



Results Oriented Mission

An EU organised Results Oriented Mission (ROM) reviewed the project from 7 to 10 June 2010, which was undertaken by Mr. Rodrigo Ubierna. The ROM methodology assessed project performance according to five criteria of: Relevance and quality of project design; Efficiency of implementation to date; Effectiveness to date; Impact prospects and Potential sustainability. The ROM mission included meetings with management and senior technical staff of the project, key stakeholders such as EDB, CEA, MOENR, MOC, HOLCIM and industry representatives. The mission concluded with high performance ratings in many of the criteria.

Vital Facts

The EU SWITCH-Asia funded Project EEPEx aims to encourage Sri Lanka's export sector enterprises and their support service providers across the value chain, to adopt environmentally friendly production practices and technology. The project commenced in March 2009 and will be implemented over a period of 42 months.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

9th Asia Pacific Roundtable on Sustainable Consumption & Production (APRSCP)

The 9th APRSCP was held in Sri Lanka from 10th to 12th June at the Colombo Hilton. This premier SCP event for the Asia Pacific region attracted over 200 participants from over 30 countries. The Chief Guest was the Hon Prime Minister of Sri Lanka Mr. D.M. Jayaratne. Dr. Kandeh Yumkella, Director General of UNIDO delivered the key note address.

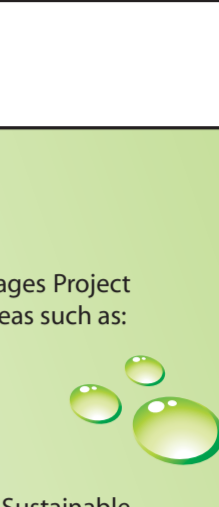
Project EEPEx was represented at the event by Mr. H.S. Premachandra (Project Director), Dr. Channa Gunawardena (Senior International Expert - Megaskills UK), Mr. H.N. Gunadasa (Head Environmental Technology Section), Ms. Dushyanthi Ranpatte (Research Officer) and Ms. Hasanthi Dissanayake (Research Officer). Project EEPEx contributed to the event by way of presentations at the EU Switch Asia funded roundtable session, a project poster and the only project stall at the environmental products exhibition.

The web based Waste Exchange Network developed by International and local experts from Megaskills Research and ITI experts was the focus of the EEPEx stall at the exhibition of the APRSCP. It was also presented to visiting members of the EU ROM evaluation Mission in mid June. The system will be formally launched in late November 2010.



Upcoming Events

- Launch Event for Waste Materials Exchange System & Project Website - November 2010
- Second Energy Management training for industries - Gasification and utilization of biomass, 05 October 2010 organized by EEPEx Resource Person: Eng Parakrama Jayasinghe-President of Bio Energy Association of Sri Lanka
- 2nd Switch -Asia Network Meeting, 12-14 Oct -Beijing China



EU Partner consultation Conference

A two and half day workshop was conducted by the EU Delegation in Colombo through MDF South Asia from 15 to 17 June 2010 at the Mount Lavinia Hotel for representatives of various partner organizations of EU in Sri Lanka. The focus of the conference was Dialogue - dialogue between partner organizations and EU, and further divided as strategic dialogue, partner community dialogue, and program management dialogue to represent various levels of officials involved.

Conference objectives were -

- Consult stakeholders on EU planned activities for Sri Lanka
- Increase visibility on EU programs to the European Commission, EU Member States and the partner organizations
- Enhance effectiveness of implementation through:
 - increased collaboration and coordination amongst the EU partner community
 - relevant self-directed capacity building activities, based on a pre-conference, on-line needs assessment support from the Delegation
 - Systematize consultation with relevant stakeholders

The conference was important in achieving clarity with regard to decisions, policies, and procedures and provided support in achieving program results effectively. The EEPEx showcased project promotional materials and shared the project results obtained so far with the other EU partners. Sessions with representatives of EU Delegation in Sri Lanka were really helpful to clarify various issues with regard to grant contracts management, financial management, communication, visibility and reporting. Mr. Premachandra, Project Director participated on behalf of Project EEPEx.

Coordination with other SWITCH Asia projects in Sri Lanka

Regular Meetings have been held with the other Switch Asia funded projects in Sri Lanka namely the Food & Beverages Project and Greening of hotels Project. EEPEx project is developing synergies with these projects through collaboration in areas such as:

- Development & piloting of the eco-labelling scheme
- Review of Environmental policies and recommendations to the government for policy change
- Joint workshops

All three projects in Sri Lanka come under the Switch Asia Program of European Union and have the same focus on Sustainable Production where the common target group are industries/enterprises, mostly the SMEs. The industry target group - coconut sector - is common to both Project EEPEx and Food and Beverages Project while the Hotel Sector is common both to EEPEx and Greening Hotels Project. All three projects also have common horizontal issues in many areas. Therefore, joint initiatives are being planned for sharing information among the three projects to avoid duplication; maximise efficient use of financial and human resources, maximise effectiveness and reach and to minimize disturbances to the industries when gathering baseline environmental data and in follow up interactions.

Accordingly, the 1st Joint Meeting was conducted on 08th March 2010 where project staff from EEPEx and Food and Beverages Project gathered and discussed the progress of both projects and found the areas that can be collaborated among the two projects. The third project - Greening of Hotels also joined on 30th June 2010 and discussed how to achieve the common objective of improving the enabling conditions of SCP in Sri Lanka through facilitating streamlining and effective implementation of relevant existing policies and laws. Representatives from all three projects and other relevant stakeholders including government and industries were participated at the interactive workshop on policy studies for the Food & Beverage sector for the key stake holders held on the 20th and 21st August '10 and it was proved beneficial. The draft report on Policy Options for the Promotion of Sustainable Consumption & Production at Food & Beverage Sector in Sri Lanka is completed and it is being reviewed by the stake holders. The final report will be submitted to all the relevant Ministries in Sri Lanka for enactment.

Training on SCP given to the Designated Coconut factories participating in the Food & Beverage Project is being shared with the EEPEx project. And also information/data pertaining to hotel sector between EEPEx project and the Greening Hotels Project already initiated. Greening Hotels Project support for EEPEx project to assure the participation of short listed hotels to reap the benefits from EEPEx services.

Synergies, Where?

- Energy Management
- Development of environmental recognition schemes in particular the ecolabelling scheme being developed by EEPEx
- Waste material exchange system
- Awareness creation, seminars, training workshops, support for the Government to improve Environmental Policy and Regulatory frameworks in the country
- All three projects are dealing with the same group when the supply chain is considered (F&B suppliers to Hotels, Hotels being supplied by F&B, etc.), so the inputs from each Project can positively impact the others.
- Sharing of information and data among the three SWITCH projects is very important, and can be strengthened further in regular basis in order to prevent overlaps and make best use of the funds available and achieve the objectives of SCP in the entire Sri Lankan industrial sector.

Next Steps/Outcome

The Food and Beverage Project and EEPEx Project will follow up to suggest relevant regulatory improvements for the new policy instruments suggested by the Food and Beverages Project with relevant stakeholder consultation after the official report is produced by the Food and Beverage Project to the Government.

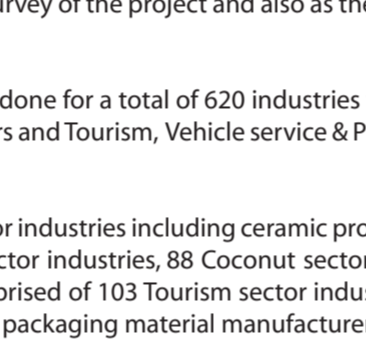
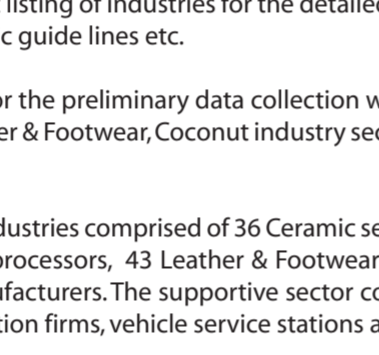
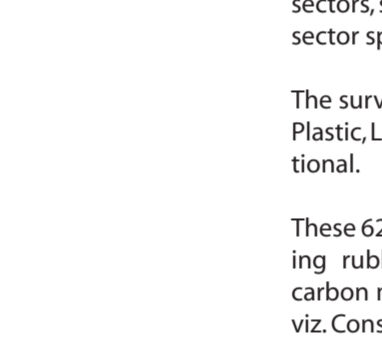
Training/Workshop on Energy Auditing

A three day training / workshop on Energy Auditing was conducted during 20th to 23rd July 2010 where Participants from the ITI & industry were given insights into the following aspects

- Understanding energy auditing process
- Understanding electrical energy utilization efficiency and monitoring
- Understanding thermal energy utilization efficiency and monitoring
- Fuel combustion efficiency fundamentals and energy efficiency in boilers
- Energy efficiency in steam distribution systems
- Understanding energy efficiency in air conditioning and compressed air systems

The resource person was Mr. M.W. Leelarathne AEMA, UK, FIE (SL), C.Eng, who is the Managing Director of LMW Energy Solutions and formerly Managing Director, CEO National Engineering Research & Development Centre. He is also a Corporate Member of Sri Lanka Energy Managers Association and Founder Member, Bio-energy Association of Sri Lanka

The ITI team had 2 days of on site training during 21st and 22nd July as well.



Technical paper presentation at National Energy Symposium by Sustainable Energy Authority - 5 August 2010

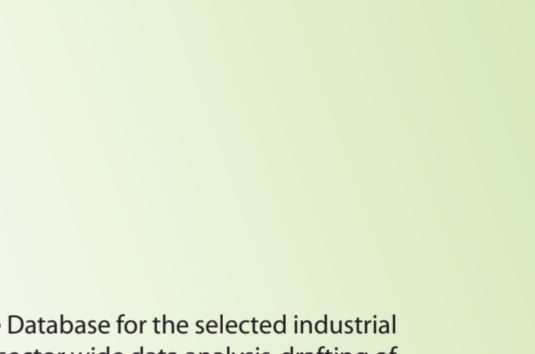
Mr. Chintana Manaratna, Mr. Thilak Gunassakera, Mr. L.D.C. Nayanajith, Mr. Asanka Prematilleke ITI experts from the EEPEx Project Team presented a paper on 'Potential for Alternate Energy use in local industry' at the National Energy Symposium organized by the Sustainable Energy Authority on 5th August 2010.

Excerpts from the presentation

The main sources of energy for industry in Sri Lanka are Biomass (forest wood), Fossil fuel, & Electricity from the National Grid. High prices of fossil fuel a few years ago had the positive effect of driving industry to consider new energy sources. Biomass (renewable fuel wood) and industrial organic waste have been used commercially for energy generation. Technical problems have been experienced in operating these units, and solutions are being sought by the industry. Testing facilities and expertise have not kept pace with the development of these alternative energy units.

With the more recent fall in prices of fossil fuel, financial incentives for conversion to these alternate technologies have reduced. However the environmental benefits of switching to alternative energy sources are being recognized, namely, the 'Green' market in the West, and the ethical and CSR concerns of reducing the Carbon footprint.

The paper examined and analyzed the data obtained through a baseline survey conducted across six export based industry sectors, as a part of the 'Switch Asia' (EEPEx) project, which commenced in 2009. It will calculate the potential reduction in Carbon Footprint in selected industries, achieved by switching from fossil fuel to fuel wood, and also examined the development of testing facilities required.



Baseline Survey Progress

The baseline survey plays a major role in the project as it provides basic data for several stages of the project such as the development of the Database for the selected industrial sectors, short listing of industries for the detailed survey of the project and also as the main data source for the subsequent activities such as sector wide data analysis, drafting of sector specific guide lines etc.

The survey for the preliminary data collection was done for a total of 620 industries falling under four industrial sectors and two supportive sector industries viz. Clay, Rubber & Plastic, Leather & Footwear, Coconut industry sectors and Tourism, Vehicle service & Packaging sector as supportive industries, by the technical teams of ITI and Megaskills International.

These 620 industries comprised of 36 Ceramic sector industries including ceramic products manufacturing & clay mining companies, 228 Rubber & Plastic sector industries including rubber processors, 43 Leather & Footwear sector industries, 88 Coconut sector industries including Desiccated Coconut manufacturers, Coir processors and 04 Activated carbon manufacturers. The supportive sector comprised of 103 Tourism sector industries including Hotels, Holiday Resorts, Guest House, 121 other supportive sector industries viz. Construction firms, vehicle service stations and packaging material manufacturers.

Based on the findings, 12 industries from the Ceramic sector, 1 each from the footwear and tannery sector, 15 from the auto service sector and 34 from the Hotel sector for detailed studies in the next phase. The shortlisting was done based on 7 established criteria covering: environmental issues, support required for EPL, replication potential of any solutions, cleaner production potential, commitment from management, requirement for EMS/eco-labelling and issues for court cases/legal problems.

Detailed Assessment Progress

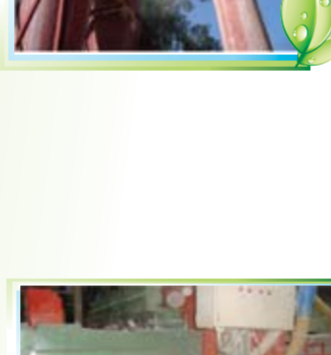
CLAY PRODUCTS SECTOR

Detailed study and exhaustive detail study on 12 industries in the Ceramics sector specifically table ware, Tile (floor and wall), Roof tile, Sanitary ware and Ornamental ware in the Ceramic sector.

Measurements of wastewater parameters, dust (indoor and outdoor), VOC, ambient air quality parameters, stack emission parameters and noise issues have been studied. Performance assessment was also done for the existing air pollution control systems in each industry. Energy study and air dispersion modeling (for PM) were also planned for some industries. Major issues identified in each sub sector are:

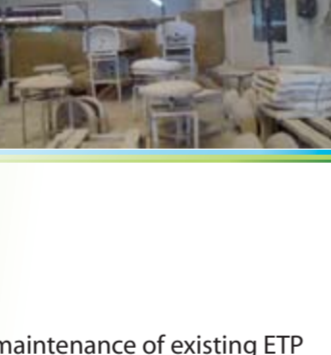
Tableware

- Dust and noise generation in crushing area
- Noise generation in the ball mill area
- Poor ventilation and high VOC concentration in printing area
- Errors in duct connections in the air pollution control systems
- Poor performance and maintenance of dust extraction systems
- Absence of ETP/inappropriate design of existing ETP/poor operation and maintenance of existing ETP
- Disposal problem of glazed waste (broken ware, defect finished products), saggars, moulds, effluent treated sludge, empty chemical containers (heavy metal contaminated) and waste chemicals from the printing process
- Unavailability of waste heat utilization system



Tile (floor and wall)

- Dust emission from Press Machine
- Dust generation during RM handling, conveyor belts
- Dust and noise generation in crushing area
- Noise generation in the ball mill area
- Absence of ETP/inappropriate design of existing ETP/poor operation and maintenance of existing ETP
- Disposal problem of glazed waste (broken ware, defect finished products), effluent treated sludge, empty chemical containers (heavy metal contaminated) and waste chemicals from the printing process
- Unavailability of waste heat utilization system



Roof tile

- Smoke from the kiln (traditional process)
- Absence of ETP (WW generate during glazing of roof tiles)

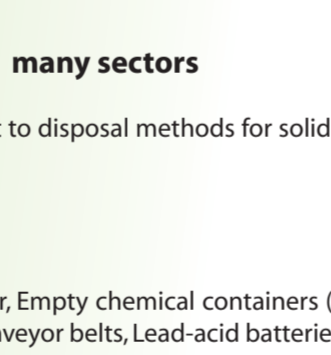
Sanitary ware

- Dust emissions from finishing section and cleaning
- Noise generation in the ball mill area
- Emissions from Spray Booths
- Absence of ETP/inappropriate design of existing ETP/poor operation and maintenance of existing ETP
- Disposal problem of glazed waste (broken ware, defect finished products)



Ornamental ware

- Emissions from Spray Booths
- Absence of ETP/inappropriate design of existing ETP/poor operation and maintenance of existing ETP
- Disposal problem of glazed waste (broken ware, defect finished products), waste chemicals/paints



TOURISM SECTOR - Hotels

Major issues identified are listed below.

- Absence of ETP/inappropriate design of existing ETP/poor operation and maintenance of existing ETP
- Poor solid waste management
- Noise issue from the cooling tower
- Poor indoor air quality

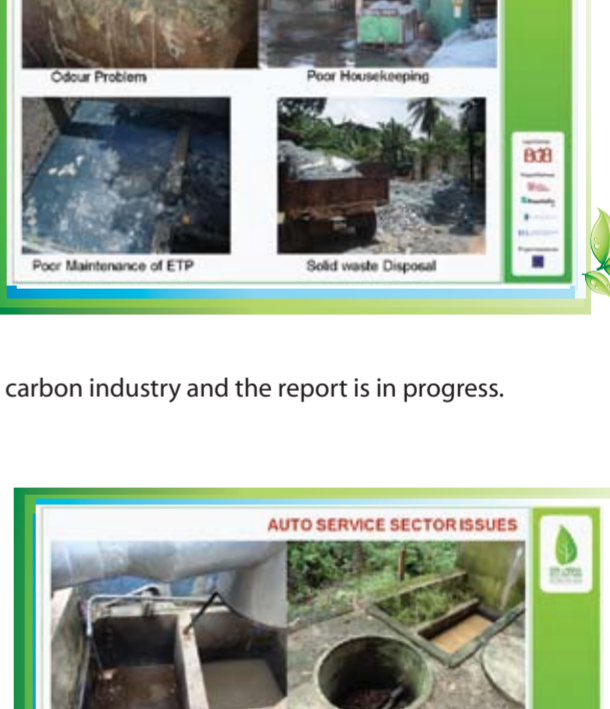


Some industries were identified for the energy study.

LEATHER AND FOOTWEAR SECTOR

The detailed study on the tannery industry revealed the following issues -

- Absence of ETP
- Odour, VOC and dust emissions
- Solid waste disposal problem



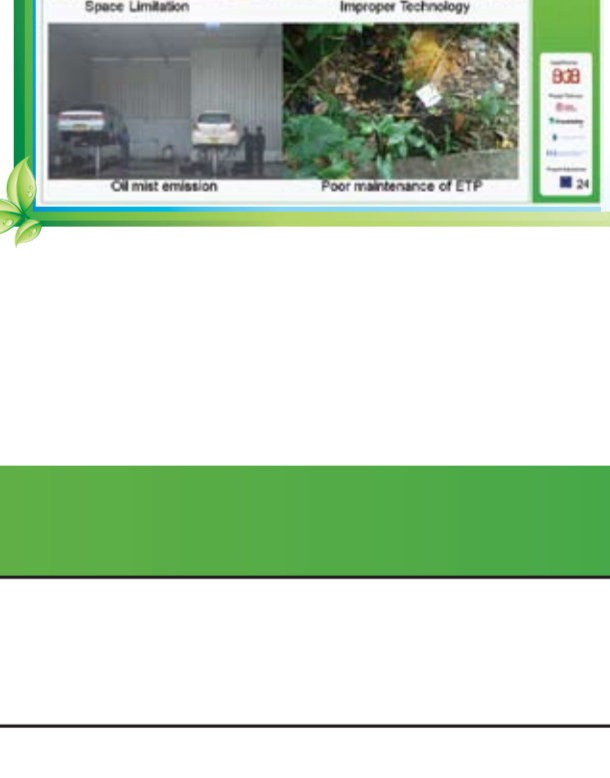
COCONUT SECTOR

Energy study was completed at an activated carbon industry and the report is in progress.

SUPPORT SECTOR - Auto Service Stations

The major environmental related issues identified are:

- Absence of ETP/inappropriate design of existing ETP/poor operation and maintenance of existing ETP
- Air emissions during spray painting and vehicle cleaning
- Disposal problem of oil filters
- Noise



Solid waste - an environmental issue to be addressed across many sectors

Through the detailed study the experts identified specific issues with respect to disposal methods for solid waste generated by industries. Solid waste composition for the various sectors were identified as follows -

Tableware

● Ceramic industry:

Sludge; Defective glazed and biscuit wares, Used plaster of Paris, Used saggars; Empty chemical containers (Paints, Heavy metal containing Fluxes, Printing media and etc), Photographic film, Expired printing rotors, Conveyor belts, Lead-acid batteries, Spill/expired machine oil and etc.

● Plastic industry:

Metalized PET laminates, Non-Metalized multi-laminated films, Waste printing ink, Empty chemical containers, etc.

● Dry rubber industry:

Corused rubber off-cuts and defective items, Wasted carbon-black, etc.

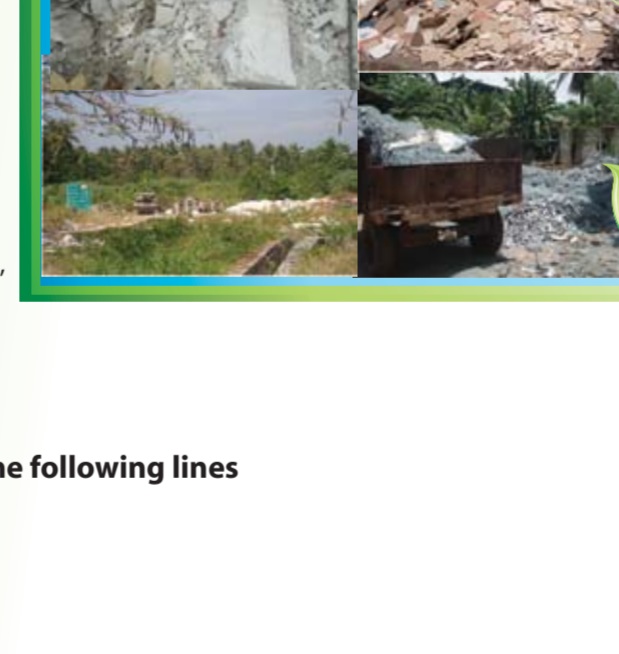
● Latex industry:

Sludge, Latex coagulum, Rubber tree bark, etc.

● Shoe industry and Tannery:

Leather off-cuts, Chrome tanned hide off-cuts and sludge, Fleshing, Parings, etc

● Electronic waste:



Short listed Industries

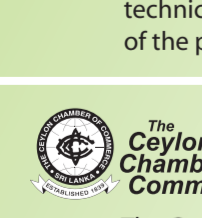
AUTO SERVICES

Diesel & Motor Engineering PLC- Siyambalape
Dimo Engineering (Pvt) Ltd - Anuradhapura
Lanka Service Station - Ratmalana
Auto Miral Kwik PR (Pvt) Ltd - Pespilana
Prestige Automobile - Battaramulla
Dimuthu Sanka Service Station - Horana
Nawa Laman Sewa - Diulapitiya
Thisaki Motors - Ratmalana
Macro Auto Tec - Borelagamnuwa
Manoj Motors - Karadeniya
Rama Auto Serve - Moratuwa
Thudawe Service Center - Batapola
Rathnalakshya Autocare - Embilipitiya
Kegallu Service Station - Kegalle
Lakshana Service Centre - Horana

HOTELS

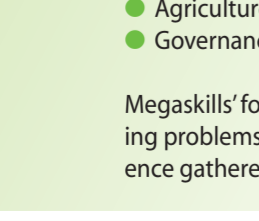
Siddhalepa Ayurveda Health Resort Pvt Ltd - Wadduwa
The Lighthouse Hotel PLC - Galle
Paradise Beach Hotel - Negombo
Villa Ocean View Hotel Pvt Limited - Wadduwa
The Kandy Hotels Co - Queens Hotel - Kandy
Induruwa Beach Resort - Induruwa
Rathnalakshya Tours Inn - Ratnapura
Cinnamon Lakeside - Colombo
Taj Samudra Hotel - Colombo
Nuwareliya Hotels Co, PLC - Nuwara Eliya
Araliya Rana Vimala - Ambalagoda
Wonderland Amusement Park (Pvt) Ltd - Welgama
Sunils Beach Hotel - Hikkaduwa
Tangalle Bay Hotels Ltd - Tangalle
Goldi Sands Hotel - Negombo
A.S.B. Hotel Dulyana - Anuradhapura
Dunhinda Falls Inn (Pvt) Ltd - Badulla
Dikwella Resort Ltd - Dikwella
Giritale Hotel - Polonnaruwa
Sudu Araliya Pvt Ltd - Polonnaruwa
Royal Lotus Hotel - Polonnaruwa
Ashok Hotel - Anuradhapura
Equity Hotels Ltd - Polonnaruwa
Shanthi Guest House - Anuradhapura
Jetwing Seashells Hotel - Kochchikade
Randeniya Hotel - Anuradhapura
Alpine Hotel (Pvt) Ltd - Nuwara Eliya
The Royal Heritage Hotel - Sigiriya
Hunnas Falls Hotel - Kandy
Deer Park Hotel - Polonnaruwa
Auto Biyagama Village - Biyagama
Kamelot Beach Hotel - Negombo
Negombo Hotels Ltd - Colombo
Nepturne Ayurveda Hotel (under construction) - Beruwala
Bandarawela hotel - Bandarawela

Project Partners



Lead Partner:

The Industrial Technology Institute is a wholly owned institute of the Government of Sri Lanka and functions under the jurisdiction of the Ministry of Science and Technology. It aims to be a regional centre of excellence in Scientific Industrial Research for national development, by conducting innovative R&D and provide internationally competitive technical services to accelerate industrial development for the benefit of the people of Sri Lanka.



The Ceylon Chamber of Commerce (CCC) is a confederation of Trade Associations, Regional and Sectoral Chambers of Commerce and Industry, Bilateral Business Councils and Employer Organizations in Sri Lanka which was established 170 years ago. The CCC is considered as the premier Chamber in Sri Lanka and conducts the internationally recognized Tea and Rubber Auctions among their other activities.



Megaskills Research (MGS), United Kingdom is a research & consultancy services group bringing together world-class expertise in socio-economic development, management systems and institutional strengthening. Key sectors of focus include:

- Agriculture & Food
- Environment
- Tourism & Education
- Governance
- Enterprise development (including trade & export)
- Health

Megaskills focus is on building long-term relationships with clients & partners by addressing problems in a sustainable manner. Their expertise is supported by widespread experience gathered from developing situations across both Europe and Asia.

The Fraunhofer Institute for Factory Operation and Automation IFF is partner for clients from small and medium-sized enterprises in industry, research and government. Together with their clients, the institute develops and optimizes solutions in the fields of logistics, virtual engineering, automation and plant engineering.

IVL Swedish Environmental Research Institute is an independent research body that has been involved in the development of solutions to environmental problems on behalf of the business sector and the community, since 1966. IVL deals with environmental issues from a holistic perspective with the aim of contributing to sustainable growth.

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