Chapter VIII

FUTURE PROSPECTIVE

It's hard to make predictions, especially about the future.

-- Yogi Berra
CHAPTER VIII

FUTURE PERSPECTIVES

We need not painfully "reinvent the wheel" by learning lessons about industrial sustainability, the hard way, by degrading our precious resources. It may be possible for us to leapfrog and avoid the era of 'irreversible environmental burdens'. Perhaps, it is possible to directly move to a stage that uses eco-efficient technologies (either indigenous or borrowed and adopted) and is able to manage the entire life cycle of products and processes, thereby reducing human health and environmental burdens while directing economic and social development toward more sustainable paths.

Based on the current trends in the literature at the global level, two approaches appear to be more promising for the promotion of industrialisation in the ecologically fragile Pondicherry region. They are:

- Transfer of Environmentally Sound Technology (TEST)
- Industrial Ecology (IE)

8.1 TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY (TEST)

Despite the strong belief at the international level there is a natural bond between the principles of productivity enhancement, efficiency improvement and the transfer of environmentally sound technologies and the principles of sustainable industrial development (where one supports the other), many entrepreneurs in the developing and transitional countries have a quite different perception. Many feel that the values related to economic and industrial performance and those that promote environmental and social performance must always be in conflict. Therefore entrepreneurs trying to run a successful business often see themselves faced with a terrible either-or situation: either they are environmentally friendly and/or socially responsible (running an 'ethical business') at the expense of lower profits and lessened competitiveness, or they have competitive prices and higher profits, but at the expense of increased pollution and poor social conditions.
This perception of a trade-off is primarily based on the belief by almost all enterprises (and governments) that the only solution to environmental problems is through largely non-productive investments in waste and pollution treatment and disposal technology, the so-called End-of-Pipe technologies. To overcome these serious challenges, UNIDO has recently initiated project ‘Transfer of Environmentally Sound Technology (TEST)’ (Palma and Dobes, 2003).

It is pertinent to note that Agenda 21 stresses that Environmentally Sound Technologies (ESTs) are not just individual technologies, but they are total systems and therefore are not restricted to just the technology or equipment. ESTs include the application skills, the procedures, the goods and services and the organizational and managerial procedures needed. With this definition, EST covers cleaner production (CP) options, cleaner technologies (CT) and end-of-pipe technologies.

The overall aim of UNIDO’s TEST programme is to demonstrate this possibility and potential to enterprises in a practical and easily understood manner. In developing countries and countries with economies in transition, the TEST programme also supports national institutions by providing them with tools and expertise with that can assist enterprises be both viable and environmentally responsible at the same time. The present study reveals that industries in Pondicherry region have greater potential to incorporate all the three major concepts of TEST. Hence, it is ideally suitable for implementing the “TEST” programme.

8.2 INDUSTRIAL ECOLOGY (IE)

The major advantages of the IE paradigm are:

- It provides a framework for integrating many tools belonging to the second generation of environmental policymaking. Indeed, it claims to be a framework for achieving industrial sustainable development.
- It asks planners and policymakers to admit their lack of direct control over dispersed individual polluters.
- It uses the language of markets and incentives.
- It highlights the big picture and encourages systems thinking.
• It operates at any scale.
• It separates the provision of environmental information from the regulatory control function. It expects innovation.

For all of these reasons, industrial ecological analysis becomes an essential toolkit for planning future industrialization. However, the field of IE is still evolving and may be within the next few years, we will have all the methodologies/technologies required to adopt the IE in Pondicherry region.

Combining various findings from scientific literature with five years of practical experience on the regional scale, Sterr and Ott (2004) arrived at the conclusion that stable eco-industrial regions rarely emerge as the result of ambitious planning efforts by regional authorities, but rather develop through a solid foundation of comprehensive information transparency. In order to realize suitable output-input connections, mutual trust among the industrial sectors and the willingness to cooperate are essential. Nonetheless, political interests, the legal frame work, and planning efforts can help to set the things in motion. In addition, academic research, consultants, or reputable intermediates can contribute substantially to discovering and exploiting new possibilities and in connecting fitting partners. With this in mind, eco-industrial regions may be understood as environmentally sensitive open systems that accumulate enough materials and intrinsic problem-solving competence to host a large variety of round put systems. Evolutionary processes towards such an industrial ecosystem are more likely to happen if adequate instruments for the exchange of data and experiences among industrial sectors are provided in combination with interorganizational communication on the regional scale. Due to a variety of factors, success stories, practical examples, and solutions are still scarce or difficult to find and extensive research is still missing. Hence, further detailed research is required on the applicability of IE as it appears to be a more promising approach in the “land/water starved” Pondicherry region.