Gin Nilwala Diversion Project

1.0 Project Description

1.1 Objective of the Project

Gin Nilwala Diversion project (GNDP) is mainly proposed to divert excess water of the upper reaches of Gin and Nilwala basins to south East Dry Zone (SEDZ). The project is considered as a multi sector development project and expected to provide drinking water, supply industrial water requirement of Greater Hambantota Development area, meet the irrigation deficit of Muruthawela and Walawa systems and introduce commercial agriculture developments.

1.2 Basic Project Description

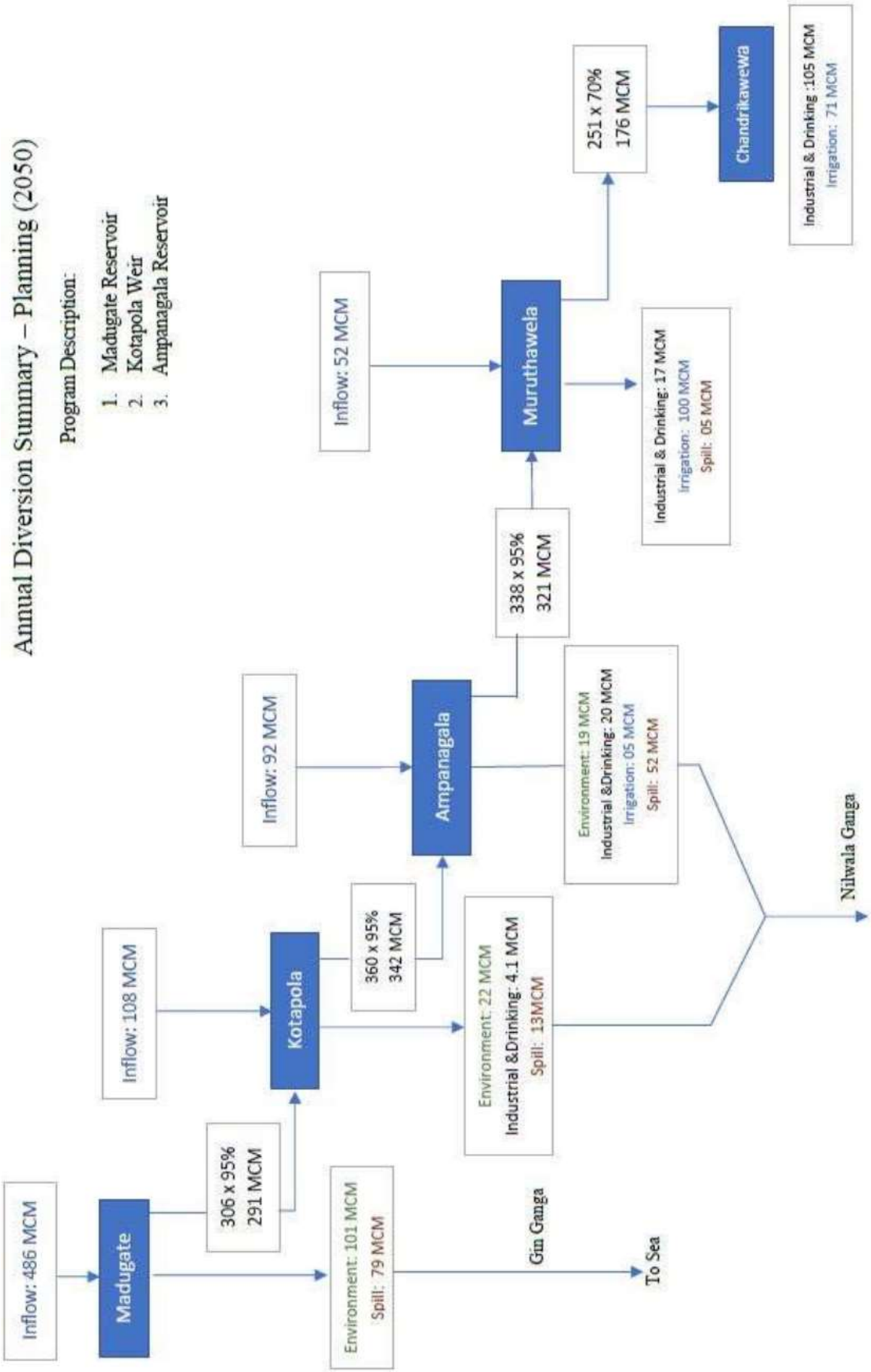
The project proposes to divert excess water of Gin Ganga and Nilwala Ganga basins to existing Muruthawela tank and finally to Chandrika wewa through a series of reservoirs, weir and transfer tunnels and canals. (Please refer the project layout map)

The proposal of the project includes RCC Dam across the Gin Ganga at Madugate with a diversion tunnel up to Kotapola to transfer the water from Gin basin to Nilwala basin. At Kotapola, it is proposed a concrete weir across the Nilwala Ganga with a diversion tunnel up to Ampanagala to transfer water from Kotapola to Ampanagala. At Ampanagala another RCC Dam is proposed to build across Siyambalagoda Oya, which is a major tributary of Nilwala Ganga with a diversion tunnel up to Muruthawela to transfer water from Ampanagala to Muruthawela.

The project system is Madugeta Reservoir→ Madugeta Tunnel→ Kotapola Weir→ Kotapola Tunnel→ Ampanagala Reservoir→ Ampanagala Tunnel → Muruthawela Reservoir.

Water diverted from Ampanagala reservoir to Muruthawela will be used to meet the irrigation deficit of Muruthawela and Kirama Oya systems and balance wiil be transferred to Chandrika wewa through existing LB canal of Muruthawela scheme up to 13.8 km and a new canal of 17.0 km. After that the water requirement of Hambanthota harbor is transferred to Ridiyagama tank through the Walawe river and Liyangasthota anicuit. In addition to that, currently Chandrika wewa is fed by the Udawalawa Reservoir. Therefore, through this diversion the volume of water received to Chandrika wewa from the Muruthawela, can be saved in Udawalawa Reservoir. The volume saved in Udawalawa reservoir will be released to Hambanthota Industrial zone and Mattala Air Port.

1.3 Water Diversion Plan



1.4 Proposed Project Infrastructure

- **Reservoirs & Weirs**

	Madugeta Reservoir	Kotapola Weir	Ampanagala Reservoir
Capacity	18.5 MCM (15,000 ac. ft)	0.16 MCM (130 ac. ft)	11 MCM (8,910 ac. ft)
Dam Height	70 m	12.8 m (with 8 m gates)	55 m
Dam Length	324 m	95 m	444 m
Inundation area	79 ha	4.3 ha	70 ha
Affected families	25-30	15-25	75-100

- **Tunnels**

  I. Madugeta to Kotapola – 18.2 km length / 4.2 m diameter

  II. Kotapola to Ampanagala – 5.6 km length / 4.2 m diameter

  III. Ampanagala to Muruthawela – 13.5 km length / 4.2 m diameter

  Total length = 37.3 km

- **Other improvements (to be completed under a separate downstream development project)**

  I. Improvements to Muruthawela tank

  - Raising of embankment by 1.4 m
  - Improving downstream slope (1: 2.5) with inverted filter toe drain and upstream riprap layer up to BTL

  It is proposed to increase the capacity of Muruthawela reservoir under this project to use as the main storage tank. Therefore, dam is rehabilitated by improving downstream slope to increase the stability.

  II. Improvements to Muruthawela LB canal

  - Improvement of existing canal up to 13.8 km and construction of new canal of 17 km up to Chandrika wewa

2.0 Project Benefits

I. Supply 122 MCM drinking and industrial water annually for Hambanthota District

The major benefit of the project is supplying of drinking and industrial water requirement of Hambanthota District. The proposed project will provide annual total of 122 MCM of drinking and industrial water to Hambantota district covering Katuwana, Mulatiyana, Okewela, Tangalle, Beliatta, Angunukolapelessa, Suriyawewa, Ambalanthota and Hambanthota divisional secretary divisions and approximately 100,000 people will be benefitted.

The industrial water requirement of Greater Hambantota Development area including Mattala airport, Hambanthota port and industrial zone will be provided from the project through the following intakes.

- Muruthawela – 17 MCM (domestic)
- Chandrika Wewa – 28 MCM (domestic)
- Ridiyagama – 10 MCM (harbor)
- Kiri Ibban Wewa – 67 MCM (airport, Industrial zone & domestic)

II. Supply 24 MCM drinking and industrial water annually for Galle & Matara Districts

The domestic water requirement of Neluwa, Deniyaya, Kotapola, Pasgoda, Urubokka, Hakmana and Pitabeddara divisions will be fulfilled through the following abstracting points.

Approximately 100,000 people will be benefitted.

- Galle (neluwa) – 08 MCM
- Matara (Kotapola, Pasgoda & Pitabeddara) – 16 MCM

III. Supply 160 MCM of water annually for irrigation

- Muruthawela LB extension, RB & Urubakka oya – 100 MCM

  (for existing 6500 ha to increase cropping intensity and new 1300 ha)

The other main benefit of the project is supplying water for the irrigation systems fed under the Muruthawela reservoir. Accordingly, water will be provided to the Muruthawela LB track 1, 2 & 3 and Urubokka Oya anicut system including Udukiriwala tank irrigation system which are currently feeding by the Muruthawela reservoir. In addition to that, it has been planned to provide water for the systems under the RB Canal of Muruthawela which are currently not receiving water from the Muruthawela reservoir due to the water shortages.

- Chandrika Wewa – 60 MCM

To fulfill irrigation defcit of Walawa Special area, it is proposed to give additional 60 mcm water to Chandrika wewa.

IV. Road and infrastructure development

- Neluwa – Lankagama road (15 km)
- Lankagama – Deniyaya road (14 km)
- Pasgoda – Pitabeddara road (20 km)
- Minor roads in Madugeta, Kotapola and Ampanagala

V. Environment and Social benefit

Through this inter basin diversion, there will be Eco system enhancements in project areas due to sharing of water resource between wet zone and dry zone. In addition to that there will be considerable social benefits by reducing water stress in SEDZ.

In addition to above key benefits, following benefits are also can be obtained through the project.

VI. Annual hydro power generation of 6.5 Gwh

VII. Eco Tourism development

VIII. Direct & in-direct job opportunities

IX. Developments in Inland fishery industry

X. Flood Mitigation at Neluwa & Pitabeddara

3.0 Current Status of the Project

Currently project is implemented under 2 stages.

- Stage I includes, detailed survey works, geological, geotechnical and other investigation works, updating feasibility study according to the OCEM recommendations and Preliminary design works.
- Stage II includes, all detailed designs, planning and construction works including employer's requirement.

Ministry of Irrigation and Water Resources Management signed a MOA with the China CAMC Engineering for implementing stage I of the project and accordingly, China CAMC Engineering Co. Ltd started the works under stage I in January 2017.

Currently, Contractor has completed 95% of works under the feasibility study and preliminary designs and submitted Draft final reports to the Ministry.

Ministry has appointed a Technical Review Committee with 21 members representing University of Peradeniya, University of Moratuwa, University of Ruhuna, GSMB, NBRO, CEB, MASL, NWS&DB, Water Resource Board, Treasury, Irrigation Department and Ministry of Irrigation for evaluating Contractor's submissions and currently evaluation process is going on.

3.0 Other Project Activities doing parallel to the Feasibility Study.

I. Environment Impact Assessment (EIA)

   Mahaweli Consultancy Bureau has initiated the EIA, but due to the unavailability of concurrence of Forest Department, revised TOR is not issued by the CEA. Therefore, due to the unavailability of updated TOR, study has been delayed.

II. Appointing 02 compensation committees for Galle & Matara districts (chaired by District Secretaries)

   Currently, committees have initiated preparing suitable compensation package for the affected people.

III. Preparing of Resettlement Action Plan (RAP) & Social Impact Assessment (SIA)

IV. Land Acquisition for Resettlements

   Several suitable lands were identified and got the concurrence of LRC and started the preliminary discussions with Ministry of Plantation and Plantation companies to initiate the land acquisition process.

V. Planning of a downstream development project to manage the diverted water under GNDP for fulfilling the water requirements all sectors with the involvement of all stakeholders.

Note: The statistical data can be changed until the approval of final feasibility study report.