

Prioritizing Sectors for Economic Development in Sikkim, India

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ABSTRACT

Sikkim, a mountainous state in the Himalayas joined the democratic mainstream of the Indian Union in 1975. It has made enormous progress in planned economic development since then. Mountainous terrain and lack of reliable transportation and infrastructure does not allow establishments of large scale industries. Agriculture, dairy farming and cottage industries have limited scope of expansion. Hydro-electricity generation, pharmaceutical, tourism and tea appear to be promising and fastest growing economic sectors. Thus, these four growth sectors have been considered for evaluation. Six major criteria (such as Installation Cost, Return on Investment, Sustainability, Social Acceptance, Environment Friendliness, and Future Demand) were appropriately selected have been considered for evaluation of these alternatives for prioritising these economic sectors. The alternatives were subjected to pairwise comparison using the Analytic Hierarchy Process (AHP) so as to arrive at objective conclusions. The analysis of selected economic sectors and findings has been discussed in this article.

Keywords: Analytic Hierarchy Process (AHP), Build Own Operate and Transfer (BOOT), Consistency Index (CI), Consistency Ratio (CR), Eigen Vector, Hydroelectric (Hydel), Pairwise Comparison Matrix (PCM), Pharmaceutical, Quantitative Judgemental Analysis Method (QJAM), Tea, Tourism

INTRODUCTION

Sikkim is completely landlocked and criss-crossed by mountains; it is marked by a series of steep hills, high peaks, rippling rivers, at altitude ranging from 250 meters to 8598 meters. Sikkim joined India as a state in May, 1975. Sikkim today is one of the best states in the country with multiple increases in many of

the socio-economic statistics bringing in robust economic vibrancy and socio-cultural sustainability in the state, (Jha et al., 2007).

The progress in democratic and planned development has generated ample social and economic security to the masses. The journey so far has been rewarding and the development efforts are satisfactory. However, no development program and orientation can remain the

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same forever. Future development will depend upon the changing aspirations of the people, broadening nature of development instruments, new dimensions of social problems, increasing resource crunch, sustainability imperatives of the state and the growing complexity in the functioning of both national and international systems, (Lama, 2006). Hence there is a need to look at the post reforms economic growth trajectory especially in the industrial sector and analyse the development in the right perspective and suggest any value additions that may be necessary.

The historical background of industrial growth in Sikkim is attached in Appendix A. It is imperative to study the dynamics of development from the point of view of its sustainability to meet societal needs. Economic parameters of a region are the best indicators of the development. The state enjoys a salubrious climate, a dust free atmosphere and peaceful industrial entrepreneurial talent. The state has identified certain thrust areas for concentrated industrial development based on different economic activities performed by local public. Prominent among these are: Floriculture, Animal husbandry and Dairy Products, Minor Forest based Industries, Handlooms, Handicrafts and Village Industries, Tourism, Trade, Horticulture, Agriculture, Hydroelectric power, Pharmaceuticals and Tea.

The industrial scenario presently is not very encouraging. There are 1683 provisionally registered and 313 permanently registered private sector industrial units, most of which are in the tiny or small sector and promoted by first generation entrepreneurs. There are 14 state public sector enterprises but no central government public sector unit in the state. Of the registered industrial units, only 225 units are functioning while most of the other units are sick, (Lama, 2006). Recently the private players have entered into hydroelectric and pharmaceutical enterprises.

Analysis of data shows that *Hydroelectric Power, Tourism, Pharmaceutical and Tea* have

maximum growth potential. Therefore, in this paper we shall focus our attention on these four major industrial sectors. Brief introduction, potential and growth profile of these four industries in Sikkim have been attached in Appendices B, C, D & E respectively.

SELECTION OF AHP FOR PRIORITY ORDERING

Several interactions with policy makers showed that no efforts have been made to use scientific methods for prioritizing these economic sectors for decision making both at strategic and tactical levels. Analytic Hierarchy Process (AHP) is known to be a robust and proven technique for ordering and hence was selected for evaluation of these alternatives. Therefore, AHP was selected for pairwise comparison of the above four industries discussed for prioritising and hence formulating future plans for economic growth in the state. A brief review of literature pertaining to AHP is given below.

BRIEF SURVEY OF LITERATURE (AHP)

Analytic Hierarchy Process (AHP) as a technique falls in the category of Quantitative Judgmental Assessment Method (QJAM) and has proven to be a very powerful and effective tool in decision-making process. Manheim (1966) had suggested the use of hierarchical structures as a model for planning and design. Franklin (1968) had described the matrix theory. David (1969) had presented the importance of paired comparisons. The AHP technique had its beginning in the fall of 1971 while working on the problems of contingency planning for the Department of Defence as reported by (Saaty, 1980). Saaty and Vargas (1979, 1991); Vargas (1990) have highlighted AHP applications for Technological Forecasting. Ramanujam and Saaty (1981) have addressed technological choices in less developed countries with AHP

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