

**REFERENCES:**

[1] FY1999 Project Commissioned by Environment Agency, Government of Japan, *Environmental Impact Assessment for International Cooperation*

[2] Sri Lanka Case Study on Environmental Assessment of Upper Kotmale Hydropower Project

[3] Standards/Manuals/Guidelines for Small Hydro Development, General-Environmental Impact Assessment for Small Hydro Power Project, Ministry of New and Renewable Energy, Govt. of India

[4] Larry W Canter, second Edition, *Environmental Impact Assessment*

[5] Coast Conservation Act No 57 of 1981 and Coast Conservation (Amendment) Act No 64 of 1988

[6] Fauna and Flora (Protection ordinance No 2 of 1937) and Fauna and Flora (amendment) act No.49 of 1993 National Environmental Act. No 56 of 1988 Ibid, section 23Z



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

[7] Gazettes extraordinary No 772/22 of 24th June 1993 and No 859/14 of 23rd February 1995

[8] IEE reports of Projects

[9] [www.cea.lk](http://www.cea.lk)

[10] [www.os.is](http://www.os.is)

## Stake Holders Questionnaires

*R.P.D.I Rohana, , MSc in Environment Engineering & Management, Department of Civil Engineering, University of Moraratuwa, Sri Lanka*

### Declaration by the Researcher

This public survey is conducted for collect information from Project Approving agencies, key informant and developers of the Mini hydro Projects in Sri Lanka. I ensure that I will keep the information confidentially and will not publish personal information such as name of the Mini hydro Power plant and name of persons.

Please provide answer for the all the questions below. If it is not applicable to the project mark it as N/A.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

*R.P.D.I Rohana*

### 1 Public Questionnaire

#### 1.1 Pre-construction Stage

##### 1.1.1 Information flow of the Project

-How did you receive information about the project at first time? through----

- a. Media     b. Newspaper     c. Persons     d. others

-When did you receive the information about the project at first time?

- a. Before starting Project     b. during Implementation project   
b. c. after completion of project

-What about your opinion about received adequacy of project information?

- a. Adequate  b. Not Adequate  c. No idea

If not adequate, what are the reasons and issues for information not adequacy?

- Were there any public protest against this project?

- a. Yes  b. No.  c. No idea

If yes,

What were the reasons, frequency and length of time of the protest?

How did the problem solve?



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations

1.1.2 Attention on impact on environment and socio economic status of the project area.

- How many peoples are used this water for Irrigation work & fishing?

- a. Less than 10  b. between 10 & 50  c. More than 50

- What are the benefits received villagers from the developer before initiation of the project?

- a. Infrastructure improvement  b. Economic benefits   
b. c. or both  d. Any other

- What was the level of satisfaction of Infrastructure and Economic benefits?

- Did they have any agreement with the villagers?
  - a. Provide infrastructure facilities
  - b. Provide Job opportunities
  - c. Any other

**1.2 Construction Stage**

- Were there any flood situations during the construction of the project?
  - a. Due to diversion of the river
  - b. Due to blocking of water flow
  - c. Any other, please specify?



University of Moratuwa, Sri Lanka.  
 Electronic Theses & Dissertations  
 www.lib.mrt.ac.lk

How did they resettle of people?

- a. Estimate and provide compensation
- b. Build and Handover the land or houses
- c. Any other Specify

- What was the concreting method?
  - a. Ready mixed
  - b. Manual
  - c. Both

Did they construct new Bridges, culverts?

- How did they construct access road during construction?
  - a. Temporary road
  - b. Old road expansion
  - c. Permanent new road

- What was the direct and indirect benefit received, by the villagers during construction? Explain?

- How many days for construction

a. Less than 2 years     b. More than 2 years     c. No idea

- Did they water quality analysis?

a. Yes     b. No     c. No idea

- What were the safety issues and how did they overcome?



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

- Were there any blasting work and how did the overcome noise transmission?

a. Yes

Explain Methods ----

b. No

- Did the used any remedial actions to remove of floating of debris?

a. No

b. Yes

Method –

- Was there any vehicle traffic during construction period?

a. Yes  b. No.

- Was there any Labour camps?

- Were there any poor sanitation surrounding area due to lack of attention paid to disposal or waste?

a. Yes  b. No  c. No idea



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

Were there any social impacts due to setting up of labor camps?

a. Yes  b. No.  c. No idea

- Were there any negative natural disasters such as land slid, floods, soil erosion?

a. Yes  b. No.  c. No idea

### **1.3 Operation Stage**

- How many of existing bathing places were lost at the operation stage?

- a. Less than 5
- b. More than 5 and less than 10
- c. More than 10

- How many people used this places and villagers?
  - a. Less than 50
  - b. More than 50
  - c. Not applicable

- How did remediate this problem?

- Were there any Water board intake?
  - a. Yes  b. No.

- Were there any Irrigation intake?



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

- How many numbers of trees were removed during operation?
  - a. Less than 10  b. More than 10

- Were there any flood situations after the construction of the project?
  - a. Yes  b. No  c. No idea

- Did project offered Temporary and permanent Employment in the Power plant?

- a. Yes  b. No.  c. No idea

- Were there any losses of scenic beauty?

a. Yes  b. No

If yes, explain?

- What about non operation of Mini Hydro Power due to less amount of water flow?

a. Yes b. No. c. if yes, No of times per year specify

## 2.0 Developer Questionnaire

### 2.1 Pre-construction Stage

-What is the Objective of the project?



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

-What are the benefits of the project?

-Did you done cost benefit analysis?

a. Yes  b. No

- Have you done economic feasibility assumptions? Such as rainfall.



- What is the reason for selecting the place?
  - a. Dam strength
  - b. Easily Accessibility
  - c. Previously less disaster was recorded
  - d. Less amount of removal or forming of soil.
  - e. Maximum head availability

- What are the proposed alternatives?
  - Location
  - Scale of the Project

-How many field visits were arranged during the EIA process?



University of Moratuwa, Sri Lanka  
 Electronic Theses & Dissertations  
 www.lib.mrt.ac.lk

- How does short term impacts are minimized through good engineering practices?
- How many of existing bathing places were lost?
  - a. Less than 10
  - b. More than 10

- How did remediate the problem?
  - a. Providing alternative place
  - b. Providing Alternate source
  - c. Provide alternative faculties

- What is the average annual flow?

- What was the Minimum flow

- E-flow value

- Social flow requirement

- How do you calculate those data?

- Was there any development activities planned across the area?

a. Yes  b. No.

- Were there any Water board intake?

a. Yes  b. No.

- Were there irrigation work & fishing work connecting to the river?

a. Yes  b. No



University of Moratuwa, Sri Lanka.

Electronic Theses & Dissertations

[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

- What are the precautions and remedies were proposed?

- How many no of trees have been removed due to line route removal?

a. More than 10  b. less than 10

- What is the Length of Transmission line?

- How did Resettlement of people?

2.2 Construction Stage

- Were there any flood situations during the construction of the project?  
a. Yes                       b. No.

- How did it remediate by good engineering practice?

- How did you resettle of people?  
a. Estimate and provide compensation

Described the process of negotiation with project affected persons?



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

- b. Build and Handover land or House
- c. Any other Specify

- What was the concreting method?  
a. Ready mix     b. Manual     c. both

- How did the construct access road during construction?  
a. Temporary road     b. Old road expansion   
c. Permanent new road

- What was the direct and indirect benefit received, by the villagers during construction? Explain?

- How much long period used for as the construction time?

a. Less than two years  b. More than two year

- Was there any delaying construction Project?

a. Yes  b. No

- What were the reasons for delaying project?

- How it's over come from good management practices?



University of Moratuwa, Sri Lanka.

Electronic Theses & Dissertations

www.lib.mrt.ac.lk

What were the safety issues and how did they overcome?

- Were there any blasting work?

a. Yes  b. No.

- How did you overcome noise transmission? (methods)

- Did you any water quality analysis during construction?

a. Yes  b. No

- If you did water quality analysis, what was the scope of it?

- Did you use any remedial actions to remove of floating?

a. Yes  b. No

- Was there any vehicle traffic during construction period?

a. Yes  b. No

- Was there Health and safety of workers and precautions to insect epidemics?

- Was there poor sanitation due to lack of attention paid to disposal or waste?

a. Yes  b. No.



University of Moratuwa, Sri Lanka.

Electronic Theses & Dissertations

[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Were there any social impacts due to setting up of labor camps?

a. Yes  b. No

- How does short term impact are minimized through good engineering practices?

- Impact on well and septic tank change in ground water level and located them in a suitable place?

a. Yes  b. No

- How does control potential soil erosion sedimentation and water pollution?

- Were there any Negative natural disasters such as land slid, floods, soil erosion?

a. Yes  b. No.

- How do you overcome it?

- Did construction affect animal and fish migration pattern?

a. Yes  b. No.



If yes, what are mitigations?

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

- Were there any tree planting programs during construction?

a. Yes  b. No

If yes, what are the methods of planting, adequacy of planting? How to decide?

### **2.3 Operation Stage**

- How many of existing bathing places were lost during operation?

- How many people used this places and villagers?

- How to remediate this problem?

- Providing alternative place
- Providing Alternate source
- Provide alternative faculties

- Were other domestic water uses affected?

If yes, how it's affected? How do you mitigate?



University of Moratuwa, Sri Lanka.

Electronic Theses & Dissertations

www.lib.mrt.ac.lk

What was the average annual flow during operation?

- a. After construction
- b. b. before construction

- What is the length of the transmission line?

- Did you remove any number of trees due to transmission line route or any other reasons?

- a. Yes
- b. No

- How many time flood situation were occurred after the construction of the project?

- What was the direct and indirect benefit received, by the villagers during operation? Explain?

[Empty text box]

- Were there any losses of scenic beauty?

- a. Yes                       b. No

- What was the de silting schedule (Once a year)?

[Empty text box]

- What was the construction waste removal methods?

a. Soil

[Empty text box]

b. Earth mass

[Empty text box]

c. Boulders

[Empty text box]



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations

3. 0 Questionnaire for Project Approving Agency

3.1 What was the study area for EIA process?

[Empty text box]

3.2 How many numbers of TEC and Scoping meeting were held?

[Empty text box]

3.3 How many monitoring visits were conducted?

[Empty text box]



3.4 Did you face any practical problem conducting EIA process?

3.5 When did you get state agency approval?

3.6 What is the date of issuing EIA approval?

3.7 Were there any issues for mitigations?



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

3.8 Did you provide any time extension for EIA process?

a. Yes

b. No.

If yes explain reason;

3.9 How many no of Mini hydro project for the same river?

3.10 What should be the suggestion to improve EIA process?

**3.11 Environment Management Plan satisfactory**

a. Adequate

b. Not adequate,

If not what are the actions to be review?

**3.12 Environment Monitoring Parameters**

a. Location select for the Monitoring



c. Issues related to Monitoring Process

d. Were there any deviation from the Mitigation actions of the Project?

1. Yes       2. No

If Yes, Please specify.