2.6.1: Background

Vision of PACF is to be the leader in promoting competitiveness for socio-economic development in Africa through innovation and cluster based initiatives, and the mission is to stimulate, catalyze and promote the development of innovation and cluster based competitiveness for poverty reduction, wealth creation and sustainable development of Africa.

The active regional chapters of PACF are PACF-ECOWAS and PACF-Eastern Africa.

PACF has a training team including

Dan Sjögren, SICD	Peter Kempisky, SICD
Flower Msuya, PACF-Tz	Sosthenes Sambua, PACF-Tz
Yasin Ziraba, PACF-Ug	Peter Chisawillo, PACF-Tz

2.6.2: Actual situation and ICD related activities

The PACF training has during 2012 being active mainly for Mozambique, see above.

The 4th PACF annual Conference was held in Abuja, Nigeria, 11th – 16th of March 2012. Dr. Seb. The Nigerian chapter of PACF (PACF-Nigeria) with its National Steering Committee was established in September 2008, with Prof (Engr.) P.A. Onwualu (Director General, Raw Materials Research and Development Council) as the Chairman and Dr. Sebastian. C. Obasi the secretary. A total of sixteen organizations consisting of government establishments, private organizations, and the academia are represented in the PACF-Nigeria.

The theme of the conference was 'Evolving Innovative Cluster Initiatives for African Development: Issues and Modalities'. The conference focused on six sub-themes.

1. Institutional framework for technological, management and organizational capacity building of clusters:
2. Linkage of clusters to the National Science, Technology and Innovation System in the sense of the Triple Helix.
3. Evolution of evidence-based cluster initiative policy and mainstreaming into the National Socio-Economic Development Agenda: Case studies.
4. Development of Innovative clusters towards product quality enhancement and diversification to gain local and global competitiveness and improved share of the export market: Case studies of successes.
5. Cluster mapping and networking for enhanced competitiveness – a country level experience
6. Innovative financial instruments for the support of cluster initiative – what works and what does not work.

Erik von Bahr, SICD, presented a paper titled 'Funding of Innovation and Cluster Development in Africa'.

The conference brought together over 300 scientists, academicians, technocrats, consultants and government policy makers from Tanzania, Uganda, Gambia, Ghana, Senegal, Kenya, Zambia and Nigeria. New Zealand and Sweden.



2.6.3: **Reminder of evaluator's comments**

The evaluator underlined the time span is too short to see substantial results so far. The evaluator was sceptical to the overambitious organizational structure of the PACF, which has been noted. The implementation of cluster initiatives and the cluster management is the responsibility of the country chapters. The experience sharing and learning among the country and regional chapters are still key for PACF to foster not the least in the annual conferences.

2.7: **International Graduate School on Innovation Systems, Clusters and Development**

2.7.1: **Background**

As an impact of the development of the Innovation systems and Clusters Program in East Africa (ISCP-EA) since 2004 and in Bolivia, Cochabamba, since 2007 one research component identified in the programme is PhD training. This component contributes with a research based understanding and practice of the development of Innovative Clusters and Innovation Systems. A number of active cluster facilitators have expressed a strong wish to conduct research as a PhD candidate within the frame of the Innovation Systems, Clusters and Development (ISCD) or are already PhD students and wish to be linked to a graduate school of the ISCD.

The objective of the International Graduate School is

- to develop research based understanding and practice of innovative clusters and innovation systems and thus contribute to social/economic sustainability.
- to give PhD students international experiences and benchmarking possibilities within the core knowledge field of the graduate school as well as networking possibilities of value for future carrier.

Two PhD students from Uganda has presented their licentiate thesis within the pilot frame of the International Graduate School. Joshua Mutambi' thesis is titled 'Stimulating Industrial Development in Uganda through Open Innovation Business Incubators' and Julius Ecuru's 'Fostering Growth in Uganda's Innovation System'.

During 2012 the development of the International Graduate School continued to find ways to initiate the core activity namely courses in a format of an International Summer/Winter. Tomas Kjellqvist has participated in activities of Africalics, which was founded during an Innovation and development workshop that took place in March 2012 in Dar es Salaam, Tanzania. There

are great values in creating efficient links between the International Graduate School and Africalics. The former is practice driven research and the latter theory driven.

2.7.2: The International Summer/Winter School on Innovation Systems, Clusters and Development,

aims at:

- understanding how, and under what circumstances, science, technology and innovation can contribute to competitiveness, development and poverty eradication.
- promoting the concept of inclusive innovation, which are innovations targeting the needs of the most vulnerable groups in society, the groups most exposed to the effects of global changes.

These goals will be reached by involving stakeholders in national innovation systems to mutually learn about the opportunities and barriers for problems solving and cooperation.

We are convinced that theories about Systems of Innovation could provide the tools to inspire inclusive innovation for sustainable development and poverty eradication.

The International Summer/Winter School on ISCD will provide

- the latest approaches in theory building about innovation systems and cluster development meet current issues in the practice of constructing innovation systems and develop clusters
- a meeting place for stakeholders to jointly investigate real life problems experienced in their daily activities and explore solutions that would be beneficial for a majority of the populations in their countries.

2.8: R&D Projects

2.8.1: Solar power to the poor people: Using innovative clusters to develop business models for technology transfer

Background

This project proposes to improve the productive uses of energy in innovative clusters with solar energy installations adapted to their needs. The project draws on previous experience of income generation through almost 75 innovative clusters in South Africa, Tanzania and Uganda. These 75 clusters are based on agglomerations of small and medium sized enterprises with a total geographical spread encompassing both urban and rural surroundings. Each cluster consist of a number of firms that are linked in a production chain or operate in the same trade, but cooperate to achieve joint competitiveness. They involve people in different productive functions throughout the value chains, and we find these people in very different socio-economic situations. Investing in solar technology for clusters would show long-term social and economic effects as the involved individuals of all social strata could increase their incomes over time.

Activities 2011 - 2012

Field studies in 2011 demonstrated clearly a potential for use of solar energy, particularly in the agro-related clusters. Drying, cooking and steaming (for sterilization) were possible uses for solar power. These applications could be addressed by intermediary technologies available as DIY descriptions on the Internet. However it was also found that a substantial shift could be made through locally produces prefabricated units for drying etc. Currently in Uganda and Tanzania, there are no such firms, but there is knowledge, for instance within the engineering and metal works clusters that could be applied.

Studies of available Swedish technologies proved that these technologies were too expensive or difficult to adapt for use in clusters. There has been no response from the most promising Swedish Solar technology firms to engage in development projects in Africa. Much of their current productive capacity is used for exports to China or India, but also these endeavours have been stalled. Several Swedish Solar Energy companies went bankrupt in 2012. For the most common technologies, there are already local companies importing photovoltaic solar panels to Africa, so the contribution of bringing in Swedish companies in this trade would be limited.

It was also obvious that the missing link in current solar energy technology is the storage of energy. If large scale drying should be applied, it would require a possibility to store up energy to use on cloudy days to leave the drying process uninterrupted. The original proposal introduced the idea of clusters investing more in energy equipment than their immediate needs to provide energy services to the surrounding community also fails on the storage issue. Customers need to get energy available at time for consumption, which requires appropriate storage and carriers.

Based on these observations, the team has suggested redirecting the project into a web-based knowledge common on solar energy for productive use. The website will allow clusters, firms and farms to access possible technical and financial solutions, research findings and providers. The website will also allow clusters to share their experiences of solar energy applications. The website will be designed in an open architecture to allow for further modifications. It will be developed in cooperation with the Pan Africa Competitiveness Forum, with the Africa Lics research network on energy innovation and with IERI in South Africa.

2.8.2: Innovative clusters closing the gap between University and Society in East Africa. A living proof of Mode 2 excellence?

Background

The research project is one of five in a special call from Sida U-forsk 2010-2013. The specific aim has been to focus on the research component of the Triple Helix model in East African cluster initiatives through PACF. Researchers and universities have been central in most of the cluster initiatives as facilitators and collaborating partners. Several actors appreciate the neutral part of academia in relation to politics as well as business actors, but warnings have also been raised that the collaboration turns into mere consultancies instead of long-term commitment to shared knowledge processes. The project has been formulated as two case studies of clusters; Katwe Salt lake cluster initiative in south-western Uganda and Zanzibar Seaweed cluster initiative in Tanzania. Each cluster has above 1000 members, a majority of which are women who work on an individual basis. In both cases, natural resources are vital to the local micro enterprises, and climate change show effects on the productivity.

We would like to strongly emphasize the positive outcomes of interdisciplinary approach evident in the Zanzibar seaweed cluster initiative. Local members acknowledged the relevance of research to a larger extent than in the more traditionally disciplinary research dominating the Katwe cluster initiative. The broad perspective used in the seaweed cluster has facilitated adjustments and collaboration with local capacity and priorities. This has led to some groups participating in research on seaweed farming techniques, while other groups process the seaweed into different products for a local market.

Control over the resource base play a core role in the security for the cluster members. Therefore, local and gradual development is preferred over large scale investments although this might improve the working conditions. Recent literature on Mode 2 research support our understanding that the research quality is similar to that of Mode 1 and disciplinary research.

Activities 2012

An initial interview visit to each cluster took place in 2011. During 2012, each cluster initiative was visited to conduct follow-up interviews and hold feedback workshops. Major findings from the 2011 visit were presented in posters in local language and discussed with the cluster members together with representatives from local and regional government and involved research institutes.

During the workshops, it became evident that certain challenges were surfacing on the local level that needed prompt action from governmental actors, such as conflicting interests with other groups (fishermen in the case of Zanzibar; animal grazing and different salt extraction methods in the case of Katwe). Research into environmental protection was requested by cluster members.

The Katwe case was presented at the conference Feminist materialisms, Köpenhamns universitet 25-26 april. The research project was also the basis for Birgitta Rydhagen's docent (associate professor) seminar 5 September and was used as case in her participation in the "Forskarfredag" event with research presentations to students in high school (gymnasiet) in Karlshamn as an example of entrepreneurship in an African context.



Kampala, Uganda



The host organisation of SICD is Blekinge Institute of Technology (BTH) - Campus Karlshamn, Sweden.