

1. RESEARCH FOR DEVELOPMENT STRATEGY

The 2005-2010 TSBF-CIAT strategy is aligned with the **Millennium Development goal**: “to help create an expanded vision of development that vigorously promotes human development as the key to sustaining social and economic progress in all countries, and recognizes the importance of creating a global partnership for development.” The strategy also encompasses the **CGIAR’s agricultural and environment mission**: “to contribute to food security and poverty alleviation in developing countries through research, partnerships, capacity building and policy support, promoting sustainable agricultural development based on environmental sound management of natural resources.” The strategy is also aligned with the CIAT’s three strategic pillars: 1) restoring degraded lands to social profitability; 2) learning to innovate; and 3) sharing the benefits of agrobiodiversity.

TSBF-CIAT’s Programme Goals are: to strengthen national and international capacity to manage tropical ecosystems sustainably for human well-being, with a particular focus on soil, biodiversity and primary production; to reduce hunger and poverty in the tropics through scientific research leading to new technology and knowledge; and to ensure environmental sustainability through research on the biology and fertility of tropical soils, targeted interventions, building scientific capability and contributions to policy.

TSBF-CIAT utilizes a range of approaches to achieve programme goals in collaboration with its partners, with particular emphasis on the following:

Catalysis: ensuring that partners are kept at the forefront of conceptual and methodological advances by conducting and promoting review, synthesis and dissemination of knowledge. This is done through workshops, training courses and sabbatical and short exchange visits.

Collaboration: developing appropriate alliances with institutions across the research, educational and developmental spectrum, including linkages between institutions in the North and South.

Facilitation: coordinating actions among partners to achieve progress and success in research. This is done by providing backstopping support in the preparation, submission, implementation and publication of research projects.

Conviction: demonstrating tangible results by taking policy makers to the fields.

Internal and external reviews of the programme: The Institute’s activities and outputs undergo periodic critical reviews to ensure high standards and the achievement of the Institute’s mission.

Since its founding in 1984, TSBF has conducted research on the role of biological and organic resources in tropical soil biology and fertility, in order to provide farmers with improved soil management practices to sustainably increase agricultural productivity. In recent years, TSBF-CIAT’s research for development approach has been based on an Integrated Soil Fertility Management (ISFM) paradigm. ISFM is a holistic approach to soil fertility research that embraces the full range of driving factors and consequences of soil degradation — biological, physical, chemical, social, economic and political.

However, successful resource management and sustainable agricultural productivity need to go still further, into the realms of markets, health and policies (Figure 1). The central hypothesis is that natural resource management research will have more leverage if the apparent gaps between investment in the natural resource base and income generation can be bridged. Therefore, TSBF-CIAT’s new strategy proposes to take ISFM an additional step forward with partners within and outside CIAT, by addressing the full chain of interactions from resources to production systems to markets and policies. Under the new framework, investment in soil fertility management represents a key entry point to agricultural productivity growth, and a necessary condition for obtaining positive net returns to other types of farm investments.

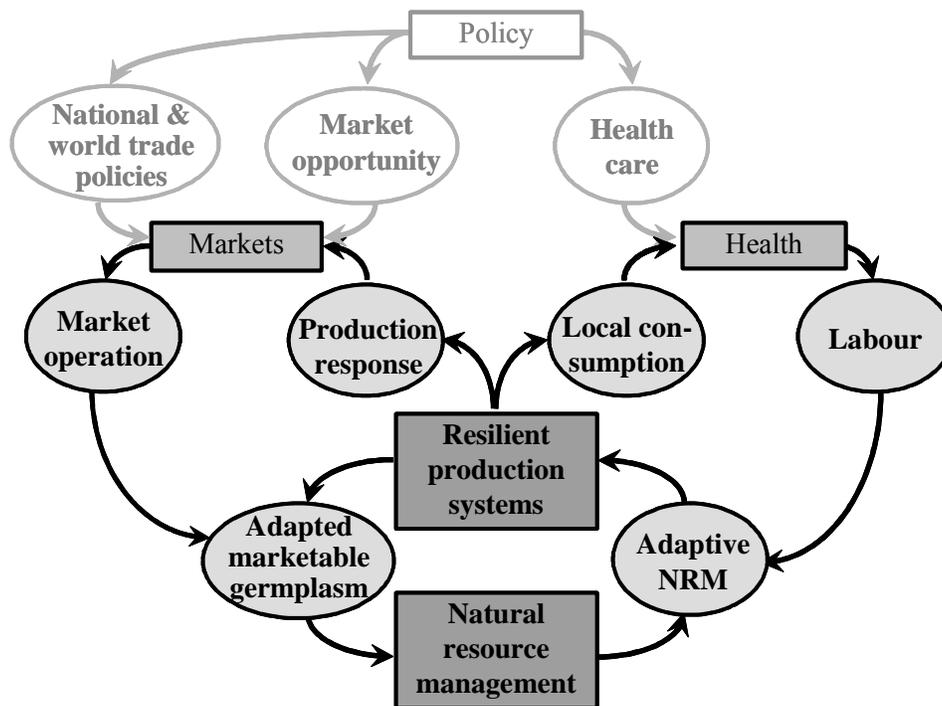


Figure 1. Conceptual framework of the new TSBF-CIAT strategy. Topics in bold indicate the driving forces to be addressed by the proposed strategy; topics in shaded lighter gray are driving forces beyond the control of the Programme.

TSBF-CIAT will pursue the following objectives under the new strategy:

- to improve the livelihoods of people reliant on agriculture by developing profitable, socially-acceptable and resilient agricultural production systems based on ISFM;
- to develop sustainable land management (SLM) practices in tropical areas while reversing land degradation; and
- to build the human and social capital of all TSBF-CIAT stakeholders for research and management on the sustainable use of tropical soils.

To achieve these objectives, TSBF-CIAT’s work will be organized into six programmatic thrusts:

1. Intensification and diversification of cropping systems;
2. Managing the genetic resources of soil for enhanced productivity and plant health;
3. Moving from plot to landscape scale to address sustainable land management challenges;
4. Understanding farm level social dynamics;
5. Supporting technology development that enable farmers to engage in profitable and sustainable market oriented production; and
6. Strengthening NARSs capacity.

TSBF-CIAT’s strategy will emphasize developing and extending technologies that support sustainable intensification of cropping systems, especially in the dry and moist savanna, hillside, and forest and forest margin agro-ecological zones (AEZs) in Africa and Latin America. In these AEZs, poverty, population growth and a rising demand for food is driving expansion of cropped area into increasingly marginal lands and/or remnant forest zones. Under these circumstances, sustainable intensification of agriculture

on already cultivated land represents the most promising solution to achieving food security and protecting against natural resource degradation, the ultimate goals of TSBF-CIAT's work.

As a relatively small research institute, it is important that TSBF-CIAT position itself appropriately on the research-development continuum. TSBF-CIAT's primary role and comparative advantage is in conducting international public goods research on ISFM in farming systems where soil degradation undermines local livelihoods and market opportunities. However, while TSBF-CIAT will focus primarily on strategic research, it is also ready to support technology dissemination and development activities with partners via regional networks and global projects. TSBF-CIAT will continue research on below-ground biodiversity as a means of beneficially managing soil biology, through the GEF-UNEP funded global project on below-ground biodiversity (BGBD).

Much of the applied research and dissemination of findings, as well as NARSs capacity building, will be done via the Institute's two partner networks — the African Network for Soil Biology and Fertility (AfNet), and the Latin American Consortium on Integrated Soil Management (known by its Spanish acronym, MIS). TSBF-CIAT also collaborates with the South Asian Regional Network (SARNet) on soil fertility research in that region.

By 2010, significant progress will have been made towards generating the following outputs:

1. Biophysical and socioeconomic processes understood, principles and concepts developed for protecting and improving the health and fertility of soils;
2. Economically viable and environmentally sound soil, water, and nutrient management practices developed and tested by applying and integrating knowledge of biophysical and socioeconomic processes;
3. Partnerships developed and capacity enhanced among all stakeholders for improving the health and fertility of soils;
4. Improved rural livelihoods through profitable, diverse and intensive agricultural production systems; and
5. Sustainable land management practices developed for social profitability, with special emphasis on reversing land degradation.

To carry out the work envisioned under the new strategy, the following staff positions will be called for:

Agrobiophysical scientists: These include specialists in integrated soil fertility management, soil biota management, soil and water conservation, ecosystem services, microbiology, and plant nutrition and physiology.

Social scientists (including agricultural economics): This staff category will be strengthened to permit greater emphasis on the socio-economic aspects of the new research paradigm.

Coordination: This includes the Institute Director, coordinators of the AfNet and MIS networks, and the coordinator of the GEF-UNEP Below Ground Biodiversity Project.

The estimated funding required for TSBF-CIAT's work is approximately US\$5 million per year, for a total budget of about \$30 million over the next 6 years.