

**Investing in International Agricultural Research
Lessons from Kenya.
Paper presented at the ICW (25 - 31 October 1998)¹.**

Background

Kenya is a low-income country with a per-capital income of US \$ 280 in 1997. The economy predominantly depends on agriculture that employs 70 percent of the labor forces and contributes about one quarter of the Gross Domestic Product (GDP). Agriculture also indirectly contributes about 30 % to GDP through the manufacturing and service sector. The agricultural sector is composed of both large and smallholder farming. The large farms (more than 20 ha) cater for 23 percent of the agricultural output and the rest is smallholdings. Most of the smallholdings is mainly subsistence but contribute about 47 percent of the marketed agricultural products. Because of its largely agrarian economic base, Kenya greatly values the International Agricultural Research System as demonstrated by the following examples:

- Kenya Hosts the headquarters of two CG Centers, i.e. the International Livestock Research Centre (ILRI), International Council for Research in Agroforestry (ICRAF), These centers have programs within the centres of the NARS.
- It also Hosts three international centers which are not members of the CGIAR i.e. International Center for Insect Physiology and Entomology (CIPE); the Tropical Soil Biology (TSBF) and ISAA and four regional offices of CG centres (CIMMYT, CIP, ICRISAT, IPGRI).

By hosting these centres, Kenya has made considerable in kind investment to the CGIAR, which has not been well documented. The centres have been allocated land

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worth about US \$ 10 million and enjoy the infrastructural facilities and diplomatic treatment including exception of various local taxes. In terms of exception of duty and local taxes, it is estimated that Kenya has contributed about US \$ 12 million on exception given to ICRAF, IRLI and ICIPE for the construction and equipping of their headquarters. In addition the Government contributes about US \$ 1.5 million per year on exceptions of duty and sales tax on equipment procured regularly by CGIAR centres based in Nairobi. The international staff of these centres are also excepted from local income taxes.

In further recognition of CGIAR, the Kenya Government, through the Ministry of Agriculture, Ministry of Research and Technology, and the Kenya Agricultural Research Institute hosted the Mid-term meeting of the CGIAR in 1995. It was during this meeting that Kenya applied and was allowed to be a member of the CGIAR. However, due to economic constraints, Kenya was not able to pay its membership contribution of US \$ 500,000 and hence has fallen behind two years (1996 and 1997). It is with this background that the Kenya Agricultural Research Institute found it necessary to search for an innovative mechanism to meet this obligation of the annual contribution of Kenya's Membership to the CGIAR. This papers discusses the process of how Kenya is using the World Bank/IDA credit to meet this obligation.

Negotiation with the Government

After Kenya joined the CGIAR membership, there was no procedure for the payment of the annual subscription and KARI as the defacto, representative was either expected to make the payment or follow-up the government to make the case for the payment. There were three options that KARI could request the Government to use to meet this obligation. The first option was KARI's annual operation and maintenance budget. This option was not feasible because during this period, the government was facing budgetary constraints and not willing to raise the operational budget of any of its parastatal organizations. Further more such a request would seem ridiculous because KARI's operational budget was very small and mainly supported by donors. The second option was the miscellaneous central government

budgetary allocation of the Treasury., KARI requested the government to use this option to pay the contribution but was informed that there were no funds available for such and expenditure. The third option was to use KARI's donor funded projects. To use this option KARI has to convince the Government through the line ministries and the donor that there are benefits from CGIAR to Kenya to warrant this expenditure. But first and foremost, the institution has to have a comprehensive donor funded portfolio.

Showing the benefits of CGIAR to Kenya was an easy task for KARI. For example, most of the maize and wheat germplasm used in Kenya is from the International Maize and Wheat Research Centre (CIMMYT). Kenya has taken the opportunity of these in-breed lines to produce several very adaptable hybrids and composite. It is for these reasons that Kenya is maize sufficient in 4 out of 5 years, with extra for export in some years. Most of the potato germplasm used in Kenya has been obtained through the International Potato Research Institute (CIP). In the livestock subsector, Kenya is sufficient in beef and milk in most years. This has been due to major contribution of the International Livestock Research Institutes through research in animal feed, vaccines against killer diseases such as the East Coast Fever (ECF), small ruminant and dairy research. For the Semi-Arid areas, which constitute about 80 percent of the country sorghums, millets, beans and cassava are the staple foods. Most of the germplasm of these crops have been obtained from IITA, and ICRISAT. In the natural resources, the country was faced with severe depletion of forested land and declining soil fertility in the 1950's - 70's. The agroforestry packages developed by ICRAF have reversed this process in most of the central highlands. Furthermore, the role of agroforestry technologies in soil fertility replenishment is now adequately demonstrated.

With regard to donor funded projects KARI implements a long-term (15-20yrs) project - The National Agricultural Research Program (NARP), with support from the Government and 13 donors including the World Bank. The NARP is the driving force of the transformation of the national agricultural research system from several separate entities of commodity specific stations to a well coordinated, efficiently managed research system able to respond to national needs, participate and benefit from the regional international research agenda. This project now in its 11th year of

implementation having started in 1987 with the first phase for 5 years of a total of US \$105 million mainly for institutional restructuring and capacity building. It is now in its second phase of a total of about US \$ 200 million emphasizing on further

restructuring and support to applied and adaptive research as shown in table 1. This phase builds on the first phase and has a strong rationalization component as well as collaborative mechanisms set out under the Agricultural Research Fund (ARF). Support from the World Bank for the second phase is US \$ 39.7 million, which was being negotiated when Kenya became a member of the CGIAR and became effective in July 1997.

Table 1. KARI National Agricultural Research Project Phase 11 components

COMPONENT	LOCAL	FOREIGN	TOTAL
A. Institution Building	(US \$ M)	(US \$ M)	(US \$ M)
Research Management	68.8	10.5	79.3
Monitoring and Evaluation.	1.5	1.6	3.1
Human Resource Development	1.3	2.3	3.6
Information Systems	1.5	2.4	3.9
Subtotal	73.1	16.8	89.9
B. Research Programs			
1. Regional Research	6.7	8.3	15.0
2. Commodity/Factor Research			
Crops	10.8	11.5	22.3
Livestock/Animal Health	9.1	13.3	22.4
Natural Resources Research	5.1	10.2	15.3
Socio-economics	1.6	4.4	6.0
Sub-total	26.6	37.2	63.8
3. Agricultural Research Fund	4.0	1.2	5.2
Subtotal Research Programs	37.3	46.7	84
C. Seeds Program	2.5	4.6	7.1
Total Baseline Costs	112.9	68.1	181.0

Physical Contingencies	5.2	2.4	7.6
Price Contingencies	6.3	2.8	9.1
TOTAL PROJECT COSTS	124.4	73.3	197.7

With realization that the Kenyan Government was already investing heavily in the CGIAR, and that there were considerable benefits from the system, it was well convinced that a further investment of US \$ 500,000 per year, especially using already existing donor funded projects of KARI was a worthwhile investment. Unfortunately, all the donor funds had already been negotiated and approved by this time and this specific item of contribution to the CGIAR had not been specifically identified in the agreements. The Government then wrote to the World Bank requesting for No Objections to use the proceeds of the Credit to pay this contribution. This request was followed with an informal request by the Permanent Secretary of the Ministry of Research and Technical Training, during the last CGIAR meeting. The Permanent Secretary attended the last ICW meeting as Kenya's representative and to receive the Chairman's Award on the best CG Centre/NARS collaborative project which was awarded to KARI and ILRI. This convinced him even more that further investment to CGIAR through this contribution was very worthwhile.

Negotiations with the World Bank

On receiving the request from the Government, the initial reaction of the World Bank was also not positive as the project had already been designed and approved yet this category had not been identified to be met from the Credit. The Bank felt that since CGIAR membership was government commitment, which it entered without consultation of the Bank, there was no provision for the contribution to be paid under the Credit. KARI had again to intervene and convince the Bank that it was the prerogative of the Government to request the use of the Credit where it deems important. Furthermore membership to the CGIAR was very important as demonstrated earlier. On detailed examination of the project covenant documents, it was realized that the Credit included a category of Agricultural Research Fund (ARF) that funds projects on competitive basis and the Bank agreed in principle to use this provision to pay for the membership. The Bank consulted the CGIAR secretariat to find out which projects could be funded from such a contribution and we were advised such a project had to be part of the approved research agenda for the CG Centre. With this advise, KARI could proceed and work with the CG centre of its choice to identify an appropriate project to be funded from this contribution.

Identifying the Beneficiary Project

To identify beneficiary project, KARI considered its collaborative efforts with various CG centres based in Kenya. This was not an easy task as KARI collaborates with, most of CG Centres. Currently, there are about 19 collaborative activities and projects with which KARI collaborates with international Centres. KARI, therefore, decided to request the centres whose headquarters are based in Nairobi, i.e. ICRAF and ILRI to the identify projects. Working together, ICRAF, ILRI and KARI identified one project on Soil Fertility Recapitalization and Replenishment and another project on Improved Feeding and Tick-borne Diseases Control Strategies in Smallholder Livestock Production Systems. These projects will then benefit from the World Bank (IDA) Credit to KARI in the form of an Agricultural Research Fund contract between KARI and the respective CG centres. The projects have gone through an identification and a peer review stage and are now ready for funding.

The project with IRLI will use an integrated approach of animal nutrition and animal health to address the problems of smallholder daily production. We will use the expertise of ILRI in biotechnology to develop recombinant vaccines, to control the EFC combined with development of low cost animal feed option.

The project with ICRAF will address the problems of severe soil fertility depletion identified in Western Kenya. The project will underpin some strategic questions on the technologies of improved fallows, slow releasing fertilizers such as rock phosphate, and biomass transfer of some recently discovered miracle shrub, the tithonia diversifolia especially with respect to the residual effects and the soil chemical equilibria of the integrated soil management approach. Use of these technologies although not adequately understood has shown great potential.

Conclusion

This has been a learning process for KARI, as an endeavour to participate and benefit from the international research system. The process has revealed to the Government that it has already invested much into the CGIAR and there are considerable benefits to warrant its membership with a little more contribution in order to continue to participate in the decision making process. The use of the World Bank/IDA Credit is a manifestation of how much the government is convinced of the value of the CGIAR. Although a soft loan, the Government of Kenya uses the World Bank/IDA credit as a last resort, where despite the importance of a particular project, it has no ability to pay from its own sources or donor grants.

On the other hand the mechanism has given KARI the opportunity to play a major role in influencing the research agenda of the CG centres. While the projects identified were within the approved agenda of the particular CG centres, they had to be of specific benefit and fit within the priority of KARI. It should be mentioned here that the Dairy research is priority no 1 of KARI's commodity research programs and the Soil Fertility Management is also priority no 1 of KARI's factor research programs. Furthermore, by working with both ILRI and ICRAF to identify the beneficiary projects, the research agenda was streamlined to enhance collaboration and be of relevance to also to the national research agenda. This mechanism can be expanded to empower the NARS in developing countries to influence the research agenda of the CGIAR centres especially if it is used by donors. We suggest that as donors identify areas of support to developing countries they could earmark funds for collaborative projects between the NARS and the CG centres. Funds should then be availed to NARS to work with the CG centres in the form of a contractual arrangement.