What is Strategic and Implementation Planning?

Strategic and implementation planning (SIP) is a management tool used to maximize and ensure the successful outcome(s) of a long-term initiative. It is a tool that is:

- **Focused**---energies and resources are carefully selected, and are intended to achieve goals
- **Strategic**---follows steps to achieve goals that are carefully crafted with required resources
- **Integrated**---all of the components of the plan fit together and work synergistically
- **Feasible**---achievable and built to produce practical results
- **Adaptable**---serves as a steady guide, with built-in flexibility to adjust to changing situations
- **Measurable**---process and outcomes of the plan are demonstrable and quantifiable

Why Strategic and Implementation Planning?

It is a very useful management tool to:

- Guide long-term and complex initiatives
- Minimize risk and maximize success
How to Prepare a Strategic and Implementation Plan?

Stakeholders must carefully consider and reach a consensus about the following elements of a SIP. The accompanying examples are for illustration purposes only.

(1) **Vision**: A brief statement that describes the ultimate aim of the proposed initiative and how the world will be changed as a result of that initiative. The vision must be stated clearly and have a sense of urgency and excitement for stakeholders and potentially interested persons.

**Example**: To have a society in which exemplary ecological sciences contribute to the advancement of the health, productivity, and welfare of the global environment that, in turn, advances the health, prosperity, welfare, and security of our nation.

(2) **Mission**: Statement of the overall focus of the initiative.

**Example**: To provide the scientific community, policy makers, and society with knowledge and predictive understanding necessary to conserve, protect, manage the nation’s ecosystems, their biodiversity, and the services they provide.

(3) **Situational Analysis**: Describes the strengths (S), weaknesses (W), opportunities (O), and threats (T) that are or may be involved in the strategic initiative. This SWOT analysis is essential for the adaptability of the plan, and can determine the success or failure of the plan and its future.

**Example**: The LTER Network’s collective **Strengths** may include its reputation for conducting world-class ecological research, being a recognized leader in multidisciplinary research investigations, has an extensive cadre of highly credentialed,
experienced, and published researchers. **Weaknesses** might include the independent and varied structures of 26 sites which can at times limit overall coordination of activities, or lack of gender and racial/ethnic diversity among principal investigators in an increasingly global environment. **Opportunities** could include availability of certain technologies, such as satellite imagery from NASA, or interest of other observatories to partner with the Network in research investigations. **Threats** might include “competition” from industry research efforts or other organizations, decrease in or loss of public funding, or local university politics.

(4) **Goals**: Specific aims of an initiative. Goals must be stated succinctly and for each of the major components of the LTER plan, i.e., research, education/human capital development, diversity, public engagement, information management, knowledge transfer, and collaboration with other observatories.

**Example**: **Research**: to determine the relative contribution of micro-organisms in soil biodiversity to soil resistance to erosion. **Education**: to integrate the soil diversity research with education by providing graduate students with opportunities for hands-on field research. **Outreach & Diversity**: to identify and recruit members of underrepresented groups into the Network’s research and education initiatives; and to ensure that women and minorities are represented among the Network’s staff, students and advisory board members. **Knowledge Transfer**: to publish research findings, and present papers at professional conferences on the Network’s progress, discoveries and achievements.

(5) **Objectives**: Statements that specify how a goal is to be achieved in measurable terms and timeframes.

**Examples**: In relation to the example used above as a research goal: To set up 6 experimental sites in different environmental
climate conditions with and without the presence of selected micro-organisms in the soil; and observe and record data soil on erosion levels over a 10-year period. Contact Tuskegee University, New Mexico University, and Wind River Tribal College to announce the research project and recruit a total of 6 male and female graduate students in the earth sciences to participate in the field research project.

(6) Strategies: The approaches used to achieve the goals and objectives. Strategy statements must be stated clearly, must be feasible, and include contingency strategies. Also, approaches used to achieve goals should include how opportunities will be utilized and challenges addressed.

Example: To monitor and collect soil erosion data, the Network investigators will employ a new remote sensing tool at each experiment site that can monitor and analyze soil samples on a continuous basis and transmits the data to a central computer database. Two of the six sites will be located near two minority-serving institutions to facilitate the involvement of 6 minority graduate students in the field research activities.

(7) Implementation Plan: Describes the specific actions taken to achieve goals, including who will do what, how, where and when for each of the goals and objectives. Also included in the implementation plan is the strategic plan’s metrics or evaluation component. This refers to the process and outcome measures that are selected to assess the success of the implementation of the LTER strategic plan, and incorporates lessons learned. The implementation plan should be in table form for ease of reading and to monitor the plan’s execution. See the sample table on the following page. While the LTER Network strategic and implementation plan is for a 10-year period, the initial implementation plan should only be for 3-5 years.
Example: Implementation Plan Summary Table

<table>
<thead>
<tr>
<th>Goal</th>
<th>Objective</th>
<th>Action Required</th>
<th>Responsible Person(s)</th>
<th>Location</th>
<th>Timeframe</th>
<th>Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine effects of certain micro-organisms in biodiversity impact on soil erosion.</td>
<td>Conduct field experiment</td>
<td>1) Hire or staff 2) Secure sites 3) Recruit students, etc.</td>
<td>ABC Site PI</td>
<td>Field</td>
<td>07-01-00 – 11-30-10</td>
<td>1) Staff retained as of 11-30-00. 2) Remote sensing equipment acquired as of 04-30-01. 3) A total 6 male and female majority and 6 male and female minority graduate students recruited and participating by 08-01-01. 4) Minority and female students completed a Ph.D. in ecology and reported on positive value of LTER project.</td>
</tr>
</tbody>
</table>

(8) **Resources:** Description of linkage between the Network’s financial and in-kind resources and the goal-related activities. The specific linkages will provide the plan’s managers with the ability to monitor expenditures and make adjustments where necessary, as well as to determine where additional funding is required.

(9) **Management:** A description should be included in the plan on how and by whom the LTER Network will be managed in terms of its human resources and facilities, partnerships, financial resources allocated and accounted for, and overall accountability provided to NSF. Included within the management plan is also the function of ongoing review and refinement of the LTER Network strategic and implementation plan. A succession plan that describes how the Network will replace key personnel in the event of resignations or other type of terminations from the Network must also be included in the management plan. Finally, a description should also be provided on the functions of the Board of Directors and Advisory Committee and their interaction with management.
(10) Ethics: A code of ethics and training program must be established to guide the behaviors and actions of the Network’s participants in keeping with professional ethics in regard to research, methodologies employed, ownership of research and ideas, and intellectual property rights.

(11) Data Management: A plan must be established indicating how the research data will be managed and access granted for use by other researchers.

(12) Intellectual Property Rights: An agreement must be established as to who has ownership rights over discoveries or products that may result from the LTER’s research and development activities. This section should be written so that it can also serve as a stand-alone document to be attached to the Cooperative Agreement.

How to Manage and Sustain a Strategic and Implementation Plan?

- A single individual or team should be designated to specifically monitor and report on the strategic plan’s implementation.
- Periodic reviews and adjustments should be made in the plan where necessary.
- Annual presentations of results on the performance of the plan should also be made to the partner institutions, NSF and other interested parties.
Strategic and Implementation Plan Document

The plan should be prepared as a Word document of approximately 25 pages. Appendices may be added as necessary for technical documentation. The sections of the plan document should include the following:

Title page

Table of Contents

Executive Summary (overall aims, expected benefits and overall LTER management)

Research
   Vision
   Mission
   SWOT
   Goals
   Objectives
   Strategies
   Implementation Plan Chart
   Metrics for each objective

Management
   Financial Resources (how funds are allocated by goals or objectives)

Education/Human Capital Development
   Vision
   Mission
   SWOT
   Goals
   Objectives
   Strategies
   Implementation Plan Chart
Metrics for each objective
Management
Financial Resources (how funds are allocated by goals or objectives)

Diversity
Vision
Mission
SWOT
Goals
Objectives
Strategies
Implementation Plan Chart
Metrics for each objective
Management
Financial Resources (how funds are allocated by goals or objectives)

Knowledge Transfer
Vision
Mission
SWOT
Goals
Objectives
Strategies
Implementation Plan Chart
Metrics for each objective
Management
Financial Resources (how funds are allocated by goals or objectives)

Public Engagement/Communication
Vision
Mission
SWOT
Goals
Objectives
Strategies
Implementation Plan Chart
Metrics for each objective
Management
Financial Resources (how funds are allocated by goals or objectives)

Collaborating with Other Observatories
Vision
Mission
SWOT
Goals
Objectives
Strategies
Implementation Plan Chart
Metrics for each objective
Management
Financial Resources (how funds are allocated by goals or objectives)

Information Management System
Vision
Mission
SWOT
Goals
Objectives
Strategies
Implementation Plan Chart
Metrics for each objective
Management
Financial Resources (how funds are allocated by goals or objectives)
Appendix
  Ethics
  Intellectual Property Rights Agreement
  Other Attachments

***