

Enhancing Partnerships for Agricultural Development



ISAAA
INTERNATIONAL SERVICE
FOR THE ACQUISITION
OF AGRI-BIOTECH
APPLICATIONS

Food, feed, fiber, and fuel for the world's 800 million people who suffer from hunger and poverty – this is the formidable task for many countries, development agencies, and other interest groups. Of the many strategies that have been forwarded to address the issues of global poverty and environmental degradation, crop biotechnology is seen as a viable contribution to the solution.

As early as 1991, the International Service for the Acquisition of Agri-biotech Applications (ISAAA) saw the potential of crop biotechnology to improve the lives of small-scale farmers in developing countries. By facilitating the transfer of technologies to developing countries through public-private partnerships, and by sharing and disseminating scientific knowledge to the global community, ISAAA has established its role and contribution in world efforts to help achieve agricultural sustainability and development.

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ISAAA's Niche

ISAAA is a not-for-profit international organization that delivers the benefits of agricultural biotechnology to resource-poor farmers in developing countries. By identifying and matching agricultural problems with possible biotechnology-based solutions in developing countries, it aims to share these powerful technologies to those who stand to benefit from them the most.

ISAAA's unique approach is to facilitate the transfer and delivery of proprietary biotechnology applications by engaging partners from the public and private sectors in the research and development continuum. This entails the building of partnerships between public institutions in the South and the private sector in the North, and by strengthening South-South collaborations. Complementing these efforts are an array of support services to ensure that the agricultural environment is synergized by external inputs, such as capacity building for policy makers and scientists; regulatory oversight on such issues as biosafety, food safety, and intellectual property rights; impact assessment; and knowledge sharing and public awareness.

Since ISAAA does not own or use the technologies it transfers, it is able to have a high degree of independence and credibility as "honest broker" as it interfaces with different partners.



"The strategy of ISAAA is a two-fold thrust. First is the acquisition of proprietary biotech applications usually from the private sector for the benefit of subsistence farmers. The second mission stems from the fundamental importance of sharing with the global community the attributes of this technology."

-Clive James
ISAAA Board Chair

Africa Projects

The AfriCenter based in Nairobi, Kenya, has a portfolio of projects which includes a tissue culture initiative to revive banana production in Kenya and other East African countries, and a program for the micropropagation and distribution of multipurpose trees.

Tissue culture banana. ISAAA collaborates with the Kenya Agricultural Research Institute (KARI), farmer cooperatives, local private companies, and partners in Kenya, South Africa, Tanzania, and Uganda to enable farmers to avail of virus-free and improved banana plantlets through the production of clean superior plants by tissue culture (tc). ISAAA facilitates the adoption of this technology and ensures its sustainability by working with other sectors that have experience in extension, micro-credit, and marketing operations.

The success of the project is reflected in the increasing number of farmers who have opted to plant tc banana, improved income of these farmers, and value-added opportunities for women farmers who are now able to diversify banana production into other income-generating ventures such as the production of wine, and flour. More importantly, the project has attracted attention from countries outside Kenya which have requested replication of the project in their areas. In 2000, the project won the first place medal of the Global Development Network Awards for Science and Technology for Development.



Tissue culture banana in Africa



Genetically superior tree seedlings

Multi-purpose tree project. A major concern in Africa is to provide wood products urgently needed for fuel, fencing posts and timber for building. ISAAA facilitated the sharing of proprietary technology, specifically germplasm of fast growing multi-purpose trees, from partners in South Africa to partners in Kenya. Kenyan farmers then took care of technology backstopping, fund management, and monitoring of diseases and breeding.

Technology transfer was accompanied by transfer of skills, training in terms of propagation techniques, and the handling and management of the tree species. Farmers from Kenya and nearby countries like Tanzania and Uganda have benefited from planting genetically superior tree seedlings with desirable characteristics.

Asia Projects

The SEAsiaCenter Office based at the International Rice Research Institute in the Philippines is the hub of activities that center on several major initiatives.

Papaya Project. The Papaya Biotechnology Network of Southeast Asia is a regional initiative among Indonesia, Malaysia, Philippines, Thailand, and Vietnam organized to address two major constraints to papaya production: that of the papaya ringspot virus and significant post-harvest losses. Papaya has been identified as a priority crop and is an important food source in the five countries.

ISAAA facilitated an agreement with Monsanto to donate its virus resistance technology to the five network countries. ISAAA also brokered an agreement with Zeneca (now Syngenta Seeds) and the University of Nottingham to share their delayed ripening technology.

ISAAA was able to strengthen country capacity through internships and fellowships on various aspects related to the technology. These include technical aspects such as transformation techniques, regulatory issues such as biosafety, food safety, and other related issues like intellectual property rights and commercialization of products.

Eggplant Project. ISAAA is supporting the development of a Fruit and Shoot Borer Resistant (FSBR) eggplant in the Philippines which is being spearheaded by the Institute of Plant Breeding of the University of the Philippines Los Banos through a partnership with the Indian Maharashtra Hybrid Seeds Company Ltd (Mahyco), Cornell University, and the United States Agency for International Development (USAID) through the Agricultural Biotechnology Support Project II.

Insect and Virus Resistant Sweetpotatoes. Research is underway in Vietnam and the Philippines to develop transgenic sweetpotato varieties. ISAAA brokered an agreement with Novartis Seeds (now Syngenta Seeds), Switzerland, to donate Bt genes and to train Vietnamese scientists in developing a sweetpotato variety resistant to sweetpotato weevil. ISAAA fellowships supported the training of Vietnamese scientists from the Institute of Biotechnology in transformation systems for sweetpotato.

In the same vein, ISAAA brokered the donation of virus resistance technology from Monsanto to the Philippines, for the development of local sweetpotato varieties with feathery mottle virus (FMV) resistance. Following the technology donation, research activities were initiated and undertaken at the University of the Philippines Los Baños and the Leyte State University to develop virus-resistant sweetpotato. ISAAA supported the fellowships for local scientists to undergo training on molecular virology and sweetpotato transformation.



Farmers will benefit from biotech crops like papaya and sweetpotato

Knowledge Sharing Initiatives

ISAAA's Global Knowledge Center on Crop Biotechnology was established by ISAAA to facilitate the process by which authoritative information is made available to developing countries. Popularly known as the KC, the center's activities support transparent decision making with the public on issues related to crop biotechnology. The KC has a global mandate and supports an information network of Biotechnology Information Centers (BICs) in Asia, Africa, Europe and Latin America.

The network uses a modality of communication strategies to help provide an enabling environment for the safe application of crop biotechnology, and promote the public understanding of crop biotechnology. While the core KC addresses the concerns of a global community, the BICs are at the forefront of local initiatives to advance a broader understanding of crop biotechnology, such as information needed by policy makers and scientists in deciding on regulatory options for example.

The KC's impact can be measured by its increasing audience reach. ISAAA is already very much associated with its Annual Review of the global status of commercialized biotech crops. The 2008 Review is estimated to have reached more than 1 billion people in 62 countries through 1,312 media articles in 38 languages. In addition, the weekly e-newsletters, the Crop Biotech Update and the Biofuels Supplement, are received by more than half a million subscribers as well as additional recipients who get translated versions or the news from other listservs.



Looking Forward

ISAAA has had over a decade of experiences in technology transfer activities related to crop biotechnology. It started bringing together partners from both public and private sectors to work together at a time when the technology's potential was still being realized.

These initial initiatives have now bore fruits. Developing countries in which ISAAA continue to work with now benefit from strengthened and enhanced human capacity to do a higher level of research work, an increased ability to make crucial decisions on crop biotechnology, a greater understanding of the regulatory process, and a recognition that networking and sharing of experiences between and among countries result in a positive and enabling environment for crop biotechnology to thrive.

ISAAA is aware that it is but one of many players currently involved in agricultural development. In the same vein, it recognizes that it has a crucial role in getting the level of commitment from different actors required to maximize resources and opportunities by which efforts can be challenged toward more focused, collaborative, and synergistic initiatives. This was ISAAA's mission then, and it will continue to be so in the years ahead.



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The principal and founding donors of ISAAA were philanthropic foundations. Since its founding ISAAA has been cosponsored by a donor support group consisting of public and private sector institutions, listed below. No long-term core funding is sought, with donors committing funds on a fixed-term basis. This fixed-term funding strategy exposes ISAAA's program to regular and rigorous peer review by donors, thereby ensuring its transparency and accountability.

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