

Experiences and Prospects of AICAD About International Cooperation Including South-South for Agricultural and Human Development

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Abstract

This paper reports on experiences and prospects of the African Institute for Capacity Development (AICAD) on south-south cooperation in the field of agriculture during the pilot phase (August 2000-July 2002). Thirteen universities from East African countries participate in AICAD's activities. In response to water shortage, AICAD has conducted one regional training course on irrigation and water resources management to extension workers. As an immediate output of the course, the trainees formed "East Africa Irrigation Experts Network" with the aim of supporting regional efforts to promote sustainable agriculture. Furthermore, AICAD has five ongoing research projects in the field of agriculture, the aim of which is to improve traditional technologies for pest management and milk processing. Most Asian countries have achieved a remarkable agricultural development, and AICAD believes that Africa can benefit from their experiences and knowledge in agricultural and human development. With assistance from the ICCAE, AICAD expects to establish a consortium with Asian countries in the next phase (August 2002 to July 2007).

Key words: Sustainable agriculture, South-south cooperation, AICAD's experiences

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Introduction

Sustainable agriculture is a development concept in which agricultural natural resources (*ecological sustainability*), agricultural outputs and agricultural population (*social sustainability*) must all be sustained. It is inadequate to attempt achieving sustainable agriculture by only enhancing and protecting agricultural natural resources like organic farming technology. Agricultural output must increase, and for the increase to improve living standards of agricultural population, a fair national and international trade system must exist. However, the current North-controlled international trade system does not allow agricultural population from developing countries to benefit fully from their agricultural produce. As there is no place to conduct an integrated discussion between the North and South about sustainable agriculture at global level, it is doubtful if a real sustainable agriculture would ever be achieved (South Centre, 1997).

South-south cooperation is defined as cooperation among developing countries (also known as countries of the South). It involves inter-continental cooperation such as Asian-African, and intra-continental cooperation such as intra-African and intra-Asian.

Most developing countries have many similar agricultural development problems such as low agricultural outputs and productivity, weak bargaining power against unfair prices of agricultural produce and products at global level, and inadequate trained professionals and research facilities (South Commission, 1990).

There is a very strong relationship between sustainable agriculture and south-south cooperation. At a political level, south-south cooperation implies solidarity among developing countries to bargain against unfair prices of agricultural commodities in the international trade in a way that would protect the right of small farmers. Technologically, few developing countries have advanced research capacity including biotechnology, but many still lag behind, implying that south-south cooperation would facilitate sharing of knowledge and experiences. As opposed to developed countries, developing countries usually develop low technologies by improving traditional technologies. These technologies are often safe to the environment and appropriate to smallholder farming systems.

The African Institute for Capacity Development (AICAD) is an institute that promotes development of African region through enhancing

south-south cooperation (AICAD, 2001). AICAD was established in August 2000 out of collaborative efforts by the government of Japan, Tanzania, Kenya and Uganda. The objective of this paper is to report on AICAD's experiences and prospects on intra-African and African-Asian cooperation in the field of agriculture during the first phase (August 2000 –July 2002).

AICAD's Experiences on South-South Cooperation

1. AICAD's participants

AICAD promotes collaboration, in various fields among universities, research institutions, government institutions, private sector, industries, non governmental organisations (NGOs) and community-based organisations. Currently, there are three East African countries participating in AICAD's activities, namely: Kenya, Tanzania and Uganda. The collaboration actively involves eight public universities working together in order to increase their capacity to tackle African problems. Five universities are located in Kenya (University of Nairobi, Moi University, Kenyatta University, Egerton University, and Jomo Kenyatta University of Agriculture and Technology); two in Tanzania (Sokoine University of Agriculture and University of Dar es Salaam); and one in Uganda (Makerere University) (Fig. 1). One year later, five more universities joined AICAD, namely: Maseno University in Kenya; Mzumbe University and Open University of Tanzania, both in Tanzania; and Mbarara University and Chiambo University, both in Uganda.

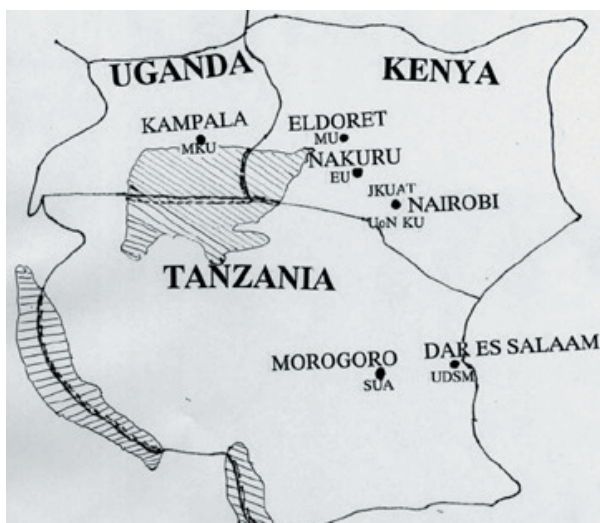


Fig1. Geographical location of AICAD's main eight participating universities sorted by country: **Kenya:** EU (Egerton University), JKUAT (Jomo Kenyatta University of Agriculture and Technology), KU (Kenyatta University), MU (Moi University), UoN (University of Nairobi). **Tanzania:** SUA (Sokoine University of Agriculture) and UDSM (University of Dar es salaam). **Uganda:** MKU (Makerere University)

2. AICAD's goal and main activities

AICAD aims at solving various issues of poverty in the African region by undertaking two major functions, namely: strengthening educational and research functions of African institutions, and accelerating human capacity development. AICAD integrates techno-creators, techno-disseminators and techno-end-users in order to facilitate effective sharing of valuable knowledge and technologies through demand-driven joint research, training and information networking (Fig. 2). The AICAD's ultimate target of the integration is to develop appropriate technologies for sustainable agricultural development of Africa (AICAD, 2002).

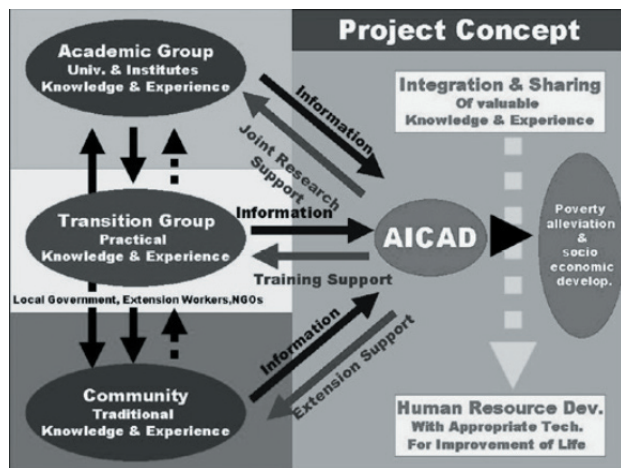


Fig 2. AICAD project concept: integration of academic, transition and community groups for sharing of valuable knowledge for development of appropriate agricultural technologies (Source: AICAD, 2002)

3. AICAD's experiences in research and training

AICAD conducts agricultural and non-agricultural research through three divisions, namely: Research and Development; Training and Extension; and Information Networking and Documentation. AICAD has five ongoing joint research projects in the field of agriculture, of which three are on disease and pest control, and two on milk preservation and processing. Many farmers use traditional agricultural technologies, which (though appropriate to the environment) result into low agricultural output. Thus, AICAD attempts to improve the exiting traditional agricultural technologies. The expected outcome of the research projects is to have improved traditional technologies for disease and pest control, and milk preservation and processing.

AICAD conducted a one-month regional training course on irrigation and water resources management to 30 extension workers working with farmers at grassroots. The course was conducted because water shortage is among the serious problems affecting rain-fed agriculture in Africa. AICAD identified lack of knowledge and skills on irrigation and water resources management as a major source of the problem. The training course mainly focused on appropriate rainwater harvesting and water-use-economy irrigation techniques (Fig. 3), water sources management, and integration of water use and crop husbandry practices. As an immediate output of the training course, the trainees formed an association called the “East Africa Irrigation Experts Network” with the aim of supporting regional efforts in poverty alleviation through sustainable agriculture.

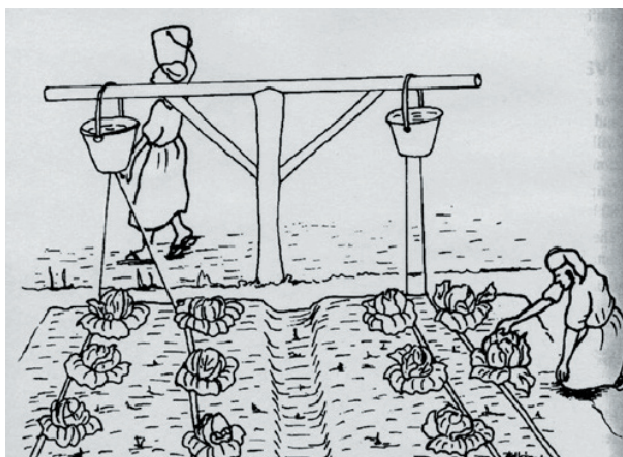


Fig 3. Application of a “bucket drip irrigation” technique for a water-use economy in a production of vegetables. (Source: International Institute of Rural Reconstruction (IIRR), 1998)

4. SUA’s experiences in south-south cooperation

Although AICAD seems young, its participating universities have long experiences in south-south cooperation. For example, Sokoine University of Agriculture (SUA) in Tanzania collaborates in vegetable research and training with the Asian Vegetable Research and Development Center-Africa Regional Program (AVRDC-ARP), with main office in Arusha, Tanzania. AVRDC-ARP attempts to improve the existing tomato cultivars by using solanaceae germplasms from Asian countries. SUA serves as one of the major stations in the Eastern zone of Tanzania for multilocational evaluation of AVRDC-ARP’

s tomato new cultivars. As a result of this collaboration, two tomato cultivars have been released for commercial production, namely Tengeru 97® (indeterminate type) and Tanya® (determinate type) (AVRDC, 2002). Kalwani *et al.* (2002) recently reported that Tanya® was doing better than the traditional determinate tomato cultivars (Roma VF® and CAL J®).

5. General lessons learned from south-south cooperation

5.1. Demand-driven and participatory research

To develop a demand-driven technology, scientific researchers must look for farmers’ needs. Although private companies are successful in developing demand-driven innovations, most researchers still do what they think is best for farmers. One of the main reasons is that researchers do not suffer the consequences of their innovations being rejected by farmers. Since researchers get their rewards from the government, farmers have little to influence demand-driven research.

Farmers’ participation in research enables researchers to understand better about farmers’ knowledge and experiences on a researchable area. This in turn enables researchers to integrate farmers’ knowledge and experiences into a project. It has been reported that farmers’ motivation and participation to research project implementation are increased when their knowledge and experiences are integrated in a research project. Although most researchers have currently started conducting demand-driven and participatory research, they often select progressive farmers, usually able to express themselves, and found in vicinal and easily accessible villages, and with good records of working with research projects (Chambers, 1983). Researchers hardly work with marginalized socio-economic classes of rural farmers. It is a big challenge for researchers to overcome this weakness with the current inaccessibility of many rural areas caused by bad roads, inadequate transport facilities and researchers’ short of time in working with rural people. Additionally, it is difficult for researchers to work with destitute farmers who are habitually laggard, and shy and suspicious to outsiders.

5.2. Inter-disciplinary research

Many agricultural problems have multi-causatives, meaning that they cannot be successfully solved by a single discipline. Successful research projects on agricultural problems must integrate high quality professionals from different disciplines. However, the integration of disciplines in tackling problems is practically not so easy. What is currently called “integration of research disciplines” is merely grouping together of researchers from different disciplines with an assumption that they would work as a unit. In fact, the grouped researchers divide a research project into subtopics so that each researcher can individually deal with a subtopic according to his/her area of specialisation. Although not very certain, the researchers’ tendency to disrepute and dislike other disciplines might probably be the cause of disintegration. This disintegration might partly originate from professional superiority complex and specialization. Successful inter-disciplinary research may require creation of a *new science*. One of the alternative approaches of the *new science* would be to establish a system where researchers from different disciplines work for one final outcome, for instance “improved living standards of coffee farmers in a given area”. Their performance is then evaluated and rewarded based on the level of improvement of living standards of the coffee farmers. This would probably facilitate integration of sociologists, soil scientists, crop scientists, economists, politicians, etc.

5.3. Farmer-extensionist-researcher (FER) linkage

Effective extension services are imperative for successful dissemination of research findings from researchers to farmers. In many developing countries, extension services do not work well, as a consequence of which good research findings often show little effect on agricultural production. Some of the major problems with extension services are inadequate extension workers and facilitation, especially transport and salaries. It has been reported that extension workers rarely provide technical assistance to farmers, and sometimes even when they live within the same village with farmers (Kirumira, 2002). Similarly, it has been noted that “experienced farmers” at Nzihi and Kidamali villages in Tanzania play more effective role in training other farmers on tomato production than extension workers (Kalwani *et al.* 2002). On

the contrary, successful results of extension services are reported when extension workers are attached to NGOs and community development projects, where good transport services for fieldwork and allowance to supplement their small salaries are provided.

Many research projects attempt to strengthen the FER linkage through conducting farmers’ forums, increasing number of farmers participating in joint research meetings and on-farm trials, and increasing number of researchers participating in extension meetings (TARP II, 2000). However strong it is, such FER linkage would collapse as soon as the projects phase out. Making an effective FER linkage under the existing government funding systems still remains a big challenge. It is therefore doubtful if training extension workers would have significant impact to agricultural development.

3. Advantages of African-Asian Cooperation to Africa

Science and technology (S&T) was a key issue in the North-South development dialogue. During the Vienna Conference on S&T for development in 1979, major policy and conceptual advances were made in the efforts to harness S&T to development, to promote the transfer of technology to developing countries, and to assist developing countries in their efforts to develop their own S&T capabilities. The recent ascendance of neo-liberal paradigm (where scientific knowledge and technologies are patented and commercialised) results into even greater difficulties and obstacles for developing countries in accessing to and benefiting from S&T from the North. So far, there is no place to discuss S&T issues in an integrated and sustained manner at the global level.

As a last alternative, developing countries need to tap an increasing range of opportunities for south-south cooperation in the domain of S&T. With exception of a few, many African countries still lag behind advanced technology; the major cause being the inadequate research facilities and trained professionals. On the contrary, some developing countries in Asia like Indonesia, the Philippines, Thailand and Malaysia have reached advanced levels of S&T, including biotechnology, and have shown major strides in development as evidenced by the “Green Revolution”. This may offer an advantage to Africa for sharing agricultural development experiences and knowledge with such Asian countries through African-Asian cooperation.

The acquired new technologies from Asia would give good responses to African agriculture, which currently has low productivity due to lack of good technologies. Distance, slow communication and cost of travel have in the past hampered potential joint scientific research and technological development projects between Asian and African countries. However, Internet, E-mail and computer conferencing now enable interaction on a more speedy and regular basis, and hence make research and development programmes more feasible.

The rapidly decreasing assistance from the north (with future assistance being less predictable) calls for an immediate establishment of effective south-south cooperation as a sole alternative. In the absence of or reduced assistance from the north, stronger south-south cooperation would not only reduce dependence but also increase self-reliance spirit among developing countries. Under good enabling environment, self-reliance spirit is imperative for a self-initiated and self-controlled development of developing countries (Nyerere, 1990). Such type of development is sustainable since it is owned by the people.

4. Future Prospects of Asian-African Cooperation

Successful south-south cooperation requires complementation and relevance of programmes to each participant region's concerns, and mutual understanding and respect. Preliminary studies with SEARCA (Southeast Asian Regional Centre for Graduates Study and Research in Agriculture) have exposed that there are many areas of common interest between Africa and Southeast Asia. These include poverty alleviation, health and nutrition, education and training, food security, environmental and water resource management, and community development (Editha Cedicol, personal communication, 2002).

In addition, AICAD's visitation tour to Indonesia in October 2001 revealed that the country had many useful development experiences, including improved irrigation and rice production. During the visit, AICAD was offered training opportunities for Third-Country Training programmes implemented by the government of Indonesia (AICAD, 2002). With assistance from the International Cooperation Centre for Agricultural Education of Nagoya University, AICAD expects to establish a consortium with Asian countries in the field of

agriculture during the second phase II. Furthermore, AICAD anticipates establishing consortia with other sub-Sahara African countries and international organisations during the third phase (August 2007 – July 2012) (Fig. 4). Its ultimate vision is to form a triangular cooperation consisting of South-South-North, an idea that was also stressed by the Second Tokyo International Conference on African Development (TICAD II, 1998).

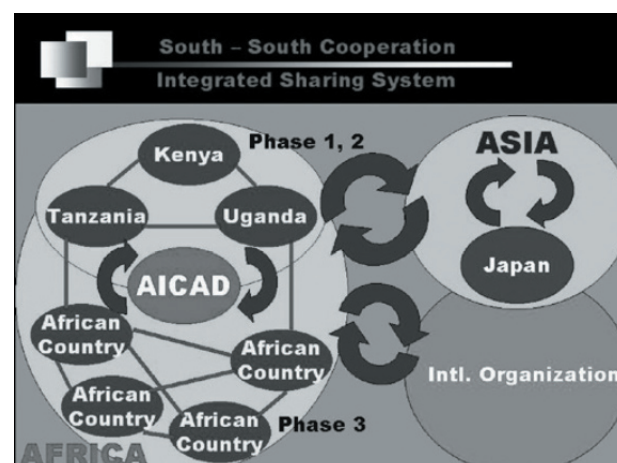


Fig 4. Ultimate vision of AICAD: promotion of South-South (Africa-Asian) and South-South –North (African-Asian-International organisation from the North) cooperation during the second and third phase respectively (Source: AICAD, 2002).

Conclusions and Recommendations

AICAD has successfully promoted the cooperation of 13 universities of Tanzania, Kenya and Uganda as a strategy to alleviate poverty through agricultural development. AICAD tries to improve agriculture through two approaches. The first approach involves improving traditional farming systems through collaborative research and training. In comparison to high technologies, improved traditional technologies are more appropriate to smallholder farmers, the environment, and the export market (which looks for eco-produce). The second approach is to promote exchange of knowledge and technologies through African-Asian cooperation. The reality behind this approach is that the "Green Revolution" in Asia occurred as a result of technological development (such as use of new cultivars, fertilizers and irrigation) combined with good agricultural policies and infrastructures (transport facilities, communication, etc.). The low productivity of African agriculture is principally due to lack of good technology. For this reason, AICAD believes that exchange of knowledge and

technologies between Africa and Asia would give a considerable progress to African agriculture. But for this agricultural development to happen, Africa must make its agricultural environment more conducive in terms of agricultural policies, physical infrastructures and access to agricultural inputs. Furthermore, Africa must take serious measures on environmental protection and enhancement for the anticipated agricultural development to be sustainable.

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