

Appendix –VI

Scope of Work and Output

The scope of work was defined in the Terms of Reference.

Work

The following elements of work have been carried out in the study:

- a. Market research on the mineral water industry globally covering
 - Market volumes
 - Demand and Supply
 - Appropriate Technology
 - Quality Standards applicable
- b. Investigation of equipment availability and costs
- c. Collection of data and information required for determining project feasibility
- d. Identification of sources of natural springs yielding mineral water
- e. Preparation and presentation of the Inception Report to the Director General, Department of Industry, Ministry of Trade and Industry, at Thimphu, Bhutan.

At the Presentation of the Inception Report, the following amendments were made:

1. The Thrinleygang spring water source located on the way to Punakha is not to be considered for the study as the area including the spring is owned by a private individual who already has his own plans.
2. Tsirang does not seem to be a viable area for a mineral water project due to connectivity and is to be excluded from the Study. In these places, Samtse shall be included as suggested.
3. To study preliminary feasibility of supply of packaged drinking water from Samtse area for the Indian market (lower segment). This water will be filtered and bacteria-free (i.e. ultraviolet/ozone system treated) natural water”.

Subsequently, as per the specific suggestion of DG, some locations on the Phuentsholing Thimphu Road in Chukha Dzongkhag were also added in the survey.

A list of possible sites given by the Joint Director Trade, Mr Shrub Tenzin, was also included for review of sites within the selected Dzongkhags.

Keeping all the above considerations in view, the Site Surveys were carried out in specified areas of the following Dzongkhags:

1. Punakha
2. Wangdue Phodrang
3. Paro
4. Samtse
5. Sarpang
6. Samdrup Jongkhar
7. Chhukha

- f. Amendments in geographical scope made as noted above
- g. Data obtained on existing exploitation of the mineral water

- h. Sites visited and data collected on following
 - ❖ Land Access Conditions
 - ❖ Environmental Considerations
 - ❖ Socio Economic Factors
 - ❖ Investment Considerations
 - ❖ Operational Logistics
 - ❖ Future Development Possibilities
 - ❖ Water Characteristics
- i. Local costing data compiled
- j. Where preliminary conformance to the requirements was established, water samples collected sealed, catalogued and sent for testing
- k. Where timelines permitted, the promising samples given to the local accredited Public Health Laboratory for biological testing
- l. On the basis of final chemical testing, the spring sources finalized
- m. Site costing investigated and the comparative advantages, strengths, weaknesses, opportunities, and threats at the local level analyzed
- n. Detailed marketing data collected of
 - Present and future demand projections on products
 - Structure of the industry
 - Pricing trends
 - Existing plants in the region and their performance
 - Target markets and marketing strategies
 - Transport logistics
- o. Economic analyses carried out on basis of data
- p. Project justification determined
- q. Marketing strategy defined
- r. Equipment enquiries floated and quotations obtained
- s. Project size determined at each location
- t. Detailed implementation and costing schedules determined
- u. Financial plans prepared with projections of
 - Financial viability
 - Investment and cash flows
 - Operating expenses
 - Breakeven point
 - Project life cycle
 - Internal Rate of Return & other yardsticks
 - Domestic and Export earnings
- v. Project Implementation Schedule made
- w. Detailed Project Reports prepared
- x. Submission of Draft Reports
- y. Analysis and Incorporation of Additional Data if required
- z. Submission of Final Detailed Feasibility Reports

Out Put

The output of the Assignment is presented in THREE VOLUMES, as follows

Report A

Detailed Feasibility Study Report on Natural Mineral Water Project at Demola,
Samdrup Jongkhar Dzongkhag

Report B

Detailed Feasibility Study Report on Natural Mineral Water Project at Eusuna,
Paro Dzongkhag

Report C

Detailed Feasibility Study Report on Sparkling Spring Water Project at Aipoly,
Sarpang Dzongkhag

Each of the Reports A, B and C has the following chapters:

- Executive Summary
- 1.0 Site Selection
- 2.0 Justification of the Project
- 3.0 Market Analysis
- 4.0 Resource
- 5.0 The Plant
- 6.0 Plant Location and Infrastructure
- 7.0 Environmental Aspects
- 8.0 Project Implementation
- 9.0 Cost Presentation
- 10.0 Financial Analysis
- 11.0 Economic analysis

- Appendix I : Site- wise Survey Reports
- Appendix II : Standards (IS: 13428: 2005)
- Appendix III : Water Chemical Analysis Reports
- Appendix IV : List of Laboratory Equipment
- Appendix V : List of Plant and Machinery Suppliers
- Appendix VI : Scope of Work and output