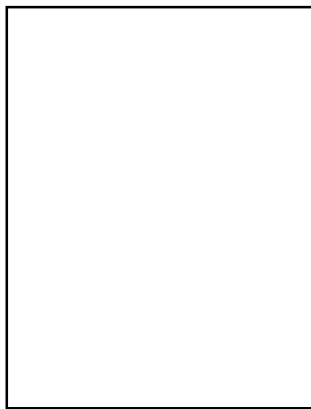


India's rural industry

Assessing the strength of its technological infrastructure

Haribandhu Panda

A major issue facing India is how to introduce and sustain an efficient flow of technological innovations in its rural industry. This requires a high synergy among four elements - academic institutions, R&D organizations, production enterprises and promotion agents (technology guides and mentors). This article presents a methodology to assess the strengths of these elements and of their linkages. It concludes that, in India, these elements have low critical mass and the linkages are weak. It calls for a comprehensive assessment of the technology systems structure in order to initiate policy measures that will help India attain a sound rural industrial base.



Dr. Haribandhu Panda

*Associate Professor, Institute of Rural
Management (IRMA)
Room No. 127, P.O. Box 60, Anand
Gujarat-388001, India
Tel: (O) (+91-2692) 60391
(R) (+91-2692) 62246
Fax: (+91-2692) 60188
E-mail: hari@fac.irm.exnet.in*

Introduction

Viewed in the context of competitive strategy, innovation is an organizational process. At the micro-level, innovation is a process in which individual firms develop new products, processes and services for commercial introduction. At the macro level, innovation is a complicated national and international process involving interaction among industrial, university and government research.

In recent years there has been considerable concern in many countries, including the USA, about the capacity of industry managers to introduce and sustain an efficient internationally-competitive flow of technological innovations. However, as far as the broad area of research and development (R&D) is concerned, this

aspect has been a topic of interest for many years. Models such as the Linear Sequential Model of Innovation (Betz 1987), the Process Model of Innovation¹⁹, the Dynamic Model of Product and Process Innovation²⁰ and the Systems Model of Technological Innovation³ have, over the years, attempted to describe the process of innovation. These models, supported by empirical evidence in some cases, have attempted to explain why and how innovative activity is initiated, fostered and used for commercial benefits.

The Linear Sequential Model of Innovation (LSMI) views the innovation process as a series of activities encompassing basic research and invention, applied research (applied research and functional prototype; engineering prototype and testing) and development (production prototype and pilot production; product testing and modification; and initial production and sales). The