



Organization for Tropical Studies

Strategic Plan: Changing the Way We Think About the Tropics

2006-2015

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INTRODUCTION

If there is one constant in the story of the tropics it is change. Our previous knowledge about stability in the tropics, the effect of climate change, and the functioning of tropical forests has undergone revision in revolutionary ways. New knowledge about the tropics has rapidly accelerated over the past three decades as teams of collaborators have been formed to tackle large, multidisciplinary questions using new technologies (such as DNA sequencing, remote sensing, and stable isotopes). Analyses of the effect of rising carbon dioxide on plant turnover in old-growth rainforests, migratory patterns of species, and the historic role of humans in the tropics – to name just a few examples – have all uncovered a more dynamic view of tropical ecosystems. Continuously collecting data over a long-term period has proven critical for our new understanding of the tropics as highly dynamic systems. Indeed, this knowledge has emerged largely from just a few sites in the tropics that have supported research and monitoring programs over multiple decades.

As our understanding of the tropics has improved, it has also revealed that the baseline has shifted since the days of Alfred Wallace and Charles Darwin. Human population has risen exponentially in the tropics, giving rise to megacities such as Mumbai, São Paulo, Manila, and Nairobi. This growth is straining the critical resources upon which biodiversity rests. Science tells us that the tropics face many threats in this new millennium due to human impact, ranging from the effects of global climate change to deforestation to species loss. To comprehend the challenges confronting tropical systems today we must employ the biological, physical, and social sciences to understand, for example, carbon and nutrient cycling, increased biomass production, soil erosion, declining water resources (including catchment's management), introduction of exotic species, infectious disease spread, grazing and cropping strategies, chemicals in the ecosystem, severe weather impacts, forest degradation, species/system enrichment, and depletion, and development of conservation corridors. Much work still needs to be done to chart a sustainable future for this critical area.

The Organization for Tropical Studies (OTS) is a not for profit consortium of more than 60 universities, colleges, and research institutions from the United States, Costa Rica, Peru, Mexico, South Africa, and Australia. Founded in 1963, OTS develops and carries out graduate and undergraduate programs in the tropics in Spanish, Portuguese, and English. It also operates three premiere research field stations in different ecological systems in Costa Rica where thousands of international researchers and students have conducted long-term research projects. In addition, OTS provides training for policymakers and natural resource managers in the U.S. and Latin America. OTS works closely with its host governments in promoting environmental education and biological conservation activities.

For over 40 years, the Organization for Tropical Studies (OTS) in Costa Rica has served as the ‘laboratory of the tropics’ to thousands of researchers and students from across the globe. Its three biological field stations with their state-of-the-art research facilities have made possible critical advances in the study of tropical systems. Meanwhile, as the ‘classroom of the tropics,’ OTS’ experiential education approach has equipped multiple generations of students with the tools to understand how natural and man-made processes have shaped the tropical world. These efforts, in turn, have helped inform policymakers and led to an international consensus that the tropics contain critical resources that require protection under local, national, and international laws.

While OTS’ programs are acknowledged to be world-renowned models for tropical education and research, the organization is no longer the sole purveyor in these areas. OTS now finds itself in a highly competitive marketplace for its products. To remain a force for change in the tropics, OTS itself must adapt to a changing environment. Three fundamental tenets highlight the new strategic direction for OTS:

First, OTS will elevate its commitment to education by broadening and diversifying its offerings. Responding to the needs of an increasingly diverse and global audience, OTS will offer a broader array of undergraduate, graduate, and professional courses in the natural, physical, and social sciences.

Second, OTS will strengthen the field of tropical studies by developing institutional capacity throughout the tropics to teach the next generation of scientists, practitioners, and policymakers. OTS’ past educational expansion outside of Costa Rica has revealed an enormous and unmet demand for field-based educational programs. To sustainably meet this demand over the long term, capacity must be developed within home-country institutions. Under the new strategic vision, OTS will partner with institutions and help build these skills throughout the tropics.

Third, OTS will catalyze innovative research focused on emerging frontiers in tropical science. OTS research stations, especially La Selva, already serve as world-renowned centers of research excellence, and OTS will strive to maintain and enhance these facilities. Under the strategic vision, OTS will extend its historic role of facilitating research to that of a catalyst. By taking on the latter focus, OTS can harness its unparalleled network of global tropical researchers on the key future problems of tropical biology. Modern and forward looking facilities and infrastructure at OTS stations will be a critical ingredient to implementing this new strategic direction.

As OTS grows in this new century, it must examine how its business is conducted. The new vision calls for greater and more stable revenue streams that are supported by a range of products that reflect the organization’s mission and its market opportunities. At the same time, OTS must alter its governing structure and internal management to become more agile in meeting its new, global strategic vision. A green ethic must underpin of our all activities and serve as the model for not-for-profit organizations.

The Organization for Tropical Studies’ mission is to provide leadership in education, research, and the responsible use of natural resources in the tropics

In taking on these new directions, OTS will show the same innovation and boldness that guided the founders of the consortium. To date, the Organization for Tropical Studies has been a central organizing force in producing seminal research in tropical studies, translating ecological research

into application and policy, and training the next generation of tropical biologists. The new vision of OTS builds upon this outstanding track record of its researchers, students, and alumni, while positioning OTS to be a global force for change in the tropics in the future.

EDUCATION

Goal 1: Expand the breadth and impact of OTS' world-class, experiential learning program

OTS has created a highly successful approach for education and training in the tropics through its suite of high quality undergraduate and graduate courses. The 'OTS approach' fully immerses students in science at OTS field sites and other sites in the tropics. These field courses are inquiry-based in the sense that students are taught science by doing science. Unlike most field courses, OTS is unusual in the quantity and quality of resource faculty that participate from a few days to several weeks on OTS courses. OTS courses, thus, also provide unique opportunities for students to work one-on-one with leading scientists in the field. OTS courses are intellectually and – for many – physically challenging. And, as a consequence, students form long-lasting bonds with their peers and instructors. For most students, their OTS course is truly a life-changing experience. This approach has been successfully applied in multiple disciplines, languages, and countries.

OTS can increase the impact of its educational offerings by providing a broader and increasingly sophisticated range of educational products to wider and more diverse audiences within our key target constituencies – graduate students, undergraduates, and professionals. The programs will include many areas of tropical studies not previously addressed by OTS, especially interdisciplinary studies and physical and social sciences. At the same time, OTS will rigorously assess the program quality of existing as well as new offerings to ensure excellence.

Initiative 1: Maintain and diversify field-based courses and other educational initiatives to provide a wider range of learning opportunities for OTS students

Action Items

1. Assess consortium needs and market demand for educational programs across a range of disciplines and languages
[\(G.1.1.1\)](#)
2. Document the present 'OTS approach' and its relevance to different types of courses
[\(G.1.1.2\)](#)
3. Enhance existing educational programs
[\(G.1.1.3\)](#)
4. Develop within OTS a broad set of educational programs in tropical studies
[\(G.1.1.4\)](#)
5. Create an intellectual and organizational structure that can effectively and economically implement the new strategic directions
[\(G.1.1.5\)](#)

Initiative 2: Assess and evaluate impact of all educational programs to ensure current relevance and highest programmatic quality for all participants

Action Items

1. Conduct and integrate results of external review of OTS education approach
[\(G.1.2.1\)](#)
2. Develop appropriate assessment and evaluation tools
[\(G.1.2.2\)](#)

GLOBAL PARTNERSHIPS

Goal 2: Build capacity globally in tropical studies

The next generation of leaders in tropical studies will require rigorous education and training no matter where they are located. To maintain its leadership position in tropical studies, OTS must take on a more pan-tropical vision, building partnerships with an increasing array of tropical institutions to jointly address this need. These new partnerships will focus on strengthening tropical institutions' capacity to train their own students using the educational approach developed by OTS. This partnership approach allows OTS to increase its education and training impact over a wider geographic area while reducing the need for costly infrastructure. New partner institutions, through their engagement of OTS' 'second generation model,' will themselves become active and valuable new members in all aspects of the OTS consortium and activities.

Initiative 1: Develop educational capacity among institutions in tropical regions to offer OTS-style programming in tropical science and policy

Action Items

1. Refine and revise an export version of the OTS approach so that it can be transferred to a broader set of tropical countries and be economically viable
[\(G.2.1.1\)](#)
2. Implement programs in a wider geographic range by building institutional capacity in selected tropical countries
[\(G.2.1.2\)](#)

Initiative 2: Develop new institutional partnerships to advance tropical studies globally

Action Items

1. Engage institutions from a wider geographic range – especially tropical countries – in the OTS consortium
[\(G.2.2.1\)](#)
2. Facilitate greater dialogue and partnership between outside institutions and the consortium (=S-S, E-W, N-S)
[\(G.2.2.2\)](#)

RESEARCH

Goal 3: Catalyze tropical research to identify and resolve the most challenging problems of the next decades

The complexity of modern day research in the tropics requires new and bold leadership of OTS as the world's largest organization of tropical researchers. Maintaining and enhancing OTS' first class research stations and logistics in Costa Rica is a critical need in understanding changing tropical ecosystems from the local to the global scale. OTS will use its facilities, the valuable datasets that they have generated, and the expertise housed within its consortium institutions to catalyze new and innovative tropical research. This can be done through the creation of new expert working groups, funding for imaginative 'incubator' ideas, and the strategic acquisition of new technologies. OTS will also encourage greater dialogue at its field stations between local, national, regional, and international knowledge builders (that is, researchers, educators, and policymakers and administrators). At the same time, OTS will take advantage of information technology to develop a virtual information network that brings together researchers and data in ways that will increase the efficient exchange of ideas and enhance research productivity. This new direction will also allow all workers in the tropics, no matter their geography, to feel part of the larger global network which OTS will actively engage.

Initiative 1: Catalyze research on critical issues of tropical science, education, and policy

Action Items

1. Develop in-house capability to coordinate and stimulate innovative, interdisciplinary, and globally relevant research directions
[\(G.3.1.1\)](#)
2. Convene expert working groups to develop ideas and proposals for innovative, interdisciplinary, and globally relevant research that include biological, physical, and social sciences, education, and public policy
[\(G.3.1.2\)](#)

Initiative 2: Increase the synergy and effectiveness of the research and educational enterprises under the OTS umbrella

Action Items

1. Create organizational structures and incentives to coordinate OTS research and education activities
[\(G.3.2.1\)](#)
2. Translate OTS research into environmental education and outreach programs for local communities and general public
[\(G.3.2.2\)](#)

Initiative 3: Develop OTS as a Tropical Knowledge Network that is relevant and accessible

Action Items

1. Develop and implement an information management plan for the organization and stations that reflects modern informatics thinking and will serve as a critical underpinning to the new OTS strategic vision
[\(G.3.3.1\)](#)
2. Develop standards for long-term data identification, capture, management, archiving, sharing, and open access
[\(G.3.3.2\)](#)
3. Improve dissemination of research findings from the stations to the regional, national and international research community, policymakers, educators and surrounding communities
[\(G.3.3.3\)](#)
4. Develop a mechanism whereby OTS data bases and individual scientists are better integrated into global knowledge systems
[\(G.3.3.4\)](#)

Initiative 4: Leverage on-going research activities at OTS stations and in the surrounding landscape to promote a greater global understanding and improved stewardship of natural resources in the tropics

Action Items

1. Maintain and enhance existing services and infrastructure at stations to address needs of users
[\(G.3.4.1\)](#)
2. Encourage and facilitate research and researchers working in the broader human and physical landscapes outside of the stations
[\(G.3.4.2\)](#)
3. Catalyze research and interaction among regional, national, and international researchers at and around OTS field stations
[\(G.3.4.3\)](#)

ORGANIZATIONAL STRUCTURE, CULTURE, AND BUSINESS

Goal 4: Adapt the culture, structure, and business of OTS to drive the new strategic vision and ensure its successful implementation

OTS of 2006 is much different than the organization founded in 1963 by a small band of university visionaries. The current OTS is moving to a more global and culturally diverse organization that must enhance both the scope and quality of its consortium model while providing a first-class field and laboratory experience for its constituents. The future of OTS will be more dynamic than its past. Geographically, programs will be more widespread, offerings will be more diverse, and emphases will be placed on both physical and cyber hubs of a strengthened

knowledge network. OTS staff will be as diverse as the global community they will serve. In all its endeavors, OTS will follow a ‘green ethic,’ guiding its actions by the highest environmentally conscious standards. At the same time the organization must develop new income streams from diverse sources if its new vision is to succeed.

The culture and practices of OTS must change to adapt to its new global business model. All OTS products will be appropriately costed out to increase revenue to the organization and reduce subsidies. Both traditional and non-traditional products will be developed in response to market demand and new distribution models undertaken. A major endowment campaign will occur to provide further financial security for the organization. Increasing revenue will also necessitate an aggressive communications and marketing strategy. Diversity will be a key tenet of the organization so that gender, ethnicity and cultural mores are reflective of the pan-tropical view of the organization. A ‘green ethic’ will pervade all business practices of OTS and be demonstrated particularly in the operations of the field stations. To succeed in its new vision, OTS will restructure its governance, increase membership in the consortium, and bring in new and diverse perspectives that will fuel new approaches and insights into the tropics.

Initiative 1: Ensure that OTS develops the necessary resources to implement its new strategic vision and the financial systems to manage expanded resources

Action Items

1. Develop a financial plan for the organization that prioritizes new strategic directions, employs diverse revenue sources, and balances revenue and expenses
[\(G.4.1.1\)](#)
2. Develop communications strategy for OTS to enhance greater awareness and marketing of the organization to strategic audiences
[\(G.4.1.2\)](#)
3. Coordinate and enhance fundraising for OTS programs and facilities
[\(G.4.1.3\)](#)
4. Launch Campaign for OTS, Phase II
[\(G.4.1.4\)](#)
5. Coordinate and enhance marketing of all OTS products and services
[\(G.4.1.5\)](#)

Initiative 2: Ensure OTS programs and operations are sensitive to cost, market demand, supply, and quality standards while reflecting organizational mission

Action Items

1. Ensure analysis of financial costs and benefits is a key element in decision making
[\(G.4.2.1\)](#)
2. Set course and station fees to reflect actual costs, but seek to provide tuition scholarships and station fee aid to students and researchers, consistent with achieving the organization's mission
[\(G.4.2.2\)](#)

3. Ensure excellence of OTS products and services
[\(G.4.2.3\)](#)

Initiative 3: Foster a culture that embraces diversity within the organization

Action Items

1. Continue OTS' leadership in attracting students, faculty, researchers, board members, and committee members from traditionally underrepresented and underserved groups
[\(G.4.3.1\)](#)
2. Sustain high level of funding for diversity programming
[\(G.4.3.2\)](#)
3. Encourage diversity in OTS workforce
[\(G.4.3.3\)](#)

Initiative 4: Better integrate and utilize consortium institutions in all aspects of OTS

Action Items

1. Expand breadth of involvement within consortium institutions
[\(G.4.4.1\)](#)
2. Expand the consortium through new membership categories and benefits
[\(G.4.4.2\)](#)

Initiative 5: Assure good governance by greater inclusiveness and transparency in the decision making processes and modeling good practices

Action Items

1. Ensure OTS governance continues to be effective and meets legal requirements and ethical standards
[\(G.4.5.1\)](#)
2. Assemble effective boards and committees/teams to provide expert advice, oversight, and support in pursuit of the new strategic vision
[\(G.4.5.2\)](#)

Initiative 6: Foster a cohesive organizational culture and management structure to pursue the new strategic vision

Action Items

1. Restructure organization to unify activities, increase efficiencies, clarify responsibilities, and pursue new strategic vision
[\(G.4.6.1\)](#)
2. Develop mechanisms to improve cohesiveness and productivity of staff
[\(G.4.6.2\)](#)

Initiative 7: Create a 'green ethic' which will serve as a grounding principle for all the program activities of the organization

Action Items

1. Assess current state of green technology activities in OTS
[\(G.4.7.1\)](#)
2. Develop standards for 'green' technology to be utilized at OTS
[\(G.4.7.2\)](#)

CONCLUSION

For decades, OTS has affected the individual lives of thousands of students, faculty, and policymakers who have participated in its courses. Many course alumni refer to their OTS experience as ‘life altering.’ In the first decade of this new millennium, we now realize more than ever how important the tropics are to the global community. While OTS has largely focused on students from North America and selectively in the rest of the Americas, the vision for the future is to bring the compelling ‘OTS experience’ to more students in the Americas as well as other parts of the tropics. OTS has enormous opportunity to extend its ‘laboratory and classroom of the tropics’ mission in ways that prepare the next generation of tropical studies leaders.

By partnering with existing leaders in host countries and, through its courses, preparing new leaders, OTS will build the world’s largest consortium of tropical knowledge builders who will provide both the insights and solutions to the most vexing problems of the tropics. The organization will go beyond merely offering courses and catalyzing research and conservation in the tropics. OTS will be recognized as the *referente obligado*, or the *go to* entity, for institutions across the broad range of geographies and organizational types who wish to develop the capacity in field-based education and research in and about the tropics. OTS will be a leader in providing 21st century N-S, E-W, S-S partnerships that are sensitive to local needs and unique cultural and environmental traditions.

Just as it achieved world leadership in tropical studies over the past four decades, OTS will now build on the rich consortium tradition to develop a model that will expand its leadership and influence on those studying the tropics on a pan-global basis over the next decade. Innovation, flexibility, greater diversity, and a commitment to excellence will underscore the new vision of OTS.

Acknowledgment: *The strategic plan was developed with wide input from all stakeholders in the OTS community over the course of more than a year of deliberations. A planning retreat, a series of committees, and vigorous communications between interested parties, helped shape this document. A leadership group, comprised of Elizabeth Braker, Greg Gilbert, Bette Loisel, Elizabeth Losos, Jonathan Powers, Ross Simons, Jay Taft, and Don Wilson, were pivotal in guiding the creation of this plan.*

OTS VISION STATEMENT

Over the next ten years, OTS will:

- train the next generation of tropical scientists via experiential, field-based learning,
- catalyze and facilitate critical and innovative research in the biological, physical, and social sciences that relate to the tropics,
- strengthen its existing field stations as critical centers for research, education, and wise stewardship of natural resources,
- create new models of global partnerships that enhance training and research throughout the tropics,
- share OTS expertise and tropical information broadly through an information network,
- instill in its alumni, independent of their eventual career path, a recognition of the importance of the tropics and the value of tropical research,
- make the consortium pan-tropical and increase geographic, disciplinary, gender, and ethnic diversity,
- create and set in place programs, facilities, and services that are seen as standards of excellence,
- be an organization that maximizes its resources to meet its goals.

**APPENDIX
OTS STRATEGIC PLAN
WITH PRELIMINARY IMPLEMENTATION ACTIVITIES**

This appendix presents examples of activities – shown in red – that OTS may undertake to implement this strategic plan in the short term (1-2 years), medium term (3-4 year), and long term (5-10 years). None of these activities have been finalized; all are the subject of further planning by OTS staff, board members, and assembly delegates. *(In order to toggle between the strategic plan document above and the sample activities listed below, on the link, hold down the Control key and click mouse.)*

EDUCATION

Goal 1: Expand the breadth and impact of OTS’ world-class, experiential learning program

Initiative 1: Maintain and diversify field-based courses and other educational initiatives to provide a wider range of learning opportunities for OTS students

Action Items

1. Assess consortium needs and market demand for educational programs across a range of disciplines and languages

[\(G.1.1.1\)](#)

Short-term: Survey constituencies (students, consortium members, international studies professionals, tropical country partner institutions) on their field course needs and desires

Short-term: Conduct analysis of competition and broad market demand

Short-term: Conduct financial analysis to ensure viability (in terms of expense to OTS, affordability to students, and availability of scholarships) of new course offerings

Medium-term: Work with existing consortium institutions and partners to identify and engage a wider range of faculties in OTS courses, especially those with expertise in non-traditional areas such as the social and physical sciences

Long-term: Establish routine market analyses to regularly assess market conditions

2. Document the present ‘OTS approach’ and its relevance to different types of courses

[\(G.1.1.2\)](#)

Short-term: Prepare manual that defines ‘OTS approach’ and documents its components as they relate to different types of OTS courses

Medium-term: Make public access version of ‘OTS approach’ available on OTS website

3. Enhance existing educational programs
[\(G.1.1.3\)](#)
Short-term: Identify and strengthen core undergraduate, graduate, and professional science and environmental policy courses

Short- and medium-term: Develop and regularly revise individual course syllabuses

Medium-term: Create admissions and student affairs program to provide higher level of service to prospective and admitted students and enhance students' preparation and orientation
4. Develop within OTS a broad set of educational programs in tropical studies
[\(G.1.1.4\)](#)
Short-term: Offer new graduate, undergraduate, and professional-level short courses in new disciplinary fields as pilot offerings (e.g., hydrology, restoration ecology, molecular biology, environmental economics, climate change science and policy)

Medium-term: Develop series of specialized courses that can be converted into modules adaptable to various audiences (e.g., undergraduate, graduate, graduate, professional audiences) and in multiple languages

Medium-term: Diversify educational materials (e.g., books, expert system, web-based materials)

Medium-term: Conduct a broad review with OTS stakeholders and feasibility study to see what leadership role OTS should play in providing an integrated program in higher learning for the tropics

Long-term: Implement recommendations from feasibility study as warranted
5. Create an intellectual and organizational structure that can effectively and economically implement the new strategic directions
[\(G.1.1.5\)](#)
Short-term: Reorganize OTS educational staffing positions, locations, and responsibilities in line with new directions

Short-term: Reorganize academic marketing program to jointly promote academic products, including all courses, research opportunities, and consortium membership

Short-term: Empower education staff to lead grant development activities in support of existing courses and new educational programs

Initiative 2: Assess and evaluate impact of all educational programs to ensure current relevance and highest programmatic quality for all participants

Action Items

1. Conduct and integrate results of external review of OTS education approach

[\(G.1.2.1\)](#)

Short-term: Establish and conduct external review of OTS education model

Medium-term: Implement recommendations of external review panel

2. Develop appropriate assessment and evaluation tools

[\(G.1.2.2\)](#)

Short-term: Develop and implement appropriate formative and summative course, faculty, staff, and program evaluation tools and procedures

Medium-term: Improving system for tracking students after completing OTS courses

Medium-term: Establish system to evaluate changes in career trajectories (or transformative experiences)

GLOBAL PARTNERSHIPS

Goal 2: Build capacity globally in tropical studies

Initiative 1: Develop educational capacity among institutions in tropical regions to offer OTS-style programming in tropical science and policy

Action Items

1. Refine and revise an export version of the OTS approach so that it can be transferred to broader set of tropical countries and be economically viable

[\(G.2.1.1\)](#)

Short-term: Analyze viability of different forms of transferring educational program: partnering with present host-country institutions, franchise model, accreditation, and certification

Medium-term: Produce recommendations for second generation model of OTS offerings based on market surveys and assessments of present partnerships

Medium-term: Refine, revise, and disseminate export-version of OTS approach

2. Implement programs in a wider geographic range by building institutional capacity in selected tropical countries

[\(G.2.1.2\)](#)

Short-term: Conduct a needs assessment of field-based science and policy courses among tropical country institutions in Latin America and selected other tropical locations

Short-term: Pilot ‘train-the-trainers’ course with existing partners

Medium-term: Development business plan for ‘second-generation model’ in which OTS helps develop capacity in tropical-country institutions to offer OTS-sanctioned courses

Medium-term: Select additional countries and institutions with which to pilot partnerships of OTS-sanctioned courses

Medium-term: Conduct a needs assessment of field-based science and policy courses among tropical country institutions in the Old World Tropics.

Long-term activities: Support network of sites offering OTS-sanctioned courses

Initiative 2: Develop new institutional partnerships to advance tropical studies globally

Action Items

1. Engage institutions from a wider geographic range – especially tropical countries – in the OTS consortium

[\(G.2.2.1\)](#)

Short-term: Survey stakeholders within Latin American institutions to determine partnership opportunities in tropical studies

Medium-term: Undertake a market survey of potential new institutional members including their faculty and student profiles

Medium-term: Employ external affairs representative to cultivate partnerships and attract new institutional consortium members, especially from tropical countries

Medium-term: Survey stakeholders throughout Old World tropics to determine field course needs and desires

Long-term: Develop regional administrative nodes or regional chapters to service expanding geographic membership

2. Facilitate greater dialogue and partnership between outside institutions and the consortium (=S-S, E-W, N-S)

[\(G.2.2.2\)](#)

Medium-term: Employ external affairs representative to initiate and facilitate interactions between outside institutions and institutional consortium members

RESEARCH

Goal 3: Catalyze tropical research to identify and resolve the most challenging problems of the next decades

Initiative 1: Catalyze research on critical issues of tropical science, education, and policy

Action Items

1. Develop in-house capability to coordinate and stimulate innovative, interdisciplinary, and globally relevant research directions
[\(G.3.1.1\)](#)
Short-term: Hire a science director who oversees station directors, research development, and research experience for students, informatics, and expert workshop program

Short-term: Empower research station staff to lead fund raising efforts in support of new strategic programs

Medium-term: Assemble 'blue ribbon' panel to identify emerging frontiers in tropical studies research (for example, changing tropical ecosystems, tropical plant geonomics, native tree species reforestation)

Medium-term: Identify and seek funding for key infrastructure and equipment necessary to catalyze research in identified areas

Medium-term: Seek funds for providing significant post-course and pilot project awards for targeted research at OTS stations
2. Convene expert working groups to develop ideas and proposals for innovative, interdisciplinary, and globally relevant research that include biological, physical, and social sciences, education, and public policy
[\(G.3.1.2\)](#)
Short-term: Develop a plan to solicit and receive, review, approve, and fund proposals for expert workshops and symposia held at OTS facilities

Short-term: Hold pilot expert workshops on cutting edge issues of science, education, and/or policy

Medium-term: Raise funds to establish regular series of expert meetings

Medium-term: Develop a business plan that evaluates the economic potential of a scientific conference center located at one of the OTS stations

Long-term: Follow recommendations of business plan regarding development of conference facilities

Long-term: Establish endowment fund for OTS workshops/symposia/conferences

Initiative 2: Increase the synergy and effectiveness of the research and educational enterprises under the OTS umbrella

Action Items

1. Create organizational structures and incentives to coordinate OTS research and education activities
[\(G.3.2.1\)](#)
Short-term: Form a cross-cutting team/committee to integrate stations, research, and education

Short-term: Form a cross-station team/committee to advise and oversee stations

Short-term: Restructure management of Research Experience for Undergraduates (REU) and similar programs to integrate educational experience into OTS science program
2. Translate OTS research into environmental education and outreach programs for local communities and general public
[\(G.3.2.2\)](#)
Short-term: Conduct outreach programs to engage local communities

Medium-term: Improve virtual programming to increase accessibility by general public

Medium-term: Better link OTS research/educational results to local/regional efforts in the conservation of natural resources

Initiative 3: Develop OTS as a Tropical Knowledge Network that is relevant and accessible

Action Items

1. Develop and implement an information management plan for the organization and stations that reflects modern informatics thinking and will serve as a critical underpinning to the new OTS strategic vision
[\(G.3.3.1\)](#)
Short-term: Evaluate past performance of OTS IT department

Short-term: Prepare informatics plan that identifies IT needs of researchers, educators, and administrative users for OTS services; this includes looking at existing technology that can meet existing needs and those anticipated over a five-year period

Short-term: Create 'Information Management' team/committee of staff and OTS stakeholders to focus on develop of IT plan

Short-term: Document possible scientific projects that may be developed with a more robust technology base at OTS to be implemented over the next decade

Medium-term: Raise funds to acquire IT infrastructure outlined in informatics plan

2. Develop standards for long-term data identification, capture, management, archiving, sharing, and open access
[\(G.3.3.2\)](#)
 Medium-term: Adopt data management and sharing tools and policies outlined in informatics plan

3. Improve dissemination of research findings from the stations to the regional, national and international research community, policymakers, educators and surrounding communities
[\(G.3.3.3\)](#)
 Short-term: Define scope of information to be shared

 Short-term: Prepare informatics plan for archiving/managing/sharing/open access of data

 Short-term: Convene consortium science meetings with scientific community and funders (e.g., June AoD/BoD meeting at NSF)

 Medium-term: Implement new informatics plan

 Medium-term: Package scientific information for specialized audiences (e.g., policymakers, local communities, regional associations)

 Long-term: In collaboration with other key tropical science institutions, publish a ‘state of the tropics’ volume for wide dissemination

4. Develop a mechanism whereby OTS data bases and individual consortium scientists are better integrated into global knowledge systems
[\(G.3.3.4\)](#)
 Medium-term: Seek IT partnerships with other institutions (e.g., STRI, Kew, LTER, UNAM) and departments within our current consortium members (e.g., engineering and computer sciences)

 Medium-term: Conduct feasibility study for ‘Tropical Knowledge Network’ to establish organization and stations as knowledge centers

 Long-term: Follow recommendations of feasibility study regarding development of Tropical Knowledge Network

Initiative 4: Leverage on-going research activities at OTS stations and in the surrounding landscape to promote a greater global understanding and improved stewardship of natural resources in the tropics

Action Items

1. Maintain and enhance existing services and infrastructure at stations to address needs of users
[\(G.3.4.1\)](#)
 Short-term: Survey needs of user community

Short-term: Update station usage plans including assessment and feedback tools for continual feedback and monitoring

Medium-term: Convene an External Review Panel for stations and research program

2. Encourage and facilitate research and researchers working in the broader human and physical landscapes outside of the stations
[\(G.3.4.2\)](#)

Short and Medium-term: Fortify, assemble, and integrate new and existing regional databases

Medium-term: Target student fellowships and research experiences for students to work within broader landscape around stations

Medium-term: Further develop satellite facilities around stations (e.g., Braulio Carrillo transect) and logistical support in region surrounding stations

3. Catalyze research and interaction among regional, national and international researchers at and around OTS field stations
[\(G.3.4.3\)](#)

Short-term: Convene working groups that include both local and international scientists on ideas for innovative research that cover regional scientific issues of global relevance

Short-term: Reconstitute a local academic committee (including OTS staff), whose mission is to assist in the implementation of regional working groups

Medium-term: Enhance OTS-STRI program and develop programs with other research institutions focused on tropical studies

Medium-term: Develop a regional partnership with Meso-American research institutions for their researchers and students to take advantage of OTS field stations.

ORGANIZATIONAL STRUCTURE, CULTURE, AND BUSINESS

Goal 4: Adapt the culture, structure, and business of OTS to drive the new strategic vision and ensure its successful implementation

Initiative 1: Ensure that OTS develops the necessary resources to implement its new strategic vision and the financial systems to manage expanded resources

Action Items

1. Develop a financial plan for the organization that prioritizes new strategic directions, employs diverse revenue sources, and balances revenue and expenses
[\(G.4.1.1\)](#)

Short-term: Develop four-year budget and financial plan that helps chart out a transition into new strategic activities

Medium-term: Monitor and regularly update long-term financial plan to ensure success of strategic vision

2. Develop communications strategy for OTS to enhance greater awareness and marketing of the organization to strategic audiences

[\(G.4.1.2\)](#)

Short-term: Mandate use of existing brand guidelines and templates throughout all levels of the organization

Medium-term: Expand organizational templates and guidelines for the complete range of communication products

Medium-term: Create an external communication plan to address U.S., Costa Rican, and global markets, especially selected media audiences

3. Coordinate and enhance fundraising for OTS programs and facilities

[\(G.4.1.3\)](#)

Short-term: Create 'Development' teams/committees of staff and OTS stakeholders to coordinate programmatic fund raising

Short-term: Create development plan to increase contributions, grants, and contracts from a range of sources

Short-term: Empower OTS programmatic staff to fundraise for their specific programs

Short-term: Set explicit targets for proposal writing, report preparation, and development responsibilities in job descriptions of programmatic staff

Short-term: Design management structure to provide support for broad participation in programmatic fund raising

Medium-term: Develop procedures and incentives that encourage faculty from consortium institutions to prepare and submit proposals for work associated with OTS programs and stations

4. Launch Campaign for OTS, Phase II

[\(G.4.1.4\)](#)

Short-term: Obtain external fundraising counsel to assess feasibility, scope, and emphases of new endowment campaign

Short to medium-term: Launch an endowment campaign

5. Coordinate and enhance marketing of all OTS products and services

[\(G.4.1.5\)](#)

Short-term: Hire head of marketing and communications division to oversee academic and commercial marketing and external and internal communications

Short-term: Create 'Marketing teams/committee' of staff and OTS stakeholders to evaluate mission relatedness and profitability of existing and new revenue-generating activities (e.g., commercial and academic activities)

Short-term: Conduct market survey of potential academic use at all three stations

Short-term: Conduct market survey of tourism potential at all three stations that is compatible with research and education activities

Short-term: Enhance the OTS web site for more effective promotion and marketing of products

Medium-term: Develop marketing plan for organization that coordinates promotion of all OTS academic products and services under single marketing structure

Medium-term: Develop family of promotional materials and newsletters for more effective promotion and marketing of activities and products

Initiative 2: Ensure OTS programs and operations are sensitive to cost, market demand, supply, and quality standards while reflecting organizational mission

Action Items

1. Ensure analysis of financial costs and benefits is a key element in decision making

[\(G.4.2.1\)](#)

Short-term: Design management structure that provides the processes required for the costing and market forecasting for all products

Medium-term: Develop survey and marketing tools to regularly gauge the interest of the marketplace for OTS products and services

2. Set course and station fees to reflect actual costs, but seek to provide tuition scholarships and station fee aid to students and researchers, consistent with achieving the organization's mission

[\(G.4.2.2\)](#)

Short-term: Set guidelines for establishing product pricing such as course tuition and station fees that reflect costs borne by the organization

Short-term: Set guidelines for establishing assistance to station users and scholarships for course participants that reflects the organization's mission

Medium-term: Develop scholarship fund to insure that all qualified students – especially those from consortium member institutions – can participate in OTS courses, regardless of their financial ability

3. Ensure excellence of OTS products and services
[\(G.4.2.3\)](#)
Short and medium-term: Develop assessment tools to establish indicators for excellence in all OTS products and services

Medium and long-term: Regularly monitor performance of all OTS products and services

Initiative 3: Foster a culture that embraces diversity within the organization

Action Items

1. Continue OTS' leadership in attracting students, faculty, researchers, board members, and committee members from traditionally underrepresented and underserved groups
[\(G.4.3.1\)](#)
Short and medium-term: Sustain the number of students and faculty members from underserved and underrepresented communities participating in OTS undergraduate educational and research programs

Short and medium-term: Draw institutions that serve underserved and underrepresented communities into the OTS consortium

Medium-term: Enhance participation of students and faculty from underserved and underrepresented communities participating in OTS graduate and professional educational programs

Long-term: Include diverse representation of students, faculty, and institutions in all aspects of OTS' programs, consortium, and governance
2. Sustain high level of funding for diversity programming
[\(G.4.3.2\)](#)
Short-term: Create 'Diversity' team/committee of staff and OTS stakeholders to focus on programmatic fund raising

Medium- and long-term: Build a scholarship fund that ensures broad participation in OTS courses by a diversity of students within the consortium (including those from underrepresented and underserved communities) and throughout the tropics, regardless of their financial ability
3. Encourage diversity in OTS workforce
[\(G.4.3.3\)](#)
Short-term: Ensure that diversity is a key principle in the hiring process for all new staff

Medium-term: Provide greater career growth paths for underrepresented constituencies in OTS workforce

Longer-term: Ensure that OTS workforce reflects the global diversity of the organization

Initiative 4: Better integrate and utilize consortium institutions in all aspects of OTS

Action Items

1. Expand breadth of involvement within consortium institutions
[\(G.4.4.1\)](#)
Short-term: Hire consortium liaison to service the needs of and increase communication with consortium institutions

Short-term: Engage consortium members in new strategic initiatives, such as expert working groups at stations and development of new graduate courses

Short- and medium-term: Expand existing and develop new benefits to consortium membership

Medium-term: Attract greater faculty participation from range of disciplines within consortium institutions

Medium-term: Develop communications campaign to educate consortium institutions of the breadth of activities available from OTS
2. Expand the consortium through new membership categories and benefits
[\(G.4.4.2\)](#)
Short-term: Create a working group consisting of staff and Assembly Delegates to define membership qualifications (including qualifications of regional consortia) and establish a suite of membership benefits and corresponding fees

Short-term: Create a 'Consortium Services' team/committee of staff and OTS stakeholders to expand and continually evaluate products and services available to consortium institutions as well as institutional responsibilities of membership

Short-term: Assign staff to recruit new member institutions

Medium-term: Make appropriate by-law changes to reflect new consortium membership standards and classes

Medium-term: Create staff responsibilities to attract and cultivate interest from broader geographic range

Initiative 5: Assure good governance by greater inclusiveness and transparency in the decision making processes and modeling good corporate practices

Action Items

1. Ensure OTS governance continues to be effective and meets legal requirements and ethical standards
[\(G.4.5.1\)](#)
Short-term: Create governance task force to review existing OTS governance procedures to ensure they are meeting fiduciary, legal, and regulatory guidelines outlined by Sarbanes-Oxley procedures

Medium-term: Follow recommendations of governance study regarding appropriate changes to governance structure

- 2, Assemble effective boards and committees/teams to provide expert advice, oversight, and support in pursuit of the new strategic vision
[\(G.4.5.2\)](#)
 Short-term: Develop new board structures and procedures to recruit/appoint an effective representation of OTS stakeholders

 Short-term: Identify effective mechanism for representation of consortium institutions on Board of Directors

 Short-term: Establish committees or ‘teams’ of staff and OTS stakeholders to address critical issues of OTS program and management oversight, policy, and development

 Short-term: Make appropriate by-law changes to reflect new governance structures

 Short-term: Create *ad hoc* team/committee to reassess effectiveness of boards and committees

Initiative 6: Foster a cohesive organizational culture and management structure to pursue the new strategic vision

Action Items

1. Restructure organization to unify activities, increase efficiencies, clarify responsibilities, and pursue new strategic vision
[\(G.4.6.1\)](#)
 Short-term: Develop new organizational chart, positions, and management structure

 Short-term: Prepare position descriptions that clearly identify position duties
2. Develop mechanisms to improve cohesiveness and productivity of staff
[\(G.4.6.2\)](#)
 Short-term: Create committees or teams of staff and OTS stakeholders to address critical issues

 Short-term: Reinforce OTS mission and values statements as guiding principles for staff cooperation

 Short-term: Practice transparency in decision-making for staff and be clear on lines of authority and schedules for tasks

 Short-term: Develop internal communications plan

 Medium-term: Conduct staff development programs to improve cooperation and communication among all departments and geographies within the organization

Initiative 7: Create a ‘green ethic’ which will serve as a grounding principle for all the program activities of the organization

Action Items

1. Assess current state of green technology activities in OTS

[\(G.4.7.1\)](#)

Short-term: Create committees or teams of staff and OTS stakeholders to identify critical ‘green’ issues upon which OTS should focus

2. Develop standards for ‘green’ technology to be utilized at OTS

[\(G.4.7.2\)](#)

Short-term: Assemble staff team from CRO, NAO, and stations to identify environmental standards and activities that the organization should address

Medium-term: Develop standards for new facilities construction and other activities