

CONCLUSION

Various forms of S and T capacity-building initiatives have proved their effectiveness in developed and developing countries alike. Similar initiatives are needed in the ESCWA member countries in order for those countries to meet the socioeconomic challenges of the twenty-first century.

Although some initiatives have been launched in some of the countries in question, consistent, integrated strategies or plans for the propagation and multiplication of such initiatives are hard to find in the region. In fact, most of the ESCWA member countries still lack even a general S and T policy, let alone sectoral policies designed to fit into the general policy.

Concurrently with the formulation of full-fledged S and T policy initiatives in the ESCWA member countries, national and regional initiatives can and should be launched at all levels. In particular, the establishment of new institutional forms, such as technopoles, technology incubators and high-technology industry clusters, is a promising approach to the tasks of expediting technology transfer from R and D to industry and reforming education to serve economic and social development. These outcomes, in turn, are likely to foster the formation of national innovation systems that will upgrade standards, making products and services more competitive at the global level.

A framework for dealing with the key issues that arise in connection with the selection and launch of capacity-building initiatives in S and T is presented in the final chapter of this study (see chapter VI above). It takes into consideration the manifold differences among the ESCWA member countries in terms of their economic systems, development status and capabilities. It also classifies various initiatives into the following categories:

(a) Policy and strategy initiatives for defining national directions in science, technology and innovation, leading to better co-ordination between existing systems, institutions and markets, the reduction of obstacles to the diffusion of technologies and increased spending on R and D;

(b) Initiatives aimed at revising and reforming legislative and regulatory frameworks to bring them into line with the ongoing process of global change, especially in the areas of industry, trade and technology;

(c) Initiatives aimed at facilitating technology transfer, especially through legislation and regulations designed to favour innovation-based entrepreneurship and the forging of strong links between R and D institutions and the business community;

(d) Initiatives designed to provide direct and indirect financial backing for technology-based institutional forms and start-up firms;

(e) Human resource development initiatives aimed at upgrading the competence of S and T personnel through education and training, inasmuch as skill formation aspects are crucial role to the success of other capacity-building initiatives;

(f) Programmes designed to provide assistance and guidance for the establishment of new institutional forms such as technopoles, incubation schemes and high-technology clusters.

These various types of initiatives complement one another. If undertaken in a consistent way, they will create synergy that will afford better prospects for success.

However, any given country's initiatives should be adapted to its scientific and technological maturity level, taking its national priorities into account and ensuring that return on investment is clearly favourable. Non-governmental organizations such as professional societies and chambers of commerce and industry, and academic institutions as well, should always be involved in the process of selecting and launching technological capacity-building initiatives.

Great care must be taken with the planning, design and implementation of initiatives relating to new institutional forms in order to avoid falling into the trap of land development without any substantive output. This would defeat the purpose of the initiative in question and produce a negative effect that would be difficult to undo afterwards. Factual feasibility studies, careful design based on demand-side considerations and proper management involving private firms, partnerships and networking are all crucial elements in the emergence of successful technological capacity-building institutional forms.

Governments have a crucial role to play in creating an environment in which S and T capacity-building initiatives can flourish. They hold the main responsibility for adopting appropriate legislation and regulations that will effectively advance R and D, promote entrepreneurship and sustain technology transfer.

Civil society institutions also have an important role to play in the promotion of these initiatives, specifically by lobbying for a favourable legislative and regulatory environment, and helping firms overhaul their structures, procedures and human resource management practices while at the same time striving for innovation and collaborating with academic institutions.

Lastly, international organizations, and United Nations organizations and agencies in particular, should co-operate with national and regional entities involved with technology transfer, knowledge dissemination and enterprise development in order to develop frameworks for S and T capacity-building initiatives with a view to sustainable development. The “ESCWA initiative for technology parks, incubators and high-technology clusters” (see appendix 5) is one such framework, aimed at identifying and implementing schemes which are adapted to member countries.

