**Third Party Evaluator's Opinion on**
**Samanalawewa Hydroelectric Power Project (I) (II) (III) and**
**Samanalawewa Hydroelectric Project (Reservoir Remedial Works)**

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**Criteria-1 Impact**

The positive impact of the Samanalawewa project in terms of contribution to the national electric power grid is approximately in line with what was originally planned if allowance is made for decline in average rainfall in the area and more than anticipated release of water through the Irrigational Release Valve (IRV). However, much media attention is being given to the negative impacts of the project. The negative impacts arise out of the 'single purpose' nature of the project. As a result, the agricultural water needs of the Walawe basin as well as the environmental impact of the project seem to have been neglected. The project has created two competing users of the Samanalawewa water in the downstream Kalthota area: Ceylon Electricity Board (CEB) and Kalthota farmers. The IRV is the only design feature of the project which acknowledges that both parties need water. In spite of that, the yield and cultivable acreage of Kalthota farmers have declined after the commissioning of the project.

On the issue of environment, the impact of the forest losses in the submerged area is huge. The cost due to the lost carbon sequestration function of the submerged area is significant. There are reports that several reptile and amphibian species with possible genetic traits adapted to the very special climatic conditions of the area have been lost after filling water to the dam. These studies use the Kaluganga basin as a control case to compare the biodiversity in Samanalawewa environs after the dam construction.

The negative impact of the leak on power generation is reduced because even without the leakage, IRV releases would have been necessary for downstream agriculture. Currently out of the water released for agriculture, 2/3 leaks through and only 1/3 is being released through the IRV. The estimated economic value of surplus water from the leak during the paddy harvesting period is significant in terms of foregone power generation. Therefore, CEB proposes that this loss can be curtailed by installing two mini-hydroelectric projects to harness water from the leak (550 kW) as well as the IRV (1275 kW). This proposal too is being put on hold due to the recent increase of the leakage volume.

**Criteria-2 Sustainability**

Currently the leak forms the most important and critical factor that affects the sustainability of the project. At this moment, the dam is structurally sound and adequately monitored as well as how the leak is going on. However, it is not clear whether this is adequate or whether more should be done in terms of early warning systems and evacuation plans for the down stream villages in case the dam gives way.

Provided that the leak stays put and remains stable, the project will only be sustainable if it can continue to generate electricity at least at the current rates. Here, in addition to the issues raised by the external evaluator, it is important that the rainfall in the catchments does not decline further. Rainfall patterns in Sri Lanka have been erratic in recent times but there is no evidence to suggest that on average Samanalawewa catchments will receive less rain in future.

On economic grounds, it is far more lucrative for electricity generation to use Samanalawewa reservoir water than to release it through the IRV. Thus, for the purpose of economically sustainable use of water, IRV releases may have to be reduced further. It is important that the agricultural water usage at Kalthota is reduced further. This can be done by (1) further streamlining of the water release mechanism (here the fragmented governance in the country can cause problems), (2) better utilization of water from the leak (thus reducing the need for IRV water), and (3) transferring funds from energy sector (CEB) to agriculture sector so that overall benefits can be maximized. For instance, CEB funds can help farmers buy tractors to reduce the time taken for ground preparation, which is an extremely water consuming process. The experimental micro paddy cultivation method, which was successfully implemented in this area, also has a potential to be broad based. This type of community work is best for implementation with NGOs.