CHAPTER 5

SCIENCE AND TECHNOLOGY POLICY DECISION CRITERIA

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The previous chapter outlined the desirable characteristics of a science and technology policy organization. They included details on the functions and activities of all elements in the organization.

Chapter 5 discusses the criteria on which science and technology policy decisions are made by officials in the science and technology policy organization. One of the key lessons of this Chapter is that such decisions must not be made on the basis of scientific and technical criteria alone. Rather, science and technology policy-making must be based on "...an effective link with the various goals of the production and service sectors."

In this chapter we look again at the experiences of the Philippines and Nepal. **Julieta Legaspi** writes about the Philippines. She begins by explaining a number of "critical criteria" for science and technology policy-making. Most of them relate to information on product needs and clientele, available local inputs, market demands, and capital requirements. She uses these criteria to argue that governments must stimulate forward and backward linkages for the science and technology policy organization.

Nepal is represented by the last half of **Ratna Rana's** paper on the Royal Nepal Academy of Science and Technology. His examination of policy decision criteria is based on the development needs and goals of the country. This is consistent with his approach to designing the structure of a science and technology policy organization (Chapter 4). It is also the most logical starting-point for any country which is just getting into the game of science and technology policy-making.

Rana adds the pragmatic criterion of "endogenous scientific capability." It is an obvious criterion but is often overlooked by policy-makers who are too often

overwhelmed by the demand for new technologies for development. Rana reinforces the point by discussing technology transfer policy, and criteria related to it.

Chapter 5 presents a discussion of the bases for science and technology policy selection and formulation. In order to get the most from these articles readers should seek answers to the following problems, as they read:

1. Articulate a number of criteria for science and technology policy-making.

2. Describe four essential program elements in Nepal's science and technology plan.

3. Explain how the demand-pull concept relates to the selection of science and technology priorities.

4. Illustrate the pitfalls of an application-oriented science and technology planning strategy.

5. Identify criteria for evaluating science and technology policy decisions.

The policy-making criteria discussed in this chapter can be applied to each country's policy-making process. But applying them may require the participation of a number of science and technology policy specialists working together. Following are six questions which policy specialists should discuss in order to seek the most efficacious application of lessons from these articles:

1. Does your science and technology plan incorporate the four essential program elements identified by Rana's article? What mechanisms are in place to operationalize and coordinate these elements?

2. How would you encourage participation of the demand-sector in your country's science and technology activities?

3. Which of your country's policies support the supply-side of science and technology? What kinds of education are given the greatest priority and resources?

4. How can a country alter its science and technology policies to ensure greater self-reliance and less need for science and technology imports?

5. How adequate is your country's technology information service? What are its major strengths? How does it need to be improved? What is the relationship between this service and science and technology policy-making?

6. What national policies in your country have the effect of regulating foreign technologies and technical services? Do those regulations stimulate or inhibit the development of endogenous technological capabilities? How could they be improved to provide the greatest development opportunities from imported technologies, and at the same time, stimulate the development and strengthening of your own national scientific and technical capabilities?