

# **Moragahakanda Development Project (Sri Lanka)**

List of Documents on Environmental and Social Considerations

## **1. Executive Summaries of EIA Report and its addenda (PDF/ 7.0MB)**

(compiled by Mahaweli Authority of Sri Lanka (MASL))

## **2. EIA Report and its addenda (final draft version as at 01/October/2010) (\*)**

1) **EIA Report** (PDF/ 19.0MB) (compiled by TEAMS (Pvt)Ltd., submitted in October 1998)

### **2) Addenda to EIA Report**

#### **i) Biodiversity Assessment Study Report (PDF/ 5.2MB)**

(compiled by the World Conservation Union (IUCN) Sri Lanka, submitted in June 2007)

#### **ii) Comprehensive Watershed Protection Management Plan (WMP) (PDF/ 11.3MB)**

(compiled by University of Sri Jayewardenepura, Sri Lanka, submitted in June 2007)

#### **iii) Geological Study Report (PDF/ 18.2MB)**

(compiled by National Building Reserch Organization (NBRO), Sri lanka, submitted in November 2008)

#### **iv) Agriculture Development Plan (PDF/ 150KB)**

(compiled by MASL, submitted in September 2007)

#### **v) Archaeological Impact Assessment Report (AIA) (\*\*) (PDF/ 5.9MB)**

(compiled by Central Cultural Fund, Sri Lanka, submitted in May 2010)

#### **vi) Resettlement Implementation Plan (RIP)(\*\*\*) (PDF/ 36.6MB), including summary of public consultation meetings held on 17/July/2010**

(compiled by MASL, submitted in July 2007)

#### **vii) Social and Environmental Management Plan (SEMP) (PDF/ 1.2MB)**

(compiled by EML Consultants Pvt Limited, Sri Lanka, submitted in May 2010)

#### **viii) Social and Environmental Monitoring Plan (SEMoP) (PDF/ 3.9MB)**

(compiled by EML Consultants Pvt Limited, Sri Lanka, submitted in June 2010)

## **3. EIA Approval Letters (PDF/ 1.0MB)**

## **4. Minutes of public consultation meetings held on 17/July/2010 - Full text (\*\*\*\*) (PDF/ 373KB) (compiled by MASL)**

## **5. EMoP progress up to July 2010 (PDF/ 215KB) (compiled by MASL)**

## **6. Description of the impact assessment (PDF/ 55KB)**

(compiled by Preparatory Survey Team for Moragahakanda Development Project, submitted in July 2010)

## **7. JBIC environmental checklist (PDF/ 141KB)**

(compiled by Preparatory Survey Team for Moragahakanda Development Project, submitted in July 2010)

Notes:

\* Validity period for present EIA approval is up to 25/October/2010. Application for the extension of validity period has been made, and is currently under review in accordance with domestic procedures in Sri Lanka. It is expected that the set of EIA report and its addenda will be approved as a whole.

\*\* Original language is Sinhalese (summary available in Japanese).

\*\*\* RIP is equivalent to RAP.

\*\*\*\* For summary, please refer to Annexure 11 of RIP.

**F.9 EIA Approval Letters (1 Approval Letter and 2 Extension Letters)**

EIA 普文  
(2001年10月26日)



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Ministry of Agriculture, Forestry, Food and Co-operative Development

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My No.

3/1/1950

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Your No.

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Date

26<sup>th</sup> October 2001

Director General  
Mahaweli Authority of Sri Lanka  
500 T. B. Jaya Mawatha  
Colombo 10

**Moragahakanda Agricultural Development Project  
Environmental Impact Assessment**

This is to inform you that Technical Evaluation Committee of the Ministry of Agriculture, Forestry, Food and Cooperative Development (MAFF&CD) after study of the EIA Report of the proposed Moragahakanda Agricultural Development Project and review of the comments received from the public and your responses to such comments, has decided, with the concurrence of the CEA, in terms of the Regulation 13 of the National Environmental (Procedure for Approval of Projects) Regulations No. 1 of 1993, to grant approval to Mahaweli Authority of Sri Lanka (MASL) for the implementation of the above project subject to the following conditions:

**1. GENERAL**

1.1. This approval is valid for three years from the date of issue of this letter unless upon written application to M/MAFF&CD within thirty days prior to the expiry date, the validity period is extended.

✓ 1.2. This environmental clearance is valid for the construction of a dam (rock-fill dams in the main dam and second saddle dam/s and concrete facing etc.) of maximum height of 61 meters across Amban Ganga upstream of the existing Elahera Anicut and a reservoir with a net storage capacity of approx. 500 MCM and associated developments, as outlined in the EIAR- Volume 1 Main Report and Maps and Photographs contained in Volume II and III submitted by the MASL, subject to the final details being re-designed to address engineering considerations of dam construction and safety.

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ත්‍රිත්‍ය මාරුගය : 869553/888902	ප්‍රධාන අධ්‍යක්ෂ : 863497(නැංවා)	ආරිය අධ්‍යක්ෂ / මානව හා ගාලු ප්‍රකාර සභ්‍රයෙන Admin. : 878674	අධ්‍යක්ෂ : 86891
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1.3. MASL should where necessary, obtain fresh approval in terms of Regulation 17 (i) (a) contained in Gazette Extra - Ordinary No 772/22 of 24th June 1993, in respect of any alterations that are intended to be made to the approved designs of the project.

1.4. MASL is bound to ensure that the terms and conditions given in this letter are adhered to, during project implementation. The MASL shall have full control over a third party that may be involved in project implementation, by entering into agreements which contain the conditions stipulated in this letter with such parties. MAFF&CD as the Project Approving Agency (PAA) should have access to the contract documents pertaining to environmental aspects, entered into by MASL and any outside contractors.

1.5. MASL shall intimate to PAA, the date of commencement of project activities/construction activities within one month of this letter, inclusive of a phased implementation schedule.

1.6. A copy of this letter of clearance should be kept at the project site, for purposes of perusal.

1.7. It is the duty of the MASL to inform the PAA of any adverse environmental impacts arising during project implementation, which are not anticipated at this stage. In such an event, relevant guidelines and necessary mitigatory measures should be implemented as directed by the PAA. The MASL should ensure that such impacts are properly assessed and addressed even at a later stage of project implementation.

1.8. The MASL should co-ordinate closely with planning agencies such as the Department of Irrigation (DI), and relevant Provincial and Local Authorities, Divisional Secretariats to resolve any conflicts with existing and future development plans

## 2. MINERAL AND FOREST RESOURCES

2.1. A detailed feasibility study of mining of mineral resources in areas affected by the project supplemented with additional drilling for exploration of minerals will be undertaken by the MASL before the commencement of the Project and submitted to the PAA and Monitoring Committee for approval.

2.2. The exploration and extraction of minerals should be carried out subject to guidelines and procedures laid down by the Geological Survey and Mines Bureau (GS&MB) and National Gem and Jewellery Authority.

2.3. All extractable timber resources in the reservoir bed and borrow areas will be identified by the help of the Forest Department and suitably extracted.

2.4. Recommendations given in the EIAR sections 5.2.2. (i-v) and 7.4 (i-vii) should be followed.

### **3. IMPACTS OF CONSTRUCTION ACTIVITIES - EXTRACTION, HANDLING, TRANSPORTATION AND STORAGE OF MATERIAL**

3.1. Quarrying of rock, sand and other material for construction activities should be done at sites selected in consultation with and approval of the GS&MB.

3.2. Required licences/permits for the operation of all borrow pits and quarry sites in the proposed borrow areas for impervious material, filter material and fine aggregates etc. (Section 4.8.1 (a-c)) should be obtained from the CEA / relevant Local Authority; whenever it is required.

3.3. Necessary approvals shall be obtained from CEA and/or the relevant Local Authorities for the operation of blasting sites, rock quarries, metal crushers etc. prior to commencement of operations.

3.4. Blasting operations should be carried out only during the day between 06.00-18.00 hrs. and after proper trials supervised by necessary authorities.

3.5. Exposed areas should be kept suitably protected to prevent rain erosion or emission of dusts during dry periods.

3.6. Details regarding the areas and locations where the material is to be removed of should be marked on a 1:5000 scale map and forwarded to the PAA.

3.7. Movement of heavy loads of material for project purposes shall be done with the concurrence of the relevant authorities and shall be done at non-peak traffic times and in such a way not to cause nuisance to public.

3.8. The measures indicated above from 3.1 to 3.7 as well as any other relevant conditions in this letter, should be included in the contract documents, so that the contractor or sub-contractor is held responsible for carrying them out during construction, and on completion of the work. The MASL would be held responsible for the breach of any such conditions by any contractor or sub-contractor.

### **4. WATER RESOURCES AND HYDROLOGICAL ASPECTS**

4.1. The MASL should develop a comprehensive watershed protection and management plan covering the catchment and command areas, including those aspects identified in EIAR Section 5.9, prior to commencement of any development activity and effectively implement it during and after reservoir construction.

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- 4.2. Conservation measures necessary to minimize soil loss within the catchment area and prevent excessive erosion from command area due to construction and operation of channel flows should be built in to the construction plans.
- 4.3. The need for compensatory discharge for ecological purposes in the stretch below Elahera Anicut should be considered in the hydrologic plan and appropriate measures taken. The Monitoring Committee will determine the adequacy of such actions proposed.

## 5. IMPACT ON BIOLOGICAL ENVIRONMENT

- 5.1. A detailed mitigation plan should be developed for the mitigation of adverse impacts on fauna, flora and habitats in line with the mitigation measures identified in the sections 5.4 and 5.5, but not limited to those already identified. The development of this plan will be supported by a detailed bio-diversity study proposed to be undertaken by MASL.
- 5.2. Necessary steps should be taken to declare the Moragahakanda catchment and the area surroundings the reservoir as protected areas to preserve habitat taking into consideration the area lost due to dam construction.
- 5.3. Mitigation should contain measures to minimize adverse impacts on the elephant population by establishing elephant corridors and permanent extensions to protected areas.
- 5.4. Habitat enrichment and a comprehensive protected area management system should be developed covering wild life reserves, buffer zones, forest reserves and elephant corridor's in consultation with the Department of Wild Life Conservation and Department of Forestry.
- 5.5. A detailed survey to inventorise endangered medicinal plants and flora should be completed and nurseries established for conservation purposes. Reservation and conservation forest areas will be utilized for planting of endangered medicinal and other flora.
- 5.6. Identification and declaration of wild life and forest reserves and protected areas should be completed before the commencement of project activities.

## 6. ROAD NETWORK AND CONSTRUCTION

- 6.1. Construction of proposed alternative main and minor roads will be done in accordance with the proposals in the EIA report (section 5.7.3) and following standards and guidelines stipulated by the relevant authorities.
- 6.2. MASL should ensure that all procedures and guidelines applicable to design and construction of roads are followed during road construction.

## 7. SOCIOLOGICAL IMPACTS

- 7.1. The final project design should be selected in such a way as to minimize the relocation of people while maximizing potential development opportunities as well as contributing positively to anticipated future development programmes in the region.
- 7.2. A comprehensive resettlement plan / programme and compensation package should be prepared inclusive of the proposed relocation site at Kaudulla under Mahaweli Zone D1. The resettlement plan and the compensation package so prepared should be submitted to the PAA for approval.
- 7.3. Since many established home gardens provide a part of household food and other requirements and income, the compensation package should contain, in addition to compensation of land income lost from such avenues for at least three years.
- 7.4. The cut off date for encroachment for compensation should not be earlier than September 1996.
- 7.5. The payment of compensation should not be delayed and should be paid prior to moving into the alternative land.
- 7.6. Recommendations given in sub section 5.10 of the EIA report should be implemented.

## 8. INFRASTRUCTURE AND URBAN DEVELOPMENT ASPECTS

- 8.1. The MASL should comply with the guidelines set out by the UDA and other relevant agencies in the design, development and construction of urban facilities within the project area.

## 9. ARCHAEOLOGICAL, RELIGIOUS AND CULTURALLY IMPORTANT SITES

- 9.1. Final project design and construction activities should be carried out in such a way that any damage or interference to sites of archaeological, religious or cultural importance is avoided and adequate measures taken to preserve places of such importance.

## 10. MONITORING PROGRAMME

- 10.1. The MASL shall forward to the PAA an environmental monitoring plan as specified in Chapter 6 of the EIA report and containing any other provisions required in accordance with terms and conditions of this approval. It should contain

the work schedule, parameters to be monitored, with intervals/frequencies and the responsible agencies for monitoring each parameter.

10.2. A Monitoring Committee comprising of representations from following agencies will be established by the PAA to monitor the above plan.

- a. Land Commissioner's Department
- b. Department of Forest Conservation
- c. Department of Wild Life Conservation
- d. Geological Survey and Mines Bureau
- e. Department of Agriculture
- f. Irrigation Department
- g. Land Use Policy Planning Division
- h. Central Environmental Authority
- i. Ministry of Agriculture
- j. Divisional Secretaries of Naula and Laggala-Pallegama

10.3. Any changes to the Monitoring Programme should be approved by the Monitoring Committee.

10.4. All costs incurred by the monitoring committee appointed by PAA to oversee implementation of the mitigatory measures and the monitoring plan shall be borne by the MASL.

10.5. In addition proposed special Monitoring Panel for monitoring of mining activities in the affected areas identified in Section 7.3.vi should be made functional.

10.6. MASL will make necessary budgetary provision to ensure effective functioning of all obligations outlined in the EIA report and described above.

## 11. ADDITIONAL PROVISIONS

11.1. The MASL shall comply with any additional conditions that may be communicated from time to time by the PAA during the execution of the project.

11.2. The MASL should pay attention to regulation NO 17 of the National Environmental (procedure for approval of projects) Regulations No. 01 of 1993 which states;

(i) The project proponent shall inform the appropriate PAA of;

(a) any alteration to a prescribed project approved under regulation 9(i); and 13(ii); and/or,

(b) the abandonment of such approved project.

(ii) The project proponent shall where necessary obtain fresh approval in respect of any such alterations that are intended to be made to such project. The Project Approving Agency shall in consultation with the Central Environmental Authority, determine the scope and format of the supplemental report required to be submitted for such alterations.

(iii) The Project Proponent shall, where a project is abandoned, restore the project site to a condition as specified by the Project Approving Agency.



Ananda S. Gunesekera  
Secretary  
Ministry of Agriculture, Forestry, Food  
and Cooperative Development

*Copies to:*

Secretary, Ministry of Mahaweli Development  
Director, External Resources  
Director, Central Environmental Authority  
Director, Geological Survey and Mines Bureau  
Director, Road Development Authority  
Lands Commissioner  
Conservator General, Department of Forest Conservation  
Director, Department of Wild Life Conservation  
Director General, Department of Agriculture  
Director General, Irrigation Department  
Director, Land Use Policy Planning Division  
Chairman, Gem and Jewellery Authority  
District Secretary, Matale/Anuradapura/Polonnaruwa  
Divisional Secretary, Naula/Laggala-Pallegama



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27 MAR 2006 00005 T. B. Uayah Muwaitha Colombo. 10.

குறிக்குறம் ஸ்.வர்த்தன அமைச்சர் கமத்தொழில் அபிவிருத்தி அமைச்சர்

## Ministry of Agriculture Development

"ගොවීජන මියදුරය", 80/5, රජමාලුවාන පෙනුවෙහි, බලතරඹුලු. "ජොවීජන මන්තිරය", 80/5, රාජමාලුවාන පෙනුවෙහි, බලතරඹුලු. "Govijana Mandiraya", 80/5, Rajamalwatta Avenue, Baltharamulla, Sri Lanka. කුරුඹාලය ප්‍රධාන ආයත්වකම. Office - 2869553, 2888902, 2872097 ලැංඡන් මාරුගාලුව, Fax 2869010, 2869010.

கொலை அலுவலகம் Office - 2869553, 2888902, 2872097 கோவை கொலைநகல் Fax 2868919, 2868910

கலைஞர் பதில் }  
நான் கீழை : }  
My No. } 3/1/1950

தேவை  
நிதி  
Date } 16.03.06  
120/78

I.D.(Engg.) Director General

Mahaweli Authority of Sri Lanka  
500, T.B. Jayah Mawatha,  
Colombo 10.

RECEIVED  
27 MAR 2006 GY  
DIRECTOR  
M.A.C. 1001

தேவை  
நிதி  
Date } 16.03.06  
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Extension to the Environmental Clearance for  
the Moragahakanda Agriculture Development Project  
Environmental Impact Assessment

This is to inform you that the Technical Evaluation Committee (TEC) of the above project established by the Ministry of Agriculture Development (MOAD) decided to grant an extension for the environmental clearance of the above project with the concurrence of the Central Environmental Authority under section 23 EE of Part IV C of the National Environmental Act No. 47 of 1980. Please note that some conditions stipulated in the approval granted on 26<sup>th</sup> Oct. 2001 shall remain as it is and a number of new conditions and amendments are included in the extension.

## 1. General

Condition 1.1 shall read as follows

1.1 This is an extension to the environmental approval being issued on 26.10.2001 by the Secretary of then Ministry of Agriculture, Forestry, Food and Cooperative Development for the aforesaid project. This extension is valid until 26.10.2007 unless upon written application to the MOAD within 30 days prior to expiry date the validity period is extended.

1.2  
1.3  
1.4  
1.5  
1.6  
1.7  
1.8

Conditions in the aforesaid Environmental Clearance shall remain as it is.

1.9 Mahaweli Authority of Sri Lanka shall make necessary arrangements in consultation and agreement with the Dept. of Forests, Dept. of Wildlife and the Dept. of Archaeology regarding the activities carried out within the areas which come under the jurisdiction of the above agencies prior to commencement of the project activities.

## 2. MINERAL AND FOREST RESOURCES

2.1 } Conditions shall remain as it is  
2.2 }

2.3 All usable timber resources in the reservoir bed & borrow and resettlement areas will be identified by the Project Proponent (PP) in consultation with the Department of Forests and properly utilized.

2.4 Condition shall remain as it is

2.5 The PP shall obtain a report from the Geological Survey and Mines Bureau which contains an assessment of the commercial viability of exploitation of existing mineral resources in reservoir area and whether adverse impacts arise on reservoir water quality or water stagnation may result from mining activities prior to inundation as stated in the EIA Report, Appendix P, Environment, section 2.2.5 and section 3.2.2 of Environment Management Action Plan.

## 3. IMPACTS OF CONSTRUCTION ACTIVITIES - EXTRACTION, HANDLING, TRANSPORTATION AND STORAGE OF MATERIALS

3.1 } Conditions shall remain as it is  
3.2 }

3.3 Necessary approvals shall be obtained from the CEA and /or the relevant Authorities and Local Authorities for the operation of blasting sites, rock quarries, metal crushers etc. and copy of the approvals should be submitted to the PAA prior to commencement of the operations.

3.4  
3.5  
3.6  
3.7  
3.8 } Conditions shall remain as it is

#### 4. WATER RESOURCES AND HYDROLOGICAL ASPECTS

4.1 The Mahaweli Authority of Sri Lanka (MASL) shall develop a comprehensive Watershed Protection and Management Plan covering the catchment and command areas, including those aspects identified in the Section 5.9 of the EIA Report and submitted to the Project Approving Agency (PAA) prior to commencement of any development activity and effectively implement it during and after reservoir construction.

4.2 } Conditions shall remain as it is  
4.3 }

4.4 All the measures mentioned in section 3.1 of the proposed Environment Management Action Plan with respect to the upstream catchment protection shall strictly be implemented by MASL and further improvements for the same, where necessary shall be included in order to minimize habitat loss, water pollution and forest exploitation due to catchment encroachment once the dam is constructed and reservoir is built. Reservations for Aban ganga and Bowatenna shall not be limited to 100m and as much as possible it shall be maintained more than 100m.

## 5. IMPACT ON BIOLOGICAL ENVIRONMENT

5.1  
5.2  
5.3  
5.4  
5.5  
5.6 } Conditions shall remain as it is

5.7 The detailed mitigation plan and the biodiversity study proposed to be undertaken by MASL as stated in section 5.1 of the environmental approval granted on 26.10.2001 shall be complemented with the needful for clearing of forest area for resettlement.

5.8 In order to mitigate loss of flora and possible threat to fauna all the recommendations highlighted in section 3.2 of the Environment Management Action Plan (Feasibility study of Moragahakanda Development Project Appendix P, Environment ) shall also be implemented by the PP, MASL.

## 6. ROAD NETWORK AND CONSTRUCTION

6.1 } Conditions shall remain as it is  
6.2 }

The Section 7 shall be read as follows

## 7. RESETTLEMENT AND SOCIOLOGICAL IMPACTS

7.1  
7.2  
7.3  
7.4  
7.5  
7.6 } Conditions shall remain as it is

7.7 Conditions stipulated as 7.2, 7.3, 7.4, 7.5, 7.6 shall equally be applicable and compliment with the displacement of 41 households in the area of proposed elephant corridor between Wasgamuwa National park and Minneriya Giritale Nature reserve which was not identified in the Environment Impact Study submitted by TEAMS, 1998.

7.8 The PP shall adhere to the National Involuntary Resettlement Policy (NIRP) adopted in May 2001. Accordingly Resettlement Action Plan should be prepared for all the families to be displaced by this project and PP shall take all efforts to select Resettlement Sites within the present settlement areas.

### 7.9 Resolving Human-Elephant Conflict

Construction of electric fences shall be done where human-elephant conflicts are likely to occur.

## 8. INFRASTRUCTURE & URBEN DEVELOPMENT ASPECTS

Condition shall remain as it is

## **9. ARCHEOLOGICAL, RELIGIOUS AND CULTURALLY IMPORTANT SITES**

Condition shall remain as it is

Following conditions will also be included in addition to terms and conditions stipulated already in our letter dated 26.10.2001

## **10. RESERVOIR WATER QUALITY AND ASSOCIATED AQUATIC ECOLOGY**

The proposed Environment Management Action Plan shall be renewed by the PP and submitted to PAA for approval with detailed investigation and suitable mitigatory measures on effects of reservoir construction on ground water table and its quality/salinity, riverine species, downstream riverine habitats and fish migration and spawning due to discontinuation of the upper reaches and lower reaches of the stream.

## **11. LONG TERM SUSTAINABILITY OF AGRICULTURAL ACTIVITIES**

The PP, MASL shall develop a detailed Agriculture Development Plan as recommended in the EIA Report. This shall also be included with suitable mitigatory measures to minimize possible threats to human and aquatic life due to water pollution and soil salinisation.

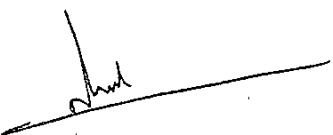
## **12. Monitoring Programme**

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Conditions shall remain as it is

### 13. Additional Provisions

11.1      } Conditions shall remain as it is  
11.2      }

  
R.M. Senanayake  
Additional Secretary/Projects  
For Secretary  
Ministry of Agriculture Development

Copy : Director General – Central Environmental Authority  
All TEC members



64  
EIA延長(第2回)承認書  
(2007年12月20日)  
Annexure to 6.2

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**Ministry of Agricultural Development and Agrarian Services**

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කාර්යාලය ආයතනය Office - 2869553, 2888902, 2872097, ගොවීතන මණ්ඩලය Fax - 286891, 2868910.

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Your No. }

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Date } 20.12.2007



Director General  
Mahaweli Authority of Sri Lanka  
500, T.B. Jayah Mw,  
Colombo 10.

**Second Extension to the Environmental Clearance for the  
Moragahakanda Agricultural Development Project  
Environment Impact Assessment**

This has reference to your letter dated 13<sup>th</sup> September 2007 requesting for an extension to the Environmental Clearance granted on 26<sup>th</sup> October 2001 on the above proposed project.

Please find enclosed extension of the Environmental Clearance for the proposed Moragahakanda Agricultural Development Project for further period of three years from 26<sup>th</sup> October 2007 to 25<sup>th</sup> October 2010 subject to terms and conditions.

  
T.M. Abayawickrama  
Secretary  
Ministry of Agriculture Development &  
Agrarian Services

**Second Extension to the Environmental Clearance for the  
Moragahakanda Agricultural Development Project  
Environment Impact Assessment**

This is to inform you that being the Secretary of the Ministry of Agriculture Development & Agrarian Services (M/AD&AS) which is the Project Approving Agency for this development project, after studying the Environmental Impact Assessment Report (EIAR) of the proposed Moragahakanda Agricultural Development Project dated October 1998; the Environmental approval letter dated 26<sup>th</sup> October 2001 issued by the Ministry of Agriculture, forestry, Food and Cooperative Development; the first extension of the Environmental approval dated 16<sup>th</sup> March 2006 issued by the Ministry of Agriculture Development; your request made to this Ministry on 13<sup>th</sup> Sep. 2007 for the second extension to the Environmental approval and review of the recommendations of the Technical Evaluation Committee (TEC) appointed on 9<sup>th</sup> November 2007, I have decided to grant extension to the Environmental approval of the above project with the concurrence of the Central Environmental Authority (CEA), in terms of Regulation No. 13 of the National Environmental Regulations No.1 of 1993 subject to following conditions.

**1. General**

- 1.1 This is the Second Extension to the Environmental Clearance being issued on 26.10.2001 by the Secretary of then Ministry of Agriculture, Forestry, Food and Cooperative Development for the Moragahakanda Agricultural Development project. This extension is granted for further three (3) years from 26<sup>th</sup> October 2007 to 25<sup>th</sup> October 2010 unless upon written application to the M/AD&AS within 60 days prior to expiry date the validity period is extended.
- 1.2 This Environmental Clearance is valid for the construction of a dam (rock -fill dams in the main dam and second saddle dam/s and concrete facing etc.) of maximum height of 61 meters across Amban Ganga upstream of the existing Elahera Anicut and a reservoir with a net storage capacity of approximately 500 MCM and associated developments, as outlined in the EIAR Volume 1, the Main Report and the Maps and the Photographs contained in Volume II and III submitted by the Mahaweli Authority of Sri Lanka, subject to the final details being re-designed to address engineering considerations of dam construction and safety.
- 1.3 The Mahaweli Authority of Sri Lanka is bound to ensure that the terms and conditions given in this approval are adhered to during project implementation. The Mahaweli Authority of Sri Lanka shall have full control over a third party that may be involved in project implementation by entering into agreements which contain the conditions stipulated in this approval with such parties. M/AD&AS as the PAA should have access to the contract documents pertaining

to environmental aspects entered into by the Mahaweli Authority of Sri Lanka and any outside contractors.

- 1.4 The Mahaweli Authority of Sri Lanka shall intimate to the PAA, the date of re-commencement of project activities/construction activities within one month from issuance of this extension, inclusive of a phased implementation schedule.
- 1.5 A copy of this extension shall be kept at the project site, for purposes of perusal.
- 1.6 It is the duty of the Mahaweli Authority of Sri Lanka to inform the PAA of any adverse environmental impacts arising during project implementation, which are not anticipated at this stage. In such an event, relevant guidelines and necessary mitigatory measures should be implemented as directed by the PAA. The Mahaweli Authority of Sri Lanka shall ensure that such impacts are properly assessed and addressed even at a later stage of project implementation.
- 1.7 The Mahaweli Authority of Sri Lanka shall coordinate closely with planning agencies such as the Department of Irrigation (DI) and relevant Provincial and Local Authorities, Divisional Secretaries to resolve any conflicts with existing and future development plans.
- 1.8 The Mahaweli Authority of Sri Lanka shall make necessary arrangements in consultation and agreement with the Department of Forests, Department of Wildlife and the Department of Archaeology regarding the activities carried out within the areas which come under the jurisdiction of those agencies during the project period.

## 2. Mineral and Forest Resources

- 2.1 A detailed feasibility study of mining of mineral resources in areas affected by the project supplemented with additional drilling for exploration of minerals will be undertaken by the Mahaweli Authority of Sri Lanka *within six months from the date of issuance of this extension* and submitted to the PAA and Monitoring Committee for approval.
- 2.2 The exploration and extraction of minerals should be carried out subject to the guidelines and procedures laid down by the Geological Survey and Mines Bureau (GS&MB) and National Gem and Jewellery Authority.
- 2.3 All extractable timber resources in the reservoir bed and borrow area shall be identified by the Mahaweli Authority of Sri Lanka in consultation with the Department of Forests and Dept. of Wildlife Conservation, and properly utilized.

2.4 Recommendations given in the EIAR sections 5.2.2. (i-v) and 7.4 (i-vii) shall be adhered to by the Mahaweli Authority of Sri Lanka.

2.5 The Mahaweli Authority of Sri Lanka shall obtain a report from the GS&MB *within three months from the issuance of the this extension* which contains an assessment of the commercial viability of exploitation of existing mineral resources in reservoir area and whether adverse impacts arise on reservoir water quality or water stagnation may result from mining activities prior to inundation as stated in the EIA Report, Appendix P, Environment, section 2.2.5 and section 3.2.2. of Environment Management Action Plan.

### 3. Impacts of Construction Activities – Extraction, Handling, Transportation and Storage of Materials

3.1 Quarrying of rock, sand and other material for construction activities shall be done by the Mahaweli Authority of Sri Lanka at sites selected in consultation with and the approval of the GS&MB.

3.2 Required licenses/permits for the operation of all borrow pits and quarry sites in the proposed borrow areas for impervious material, filter material and fine aggregates etc. Section 4.8.1 (a-c) shall be obtained by the Mahaweli Authority of Sri Lanka from the CEA/ relevant Local Authority, whenever it is required.

3.3. Necessary approvals shall be obtained by the Mahaweli Authority of Sri Lanka from the CEA and/or the relevant authorities and local authorities for the operation of blasting sites, rock quarries, metal crushers etc. and copies of the approvals shall be submitted to the PAA prior to commencement of the operations.

3.4. The Blasting operations shall be carried out only during 06.00 - 18.00 hours after conducting proper trials supervised by necessary authorities.

3.5 Exposed areas shall be kept suitably protected to prevent all kinds of erosions or emissions of dust during dry periods.

3.6. Details regarding the areas and locations where the material is to be removed shall be marked by the Mahaweli Authority of Sri Lanka on a 1:5000 scale map and forwarded to the PAA.

3.7. Movements of heavy loads of material for project purposes shall be done by the Mahaweli Authority of Sri Lanka with the concurrence of the relevant authorities and shall be done at non-peak traffic times in such a way not to cause nuisance to public.

- 3.8 Transport of loading and unloading of material shall be carried out by the Mahaweli Authority of Sri Lanka in such a way as to minimize the nuisance to the people by way of dust and noise.
- 3.9 To prevent fine dust blowing from open-topped vehicles during transportation it is necessary to ensure that the loads are covered during transportation.
- 3.10 The Mahaweli Authority of Sri Lanka is responsible to provide compensation to the relevant authorities if roads, culverts and buildings in the area to be damaged due to transportation of material and machinery.
- 3.11 The measures indicated above from 3.1 to 3.7 as well as any other relevant conditions in this approval shall be included in the contract documents by the Mahaweli Authority of Sri Lanka, so that the contractor or sub-contractor holds responsibility for carrying them out during construction, and on completion of the work. The Mahaweli Authority of Sri Lanka shall hold responsibility for the breach of any such conditions by any contractor or sub-contractor.
- 3.12 The Mahaweli Authority of Sri Lanka shall take care of debris disposal in such a way not to cause nuisance to the surrounding environment.
- 3.13 Borrow pits and temporary transport routes shall be rehabilitated by the Mahaweli Authority of Sri Lanka with required measures.
- 3.14 Temporary used areas shall be restored properly by the Mahaweli Authority of Sri Lanka and post-construction unusable material shall be disposed in consultation with the relevant Local Authorities.
- 3.15 Rehabilitation of construction site (s) and spoil dump areas shall be completed prior to commissioning of the operational activities.

#### 4. Water Resources and Hydrological Aspects

- 4.1 The Mahaweli Authority of Sri Lanka shall develop a Comprehensive Watershed Protection and Management Plan covering the catchments and command areas including those aspects identified in the Section 5.9 of the EIA Report and submitted to the Project Approving Agency *within six months from the date of issuance of this extension.*
- 4.2 Conservation measures necessary to minimize soil loss within the catchments area and prevent excessive erosion from command area due to construction and operation of channel flows shall be built into the construction plans by the Mahaweli Authority of Sri Lanka.

- 4.3 The need for compensatory discharge for ecological purposes in the stretch below Elahera Anicut shall be considered in the hydrology plan and appropriate measures need to be taken. The Monitoring Committee shall determine the adequacy of such actions proposed.
- 4.4 All measures mentioned in the section 3.1 of the proposed Environment Management Action Plan with respect to the upstream catchment's protection shall strictly be implemented by the Mahaweli Authority of Sri Lanka and further improvements for the same, where necessary shall be included in order to minimize habitat loss, water pollution and forest exploitation due to catchment's encroachment once the dam is constructed and reservoir is built. Reservations for Amban Ganga and, Bowatenna reservoir shall not be limited to 100m and it shall be maintained more than 100m as much as possible.
- 4.5 Drainage plan shall be developed and submitted to the PAA in consultation with the relevant authorities by the Mahaweli Authority of Sri Lanka *within twelve months from the date of issuance of this extension.*
- 4.6 The Mahaweli Authority of Sri Lanka shall come into an agreement with the Department of Irrigation in the form of Memorandum of Understanding with respect to the water sharing in significant places where necessary *within three months from the date of issuance of this extension.*
- 4.7 A detailed geological study shall be carried out in consultation with the National Building Research Organization with respect to land stability of the project area by the Mahaweli Authority of Sri Lanka. This report shall be submitted to the M/AD&AS and CEA.
- 4.8 Natural drainage system of the area shall not be affected due to project activities. All the efforts shall be taken in designing and constructing the project components in such a way to avoid adverse impacts on existing drainage system of the project area by the Mahaweli Authority of Sri Lanka.
- 4.9 Soils removed during the preparation of ground for construction of project components shall not be dumped at any edges of water or disposed into the surrounding environment without proper protection measures to prevent soil erosion.
- 4.10 Turfing of canal bunds shall be carried in order to minimize the soil erosion and to maintain the soil stability.
- 4.11 Road banks (if any) shall be protected with suitable cover crops or with stone paving or by cutting the bank as terraces.

4.12 Adequate roadside drains and culverts shall be developed to discharge the cross drainage by the Mahaweli Authority of Sri Lanka.

## 5. Impact on Biological Environment

- 5.1 A detailed mitigation plan shall be developed by the Mahaweli Authority of Sri Lanka for the mitigation of adverse impacts on fauna, flora and habitats in line with the mitigation measures identified in the section 5.4 and 5.5, but not limited to those already identified. The development of this plan will be supported by a detailed bio-diversity study proposed to be undertaken by the Mahaweli Authority of Sri Lanka.
- 5.2. Necessary steps shall be taken by the Mahaweli Authority of Sri Lanka to declare the Moragahakanda catchement and the area surroundings the reservoir as protected areas to preserve habitat taking into consideration the area lost due to dam construction.
- 5.3 Mitigation shall contain measures to minimize adverse impacts on the elephant population by establishing elephant corridors and permanent extensions to protected areas by the Mahaweli Authority of Sri Lanka in consultation with the Department of Wildlife Conservation.
- 5.4 Habitat enrichment and a Comprehensive Protected Area Management system shall be developed by the Mahaweli Authority of Sri Lanka covering wildlife reserves, buffer zones, forest reserves and elephant corridors in consultation with the Department of Wildlife Conservation and Department of Forests.
- 5.5 A detailed survey to inventorise the endangered medicinal plants and flora shall be completed and nurseries established for conservation purposes by the Mahaweli Authority of Sri Lanka. Reservation and conservation of forest areas shall be utilized for planting of the endangered medicinal and other flora.
- 5.6 Identification and declaration of wildlife, forest and protected areas in line with the current laws and regulations with consultation of relevant authorities shall be carried out by the Mahaweli Authority of Sri Lanka, *within twelve months from the date of issuance of this extension.*
- 5.7 The detailed Mitigation plan and the Biodiversity study proposed to be undertaken by the Mahaweli Authority of Sri Lanka as stated in section 5.1 of the environmental approval granted on 26.10.2001 shall be complemented with the needful for clearing of forest area for resettlement.
- 5.8 In order to mitigate the loss of flora and possible threat to fauna all the recommendations highlighted in section 3.2 of the Environment Management

Action Plan (Feasibility study of Moragahakanda Development Project Appendix P. Environment) shall also be implemented by the Mahaweli Authority of Sri Lanka.

## 6. Road Network and Construction

- 6.1 Construction of proposed alternative main and minor roads shall be done by the Mahaweli Authority of Sri Lanka in accordance with the proposals in the EIAR (section 5.7.3) by following standards and guidelines stipulated by the relevant authorities.
- 6.2 The Mahaweli Authority of Sri Lanka shall ensure that all procedures and guidelines applicable to design and construction of roads are followed during road construction.

## 7. Resettlement and Sociological Impacts

- 7.1 The final project design shall be selected by the Mahaweli Authority of Sri Lanka in such a way as to minimize the re-location of people while maximizing potential development opportunities as well as contributing positively to anticipated future development programmes in the region.
- 7.2 A comprehensive Resettlement Action Plan/Programme including detail map that shows the proposed resettlement sites, infrastructure, natural resources, compensation package, inventory of loss & assets shall be prepared by the Mahaweli Authority of Sri Lanka in compliance with the National Involuntary Resettlement Policy in consultation with the relevant authorities. The comprehensive Resettlement action plan shall be submitted to the PAA for approval *within six months from the issuance of this extension.*
- 7.3 Since many established home gardens provide a part of household food and other requirements and income, the compensation package shall contain, in addition to compensation of land income loss from such avenues for at least three years.
- 7.4 The Mahaweli Authority of Sri Lanka shall decide the cut off date for encroachment in consultation with the Ministry of Lands and Land Development as it is indicated in the National Involuntary Resettlement Policy.
- 7.5 The payment of compensation shall not be delayed for a long period of time. At least 50% of the compensation package should be paid prior to moving into the alternative land.

7.6 The Mahaweli Authority of Sri Lanka shall implement the recommendations given in the sub section 5.10 of the EIAR.

7.7 The Mahaweli Authority of Sri Lanka shall adhere to the National Involuntary Resettlement Policy (NIRP) adopted in May 2001. Accordingly, Resettlement Action Plan should be prepared for all the families to be displaced by this project and the Mahaweli Authority of Sri Lanka shall take all efforts to select Resettlement sites within the present settlement areas.

7.8 Appropriate action shall be taken by the Mahaweli Authority of Sri Lanka in consultation with the Department of Wildlife and local authorities to mitigate the issues arisen due to Human-Elephant conflict.

## 8. Infrastructure and Urban Development Aspects

8.1 The Mahaweli Authority of Sri Lanka shall comply with the guidelines set out by the Urban Development Authority and other relevant agencies in designing, development and construction of urban facilities.

## 9. Archeologically, Religiously and Culturally Important Sites

9.1 Final project design and construction activities shall be carried out by the Mahaweli Authority of Sri Lanka in such a way that any damage or inferences to the sites of archeological religious or cultural importance is avoided and adequate measures shall be taken to reserve places of such importance. However, Mahaweli Authority of Sri Lanka shall consult Department of Archeology and other relevant authorities in this regard.

## 10. Reservoir Water Quality and Associated Aquatic Ecology

10.1 The proposed Environment Management Action Plan shall be renewed by the Mahaweli Authority of Sri Lanka and submitted to the PAA for approval with detailed investigation and suitable mitigatory measures on effects of reservoir construction on ground water table and its quality/salinity, riverine species, downstream riverine habitats and fish migration and spawning due to discontinuation of the upper reaches and lower reaches of the stream.

### and Vibration

Noise levels at the boundaries of the construction site(s) shall not exceed the said limits stated in schedule III of the National Environmental Act (Noise

control Regulations No. 1 of 1996) as per Gazette Extra Ordinary No. 924/12 dated 23<sup>rd</sup> May 1996.

11.2 Appropriate mitigation measures shall be adapted in order to maintain vibration levels generated by operations of machineries, construction activities, vehicle movement and blasting activities within the interim standards stipulated by the CEA (Annex I).

## 12. Waste Disposal

12.1 Measures should be taken to prevent the discharge of cement, cement mix, fuel oil, lubricants, waste oil, polythene and other waste material into water bodies during construction and operation periods. Oil separation devices should be installed where necessary.

12.2 Construction site(s) shall be provided with proper sanitary facilities such as sewage and waste disposal facilities in keeping with Local Authority requirements.

## 13. Long Term Sustainability of Agricultural Activities

13.1 The Mahaweli Authority of Sri Lanka shall develop a detailed Agricultural Development Plan as recommended in the EIAR. This shall also be included with suitable mitigatory measures to minimize possible threats to human and aquatic life due to water pollution and soil salinization.

## 14. Monitoring Programme

14.1 The Mahaweli Authority of Sri Lanka shall submit monthly Progress Reports to the PAA indicating the achievements of the project activities in terms of the condition stipulated in this approval for the monitoring purposes.

14.2 The Mahaweli Authority of Sri Lanka shall forward to the PAA an environmental monitoring plan as specified in chapter 6 of the EIA report and containing any other provisions required in accordance with terms and conditions of this approval. It should contain the work schedule, parameters to be monitored, with intervals/frequencies and the responsible agencies for monitoring each parameter.

14.3 A Monitoring Committee comprising of representations from following agencies will be established by the PAA to monitor the above plan

- (a) Ministry of Agriculture Development & Agrarian Services
- (b) Ministry of Lands & Lands Development
- (c) Central Environmental Authority
- (d) National Building Research Organization
- (e) Land Commissioner's Department
- (f) Department of Forest Conservation
- (g) Department of Wildlife Conservation
- (h) Department of Archaeology
- (i) Geological Survey and Mines Bureau
- (j) Department of Agriculture
- (k) Department of Irrigation
- (l) Land Use Policy Planning Division of Ministry of Lands & Land Development
- (m) Divisional Secretaries of Naula and Laggala-Pallegama
- (n) Divisional Secretary of Elahera

- 14.4 Any changes to the Monitoring Programme shall be approved by the Monitoring Committee.
- 14.5 All cost to be incurred by the Monitoring Committee which is established to oversee the implementation of the mitigation and monitoring plan shall be borne from the Mahaweli Authority of Sri Lanka
- 14.6 In addition, proposed special Monitoring Panel for monitoring of mining activities in the affected areas which was identified in Section 7.3 vi shall be functional on time.
- 14.7 The Mahaweli Authority of Sri Lanka shall make necessary budgetary provisions to ensure the effective functioning of all obligations outlined in the EIAR and described above.

## 15. Additional Provisions

- 15.1 The Mahaweli Authority of Sri Lanka shall comply with any additional conditions that may be communicated to them from time to time by the PAA during the execution of the project.
- 15.2 The Mahaweli Authority of Sri Lanka shall pay attention to regulation No. 17 of the National Environmental (procedure for approval of projects) Regulations No. 01 of 1993 which states;
  - (i) The Mahaweli Authority of Sri Lanka shall inform the appropriate PAA of;

- (a) Any alteration to a prescribed project approved under regulation 9(i); and 13(ii); and/or
- (b) The abandonment of such approved project

(ii) The Mahaweli Authority of Sri Lanka shall where necessary obtain fresh approval in respect of any such alterations that are intended to be made to such project. The Project Approving Agency shall in consultation with the Central Environmental Authority, determine the scope and format of the supplemental report required to be submitted for such alterations.

(iii) The Mahaweli Authority of Sri Lanka shall, where a project is abandoned, restore the project site to a condition as specified by the Project Approving Agency.

  
T.M. Abayawickrama  
Secretary  
Agriculture Development & Agrarian Services

20/1.2/2007

Copies: Director General – Central Environmental Authority  
All Technical Evaluation Committee members