

Enabling Frameworks for Promotion of 3R Science and Technologies and Technology Transfer

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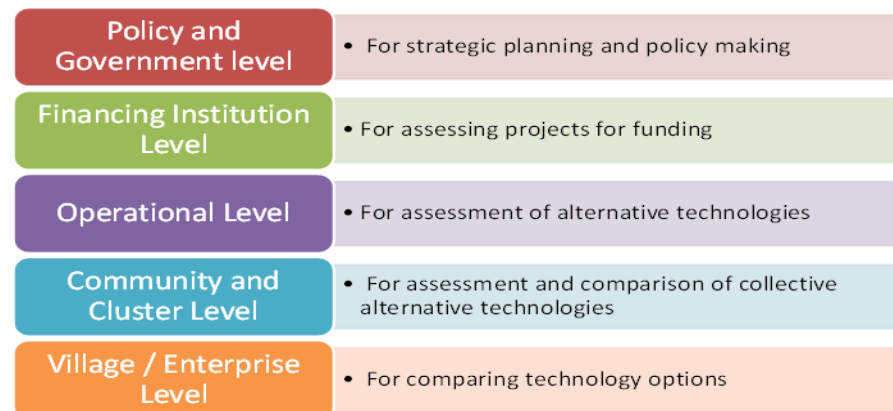
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- In a complex relationship between development and the environment, technology provides a link between human action and the natural resource base. Faced with limited global natural resources, the people of the world seek to achieve more sustainable forms of development. As a result, the application of new, resource efficient ESTs has become crucial for both development and the environment.
- Technology cannot compensate for or mitigate the deep-rooted social causes of environmental problems or the short-comings of political and social policies, but it's need for sustainable development in today's world today is indispensable.
- The availability of ESTs via cooperative technology transfer depends largely on political willingness at the international level to pursue an innovative environmental agenda.
- In response to Agenda 21, JOPI, Rio+20 outcome, many initiatives have been taken up in relation to promotion of ESTs in developing countries and countries with economies in transition.

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- UNEP IETC initiated the development of a methodology for Environmental Technology Assessment (EnTA) which was defined as a systematic procedure whereby a proposed technology intervention is described and appraised in terms of its potential influence on the environment, the implications for sustainable development and the likely cultural and socio-economic consequences.
- Sustainability Assessment of Technologies (SAT) Framework: The focus of this methodology is both on the process as well as outcome, with an interest towards informed and participatory decision making. The SAT methodology is expected to be used by a varied group of stakeholders in different situations and at different levels of decision making



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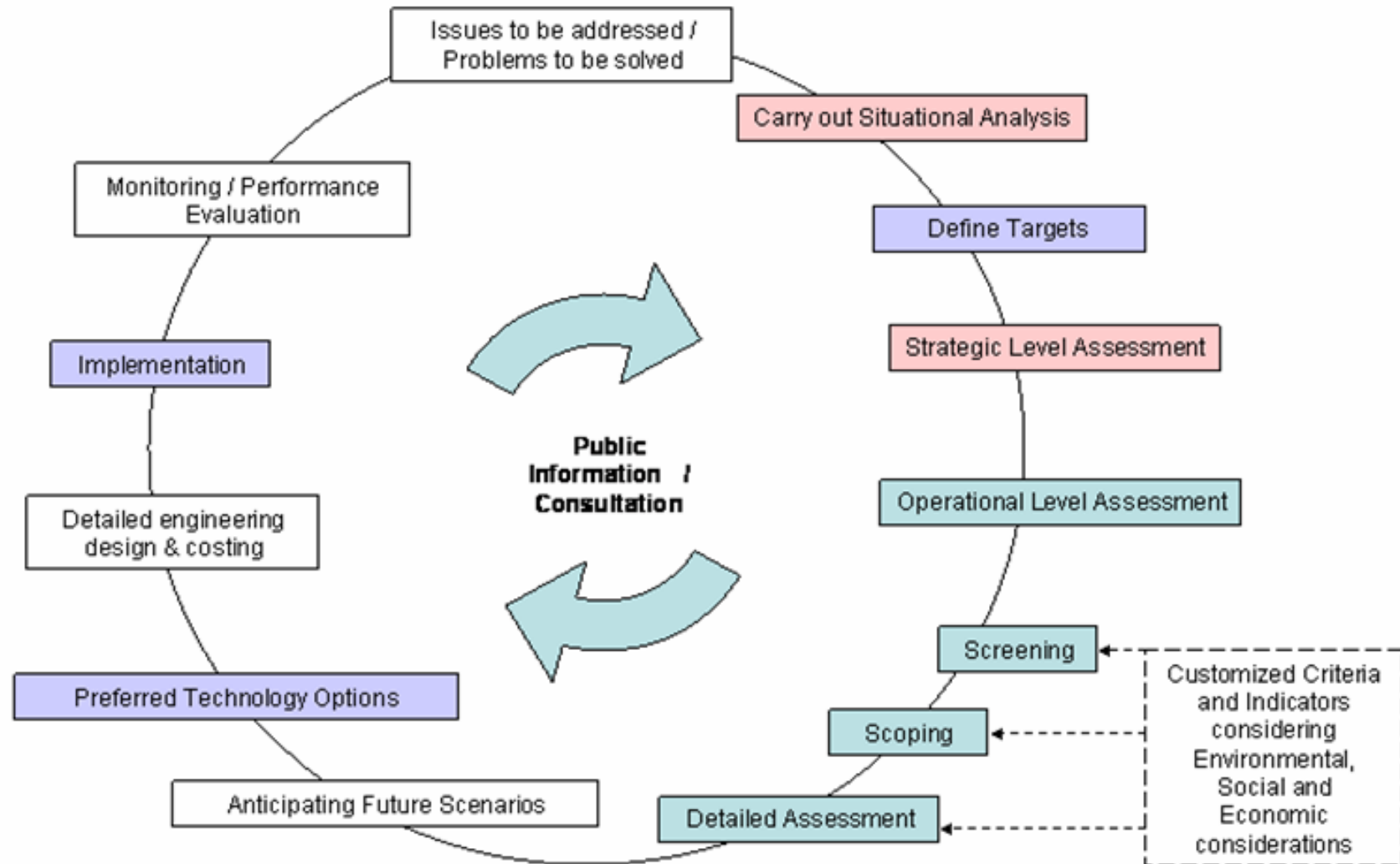
The SAT Methodology:

Follows the typical Plan-Do-Check-Act cycle of continuous improvement as recommended by systems like Quality/ Environmental Management Systems (ISO 9000/ 14000).

Tier 1: Screening: Firstly, technology systems are screened against logical operators (i.e. Yes/ No type) for EST criteria.

Tier 2: Scoping: The ESTs that pass through the screening stage are then subjected to a second round of elimination through the scoping tier. Scoping uses select criteria that require more of qualitative or readily available quantitative information. In doing so, a number of less competitive options are likely to be discarded, thus leaving stakeholders with a more limited and more relevant number of technology system options.

Tier 3: Detailed Assessment: Technology systems shortlisted from the scoping tier are then subjected to a more rigorous evaluation, using additional criteria, specially drafted for the purpose, and that demand a greater extent of quantitative information. At the end of the detailed assessment, the stakeholders would understand which technology systems are the most sustainable for their situation, in an order of ranking.



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Conclusion and Recommendations:

- The 21st century is witnessing an enormous increase in demand for environmentally sound technologies in every sector including urban services, manufacturing, agriculture, and so on.
- A proactive leadership is needed to accelerate the pace of ESTs for sustainable development.
- Some of the key actions needed by this leadership include: a framework legislation; a priority in the national development plan; a strategy and a plan with full engagement of stakeholders; and a strong networked research and development programme taking full advantage of the data revolution.
- Environmentally sound management in each sector as a key component of the circular economy. ESTs will make a significant contribution to the Post-2015 Development Agenda.