



African Centre for
Technology Studies



Strategic Plan 2004-2008

Harnessing Science and Technology
for Sustainable Development

The African Centre for Technology Studies (ACTS) is a Nairobi-based science, technology and environment policy IGO that generates and disseminates new knowledge through policy analysis and outreach. The Centre's mission is to *strengthen the capacity of African countries and institutions to harness science and technology for sustainable development*. ACTS strives to rationalize scientific and technological information to enable African countries make effective policy choices for improved living standards. ACTS works with partners and networks including academic and research institutions, national governments, UN bodies, regional and international processes and NGOs. ACTS' research and capacity building activities are organized in five programmatic areas: Biodiversity and Environmental Governance; Energy and Water Security; Agriculture and Food Security; Human Health; and Science and Technology Literacy. Its member states are: Kenya, Malawi, Malta, Uganda and Ghana. The World Agroforestry Centre (ICRAF) and the Third World Academy of Sciences (TWAS) are also founding members of ACTS.

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Harnessing Science and Technology for Sustainable Development

ACTS' Strategic Plan 2004-2008

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The founders of the African Centre for Technology Studies (ACTS) recognized that while global economic and geopolitical systems were becoming increasingly complex and were subject to unpredictable change—particularly as a result of rapid technological changes and growth in environmental awareness, African countries did not possess the requisite regimes to manage the processes of change at global and national levels. There existed a void that needed to be filled by an organization or institution that could directly help African countries in this respect. From the outset, therefore, ACTS embarked on activities aimed at provision of new knowledge and information to facilitate the formulation of public policy in Africa.

Several years down the line, ACTS has achieved most of the targets set by its founders. There have been many firsts for the organization. It is among the first independent public policy research institutions in Africa. It was the first to organize in 1990, an international conference to discuss the options African countries could adopt to mitigate the negative consequences of climate change.

As situations change, organizations adapt and adopt systems that will enable them to better achieve their set objectives. What served us well in 1990 may not necessarily be appropriate now. ACTS is no exception. Our mission and vision have served us well in the past, but with globalization and rapid scientific and technological change, we have re-examined ourselves and come up with new strategies.

This strategy is a result of many hours of work by people dedicated to the success of ACTS. It guides our research aspirations for the coming years. We are asking all our friends, associates, collaborators and donors to help us achieve these goals. We can do no less than that if we expect Africa to progress in tandem with the rest of the world.



Dr. Chrissie Mwiyeriwa
Chair, ACTS Governing Council

Word from the Executive Director

Harnessing Science and Technology for Sustainable Development

ACTS has developed a Strategic Plan (SP) to guide its programmes, management, and operational needs for the period 2004-2008. With support from USAID/REDSO, ACTS' staff went through a 2-day workshop on Strategic Planning process in April 2003. Subsequently, an in-house team was constituted and mandated to continue the process of drafting a five-year Strategic Plan. A consultant was engaged to work with this team. The SP focuses on the programmatic areas of research that ACTS will engage in the coming five years. These encompass the areas of agriculture and food security, energy and water security, biodiversity and environmental governance, human health, and science and technology literacy. The SP will help define how the Governing Council (GC), member states of ACTS and network of technical experts can be engaged in the implementation, marketing, and funding once its implementation commences. In addition, the new strategy addresses staffing needs and requirements, as well as organizational development and growth.

The development of the SP allowed us to understand the importance of having a coherent monitoring and evaluation (M&E) mechanism. Although the office of the Executive Director and the Directorate of Policy Research and Outreach took responsibility for M&E, measures instituted were inadequate. These measures included strengthening programme management and enhancing the relevance and effectiveness of the Centre's activities in relation to its mission and objectives. There is need therefore for an M&E system, which would ensure that organizational, project and programme impacts are measured according to the Centre's, vision, mission and objectives.

ACTS staff and strategic partners including donors, collaborating NGOs, CBOs and governments of the member states were actively involved in the stages leading to the development of this Strategic Plan. The major themes include: the Centre's vision, mission, and objectives; programme focus, management of human and financial systems; structure; monitoring and evaluation; and governance. The evaluation was informed by global and regional challenges.



1 ACTS was founded in 1988 to address African development concerns through mobilizing knowledge in all forms. The Centre seeks to enlarge the range of policy choices for sustainable development in Africa. In its formative years (1988-1993) that coincided with UNCED, the Centre demonstrated the feasibility of independent policy research on science, technology and environmental issues by building the capacity of African countries to implement the provisions of international agreements. The second phase (1994-1997) focused on Agenda 21 and related conventions on biological diversity and climate change. The subsequent period (1997-2002) focused on bio-safety and the potentials of biotechnology. These programmes have evolved in the context of national, regional and global agendas.

ACTS collaborates with partners and networks, including academic and research institutions, national governments, regional and international organizations. This collaboration continues to benefit diverse stakeholders. Besides links with the Government of Kenya, new links and collaborative arrangements have gradually emerged with the governments of Uganda, Malawi, Ghana and South Africa. The Centre has also actively supported and contributed to sub-regional and regional processes such as the East African Community (EAC) and the New Partnership for African Development (NEPAD).



ACTS' Vision

Better living standards for all in Africa through harnessing science and technology for sustainable development.

ACTS' Mission

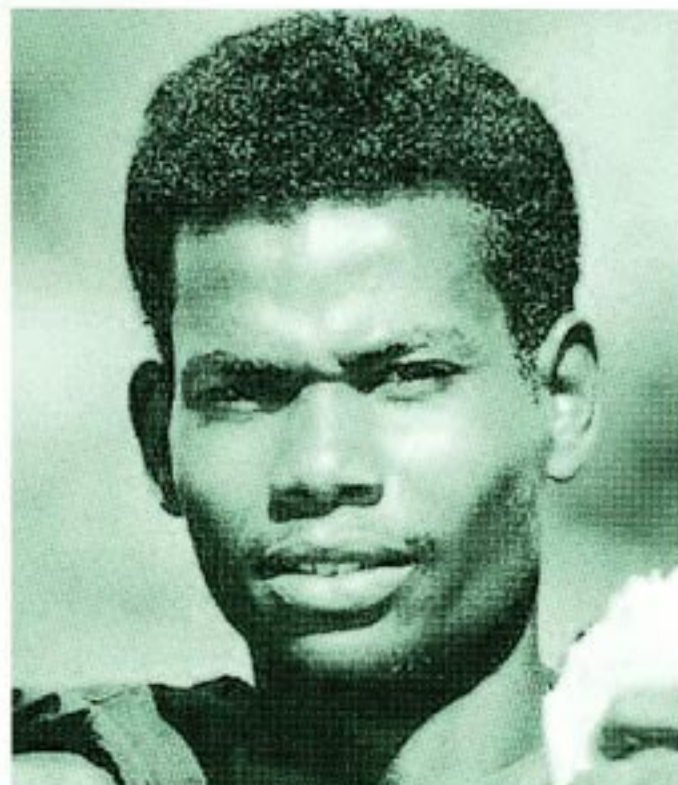
To strengthen the capacity of African countries and institutions to harness science and technology for sustainable development.

2 ACTS' Strategic Objectives

ACTS' strategic objective is to enlarge the range of policy options and dialogue to support Africa's quest for sustainable development.

2.1 Specific Objectives

- * Generate knowledge for shaping policy makers' views in regional and international fora;
- * Explore targeted opportunities for the application of science and technology to address Africa's environmental, agriculture and food security problems;
- * Recommend interventions that enhance the technological capacity of African countries to add value to their genetic resources;
- * Identify the role of science and technology in biodiversity and environmental governance;
- * Establish and sustain dynamic partnerships for policy development at all levels; and
- * Share knowledge and information on science and technology options for sustainable development.



2.2 Harnessing Science and Technology for Sustainable Development: Priorities and Strategies

ACTS will focus on the application of science and technology to five programmatic areas: biodiversity and environmental governance, energy and water security, human health, agriculture and food security, and science and technology literacy. Priority will be given to four types of policy problems:

- * The dual problems of lack of access to and negative impacts of technology.
- * Science and technology policy failure in addressing poverty.
- * Insufficient investment in appropriate technologies in Africa.
- * Insufficient generation of knowledge and technology in Africa.

3

Programme Strategy

ACTS will continue to collaborate with partner institutions in the region during the 2004–2008 Strategic Plan period. The Centre will focus on the application of science and technology to sustainable development.

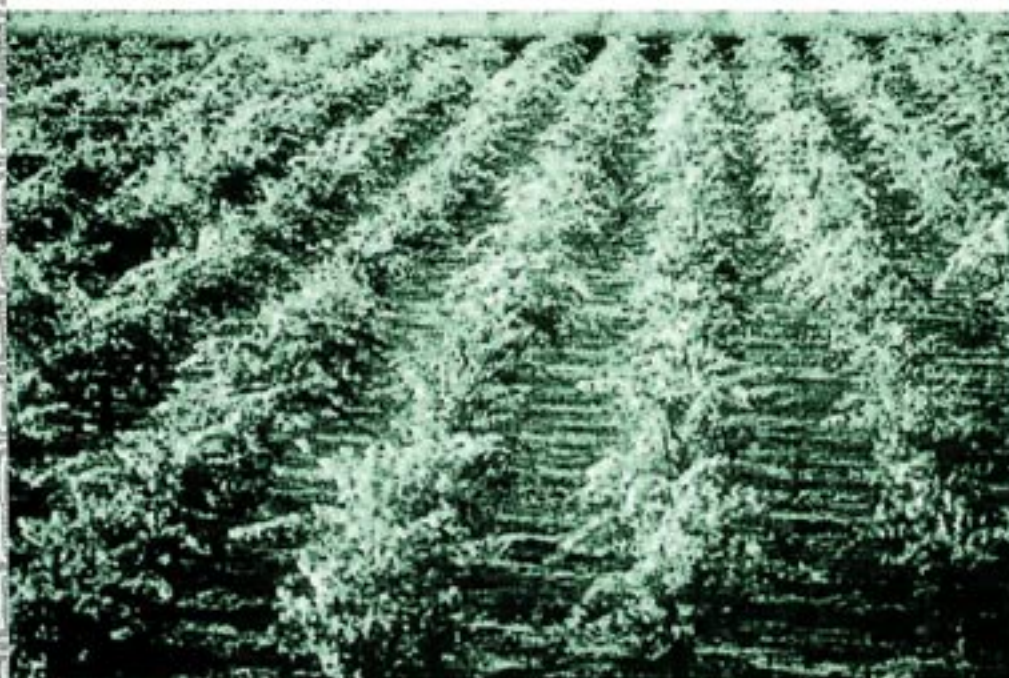
Research: ACTS research work will seek to generate new knowledge and information for sustainable development in its five programme areas. In the area of biodiversity and environmental governance, for example, research will seek to explain the implications of different land uses on the conservation of wildlife, forests and wetlands. It will also demonstrate the links among biodiversity, livelihoods, resource rights, gender and conflicts. Research on energy and water security will assess technology-based national energy and water policies and laws; conduct field and household surveys and capacity assessments. On agriculture and food security, ACTS will review current multilateral agricultural, trade and financial agreements and practices that impact on Africa's agricultural development, outlining actions required to make such provisions advantageous for African countries; identify constraints to market access and recommendations for change. Research on human health will focus on relationships between traditional medicine and biodiversity conservation. Emphasis will be placed on the kind of interventions that can enhance the technological capacity of African countries to add value to their genetic resources. Assessments on the use of biotechnology and genomics in the health sector in a select number of African countries will also be carried out along the lines of the agricultural biotechnology assessment project. Finally, research on science and technology literacy will analyze the capacity of African countries to understand and adapt science and technology for local needs. It will also seek to identify necessary systemic laws and policies to promote development of science and technology in Africa through research, capacity building, policy outreach, and information dissemination.



Capacity Building: Research results will inform ACTS' capacity-building activities in all its programme areas. Building on its past experience in implementing short specialized policy courses, ACTS will collaborate with its partners to develop training materials and implement a variety of capacity-building activities, including executive programmes. These courses will target critical policy-making constituencies like parliamentarians, middle to high level decision makers, faculty in tertiary institutions and staff of national research institutions. They will also target government officials involved in negotiating international agreements and policy processes.

Policy Outreach: ACTS will seek to influence policy change by effectively engaging policy makers through policy dialogues, roundtables, workshops and seminars at national, regional and international levels. These will target three main areas: Strengthening the policy making process; raising awareness among government officials; and sharing regional and country experiences.

Information dissemination: The Centre will disseminate its research results in a variety of fora such as libraries, national research institutions, universities and other tertiary institutions. In addition, the Centre's staff will continue to participate in national, regional and international policy processes and conferences. Selected research results will be disseminated at such fora.



3.1 In the past 12 years, ACTS has made major contributions in national, regional and international biodiversity policy processes. For example, the Centre's pioneer work on policies and laws to regulate access to genetic resources and promote fair and equitable sharing of benefits with local custodians of the resources, generated reference material for the negotiations on how to implement Article 15 of the UN Convention on Biological Diversity. This and related work has helped governments to develop laws and policies to regulate illegal collection of genetic resources and allowed benefits to be shared with local communities. More recently, ACTS' environmental governance programme has placed greater emphasis on the role of national constitutions to enlarge ecological stewardship in the region. A premier project is the Ecological Sources of Conflict Project, which seeks to understand the ecological sources of conflict in Sub-Saharan Africa. Results from country studies in the Great Lakes region and Greater Horn of Africa tell us that ecological variables are significant in many conflicts in Sub-Saharan Africa. It is on this basis that the new strategy seeks to continue with biodiversity and environmental governance programme as a priority.

Programme Goal: Promote policies for sustainable management of biodiversity, environmental governance, domestication of multilateral environmental agreements and understanding of linkages between ecology, conflicts and peace-building.

- * Strengthening national capacities of African governments to implement global environmental agreements and programmes.
Expected Output: Enhanced capacity to implement global Environmental agreements and programmes by African governments.
- * Promoting legal, policy and institutional options that foster sustainable management of biodiversity.
Expected output: The capacities of African countries shall be strengthened to foster biodiversity and environmental governance.
- * Promoting better understanding of the links among biodiversity, livelihoods, resource rights, gender and conflicts.
Expected output: Increased understanding of the linkages among biodiversity, livelihoods, resource rights, gender and conflicts; promote effective prevention and management of conflicts involving natural resources and environment.
- * Strengthening national capacities to manage and use sustainably environmental resources through use of environmental management and risk assessment tools.
Expected output: Contribute informed policy advice to national and regional bodies such as national environment management authorities (NEMAs) and NEPAD.

3.2 In the energy and water sectors, insecurity and sector liberalization (resource governance) are major issues and concerns for Africa. The majority of African households today lack access to basic forms of modern, reliable and affordable energy and safe water supplies. The available resources are not consumed sustainably, the demand for energy and water is growing rapidly, and numerous efficient technologies now exist for energy and water development and use. Despite decline in the investment costs associated with these technologies over the past decade, the technologies still remain inaccessible to the majority of African communities.

Multi-lateral financing of giant energy and water development has dwindled. Private sector participation in the provision of energy and water services to those without access is increasing—mainly utilizing decentralized technologies. But institutional, policy and regulatory obstacles hamper these developments.

Programme goal: Contribute to enlarging the proportion of people with access to safe, reliable, affordable energy and water supply.

- * Identify the necessary tasks, policy tools, organizational designs and institutional frameworks to achieve high energy and water productivity and efficient utilization through increased adoption of available, relevant technologies.

Expected Output: Better policies and institutional frameworks for decentralized energy and water services.

- * Identify and promote research on promising water and energy development and supply technologies and governance strategies with potential to achieve increased access to sustainable safe water and cleaner energy supply.

Expected Output: Increased understanding and appreciation of appropriate technologies for efficient energy and water supply.

- * Raise awareness on sustainable solutions in water and energy sectors amongst stakeholders.

Expected Output: Enhanced awareness among relevant stakeholders.

3.3 Agriculture remains the engine for improved livelihood and economic development in Africa. But it is faced with many legal, policy and institutional challenges. Other major challenges are globalization, environmental degradation and the impact of HIV/AIDS.

These challenges can be addressed through improved small-scale production systems, investment in biotechnology and improvements in national agricultural systems of innovation.

Programme goal: Contribute to enlarging knowledge base and capacities for improving agriculture and food security.

- * Strengthen national systems of innovation for improved agricultural production and food security.
- * *Expected Output:* Established linkages among research, extension, education and communication in the promotion of agricultural production and food security.
- * Identify policy and legal measures necessary for harnessing biotechnology for food security.
- * *Expected Output:* Appropriate legal, policy and institutional frameworks; women's access to, and use of science and technology for agriculture and food security enhanced.
- * Disseminating information on best practices in agriculture and food security.
- * *Expected Output:* Information disseminated among relevant stakeholders; improving the state of knowledge on land degradation, status, impacts and causes.
- * Strengthening national capacities of African governments to implement regional and international agreements on agriculture and food security.
- * *Expected Output:* Contribution to regional and international processes.



3.4

The confluence of malaria, tuberculosis and HIV/AIDS present the most formidable public health challenge that Africa has ever witnessed. The three diseases have resulted in high incidences of mortality and morbidity. There are limited vaccines in clinical use and the range of drugs available is becoming narrow because of increasing cases of drug resistance. The science of health genomics and genome-related technologies present opportunities for accelerating discovery of vaccines and effective drugs suitable for the region.



The Centre shall build on its past activities in the relationship between traditional medicine and biodiversity conservation. Emphasis will be placed on interventions that enhance the technological capacity of African countries to add value to their genetic resources. Assessments of the use of biotechnology and genomics in Africa's health sector shall be conducted. The scope shall include public health policies vis-à-vis technological change and systems of innovation and effective access to healthcare technologies.

Programme goal: Promote policies required for harnessing state-of-the-art health techniques such as genomics in African countries.

- * Identify policy and legal measures necessary for harnessing biotechnology for human health.

Expected Output: Appropriate legal, policy and institutional frameworks that allow women's access to effective traditional and modern healthcare technologies.

- * Fostering use of evidence-based policies and strategies for the prevention, control and elimination of targeted communicable and non-communicable diseases; emphasizing on best practices.

Expected Output: Best practices for prevention, control and elimination of targeted communicable and non-communicable diseases.

- * Assessing implications of multilateral trade and environmental agreements and poverty reduction strategy papers (PRSPs) to health.

Expected Output: Linkages between multilateral trade agreements, environmental agreements, poverty reduction strategy papers (PRSPs) and human health.

- * Investigating the links between HIV transmission and conflict in Africa.

Expected Output: Improved understanding of HIV/AIDS in Africa.

3.5

Scientific and technological advances have led to remarkable innovations, radically altering the way of life and vastly expanding the range of human activities.

Currently, scientific and technological advances have assumed unbalanced development trajectories. There is widening disparity between developed and developing countries. For instance, many of the developments in biotechnology have taken place in developed countries, mainly in the United States. Very few developing countries are harnessing and consolidating advances in the field of biotechnology. It is predominantly in Asia where a number of developing countries such as China, India, Indonesia and Philippines have started to invest heavily in biotechnology. African countries have lagged behind in this respect. Bridging the digital divide in information technology is thus a major issue. As electronic communication expands, a large section of humanity is being left out of the global system. This limits the effective and constructive participation of the majority of African countries in the global economy. Scientific collaboration between countries is an imperative tool for transferring knowledge from developed countries to developing ones. NEPAD identifies technology as a major prerequisite for Africa's rejuvenation and increased articulation at the global level.

Programme goal: Promote science and technology literacy in Africa.

- * Strengthening science and technology education to make it more responsive to the environmental challenges facing Africa.

Expected Output: Increased understanding of the role of science and technology in Africa's development.

- * Mainstreaming gender into science, technology, and environmental education.

Expected Output: Enhancing women's access to science and technology subjects and their relevance to socio-economic empowerment.

- * Contributing to mainstreaming of science and technology into development agendas at national, sub-regional regional level.

Expected Output: Strategic application of science and technology to Africa's development needs.

- * Strengthening partnerships between science, industry and government so as to maximize benefits from emerging technologies.

Expected Output: Increased understanding between different actors to harness benefits from science and technology.

4.1 Management goal

Ensure that ACTS and its programmes, personnel and financial resources are managed in an effective, efficient and transparent manner.

Specific objectives

- * Adhere to the Centres' vision, mission and objectives.
- * Develop and implement integrated policies, effective procedures and systems for managing programmes, human resources, financial resources and external relations.
- * Mobilize financial resources to support core and programme activities.

4.2 Financial management

Goal: Ensure sound and transparent management of the Centre's financial resources.

Specific objectives

- * Enhance transparent and professional accounting procedures.
- * Capacity to manage ACTS funds and resources enhanced.
- * Engage in resources mobilization to build upon well-established relationships with partners.

Expected Outcome: Sustainable resource base to support programmes

- * Develop sustainable fund-raising mechanisms to support core operations and research activities.

Expected outcome: Increased core funding.

- * Work with Friends of ACTS and partners to raise funds for the Endowment fund.

Expected outcome: Endowment fund established and operational.

Implementation strategy

Priority target sources will be bilateral organizations, philanthropies and the private sector. ACTS will also finalize the development of the "Endowment Fund" by securing funds to match the current grant of US\$1.2 million provided by the Ford Foundation. We reassure our traditional partners that the new funds will leverage their past, present and future investment in ACTS. Further funding mechanisms, like membership subscriptions and contract research, will be explored.

4.3 Human Resources

Goal: ACTS will develop a focused and coherent human resource strategy to optimize efficiency and effectiveness. This will seek to consolidate and strengthen institutional values, effective participation, skills and career development and effective communication and reporting.



Specific objectives:

- * Ensure synergy between current and future human resource needs and programme and management objectives.
- * Effective human resources systems and policies.
- * Build staff capacity to maintain quality performance and meet individual career needs as well as the Centre's vision and mission.
- * Staff adequately equipped to achieve organizational and career objectives.

4.4 Monitoring and Evaluation (M&E): Expected Outcomes and Indicators

ACTS's institutional performance will be judged according to the following deliverables:

Expected outcomes

- * Policy processes and reforms influenced at national, regional and international levels.
- * Scientific and technology policy outputs as measured by the quality of research publications and reviews.
- * Seminars and research conferences.
- * Individuals and institutional capacities built.

Monitoring and Performance Mechanisms

Harnessing Science and Technology for Sustainable Development

- * Monitoring and assessment of client satisfaction and adoption of the Centre's findings by stakeholders.
- * Institutional reviews such as external evaluations of our research programmes and management procedures.
- * International peer reviews in seminars and research conferences.
- * Individual performance assessments through regular and annual performance reviews.





Strategic Planning Meeting at USAid - Nairobi



ACTS' Vision

Better living standards for all in Africa through harnessing science and technology for sustainable development

ACTS' Mission

To strengthen the capacity of African countries and institutions to harness science and technology for sustainable development