

**UNIDO  
BAMBOO FOR SRI LANKA  
PROJECT**

**Mid-Term Evaluation Review**

**By International Consultant  
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Nov-2016**

## Executive summary

This report is based on the findings of the International Consultant (Antoine G. Semaan) during his missions to Vienna (twice) and Colombo (13 days) in Sep-Oct 2016, and on desk reviews of the project related documents given to him by UNIDO Vienna and UNIDO Colombo office, as well as other documents downloaded from websites of several international organizations including the United Nations Organization and its bodies, World Bank, Asian Development Bank. The consultant was accompanied during almost all the meetings and field visits with the international consultant Niels Schulz.

### **Sri Lanka**

Sri Lanka is a small size country divided into three main climatic zones (wet, dry and intermediate) based on average annual rainfall. The natural vegetation too displays diversity and distribution generally in accordance with this division, with some variation within each zone.

With a land area of 6.5 million ha, Sri Lanka has been losing its forest canopy at a dangerous pace, from a canopy of 84% in 1881 down to 27% in 1992, expected to reach a lower level of 17% in 2020. The loss due to several reasons; mainly rapid population growth resulting in land shortages and poverty which necessitated a need to increase the agricultural production by converting natural forests to farmland. Nearly 809,000 ha of natural forests have been lost to agricultural and residential use since 1948. The “Mahaweli Development Project” alone replaced 243,000 ha of forests for its agricultural objectives. Other reasons for the deforestation include the use of forests’ trees for wood product, fuel wood, and home cooking charcoal. Moreover, land dissection and river banks are eroded as a result of this deforestation, and heavy rainfalls.

In Sri Lanka, bamboos occur naturally in all three of its major climatic zones where seven species are found in the high altitudinal montane area of the central hill country, two are strictly confined to the dry zone, one occurs in the wet zone moist lands, cleared rain forests and forest gaps. Yet currently, only 2500 ha of bamboo plantation exist in Sri Lanka. The bamboo is mainly used locally as fuel and in low quality construction. Sri Lanka has an established wood plantation and wood processing industry, which could benefit from increased feedstock supply.

Because reforestation with trees takes a long time, while Bamboo takes about one third the reforestation period, “...the goal of this project is to develop an economically viable agro-forestry-industrial complex based on bamboo and a bamboo industry sector. Therefore planting and on-time harvesting of bamboo should result in a reduction of GHG emissions, in protection of riverbanks from erosion, improving climate conditions, and in providing the industry with raw material for processed and engineered products. The result of bamboo planting and harvesting will be a positive snowball effect on Sri Lanka’s economy, environment, forestry, climate change, GHG emissions, rural areas livelihood and economies, construction and wood industries, as well as energy sources.

### **Project**

“The project’s objectives are to develop a bamboo supply chain and product industry in Sri Lanka, leading to reduced global environmental impact from GHG emissions and a sustainable industry base.”

## Findings

Major findings of this mid-term evaluation are as follows:

1. **Political Changes:** A new president was elected and a new government was appointed in 2015. Consequently, new secretaries, and in some cases directors, in all ministries were appointed or removed. These changes, along with other reasons detailed further in this report, had a slight negative effect on the project momentum and in an apparent delay of some of its activities, outputs and outcomes, especially those that relied on government decisions and actions.
2. **Creating Bamboo Awareness:** The project was successful in creating bamboo awareness in Sri Lanka, its uses and benefits amongst people in both public and private sectors. People in different ministries and different private companies and organizations are talking and enquiring about bamboo and considering it - still in a limited way - due to their limited resources and knowledge. Most of the people, met with during the mission, were eager to learn more about bamboo and asked several important technical questions. The questions were timely and professionally answered by the technical expert (N. Schulz) during same meetings.
3. **GHG Emissions, Soil Erosion, and Industrial Products:** It is too early at the current stage of the project to discuss any such effects in Sri Lanka. These issues can only be fully measured or evaluated few years after the end of the project.
4. **Private Sector Financing:** a private company which was a major financial contributor to the project went bankrupt soon after the start of the project. This negatively and partially affected the implementation of the project.
5. **Project Design:** The project was well designed, with participation of the right stakeholders and up to their satisfaction as expressed by those who were knowledgeable with the project and interviewed during the missions. The good design of the project contributed to a strong and successful startup and to a good implementation during the first couple of years with an enthusiastic participation by the stakeholders. The project's Outcomes and Outputs were fairly defined with a tentative calendar or time schedule for their execution. The corresponding activities did not have target dates or assigned responsibilities (who is to do it and when) to reflect the project flexibility.
6. **Project Implementation:** The project had an excellent start with media coverage and enthusiasm from all stakeholders. Several Workshops and Training sessions were conducted in Colombo and were attended by the stakeholders and their representatives. The project Steering Committee, which is of advisory role to the project, had two meetings. The needed International consultants performed several missions to Sri Lanka to prepare studies on land ownership and availability, economic feasibility of bamboo uses in industrial products, bamboo nurseries and plantations laboratories capabilities and needs, and others.

A number of project activities, outputs and outcomes were partially done or have not started during the past two years, and outcomes were not achieved according to the planned time

schedule. This was due to the nature of the project and of the expected outcomes and outputs which need a longer time than what was anticipated during the design phase of the project. The Political changes that took effect in the country, followed by a presidential election and a new government late in 2015 when a new Minister and a new Secretary were appointed at the Ministry of Industry and Commerce, may have had a little effect also.

7. **The Project Executive Body (PEB)** was only partially established. Different Project Coordinators were hired as needed, but the rest of the PEB personnel and resources were not provided. The project had a national coordinator since it start, except for the first nine months of 2015. The recently appointed project coordinator obviously needs time to become efficient and effective due to the learning curve. Improvement is needed in several areas of the project coordination functions such as follow-up with the stakeholders, follow-up on and actions concerning the results (especially findings and recommendations) of the international consultants as shown in their reports or studies. For example, one of the project planned activities included having occasional or regular communiqué to the public, but it was not implemented.
8. **Information Propagation on the project** was not institutionalized or systemized in an information system or process to address the public at large, the stakeholders, the needs and queries of the stakeholders, farmers, industrialists, and other parties in the country. Technical queries and requests for further information coming from farmers or lab people or government officials were answered mostly by emails from the different consultants and through their own initiatives. There was no action taken to document this information and to communicate it at large so more people or entities can benefit from it.

## Recommendations

The project's momentum and implementation can be reinforced by:

- ⇒ Resuming the Steering Committee's work at an intense pace to ensure proper and timely execution of the remaining parts of the project, by actively involving the concerned stakeholders and by acting as a leader to the Project Execution Body. It is worth noting that although the role of the SC is only an advisory one, the members of this SC represent several ministries and departments that are players in this project. Therefore, not having SC meetings affects their enthusiasm, project communication, and coordination of activities.
- ⇒ Preparing an "Updated Project Implementation Plan" to reflect the visions of the current Steering Committee members and other stakeholders.
- ⇒ Improving the project coordination, internal communication and follow-up at the national level through the PSC and by reinforcing the Project Execution Body with the proper human technical resources including a technical Bamboo expert.
- ⇒ Establishing an effective information communication system or process for the project that can be managed and run by a Project Coordinator. The objective of the information system is to ensure easy access for the concerned people and parties for submitting their questions, queries and concerns and for obtaining answers thereon, and to propagate updates, plans, and experts' reports amongst other information for those who need to know including the media.

This system should include a depository of experts' technical reports and studies as well as a LOG of events and activities that are to be maintained and updated continuously.

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## I. Mid-term review objectives, methodology and process

In compliance with the GEF requirements for projects that have received their funding, the project manager has identified the current time point as the most suitable to initiate the exercise of the mid-term review.

The mid-term review was performed by the International Consultant Antoine G. Semaan, assisted and accompanied in Sri Lanka by the International Bamboo Expert, Dr. Niels Schulz, who has made several previous missions to Sri Lanka on this project and thus became highly knowledgeable with it. The mid-term evaluation report was prepared by Antoine Semaan. The two consultants visited Colombo from September 26<sup>th</sup> until October 7<sup>th</sup> included. During the visit, the consultants conducted meetings with most of the stakeholders, including the Country Director, the Project Coordinator, and the Focal Office Secretary. They also made two field trips to bamboo plantations outside Colombo.

This mid-term review was conducted in a participatory manner, actively involving internal and external stakeholders, including the Project Manager, the Project Coordinator, the UNIDO Country Director, and the Secretary of the Focal Point in Sri Lanka.

### **Scope and objectives of the mid-term review**

The purpose of the mid-term review is to gain an independent and well qualified view on the work performed so far within the context of the project design, by assessing the overall project progress and the produced results, the challenges that exist on the ground and their impact to the project as well as recommendations on remedial actions that would ensure the continuous progress of the operations as planned leading to the intended objectives for all beneficiaries.

The mid-term review concerns the first 41 months of the project, i.e. from June 2013 until September 2016 and covers all project activities.

Given the point of time in the project life cycle and given the above mentioned purpose and objectives, the independent mid-term review looked mainly into implementation and processes; and on the review criteria relevance, effectiveness, efficiency, management and gender; while assessing the potential impact and sustainability of the project.

The key intended users of the mid-term review are the UNIDO project management Team, the main stakeholders in Sri Lanka, as well as the GEF team responsible for assessing the project.

### **Information sources and availability of information**

This project mid-term evaluation report relied on the following sources of information:

- Project records, such as Project Document, Follow-Up Reports, National and International Consultants' Reports And Studies, Training Records, Power Point Presentations during workshops held, Minutes of Steering Committee meetings, as well



as other documents provided to the consultant by the Project Manager at the Head Office in Vienna, the Focal Point Office in Colombo, the Sri Lanka UNIDO Director, and by the Project National Coordinator.

- Official websites of UNIDO, UNDP, FAO, World Bank, Asian Development Bank, Different Ministries of Sri Lanka.
- Stakeholders from both the public and private sectors during the interviews and meetings conducted during the mission to Colombo. Please refer to List of contacts (Annex 2), including two field visits to a bamboo plantation and to a bamboo handicrafts collection center outside Colombo.
- Conversations with Project Manager (Mr. Antonio Levissianos), UNIDO Country Director (Mr. Nawaz Rajabdeen), Project National Coordinator (Ms. Anusha Lala), International Consultant (Dr. Niels Schulz), UNIDO Focal Point Office Secretary/Assistant (Ms. Niroshini Pieres),

The main and reliable sources of information for this evaluation were Mr. Antonio Levissianos (Project Manager in Vienna), Mr. Spyridon Kleitsas (UNIDO consultant in Vienna), UNIDO Country Director in Sri Lanka, and the international consultant (Niels Schulz) who has done several missions to Sri Lanka from the start of this project and proved very knowledgeable on the project during our visit together.

It is also worth noting that obtaining information on the project in Colombo was not very fruitful, especially from the National Project Coordinator, appointed in September 2015, who did not have much to offer. The public sector people interviewed were also new on their jobs since a new government was formed in Sri Lanka in September 2015 where most of the Ministries' secretaries were changed. Only few directors were still in their positions in the Ministry of Mahaweli and thus were able to discuss the project and give some feedback.

### **Methodological remarks, limitations encountered and validity of the findings**

The methodology of this mid-term evaluation consisted of obtaining and reviewing the available documentation, conducting meetings and interviews with internal and external stakeholders, UNIDO Project Manager and Consultants, UN bodies representatives in Colombo, documentation search on the internet, and field visits to two plantations.

Some unplanned for meetings with UN bodies were held during the mission, such as World Bank, FAO, and UNDP.

A survey or questionnaire was prepared by the consultant for the mission meeting and interviews. However, it was found impractical to use with the stakeholders' representatives met with since they were newly appointed – especially those in the public sector – and thus they did not have information about the project.

## II. Country and Project Background

### **Sri Lanka Background**

Sri Lanka (formerly Ceylon) is an island in the Indian Ocean, separated from south-east India (Tamil Nadu state) by the Palk Strait. It is almost linked to the Indian mainland by Adam's Bridge, an atoll barrier, mostly submerged, lying between the offshore island of Mannar and India itself. The area of Sri Lanka is 65,610 m<sup>2</sup> with 1350 km of coastline. It has a population of 20 million (approx., 2013 census). Its capital city is Colombo.

Modern humans arrived in South Asia from Africa in around 60,000 BCE. The exact origin of these early settlers has been much debated, particularly in the light of modern ethnic tensions. What is certain is that the inhabitants of 30,000 years ago were related to populations of India, South-East Asia and Australia. An impressive irrigation system had been developed by 100 CE, which became the most elaborate in South Asia. By the time of Alexander the Great's arrival in the region in around 327 BCE, a trading centre had been established at Māntai (modern-day Tirukketisvaram).

Sri Lanka was governed by the Portuguese around 1505, then by the Dutch towards the end of the 16<sup>th</sup> century, followed by the British in the early 18<sup>th</sup> century. Constitutional development of Sri Lanka began relatively early, with executive and legislative councils set up in 1833, and the opening up of the colonial civil service to Ceylonese. Self-government was achieved in 1946, under a new constitution, with a bicameral legislature (which became a single chamber in 1972), and Ceylon became fully independent, and joined the Commonwealth, in 1948.

### *Civil war*

A civil war began in July 1983, after the death of 11 soldiers in an attack by the LTTE sparked mass anti-Tamil riots in Colombo and the south-west of the country, which left hundreds dead. Tactics on both sides were brutal. The LTTE escalated its terrorist attacks to include civilians, while many Tamils detained by the police and army 'disappeared'.

After several unsuccessful cease fires and peace talks between 2000 and 2009, the war was put to an end, with almost 300,000 displaced persons who had fled the conflict were housed in government camps and as many as 100,000 people were estimated to have been killed in the fighting.

### *Current Political Status*

Sri Lanka is currently a democratic republic with an executive presidency based on the French model. Under the 1978 constitution, the head of state and government is the President. Parliamentary and presidential elections are held every six years.

Ministers are appointed by the President, who chairs the cabinet and appoints the independent judiciary.

### International relations

Sri Lanka is a member of the Indian Ocean Rim Association for Regional Cooperation (IORARC), Non-Aligned Movement, South Asian Association for Regional Cooperation (SAARC), United Nations (UN), and World Trade Organization (WTO).

### Geography & Topography

The country comprises nine provinces (from south to north): Southern (provincial capital Galle), Sabaragamuwa (Ratnapura), Western (Colombo), Uva (Badulla), Eastern (Trincomalee), Central (Kandy), North-Western (Kurunegala), North-Central (Anuradhapura) and Northern (Jaffna).

Beyond the coastal plains, Sri Lanka's topography is dominated by an outstandingly beautiful central mountain massif of gneiss rock, with the highest point at Pidurutalagala (2,524 m). The coastal plains are broader in the north, tapering off in the long low-lying Jaffna peninsula. Several fast-flowing non-navigable rivers arise in the mountains. The river of Mahaweli Ganga, from which hydroelectric power is obtained, is the longest with a length of 322 km.

One of the most violent earthquakes ever recorded occurred on 26 December 2004 in the Indian Ocean west of Sumatra generating a tsunami that swamped the east and south coasts of Sri Lanka causing approximately 31,000 deaths and devastation of the coastal area.

### Climate

Tropical. The lowlands are always hot, particularly March–May. The highlands are cooler. During December and January there is occasional frost on very high ground – for example, at Nuwara Eliya. The dry season is March–mid-May. The south-west monsoon season lasts from mid-May–September, the north-east monsoon season November–March.

### Environment

The most significant environmental issues are: deforestation; soil erosion; coastal degradation as a result of mining activities and increased pollution; pollution of freshwater resources by industrial wastes and sewage; air pollution in Colombo; and the threat to wildlife populations of poaching and urbanization.

### Transport

There are 114,090 km of roads (80 per cent paved) and about 1,460 km of railway. Rail links exist between the major towns. The lines run from Colombo north along the coast to Puttalam, north via Kurunegala and Anuradhapura to Mannar and to Jaffna; north-east to Trincomalee and Batticaloa; east to Kandy via Gampaha; and south along the coast to Galle and Matara.

The international ports are at the cities of Colombo, Galle, Talaimannar and Trincomalee. Bandaranaike international airport is 32 km from Colombo. The larger domestic airports are at Ratmalana (Colombo) in the south and Jaffna in the north.

### Vegetation

Forest covers 29 per cent of the land area, having declined at 1.2 per cent p.a. 1990–2010. Vegetation is rich and luxuriant, with a great variety of flowers, trees, creepers and flowering shrubs. Among the many species of trees are the rubber tree, palm, acacia, margosa, satinwood, Ceylon oak, tamarind, ebony, coral tree and banyan. Flowers and shrubs include the orchid and

rhododendron. There are about 3,300 species of plants, of which some 288 are threatened with extinction. Arable land comprises 20 per cent and permanent cropland 16 per cent of the total land area. Bamboo also exists in small quantities. Plantations growing rubber, coconut and coffee were established in the 19th century. After the coffee plantations were destroyed by a fungus in the 1870's, planters switched to tea, with the country soon becoming the second largest producer of black tea after India. During this period, Indian Tamils were brought in as indentured labor for the tea estates.

### Wildlife

Nature reserves now cover ten per cent of the island. Wilpattu National Park in the north-west (813 sq. km) is best known for leopards; Yala National Park in the south-east (112 sq. km) is home to large elephant populations. However, reduction of the natural tropical hardwood forest is endangering several animal species. Some 30 mammal species and 14 bird species are thought to be endangered (2014).

### Economy

While agriculture is central to Sri Lanka's economy – and tea, rubber and coconut continue to be important exports – manufacturing and services (including banking and financial services) are of increasing importance, especially textiles and clothing which are major exports.

Sri Lanka had been aiming at achieving newly industrialized country status by the year 2000, but ethnic conflict adversely affected the economy, notably in the spheres of foreign investment and tourism, and particularly in the north and east of the country. Despite the conflict, foreign investment in manufacturing and infrastructure were maintained and manufacturing output grew by 6.3 per cent p.a. 1980–90, 8.1 per cent p.a. 1990–2000, 4.5 per cent p.a. 2000–10 and 6.8 per cent p.a. 2010–12.

In June 2016, the International Monetary Fund approved a 36-month Extended Fund Facility arrangement to support the Sri Lanka's economic reform agenda. The main efforts are to boost the tax ratio, reduce the budget deficit, rebuild foreign exchange reserves, and improve public financial management, including of state-owned enterprises (<https://www.adb.org/countries/sri-lanka/economy>).

## Project Background

### Forest Canopy

Sri Lanka's closed canopy forest cover has been dwindling rapidly and is projected to continue so as shown in the table below:

<u>Year</u>	<u>Canopy % of Country</u>
1881	84%
1956	44%
1992	27%
2020	17% (projected)

Depletion of forest cover continues although with a slower rate due to high demand for timber, non-timber products and the land hunger for settlements and agriculture with the increasing population. The expanding population base and economic growth will increase the demand for round wood and poles from about 2 million m<sup>3</sup> in 1995 to 2.7 million cubic meters projected demand in 2020. During the same period, the need for biomass energy will increase from 9.7 million tons to 9.7 million tons. At the same time, the closed canopy natural forest cover is projected to decline to about 17% in 2020.

The decline in forest cover is primarily due to rapid population growth and resulting land shortages and poverty. Agricultural production has increased mainly by converting natural forests to farmland. Nearly 809,000 ha of natural forests have been lost to agricultural and residential use since 1948. The Mahaweli Development Project alone replaced 243,000 ha of forests.

#### **Natural forests in Sri Lanka (1992)**

Forest type	Total area (ha)	Total land area (percent)
<b>Closed canopy</b>		
Montane	3 108	0.05
Sub-montane	68 616	1.04
Lowland rain	141 506	2.14
Moist monsoon	243 886	3.69
Dry monsoon	1 090 981	16.49
Riverine	22 435	0.34
Mangrove	8 688	0.13
Sub-total	<b>1 579 220</b>	<b>23.88</b>
<b>Open canopy</b>		
Sparse	464 076	7.01
<b>Total</b>	<b>2 043 296</b>	<b>30.89</b>

(Source: Ministry of Agriculture, Lands and Forestry,

Wood raw material supply is diminishing with shrinking forest resources and non-implementation of forest sector master plan proposal. Furniture industry in Sri Lanka is developing its own technology together with introduced modern technology observed uneven distribution of technologies. Sectors such as pulp and paper were operated with obsolete technology, terminated its operation in sometimes back and necessary to reopen them with modern technology and capital investment. Competitiveness of wood industry in Sri Lanka is in moderate position when compared with other countries of Asia Pacific region.

#### **Bamboo**

Currently bamboo crafts and utensils industry operates based on traditional knowledge in scattered areas with raw material availability. They have to compete with imported bamboo or non-bamboo cheaper goods in the market. Bamboo preservation techniques are using handful of people who produce handicrafts with their home made equipment. Bamboo usage in construction industry limited to temporary scaffoldings in construction those who don't have modern technology.

It is not feasible to plan on existing bamboo resource base without an intensive planting program. Most of the resources are scattered all over and not orderly recorded. There are some exotic species with better gene plasmas and higher growth rate which have already been introduced and cultivated in Sri Lanka. Conventional methods of vegetative propagation cannot cater to the present scale of demand for propagules and the alternative is the use of tissue culture technology.

### Project summary

Globally, about 40% of bamboo is used for fuel wood and charcoal. But significant amounts are also used for construction, flooring, fodder and food. For industry, bamboo is a good feedstock for engineered wood products because of its mechanical and physical properties. This requires advanced processing equipment, for to splitting the stem, and subsequently bonding them into engineered wood panels for the production of flooring, furniture and construction. The fact that bamboo has a high growth rate increases its utility as industrial feedstock.

In Sri Lanka specifically, bamboos occur naturally in all three of its major climatic zones. Among the ten endemic species, seven are found in the high altitudinal montane area of the central hill country, two are strictly confined to the dry zone, one occurs in the wet zone moist lands, cleared rain forests and forest gaps. Yet today, only 2500 ha of bamboo plantation exist in Sri Lanka, and the bamboo is mainly used locally as fuel and in low quality construction. Sri Lanka has an established wood plantation and wood processing industry, which could benefit from increased feedstock supply.

### Project Objectives

The project's objective is to develop a bamboo supply chain and product industry in Sri Lanka, leading to reduced global environmental impact from GHG emissions and a sustainable industry base.

The goal is to develop an economically viable agro-forestry-industrial chain based on bamboo, which should also result in a reduction of GHG emissions. Moving the industry to processed and engineered wood products will increase the quality and value of bamboo production in Sri Lanka, which in turn will increase the value added and the profitability of this industrial sector, both important for the long term viability of such agro-forestry-industrial complexes.

A successful development of a bamboo sector in Sri Lanka requires the realization of three major needs: an awareness of the importance and feasibility of bamboo plantations, an enabling policy framework, and an appropriate and extensive supply for the demand that will be created for raw material in bamboo based products.

The challenges that are currently preventing the biomass market from fully functioning and realizing the potential for GHG reductions and economic benefits, consist mainly of policy challenge, supply challenge, and demand challenge.

### Counterparts

The project is carried out as a collaborative effort between UNIDO, the Mahaweli Authority

(Under the Ministry of Irrigation & Water Management), the Ministry of Power & Energy, Ministry of Industry & Commerce, and the Ministry of Environment. A Project Steering Committee (PSC) was formed with core members from the baseline project, together with UNIDO and the Ministry of Industry & Commerce, and other local stakeholders to bring synergies between the public bodies, as described below. Within the project management structure these organizations, will, through technical transfer activities, accelerate and leverage the baseline project to deliver the incremental impact of this GEF project.

UNIDO is responsible for the general management and monitoring of the project, and reporting on the project performance to the GEF. UNIDO is in charge of procuring the international and national expertise needed to deliver the outputs planned under the six project components. It is to manage, supervise and monitor the work of the international and national teams and ensure that deliverables are technically sound and consistent with the requirements of the project.

UNIDO will also bring synergies for this project by collaborating as in-kind with related UNIDO sections for agri-business development, which has an extensive expertise in bamboo processing in India, China and Vietnam.

#### Consistency of the Project with National and/or Regional Priorities/Plans

This project is directly aligned with national priorities and plans. Sri Lanka does not have a technology needs assessment document. The report “Initial report under the UNFCCC” (2000) and Project Terminal Report Climate Change Enabling Activity (Phase II) Project (2003) on technology transfer, submitted by the Sri Lanka government to UNFCCC, both stress the impact of climate change on forestry, notably rubber plantations, and the need to develop alternative forest types and reverse deforestation trends.

#### **National Energy Policy and Strategies: (NEPS)**

The project’s focus on the use of biomass energy to provide feedstock for energy production is also directly in-line with the National Energy Policy and Strategies (NEPS) – adopted by the Sri Lankan Parliament in 2008. This policy document covers all sub-sectors within the energy sector – with a strong emphasis on the electricity sub-sector, including the promotion, utilization and development of renewable energy. It clearly indicates that the biomass energy sector should be developed and commercialized. Specific new initiatives are included in this policy to expand the delivery of affordable energy services to a larger share of the population, to improve energy sector planning, management and regulation, and to revitalize biomass as a significant resource of commercial energy.

#### **National Forest Policy**

The project is consistent with the National Forest Policy adopted by the Government in 1995. This policy provides an integrated and coordinated approach to the management, conservation and sustainable development of forests and provides for their multiple and complementary functions and use, and recognizes the need for participatory approaches and development of partnerships for forestry activities. The National Forest Policy provides the framework for developing the bio energy sector.

The policy does not address energy issues directly, but it provides a supporting framework for increasing fuel wood production in home gardens and other agro-forestry systems. The policy describes the need to improve land and tree tenure, facilitate the transport of forest products, as well as to provide Technical Assistance and other support services to the people.

The National Forest Policy has proposed policies and strategies to optimize the forestry sector's role in national energy supply and assist people in meeting their energy needs. The National Forest Policy consists of three policy objectives of which the two following objectives are directly related to the project's goal of the development of biomass resources:

- To increase the tree cover and productivity of the forests to meet the needs of present and future generations for forest products and services.
- To enhance the contribution of forestry to the welfare of the rural population, and strengthen the national economy, with special attention paid to equity in economic development.

### **The Forestry Sector Master Plan**

The project is directly aligned with the Forestry Sector Master Plan (1995-2020) (FSMP). The FSMP was developed in 1995 to implement the National Forest Policy and is a comprehensive long term development framework for the forestry sector to ensure that the valuable natural forests, the related wildlife and other biodiversity resources will be conserved and the forests and agro-forestry systems to provide sustainable environmental services and forest products including fuel wood to meet the needs of the people sustainably.

The FSMP has thirteen development programs providing a clear framework for detailed project formulation, implementation and resource allocation. Of these thirteen development programs, there is an extensive program on bio-energy development described. The long-term goals of the bio-energy development program.

However, as the priority until now has been on forest conservation, the bio-energy development program of the FSMP was not taken up as a priority area for implementation until recently. Hence, it has not been included in the seven year investment program of the FSMP which was implemented as the Forest Resources Management Sector Project (FRMSP) funded by the ADB and implemented from 2001 – 2008. Currently, a renewed focus on the bio-energy development program means that the project will be directly aligned with the Government's priorities in this area.

### **Haritha (Green) Lanka Program**

The project is again directly consistent with the Government's Haritha (Green) Lanka Program. This program is implemented by the National Council for Sustainable Development, which was formed in 2009 under the chairmanship of the President of Sri Lanka. The Council includes all the Ministries in charge of major economic development programs. The Haritha Lanka Program has 10 missions. This project is closely aligned with the Mission 3: Meeting the Challenge of Climate Change, and Mission 9: Greening the Industries.



### III. Project Identification and Financial Data

The project timeframe is as follows:

#### 1. Dates

Milestone	Expected Date	Actual Date
Project CEO Endorsement/Approval Date		September 2011
Project Implementation start date (PAD issuance date)	June 2012	Sep. 2012
Original expected implementation end date (indicated in CEO endorsement/approval document)	May 2019	N/A
Revised expected implementation end date (if any)	May 2019	N/A
Terminal evaluation	Nov 2015	Sep-Oct 2016
Planned tracking tool date		

#### 2. Project Framework

The summary of the project framework is as follows:

Project Component	Activity Type	GEF financing (US\$)		Co-financing (US\$)	
		Approved	Actual	Promised	Actual
1. Policy Framework		292,850		75,000	
2. Bamboo Tissue Production		221,300		1706,000	
3. Plantation Establishment		367,400		11,223,000	
4. Plantation Operation		175,000		4,968,000	
5. Bamboo Processing Equipment		900,000		2,625,000	
6. Pelletizing / Briquetting / Chipping		410,450		350,000	

The project framework consists of the following six components:

- Component 1: Policy Framework
- Component 2: Bamboo Tissue Production
- Component 3: Plantation establishment (dependent on component 2)
- Component 4: Plantation operation (dependent on component 2 & 3)
- Component 5: Bamboo processing equipment (semi dependent on component 4)
- Component 6: Pelletizing / briquetting / chipping (dependent on component 5)

The financing and budget allocated for each component, as well as the outputs expected for each are outlined in the table below.

Project Objective: To develop a bamboo supply chain and product industry in Sri Lanka, leading to reduced global environmental impact from GHG emissions and a sustainable industry base.								
Project Components	Indicate whether Investment, TA, or STA	Expected Outcomes	Expected Outputs	GEF Financing*		Co-financing*		Total (\$)
				(\$)	%	(\$)	%	
Component 1: Policy framework	STA	Outcome 1: Assessment of existing framework and shortcomings and a supportive framework adopted	Output 1.1: National strategy developed for the development of the bamboo industry	265,300	78%	75,000	22%	340,300
			Output 1.2: National policy adjustments supported					
			Output 1.3: Land use policy adjustments					
			Output 1.4: Supportive policies and regulations on a local and regional level					
			Output 1.5: Information on the project activities disseminated to the public and decision-makers					
Component 2: Bamboo Tissue Production	TA and Investment	Outcome 2: Bamboo reproduction technology transfer - National capacity to provide bamboo	Output 2.1: Acquisition and installation of laboratory equipment for appropriate species	221,300	11%	1,706,000	89%	1,927,300

		planting material on a large scale	Output 2.2: Functional laboratory and availability of high quality planting material for appropriate species					
Component 3. Plantation establishment	TA and Investment	Outcome 3: Plantations established to provide feedstock for bamboo industry	Output 3.1: Bamboo plantations established in unused lands in the dry zone and wet zone	367,400	3%	11,223,000	97%	11,590,400
Component 4. Plantation operation	TA and Investment	Outcome 4: National know-how how to maintain bamboo plantations	Output 4.1: Economically sustainable, functional bamboo plantations running in currently unused dry lands and wet lands	233,050	4%	4,968,000	96%	5,201,050
Component 5. Bamboo processing equipment	TA and Investment	Outcome 5: Bamboo processing technology transfer to Sri Lanka	Output 5.1: Bamboo processing machinery for industrial use bought and installed	657,850	20%	2,625,000	80%	3,282,850
			Output 5.2: Establishment of bamboo flooring production capacity					
			Output 5.3: Establishment of bamboo shoots by-product industry					
Component 6. Pelletising / briquetting / chipping	TA and Investment	Outcome 6: Biomass pelletising / briquetting / chipping technology transfer and development	Output 6.1: Pelletising / briquetting / chipping machinery bought and installed for bamboo	410,450	54%	350,000	46%	760,450
			Output 6.2: Production of biomass pellets / briquettes / chips					
Project management				199,650	36%	350,000	64%	549,650
Total project costs				2,355,000		21,297,000		23,652,000

The planned activities that were envisaged to achieve the project's outcomes and outputs are detailed for each output in the Project Document.

### 3. Budget vs. Actual Disbursements

The GEF and UNIDO's disbursement up to 15<sup>th</sup> of September 2016 were as follows:

UNIDO GEF-grant disbursement breakdown:

Item	Disbursement (commitment + expenditure) in [year 1] 2012	Disbursement in [year 2] 2013	Disbursement in [year 3] 2014	Disbursement in [year 4] 2015	Total disbursement (in USD) 2012-present 15-09-2016
Contractual Services	0	122	300,000	300,080	600,202
Equipment	0	0	0	0	0
Internatl. cons./staff	28,224	209,573	267,070	183,638	860,595
Internatl. meetings	0	0	0	0	0
Local travel	4,713	101	11,767	0	21,889
Nat. consult./staff	1,436	32,239	18,392	18,080	92,606
Other direct costs	7,014	51	50	1,898	9,249
Premises	0	0	0	0	0
Staff travel	3,200	6,600	5,528	9,600	31,383
Train/fellowship/study	170	9,376	0	0	17,288
<b>Total (in USD)</b>	<b>44,757</b>	<b>268,064</b>	<b>597,277</b>	<b>513,297</b>	<b>1,633,212</b>

Source: ERP database, [15-09-2016]

These disbursements are distributed to components as shown in the following table.

Item	Total Disbursements up to 15-09-2016 (US\$)	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6
Contractual Services	600,202						
Equipment	0						
International Consultants/Staff	860,595						
International Meetings	0						
Local Travel	21,889						
Nat. Consult./staff	92,606						
Other direct costs	9,249						
Premises	0						
Staff travel	31,383						
Train./fellowship/study	7,288						
<b>Total (US\$)</b>	<b>1,633,212</b>						

The above disbursements make 64% of the total UNIDO and GEF planned or budgeted contributions amounting to US\$ 2,555,000.

#### 4. Co-Financing

The project is financed by GEF, UNIDO, the Sri Lanka Government, and few private sector companies.

Source of co-financing	Type of co-financier	Type of co-financing	Project preparation – CEO endorsement/ approval stage (US\$)		Project implementation stage (US\$)		Total (US\$)	
			Expected	Actual	Expected	Actual	Expected	Actual
Mahaweli Authority of Sri Lanka	Nat'l Gov't	Cash			2,400,000			
Mahaweli Authority of Sri Lanka	Nat'l Gov't	In-Kind			10,520,000			
Ministry of Industry & Commerce	Nat'l Gov't	Cash			1,500,000			
Forest Department of Sri Lanka	Nat'l Gov't	Cash			4,377,000			
UNIDO	Impl. Agency	Cash			60,000			
UNIDO	Impl. Agency	In-kind			40,000			
Touchwood Investments PLC					1,300,000			
Bamboo Resources Development (Pvt) Ltd.	Private Sector	Cash			1,100,000			
<b>Total Co-financing</b>					<b>21,297,000</b>			
GEF Financing		Cash	100,000	100,000	2,355,000			
<b>Total Co-financing</b>					<b>23,652,000</b>			

## IV. Project implementation arrangements and implementation modalities, institutions involved, major changes to project implementation.

### 1. Project implementation arrangements

The project is a collaborative effort between UNIDO, the Ministry of Mahaweli Development and Environment, the Ministry of Power & Energy, the Ministry of Industry & Commerce, and the Ministry of Environment.

A **Project Steering Committee (PSC)** was formed with core members from the baseline project, together with UNIDO, the Ministry of Industry & Commerce, and other local stakeholders that bring synergies between the public bodies. UNIDO is responsible for the general management and monitoring of the project, and reporting on the project performance to the GEF. UNIDO is in charge of procuring the international and national expertise needed to deliver the outputs planned under the six project components. UNIDO manages, supervises and monitors the work of the international and national teams and ensures that deliverables are technically sound and consistent with the requirements of the project.

A **Project Execution Body (PEB)** consisting of a Project Coordinator (PC), supported by a Project Assistant and an Administrative Assistant was planned. All field staff were to be hired as per UNIDO procurement rules. The PEB is responsible for the overall operational and financial management according to the rules and regulations of UNIDO/GEF for directly executed projects. It is entrusted to prepare progress reports, financial reports etc., which are to be submitted to UNIDO-HQ and the PSC. It also produces annual progress reports, at least two weeks before the annual meetings. At the end of the project, the PEB produces the terminal report, which is to be submitted to the Project Steering Committee at least two weeks before the Terminal meeting. The PEB was planned to be hosted at the premises of the Ministry of Industry and Trade, Government of Sri Lanka. UNIDO is to provide the PEB with the necessary management and monitoring support during the entire implementation period of the project. The PC is to serve as an extension of the UNIDO-PM and as a leader of the PEB. The PC is responsible for executing the quarterly WP and the day-to-day management, monitoring and evaluation of project activities as per the approved AWP.

No changes were made to the project implementation methodology or plans, except for the introduction of the “Revolving Fund” of US\$ 600,000 to be taken from the project budget and deposited with a local bank to allow private sector to borrow money for plantations and industrial products projects.

### 2. Positioning of the UNIDO project

The project’s focus on the use of biomass energy to provide feedstock for energy production is also directly in-line with the National Energy Policy and Strategies (NEPS) – adopted by the Sri Lankan Parliament in 2008. This policy document covers all sub-sectors within the energy sector – with a strong emphasis on the electricity sub-sector, including the promotion, utilization and development of renewable energy. It clearly indicates that the biomass energy sector should be developed and commercialized. Specific new initiatives are included in this policy to expand

the delivery of affordable energy services to a larger share of the population, to improve energy sector planning, management and regulation, and to revitalize biomass as a significant resource of commercial energy.

Furthermore, the project is highly consistent with the observations made in the GEF's 2010 report "Implementing the Poznan Strategic Program on Technology Transfer".

### **3. Coordination with Other Related Initiatives**

The proposed project will establish the necessary communication and coordination mechanisms through a Project Execution Body and Project Steering Committee with other biomass related projects in Sri Lanka. UNIDO Sri Lanka will also take the lead in ensuring adequate coordination and exchange of experiences – especially with the UNDP/FAO project "Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies in Sri Lanka". This GEF project (GEF ID 4096) will address policy, guidelines and capacity barriers to the sustainable plantation management and the use of biomass (generally) for heat and power. Coordination with the UNDP-FAO project will be facilitated through the involvement of the Ministry of Environment (and their Department of Forestry of Sri Lanka), who are also key stakeholders in the UNDP-FAO project.

## V. Project assessment

### 1. Design

The project was well designed in involving all the stakeholders of the project, especially those in the public sector. The international consultants' missions prior to the formulation of the project were important at the design stage of the project.

#### *Project Components*

The components were designed in the best possible way to minimize risks. Their sequence implicitly denotes slight dependencies and reflects the logical sequence for their implementation. The dates set for the expected outcomes and outputs were only indicative.

**Component 1** relies on the active involvement of the national and local government. The main risk is in the development of functional policies and legislation to be adopted by the government, and other legislative bodies as necessary, and then is put into action. While adoption of policies is the responsibility of democratically elected representatives, and thus cannot be guaranteed by a donor funded project, the project outcome is fully in line with government priorities, ownership and buy-in from local stakeholders is demonstrably high (not least in the level of co-financing), and the project is designed in such a way as to foster cooperation and working towards mutual shared goals. The project team will be based within the Mahaweli Authority and will thus have high level access and influence. Ongoing efforts to ensure buy-in and commitment will be made.

**Component 2** has been designed to minimize technology risks through the introduction of multiple bamboo species, and the use of species that have excellent track records where technology transfer from nearby countries can be facilitated. Climate risks are also mitigated to some extent by the selection of drought and flood resistant species. In addition the project will be implemented through the Mahaweli Authority where local experts and staff have a proven track record in bamboo tissue production.

**Component 3 & 4** were designed to minimize technical risks from plantation failure. In component 3, planting will involve 10,000 ha with ~100 ha plots spread over a large area, so that the failure of an individual plot will not significantly affect the project outcomes. The failure of an individual plot in component 3 will not significantly affect the project outcomes of component 4. Local researchers in Mahaweli Authority, have capacity and experience to implement the project and, under component 4 significant capacity building and outreach activities that demonstrate the local benefits of bamboo-related industries will be included. Since multiple uses of the bamboo will be supported through technology transfer including bamboo shoots, materials and energetic use, the viability of the plantations is more assured, and the risk of minimal take-up is reduced.

**Component 5** takes a comprehensive value-chain approach to the transfer of bamboo processing technology for flooring and bamboo shoot production, addressing both production and capacity building to support entrepreneurs to market the products. Since GEF funds won't be used to subsidize equipment, risks of inappropriate selection of equipment and insufficient ownership of outcomes will be very low.



**Component 6** mitigates risks by taking a fairly neutral technical stance so that the most appropriate technical solutions for the use of bamboo for energy based on financial viability. This flexibility will allow for management to select the most appropriate technical solutions.

## **2. Relevance**

The project is extremely relevant to the country's plans to reduce GHG emissions, to increase forest canopy, maintain river banks and prevent soil erosion, improve biomass resources, to create new industries and move some of the existing industries into bamboo products, and improve livelihood in the rural areas of Sri Lanka.

Bamboo can serve as a substitute for trees (for industrial wood applications) and as an energy crop (for wood pellets). It is advantageous to use for these purposes because bamboo is much faster growing than most trees, they help with soil quality and prevent erosion, and there are many different species which can adapt to numerous environmental circumstances. Newly planted tropical bamboos generally take about 3-4 years to develop into full sized clumps and a total of 6-7 years before being fully harvestable. The vertical growth of the each aerial stem (or culm) of the bamboo plant bamboo is completed in a period of 3 to 4 months. Unlike trees, bamboo culms do not undergo secondary growth, i.e. the diameter of each culm remains unchanged over the years. Culms undergo a process of lignification and harden over time, and are usually fully mature and ready for harvesting as timber after 3 years.

It is important to note that bamboo is a grass and not a tree. Because it is a grass, and in order to maintain its vigor, it must be harvested. Otherwise, numerous potential problems can occur. Thus, it is critical that the harvesting be financially sustainable in order to continue it into the future.

In previous decades many countries that have strived towards industrialization have considered bamboo as a weed that should be eliminated, and accordingly, vast areas of bamboo were destroyed and converted to crops with greater commercial value. However, there has been increased awareness of the value of bamboo as one of the fastest growing sources of timber in nature. As such, many countries in Africa, Asia, and America are now promoting bamboo for industrial uses.

Sri Lanka currently has very limited bamboo resources and no significant bamboo-based industries. Bamboo resources are mainly scattered around the south-western "wet zone" of the country (see Figure 1 for the location of the dry versus wet zones of the country). It occurs largely as understory growth in state forests, and there are no large concentrations anywhere in the country, i.e. there is no bamboo forest that can facilitate the short term development of large bamboo industries. The total area of bamboo resources in Sri Lanka was reported to be 3,000 ha in 2005. This figure represents approximately 0.2% of the total forest area of Sri Lanka in 2005 (1.933 million ha). It should however be noted that the reported figure of bamboo resources in the country for the years 1990 and 2000 was also 3,000 ha; i.e., the reported figure did not change in 15 years and may not be accurate, but it is unlikely to be much higher.



**Figure 1: Map of Sri Lanka's wet zone and dry zone (Source: [http://lcweb2.loc.gov/frd/cs/sri\\_lanka/lk02\\_01b.pdf](http://lcweb2.loc.gov/frd/cs/sri_lanka/lk02_01b.pdf))**

In global terms, bamboo industrialization is a relatively recent trend. Many countries in South-east Asia – where bamboo has played an important cultural role for millennia – are only beginning to move beyond traditional uses of bamboo and develop bamboo industries. Thus, it is not surprising that bamboo in Sri Lanka has not yet developed into an industrial crop.

In Sri Lanka, bamboo has not been used as an industrial product. It has traditionally been used by the handicraft sector, mainly for making baskets (e.g. used by tea farmers). It has also been used for scaffolding for building construction – though this usage is in steep decline recently since it has become possible to rent metal scaffolds.

Recent major advances within Sri Lanka can assist in advancing the role of bamboo. A functional tissue culture lab has been successfully established within the Riverine Bamboo Project (RBP) which is dedicated to the mass propagation of bamboo species. The lab is fully operational and currently has an annual production level of 250,000 plants. See Annex G for more information on this project.

The RBP project success is a clear indication that bamboo development in Sri Lanka is taking a strong industrial turn. This remarkable technical achievement has been accomplished

systematically in a relatively short period time by local scientists, and it represents a great opportunity for developing bamboo as an industrial resource in the country.

Moreover, and in order to reduce soil erosion and deforestation in the dry zones of the country, it is necessary to introduce drought resistant bamboo species. This project will help in this endeavor by including five species into the existing propagation program to develop bamboo products on an industrial scale for industrial use and energy generation. This project will help in this endeavor by including five new species into the existing bamboo propagation program.

### **3. Effectiveness**

The project has been and will certainly be successful in achieving its objectives in a timely manner, especially if its SC is back to work and the PEB is reinforced. The components of the project will lay the grounds for and will establish more bamboo plantations and industrial products, including biomass energy material. The preparatory work of most components is almost done and will continue to achieve the required outputs and outcomes.

With UNIDO expertise, technical knowhow, and support that the project will bring into bamboo plantations and bamboo based industrial and energy products, it is certain that the project will have a great success. The key is to raise enough awareness and interest in both the public and private sectors to invest in such new endeavors or projects.

### **4. Efficiency**

The effects of soil erosion and GHG emissions on Sri Lanka are tremendous. The costs for reversing these effects are beyond calculations. The costs-benefits of this project are very efficient when compared to the remedy costs. Moreover, the activities and events executed by the project so far reflect careful and optimal spending policy, planning and implementation actions on the part of the project management to ensure optimal costs/benefits.

### **5. Sustainability of Project Outcomes**

The project outcomes will sure be sustainable because they establish an excellent basis to rely on the public and private sectors in Sri Lanka to have successful and profitable bamboo laboratories, bamboo plantations (and harvesting them), and bamboo based industries. This is especially true considering that the public and private sectors will be investing their own money from their banks or through loans, and will certainly want their return on investment to continue and to grow more business in this sector.

Financially, the project outcomes will generate income, savings and profits for both the public and private sectors. Planting bamboo along the river banks in areas that suffered soil erosion, the government of Sri Lanka should be harvesting the bamboo “trees” after a certain number of years so that the bamboo continues to grow and renovate. This harvest can then be sold to the private sector for different uses in industrial products and energy. On the other hand, the private

sector can also plant bamboo for its own uses and thus save money from the decrease in imported raw materials for their energy and wood based products.

## **6. Assessment of monitoring and evaluation systems**

The M&E framework designed for the project is good overall. It has the proper indicators to assess the Project's impact on the development of a sustainable market for industrial energy efficiency. However, few of the indicated sources of verification of the indicators are ambiguous if not improper. For example, the indicator "Tones CO<sub>2</sub> eq. per year avoided (direct reductions) by end of project: has as the Source of verification the "Project reports, PIRs, mid-term evaluation and final evaluation reports" (Annex A of Project Document), while the logical, scientific, capable and trustful source of verification for such an indicator should be the international and national bodies of Sri Lanka which have the capacity for such measurements and the related databank.

The foundation of the framework is given in the logical framework which includes indicators, targets, and timelines which is shown in full in Annex A of the Project Document.

Monitoring and evaluation of the project is to take place at two levels, both at the activity level and the general project level. Activities at the activity level are to be monitored by participation partner industries with overall monitoring responsibility undertaken by the UNIDO Project Execution Body (PEB) which will be collecting and reviewing the industry and consultant output reports. Appropriate M&E forms and protocols will be developed as part of the Project Implementation. Industry partners will report to the PEB at agreed intervals. The M&E information will be aggregated to analyze overall program inputs and may provide the basis for the development of success stories, to be used in outreach activities and in the knowledge management component.

## **7. Monitoring of long-term changes**

Monitoring of long term changes are not mentioned in the Project Document. Sri Lanka signed the UNFCCC Paris Agreement on 22 April 2016 and its signature was ratified on 15 Sep 2016.

## **8. Assessment of processes affecting achievement of project results**

UNIDO's preparation and readiness prior to project startup was very well planned for and done, as evidenced in the successful launching of the project and the implementation of most of the planned activities from end of 2012 through 2014. The country counterparts proved their feeling of ownership in their commitment to finance major parts of the project cash and in-kind. Moreover, they expressed their enthusiasm and implementation commitment by attending the project launching ceremony and the several workshops or seminars held afterwards. They also participated in the technical training sessions held in Sri Lanka in October 2013.

The stakeholders got involved in the project through their participation in the Steering committee and the workshops or seminars held. The Mahaweli authority laboratory also prepared bamboo nurseries and is ready to “sell” to the any party willing to buy, including the Forestry department. Moreover, the stakeholders are happily welcoming and receiving the international consultants sent by the project. They appreciate the value add that the consultants are bringing to the project, their knowledge and technical expertise in bamboo.

UNIDO’s support to the project was excellent from all sides; namely management, technical and co-financing. The Project Management made several trips to Sri Lanka from the launching through implementation, which met the expectations of the stakeholders. The international experts were well chosen and proved a deep technical knowledge in the project, its subject matter (bamboo) and its requirements.

Due to the flexible nature of the project, the expected outcomes will be achieved as needed. This is expected with the governmental changes that took place in Sri Lanka soon after the project startup and which caused a slowdown in the activities due to changes in ministries and their secretaries. The project outcomes could be fortified with more proactive actions taken by the project management and coordination, as well as by UNIDO and from the counterparts.

## **9. Project coordination and management**

### **a. Project Steering Committee**

A Project Steering Committee (PSC), chaired by the Secretary of The ministry of Industry and Trade, was formed as planned at the startup of the project. The PSC held two meetings only. The first was held on November 29, 2012. The second and last meeting took place on May 27 of 2014. The PSC did not meet again since. It is assumed that this was mainly due to the expectations of the political and the resulting anticipated government changes when new ministers and secretaries of ministries were appointed and probably had priorities other than the project at their start up period.

### **b. Project Execution Body (PEB)**

The Project called for a PEB consisting of a Project Coordinator (PC), supported by a Project Assistant and an Administrative Assistant.

The PEB is responsible for:

- Overall operational and financial management in accordance with is rules and regulations imposed by UNIDO/GEF for directly executed projects.
- Preparation of progress reports, financial reports etc. which are to be submitted to UNIDO-HQ and the PSC.
- Producing annual progress reports, at least two weeks before the annual meetings. At the end of the project, the PEB produces the terminal report, which is to be submitted to the Project Steering Committee at least two weeks before the Terminal meeting.

“The Project Coordinator (PC) is to be the field extension of the UNIDO-PM and will lead the PEB. He/ She is to be responsible for executing the quarterly WP and the day-to-day management, monitoring and evaluation of project activities as per the approved AWP.”

The PEB was not fully established as planned. Since project startup, only the PC was hired while the Project Assistant and Administrative Assistant never were. With regards to the PC, the project had three different ones, with the third (current) one appointed on 15/08/2015 after a vacuum of 9.5 months. The new PC turned out to be in need of training on very important functions and skills such as coordination, public relations and communication, follow-up, and organization.

Reports and studies done by consultants were not usefully utilized or propagated. This was confirmed also in Brias’s 2016 report where he stated “On the whole, there is a lack of dissemination of project information. Many of the studies prepared by other international and national consultants (on environment and land availability, biomass, market, etc.,) could also be edited and repackaged for dissemination – for example through a project website or through a website of the Association of Bamboo Growers and Industries.” Moreover, there was no evidence that Brias’s & Schulz’s reports and studies since start of the project were disseminated or propagated to stakeholders to benefit from the knowledge, nor were they communicated to those in need to know.

#### c. Project Planned Outputs and Related Activities

##### **Project Timing**

The time schedule of activities and outputs was planned as shown in the Gantt chart below. The related activities do not have a timetable for the completion, and it is assumed that this was done purposely to allow flexibility in the implementation. There are little or slight dependencies between the stated Outcomes, Outputs and Activities, which if shown or identified, would have helped in improving the implementation pace of the activities, and the project as a whole. The same applies for identifying the party responsible for implementing each activities.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
<b>Component 1: Policy framework</b>							
Output 1.1: National strategy developed for the development of the bamboo industry							
Output 1.2: National policy adjustments supported							
Output 1.3: Land use policy adjustments							
Output 1.4: Supportive policies and regulations on a local and regional level							
Output 1.5: Information on the project activities disseminated to the public and decision-makers							
<b>Component 2: Bamboo Tissue Production</b>							
Output 2.1: Acquisition and installation of laboratory equipment for appropriate species							
Output 2.2: Functional laboratory and availability of high quality planting material for appropriate species							

	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7			
Component 3. Plantation establishment																												
Output 3.1: Bamboo plantations established in unused lands in the dry zone and wet zone																												
Component 4. Plantation operation																												
Output 4.1: Economically sustainable, functional bamboo plantations running in currently unused dry lands and wet lands																												
Component 5. Bamboo processing equipment																												
Output 5.1: Bamboo processing machinery for industrial use bought and installed																												
Output 5.2: Establishment of bamboo flooring production capacity																												
Output 5.3: Establishment of bamboo shoots by-product industry																												
Component 6. Pelletising / briquetting / chipping																												
Output 6.1: Pelletising / briquetting / chipping machinery bought and installed for bamboo																												
Output 6.2: Production of biomass pellets / briquettes or chips																												

Source: Project Document.



Overall, important preparatory steps and activities for major outputs and outcomes were started as planned, while other activities were partially done, or not started. The Table below shows the status summary at the outputs level at the time of this evaluation.

### Status Summary of Outcomes, Outputs, and Activities

Description	Plan		Actual	Remarks
	From	To		
Component 1: Policy Framework	VERY PARTIALLY DONE & LATE.			
Outcome 1: Assessment of existing framework and shortcomings and a supportive framework adopted.	Very Partially DONE.			
Output 1.1: National strategy developed for the development of the bamboo industry	2hy2	2hy3	Partially DONE & LATE.	<p><b>Findings:</b></p> <ul style="list-style-type: none"><li>- No national strategy formally developed or discussed yet. This activity is about 3 years late.</li><li>- Most of related activities were partially done.</li></ul> <p><b>Recommendations:</b></p> <p>Regarding “Development a National Strategy for The Bamboo Industry”:</p> <ul style="list-style-type: none"><li>- UNIDO: to send a “reminder” letter to the Secretary of the Ministry of Industry &amp; Trade (1) commending him on his decision to form an inter-government committee for the draft national strategy, (2) encouraging him to move forward, (3) informing him of the decision to have a marketing study by end of 2016 which will help in the draft strategy, and (4) asking for updates on the same.</li><li>- Secretary of Ministry of Industry &amp; Trade: to move forward with his decision of forming an inter-government committee for the draft national strategy, and to update UNIDO accordingly on a regular basis.</li><li>- UNIDO Project Coordinator should follow up on a regular basis on UNIDO head office letter with the concerned parties in the country.</li></ul>
Output 1.2: National policy adjustments supported	2hy1	2hy2	Very Partially DONE. & LATE.	This output cannot be done prior to completing Output 1.1.

Description	Plan		Actual	Remarks
	From	To		
<i>Output 1.3: Land use policy adjustments</i>	<i>2hy1</i>	<i>2hy2</i>	<i>Very Partially DONE &amp; LATE.</i>	<b>This output is dependent on the previous one, and thus cannot finish before the latter is finished or accomplished.</b>  <i>Output not realized. Most activities are partially done while the rest not started.</i>
<i>Output 1.4: Supportive policies and regulations on a local and regional level</i>	<i>2hy1</i>	<i>1hy3</i>	<i>NOT Started &amp; LATE.</i>	<b>This output is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.</b>
<i>Output 1.5: Information on the project activities disseminated to the public and decision-makers</i>	<i>2hy1</i>	<i>2hy7</i>	<i>Very Partially DONE &amp; Ongoing.</i>	
<b>Component 2: Bamboo Tissue Production</b>	<b>Overall, this component's outcomes and outputs were very partially DONE (Output 2.1 only. The rest were not started).</b>			
<b>Outcome 2: Bamboo reproduction technology transfer - National capacity to provide bamboo planting material on a large scale</b>				
<i>Output 2.1: Acquisition and installation of laboratory equipment for appropriate species</i>	<i>2hy1</i>	<i>2hy2</i>	<i>Very Partially DONE &amp; LATE.</i>	<i>Very partially started. Identification on lab equipment was done. But the remaining activities did not start.</i>
<i>Output 2.2: Functional laboratory and availability of high quality planting material for appropriate species</i>	<i>2hy1</i>	<i>2hy7</i>	<i>NOT STARTED &amp; LATE.</i>	<i>This output is dependent on Outputs 2.1 and cannot start if the latter is not finished.</i>
<b>Component 3: Plantation establishment</b>				
<b>Outcome 3: Plantations established to provide feedstock for bamboo industry</b>	<b>This outcome is partially dependent on outcomes of component 2 which is not complete yet. Very partially DONE.</b>			
<i>Output 3.1: Bamboo plantations established in unused lands in the dry zone and wet zone</i>	<i>2hy1</i>	<i>1hy3</i>	<i>Partially DONE &amp; LATE.</i>	<i>Only the first activity was done when list of publicly and privately owned lands were identified. Rest of activities either partially done or not started.</i>
<b>Component 4. Plantation operation</b>	<b>Overall, the activities to achieve this component's outcomes and outputs were VERY PARTIALLY DONE.</b>			
<b>Outcome 4: National know-how for maintaining bamboo plantations</b>	<b>Very partially DONE.</b>			

Description	Plan		Actual	Remarks
	From	To		
<i>Output 4.1: Economically sustainable, functional bamboo plantations running in currently unused dry lands and wet lands</i>	<i>2hy2</i>	<i>2hy7</i>	<i>Very Partially DONE &amp; Pending.</i>	Victor Brias, International Consultant, August 2014: “Establishment And Design Of Financial Model For Bamboo Plantations”. <i>The preparatory work have been done. It is now for the plantations owners to move forward.</i>
<b>Component 5. Bamboo processing equipment</b>	<i>Overall, the activities to achieve this component’s outcomes and outputs were PARTIALLY DONE.</i>			
<b>Outcome 5: Bamboo processing technology transfer to Sri Lanka</b>	<b>Partially DONE.</b>			
<i>Output 5.1: Bamboo processing machinery for industrial use bought and installed</i>	<i>2hy3</i>	<i>2hy4</i>	<b>Partially DONE &amp; LATE.</b>	<i>However, according to the Project Manager (Levissianos) and the international consultant (N. Schulz) a project with an NGO in the south is currently underway to establish production of industrial products. The NGO will be applying for a loan through the Revolving fund as soon as it is ready. Schulz is visiting Sri Lanka in Dec 2016 or Jan 2017 for this purpose. There is money left for the energy section of the project which may be transferred to the revolving fund or used to buy machinery directly.</i>
<i>Output 5.2: Establishment of bamboo flooring production capacity</i>	<i>2hy3</i>	<i>2hy7</i>	<i>Very Partially DONE &amp; LATE.</i>	Only some technical training was conducted.
<i>Output 5.3: Establishment of bamboo shoots industry</i>	<i>1hy4</i>	<i>2hy7</i>	<b>NOT Started &amp; little LATE.</b>	
<b>Component 6. Pelletizing / briquetting / chipping</b>	<b>NOT STARTED.</b> <i>This Component, together with its outcomes and outputs, are planned to start in the second half of the project.</i>			
<b>Outcome 6: Biomass pelletizing / briquetting / chipping technology transfer and development</b>				
<i>Output 6.1: Pelletizing / briquetting / chipping machinery bought and installed for bamboo</i>	<i>2hy3</i>	<i>2hy4</i>		
<i>Output 6.2: Production of biomass pellets, briquettes or chips</i>	<i>2hy3</i>	<i>2hy7</i>		

**Legend:**

- *1hy1: first half year 1; 2hy1: second half year 1; 1hy2: first half year 2; 2hy2: second half year 2, Etc.*
- *DONE: Activities completed and Output achieved; Partially DONE: some steps in certain activities were accomplished; Very Partially DONE: few steps in few (one or two) activities were accomplished; NOT STARTED YET: should have started but did not.*

While few activities and outputs were accomplished, a number of the outcomes, outputs and activities were only partially so, with a late start, or were not done at all.

## **10. Gender mainstreaming**

Since most of the projects' outcomes and outputs have not been completed yet, no evidence of Gender mainstreaming direct effects or results can be looked at or considered.

However, the consultant noticed that about 95% of the workers, at the tea box factory visited, were women working on benches for the assembly, polishing and finishing of the tea boxes. Four or five men only worked in the furnace areas where bamboo or wooden boxes were treated. Moreover, it was also noticed during the visit to one of the plantations that women were working alongside men in cutting weeds and cleaning up the land in preparation for a new harvest. It is also known that women in the rural areas work alongside their men in the fields and farms, plantations or in handicrafts.

These observations and facts indicate that the project will certainly realize and improve gender mainstreaming in Sri Lanka when new industries using bamboo are established.

## VI. Conclusions, recommendations and lessons learned

### A. Conclusions

The project started off and continues in a successful way in creating awareness and discussions of bamboo importance in Sri Lanka in terms of GHG emissions, increase in forest canopy, protection of riverbanks and soil retention, improvement of rural livelihood, and creation of new industrial products and industries. Workshops and seminars, as well as Steering committee meetings, held in Colombo during the first two years of the project and were successful in reaffirming the commitment and interest in bamboo as a solution for several challenges that Sri Lanka have been facing. Proper media coverage - through newspaper, magazines, and television networks - was also present to propagate knowledge on the project in the country. Several international consultants conducted field missions to Sri Lanka to study land availability for bamboo, laboratories for bamboo nurseries capabilities, and to assess and raise private sector companies' awareness of bamboo uses in and benefits of industrial products.

**Creating Bamboo Awareness:** The project was successful in creating a relatively good bamboo awareness in Sri Lanka, its uses and benefits amongst people in both public and private sectors. People in different ministries and different companies and organizations are talking about bamboo and considering it in a limited way due to their limited resources and knowledge. Most of the people, met with during the mission, were eager to learn more about bamboo and asked several important technical questions. The questions were timely and professionally answered by the technical expert during same meeting.

However, and as mentioned in " *The JOINT COUNTRY PORTFOLIO EVALUATION – SRI LANKA MAIN FINDINGS AND RECOMMENDATIONS - May 2014, ... weaknesses in the implementation of such laws and policies reduce the full integration of environmental concerns into sectoral agendas Sri Lanka's vision for Sustainable Development.*" Furthermore, and during one of the meetings with an important government official directly related to the project, the consultant found out that the project was not embedded in the government and ministries or departments yearly plan or budget. The official was not willing to establish bamboo nurseries unless his department receives a firm order or request from another department within the same ministry for a defined quantity of bamboo plants. The department supposed to request or order these nurseries was not aware of the project or of the fact that his department should be ordering or requesting such nurseries.

In addition to these facts, and as soon as the project kicked off and started to accelerate, it was faced with the political "non-stability" of the country in 2015 with new presidential elections followed by the appointment of a new government which included secretaries of the ministries that are major counterparts in the project. It is only natural that the newly appointed government has many urgent issues to tackle, and needs time to prepare a new plan and budget for the country.

In spite of its role being only an advisory one, the lack of continuity of the Steering Committee (SC) work may have also affected the project implementation. The SC only met only twice since from the start of the project. Its last (second) meeting took place in May 2014. This situation may have affected the project momentum. It is important to note that the SC members are

representative from major stakeholders in both the public and private sectors, and thus should include the project and its objectives in their ministerial and departmental plans and budgets as well as intra-communications.

Moreover, one or two of the private companies that were committing some cash contributions to the finances of the project went bankrupt or under insolvency status.

Lack of follow-up locally on new events and programs that have emerged since the project start and that may be of benefit and support to the bamboo project. World Bank was about to sign an agreement with the Department of Forestry - Ministry of Mahaweli – during the mission of this evaluation.

Information Propagation and communication were found not to be sufficient. There is no institutionalized information system or process to address the public at large, the stakeholders, the needs and queries of the stakeholders, farmers, industrialists, and other parties in the country. Technical queries and requests for further information coming from farmers or lab people or government officials were answered mostly by emails from the different consultants and through their own initiatives. There was no action taken to document this information and to communicate it at large so more people or entities can benefit from it. Further evidence of this fact is in Victor Brias' report of March 2016 where he stated that "...on the whole, there is a lack of dissemination of project information. Many of the studies prepared by other international and national consultants (on environment and land availability, biomass, market, etc.,) could also be edited and repackaged for dissemination – for example through a project website or through a website of the Association of Bamboo Growers and Industries.

Document control in the project is not effective especially at the national level. For example, international consultants' reports and studies, are not logged, archived, or filed as they should be and sometimes not circulated to those who need to know. Some copies of certain projects and studies carried neither the author's name nor the date of issue. Others were "discovered" by chance and through conversations. Another example is the lack of basic content and quality in the reports of the project coordinator. Such a situation negatively affected the satisfaction, reputation, and the value add of the project, as well as the management, coordination, follow-up, communication, and evaluation of the project and related activities difficult.

Given the above political and project situations in Sri Lanka, the project lost some of its momentum, especially with regards to those activities or actions for which the public sector parties were responsible (Annex 4: Status of Outcomes, Outputs and Activities). For example, and under the Policy component which is the basis on which the other project components depend, a draft strategy paper was proposed by one of UNIDO experts but it was not moved forward or even discussed internally within the public sectors entities concerned. In other words, the private sector will not invest in bamboo plantations and bamboo based industries or industrial products if the laws and regulations do not even facilitate the harvesting and transporting of such material. The activities for which the private sector is responsible were not due at the time of this evaluation.

However, in the spring of 2016, a workshop was held in Colombo and was attended by many stakeholders who showed a renewed excitement and interest in the project. This was further

confirmed by the new secretary of the Ministry of Industry & Trade who affirmed, during a meeting with the consultant (author of this report), the government and the ministry's commitment to the project. During the same meeting, the secretary requested his Director of Development (Annex 2: Contacts/Interviews/Meetings) called for a meeting of all public sector stakeholders of the project to convene and to start work on the policy and strategy legislation changes suggested by UNIDO.

Changes of GHG Emissions in the country are too early to assess at the current stage of the project which has not yet achieved or completed the planned components and outcomes in order to have any such effects. The same applies for land retention, climate change, forestation, and introduction of bamboo industrial products. These issues can only be fully measured or evaluated few years after the project has been completed.

## **B. Recommendations**

### **To UNIDO (Vienna)**

- ⇒ Encourage the resuming of the SC activities through meetings and involvement of the members in order to ensure proper understanding of the project requirements, and therefore make or embed these requirements in their duties at the ministries.
- ⇒ Improve the project local coordination and communication capacity, especially with regard to its (1) following up on the projects activities and the implementation plan to ensure quality and timely execution of activities and deliverables, (2) coordinating activities and responsibilities with the stakeholders, especially with the UNIDO Country Director in Sri Lanka and with the public sector stakeholders and at large, (3) becoming pro-active with the Steering Committee and Vienna, and finally (4) acting as a leader of the project in Sri Lanka.
- ⇒ Reinforce the Project Execution Body with the proper facilities, equipment and staff to make it more productive and effective. The project coordination and communication should be reinforced with Bamboo Technical Experts with a regular input of one or two man-weeks per month until the end of the project in order to assist in the technical awareness setting up, and training of related government officials and employees, farmers, and industrialists in a timely manner.
- ⇒ Establish, as soon as possible, an effective information communication system for the project to ensure easy access for the concerned people and parties for submitting their questions, queries and concerns and for obtaining answers thereon, and to propagate updates, plans, and experts' reports amongst other information for those who need to know including the media. This system should include a depository of experts' technical reports and studies as well as a LOG of events and activities that are to be maintained and updated continuously.

## To the Secretary of the Ministry of Industry & Trade

- ⇒ Resume the Steering Committee's work at an intense pace to ensure proper and timely execution of the remaining parts of the project by updating the Project Implementation Plan as suggested below, and actively involving the concerned stakeholders.
- ⇒ Prepare and Implement an updated or revised "Project Implementation Plan", for the remaining parts of the project, according to the visions of the Steering Committee and based on the project document and donors' regulations and requirements, taking into consideration the recommendations of international technical consultants, the new developments, and new programs and projects (governmental, regional, and international) in the country.
- ⇒ Ensure continuous coordination, communication, support and follow up of project information, plans, and implementation activities, amongst the concerned public sector bodies, especially with regards to embedding the project into the different ministries and departments yearly plans and budgets with a clear indication on WHO is to do WHAT and WHEN.
- ⇒ Embed the project requirements and activities into the different ministries' plans and budgets to ensure proper and timely implementation.



## ANNEXES

## **Annex 1 Bamboo for Sri Lanka – TOR of Midterm review**



Bamboo Sri Lanka - Midterm Review TOR - Final Version - September 2016 - With Color Indexes.pdf

Received from UNIDO Project Manager, Vienna. The whole content could not be copied or inserted here.

## Contacts/Interviews/Meetings

CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
Sep 20 & 21, 2016 Vienna. Nov 3 & 4, 2016 Vienna, <b>Mr. Antonio Levissianos</b> UNIDO Project Manager <b>Mr. Spyridon Kleitsas</b> UNIDO Consultant <b>Mr. Niels Schulz</b> UNIDO Consultant	September: briefing on the project information, status challenges changes, valuation approach.  November: discussions on mission, meetings, findings, recommendations and conclusions.
Monday- 26 <sup>th</sup> September 2016, Colombo. <b>Mr. Udaya R. Seneviratne</b> Secretary, Ministry of Mahaweli Development, Environment Department	<u>Interviewee Comments</u> <ul style="list-style-type: none"> <li>• Not familiar with the project.</li> <li>• Requested UNIDO's help for handicrafts and furniture making.</li> <li>• Gave a brochure on "Blue-Green Era Conference &amp; Exhibition" planned for 17-19 October 2016.</li> <li>• Need to establish bamboo nurseries in villages to avoid transportation costs.</li> <li>• Need to explain/introduce bamboo uses to timber industries.</li> <li>• Green Spot Village Project will cover about 10,000 villagers spread all over the country.</li> </ul> <u>Consultant's Comments/Recommendations</u> <ul style="list-style-type: none"> <li>• UNIDO to send brochures showing variety of products made of bamboo (handicrafts and industrial products) especially those of bamboo project in North East India which has large pictures with explanations for each. The brochure of Sri Lanka's project is not sufficient;, OR,</li> <li>• Have the project coordinator collect such photos, prepare a brochure and print locally after review by Vienna office.</li> </ul>
Monday- 26 <sup>th</sup> September 2016, Colombo. <b>Mr. Nawaz Rajabdeen</b> National Director UNIDO Focal Point	Very knowledgeable with the project from start and up-to-date.

CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
Monday- 26 <sup>th</sup> September 2016, Colombo. <b>Mr.T.M.K.B.Tennekoon</b> Secretary, Ministry of Industry & Commerce, <a href="mailto:secretarymid@gmail.com">secretarymid@gmail.com</a>  <b>Mr. Asitha K. Seneviratne</b>	Secretary had to leave for urgent meeting with Prime Minister. Discussed with Direct Reports who know about the project and is VERY SATISFIED overall with its design and implementation so far. The Industry Development Board offered land for bamboo planting.
Tuesday 27th September 2016, Colombo. <b>Dr. B.M.S .Batagoda</b> Secretary, Ministry of Power & Renewable Energy,	<ul style="list-style-type: none"> <li>Does not know about the project.</li> <li>Two Power Plants (5 MW each) by the Japanese company Obiahi, are planned for in Ampara/Uva and in Manarala.</li> <li>Collaborating with UNDP Biomass project for the supply chain (collection transportation, chipping).</li> <li>How can Bamboo compete with other products?</li> </ul>
Tuesday 27th September 2016, Colombo. <b>Mr. S M D P Anura Jayatilake</b> Director (EPC&CM), Environmental Pollution Control & Chemical Management, Ministry of Mahaweli Development & Environment	<ul style="list-style-type: none"> <li>Limited role in the new setup of the Ministry.</li> <li>Was involved with project from beginning. Attended workshop of UNIDO in Mar. 2016. Very satisfied with project early preparations. Stated that project Steering Committee has not been active lately.</li> <li>Aware of FAO Biomass project for Bamboo plantations.</li> <li>Need to promote Bamboo in home uses.</li> <li>Architects and Engineers don't use bamboo because it is not treated to last long time. Treating Bamboo is important for construction and other uses.</li> </ul>
Tuesday 27th September 2016, Colombo. <b>Mr. Asanka Abayakoon</b> Manager Dilmah Conservation, <a href="mailto:asanka@dilmahconservation.org">asanka@dilmahconservation.org</a>	<ul style="list-style-type: none"> <li>EU requires FSC timber and bamboo certification for tea boxes.</li> <li>Lots of land available and can start planting about 50 ha.</li> <li>Expected UNIDO to provide more training on bamboo.</li> <li>Company has a Certification Department assisting and checking all subsidiaries or sister companies. So me company subsidiaries are certified to ISO 9001, ISO 22000.</li> </ul>

CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
<p>Wednesday -28th Sep. 2016, Colombo. <b>Mr. Attanayake</b> Director Environment Technical Service Division Ministry of Mahaweli (3rd Floor) Email: <a href="mailto:kalynaatt@yahoo.com">kalynaatt@yahoo.com</a></p>	<ul style="list-style-type: none"> <li>• Did not start planting the new species.</li> <li>• Will nurse new species when an order or request is received from other ministries or ministry or departments within the ministry, especially the Forestry department.</li> </ul> <p><u>Consultant's Remarks/Comments:</u></p> <ul style="list-style-type: none"> <li>• Project has been approved by the government and all parties should cooperate together and incorporate the project in their annual plan and budget.</li> </ul>
<p>Wednesday -28th Sep. 2016, Colombo. <b>Mr. Anura Sathurusinghe</b> Conservator General of Forests Forest Department Ministry of Mahaweli <a href="mailto:anura.sathurusinghe@gmail.com">anura.sathurusinghe@gmail.com</a></p>	<ul style="list-style-type: none"> <li>• Not familiar with the project.</li> <li>• Suggested to have a letter from UNIDO asking the department to plant bamboo. Mr. Niels showed him a copy of the letter from the forestry department (dated few years back). He then stated that the letter is outdated!</li> <li>• Requested more information on the bamboo project and its benefits, uses, etc.</li> </ul>
<p>Wednesday -28th Sep. 2016, Colombo. <b>Mr. Viren Ruberu</b> Director / Chief Executive Officer, Kahawatte Plantations PLC,</p>	<ul style="list-style-type: none"> <li>• Not familiar with the project.</li> <li>• Make own bio-charcoal from cinnamon remains.</li> <li>• Not much was done with project so far. Should relaunch the project.</li> <li>• Prices of tea are going down. Thus the need for new ideas or feasibility studies to go for bamboo planting.</li> </ul> <p><u>Consultant Recommendation</u></p> <p>There is a need to educate plantations companies on bamboo characteristics from nursery to trees and their effect on water resources as well as on their uses.</p>
<p>Wednesday -28th Sep. 2016, Colombo. <b>Ms. Dharshani De Silva</b> Senior Environment Specialist and Project Task Leader World Bank email :ddesilva4worldbank.org</p>	<ul style="list-style-type: none"> <li>• Not aware of UNIDO project.</li> <li>• World Bank approved and signed a project (US\$45 Million) to improve the management of ecosystems in selected locations in Sri Lanka for conservation and community benefits. Further details of project can be found on website.</li> <li>• Explained that Ministry of Environment is the focal point for World Bank.</li> <li>• Explained the World Bank's project and its components.</li> <li>• World Bank is supporting Australian project in Sri Lanka.</li> <li>• Need to see a concrete sample or example output(s) from UNIDO projects.</li> </ul>

CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
Thursday -29th September , Colombo.2016 <b>Mr. Manik Weerasinghe</b> CEO Maturata Plantation – Beverly Estate <a href="mailto:manikw@brownsplantations.com">manikw@brownsplantations.com</a>	Satisfied with project so far.
Friday -30th Sep. 2016, Colombo. <b>Mr. Pathirana</b> Walpita State Farm	<ul style="list-style-type: none"> <li>• 56 ha of land in the plantation, out of which 3 ha are available for bamboo.</li> <li>• Started planting bamboo in 2007.</li> <li>• Can supply up to 2000 plants within a notice period of 30 days.</li> <li>• Attended workshop in Feb 2016.</li> <li>• Started exporting bamboo baskets to Pakistan</li> <li>• Need budget for glasshouse to grow bamboo faster</li> <li>• Recommendations: <ul style="list-style-type: none"> <li>○ Start a pilot sub-project for handicrafts (and tools) and vases, etc. This would be an incentive for other industries to follow suit.</li> <li>○ Making toothpicks, window frames, paintings frames, etc. would be good products.</li> </ul> </li> </ul>
Friday -30th Sep. 2016, Colombo. – <b>Dr. G A S Premakumara</b> Director General – <b>Ms. Ilmi Hewajulige</b> Senior Deputy Director Email: <a href="mailto:ilmi@iti.lk">ilmi@iti.lk</a> – <b>Dr. P. Neville. R J Amunugoda</b> Senior Research Scientist Food Technology Section, Industrial Technology Institute (ITI)	<ul style="list-style-type: none"> <li>• The DG requested that we meet with him too.</li> <li>• Introduction on mission and capabilities of ITI; mainly research and applied, laboratory testing, technology transfer and training in collaboration with the public and private sectors.</li> <li>• Machinery for canning bamboo shoots is still there from previous INBAR project, but had not been working since.</li> <li>• Contacted Project Coordinator last November concerning Training Center availability at ITI.</li> <li>• Submitted proposals to government for primary industries on Bamboo.</li> </ul> <p><u>Consultant's Remarks</u></p> <p>– ITI may be an excellent potential partner and supporter for the Bamboo project, in research, testing, training, and other. Thus, UNIDO PC should be in close contact with ITI and keep them updated on our project and receive updates on theirs.</p>

CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
Friday -30th September 2016, Colombo. <b>Mr. Samantha Kumarasena</b> Chief Executive Officer, National Cleaner Production Centre Email: <a href="mailto:samantha@ncpcsrilanka.org">samantha@ncpcsrilanka.org</a>	<ul style="list-style-type: none"> <li>• The Center has no current relationship with UNIDO Bamboo project.</li> <li>• Offers assistance on ISO 9001, ISO 14000, and ISO 22000.</li> <li>• Suggested UNIDO contacts HAYCARB, a carbon company.</li> </ul>
Friday -30th Sep. 2016, Sri Lanka. <b>Mr. Chandana Maitipe</b> Designer & Proprietor, Handicraft and Preservation Society Amerasinghe Mawtha, Arukwatta, Padukka.	Consultant's team visited the premises. Saw an excellent example of what a bamboo tree can grow to. About 900 tress from the same roots tightly close to one another and about 20 meters high. Handicrafts were there made by villagers and sold to traders by Mr. Maitipe.
Monday- 03rd Oct. 2016, Colombo. <b>Mr. Sirimevan De Silva</b> General manager Timber Concepts (Pvt) Ltd, Email: <a href="mailto:timberconcepts@slt.net.lk">timberconcepts@slt.net.lk</a>	<ul style="list-style-type: none"> <li>• Manufacture of tea boxes.</li> <li>• Company Certified to ISO 9001 and ISO 22000.</li> <li>• Currently importing bamboo raw material from China.</li> <li>• 60% of production goes to Dilmah.</li> <li>• The demand for tea boxes made of bamboo is increasing. More and more customers are asking for such boxes.</li> <li>• Current production is 30% from bamboo, and rest from MDF type of wood</li> <li>• Currently working one shift only. But can work three shifts per day.</li> </ul> <u>Consultant's Observations/Remarks:</u> <ul style="list-style-type: none"> <li>• Observed a production operation for collating bamboo sticks and making a large board.</li> <li>• Well ran and managed plant with impressive cleanliness and working conditions.</li> <li>• 95% of workforce is women.</li> </ul>
Monday- 03rd Oct. 2016, Colombo. – Ms. <b>Tharuka Dissanaïke</b> (Policy Specialist; <a href="mailto:tharuka.dissanaïke@undp.org">tharuka.dissanaïke@undp.org</a> ), UNDP. – Mr. <b>Sampath Ranasinghe</b> (Project Manager; <a href="mailto:Sampath.Ranasinghe@fao.org">Sampath.Ranasinghe@fao.org</a> ), FAO.	<ul style="list-style-type: none"> <li>• Mostly unaware of the project.</li> <li>• GEF is running Small Grants Program very successfully.</li> <li>• <u>Consultant's Remarks/Suggestions</u> <ul style="list-style-type: none"> <li>- Can work together on Policy change.</li> <li>- UNIDO PC should be well versed with UNDP &amp; FAO project(s) and should be in continuous and close contact, collaboration and cooperation with them to optimize resources and get support for achieving project's objectives.</li> </ul> </li> </ul>

CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
Monday- 03rd Oct. 2016, Colombo. <b>Dr. RDS. Jayathunga</b> Director, Climate Change Ministry of Mahaweli & Environment <a href="mailto:sunimal68@hotmail.com">sunimal68@hotmail.com</a>	
Monday- 03rd Oct. 2016, Colombo. – Ms. Heshani Bogollagama (Chairperson) – Ms. Chandramali Liyanage (Director) – Mr. Abohanifa M Rismy (Assistant Director – Development) National Crafts Council	<p>Meeting was arranged through Mr. Nawaz Rajbdeen.</p> <ul style="list-style-type: none"> <li>• Council has 112 training centers across country with different skills trainer in each. Three of these centers (Kalutara, Ratnaura, &amp; Monaragala/UVA) are dedicated for bamboo products.</li> <li>• Trainers are on payroll.</li> <li>• Have a database of 2500 handicraft skilled villagers, out of which 250 are bamboo crafts persons.</li> <li>• Council cooperates with National Design Center (Ministry of Industry &amp; Commerce) and with Export Development Board (EDB).</li> <li>• Products are purchased, exhibited, and sold by Sri Lanka Handicrafts Board (LAKSALA).</li> <li>• Would welcome help in new designs and techniques for handicrafts.</li> <li>• It is preferable to have training sessions in the regions since villagers cannot afford to leave their work and spend time and money on transportation. It takes a villager two days sometimes to reach Colombo.</li> <li>• Council would is willing to cooperate with UNIDO Bamboo project in all aspects including the use of its training centers anywhere in the country.</li> </ul> <p>Consultants took a tour in the training center and in the museum of the council.</p> <p><u>Consultant's Remarks/Observations/Suggestions</u></p> <ul style="list-style-type: none"> <li>• National Craft Council could be a very good partner/supporter of the project, through the use of their training centers across the country as well as their knowledge of villagers/farmers.</li> </ul>



CONTACTS/INTERVIEWS/MEETINGS	
Date & Party Met	Major Discussions, Remarks, Recommendations, Request
<p>Thursday 6 Oct, 2016, Colombo.</p> <p><b>Mr.T.M.K.B.Tennekoon,</b> Secretary, Ministry of Industry &amp; Commerce Email: <a href="mailto:secretarymid@gmail.com">secretarymid@gmail.com</a></p> <p><b>Ms. T.M.B. Manike</b> Director, Development Ministry of Industry &amp; Commerce, <b>Two Deputy Directors</b></p>	<p>Meeting was held in presence of Mr. Nawaz Rajebdeen, and without Niels Schulz who was on a field trip out of Colombo.</p> <ul style="list-style-type: none"> <li>• Presented the progress of the project.</li> <li>• The need for the Ministry to take a more active role in drafting a National strategy developed for the development of the bamboo industry. <i><b>The Secretary asked his Director to prepare a draft with the concerned ministries/departments as soon as possible.</b></i></li> <li>• The need for detailed Action Plan</li> </ul>
<p>Friday -07th October 2016, Colombo.</p> <ul style="list-style-type: none"> <li>– Mr. Dushantha Ranaraja (Director)</li> <li>– Mr. Asitha Karunaratne</li> <li>– Deputy General Manager HAYCARB</li> </ul>	<ul style="list-style-type: none"> <li>• Interviewee not aware of project. Consultants presented a brief on the project.</li> <li>• Conversation was mostly technical on carbon and its uses in different industries</li> <li>• Niels Schulz explained the potential of bamboo for carbon.</li> <li>• Director stated that they already work with ITI on certain tests and research.</li> <li>• Director mentioned the need to have feasibility studies for using bamboo for carbon. He declared that such study will be pursued by the company.</li> </ul>

## **Annex 3      Documents and Websites Consulted/Reviewed**

1. UNIDO-Bamboo Processing for SriLanka-ID4114-CEOEndorsement-v3-1\_resub2\_cl
2. Bamboo Sri Lanka - Midterm Review TOR - Final Version - September 2016
3. Sri Lanka Bamboo Project - Midterm Review Annexes - September 2016
4. 1st Project Steering Committee (PSC) Meeting
5. 2nd PSC Presentation –new
6. BRIAS-UNIDO\_SRILANKA-FINAL REPORT 2014
7. FINAL REPORTLand availability1-1- , by Mr. Sisira Hapuarachchi
8. Niels Schulz - Land\_suitability\_report\_may\_20\_2014
9. PG Joseph Market and Economic Study of the Biomass Energy Sector in Sri Lanka
10. Sri Lanka Bamboo Project doc new, UNIDO.
11. Study on Sri Lanka Forest Wood & Paper-1, Piyasiri Gunasekara, UNIDO.
12. FAO paper on Bamboo
13. FAO - GLOBAL FOREST RESOURCES ASSESSMENT 2010
14. ADB- (Preparing the Green Power Development and Energy Efficiency Improvement Investment program)
15. ADB- (Preparing the Green Power Development and Energy Efficiency Improvement Investment program Tranche 2
16. GEF projects in Sri Lanka, GEF website.
17. GEF Promoting Sustainable Biomass Energy Production and Modern Bio-Energy Technologies
18. GEF-Enhancing Biodiversity Conservation and Sustenance of Ecosystem services in Environmentally Sensitive Areas
19. Report on non-grant instruments
20. Final TOR Revolving Fund - June 2015, UNIDO.
21. Country Evaluation Sri Lanka\_draft 2014\_11\_14 V3 mdg
22. EU 38 million euros for development in Sri Lanka
23. EU - MULTIANNAL INDICATIVE PROGRAM (MIP) 2014-2020 FOR SRI LANKA
24. FAO - GLOBAL FOREST RESOURCES ASSESSMENT 2010
25. FAO Stat
26. EU - Sri Lanka Development Cooperation
27. Websites of several ministries of Sri Lanka.
28. USAID website
29. EU International Cooperation Website.

## Annex 4 Status of Project's Outcomes, Outputs, and Activities - 30 September 2016

STATUS OF PROJECT’S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
Component 1: Policy Framework	VERY PARTIALLY DONE & LATE.				
Outcome 1: Assessment of existing framework and shortcomings and a supportive framework adopted.	Very Partially DONE.				
Output 1.1: National strategy developed for the development of the bamboo industry	2hy2	2hy3	Partially DONE & LATE.	<p><b>Findings:</b></p> <ul style="list-style-type: none"><li>- No national strategy formally developed or discussed yet. This activity is about 3 years late.</li><li>- Most of related activities were partially done.</li></ul> <p><b>Recommendations:</b> Regarding “Development a National Strategy for The Bamboo Industry”:</p> <ul style="list-style-type: none"><li>- UNIDO: to send a “reminder” letter to the Secretary of the Ministry of Industry &amp; Trade (1) commending him on his decision to form an inter-government committee for the draft national strategy, (2) encouraging him to move forward, (3) informing him of the decision to have a marketing study by end of 2016 which will help in the draft strategy, and (4) asking for updates on the same.</li><li>- Secretary of Ministry of Industry &amp; Trade: to move forward with his decision of forming an inter-government committee for the draft national strategy, and to update UNIDO accordingly on a regular basis.</li><li>- UNIDO Project Coordinator should follow up on a regular basis on UNIDO head office letter with the concerned parties in the country.</li></ul>	
Corresponding activities:					

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
Assessment of all existing data and initiatives related to bamboo and other agro-energy crops and their potential in Sri Lanka.	<b>Partially DONE.</b> <ul style="list-style-type: none"><li>Brias, Victor (IC). (May 2010). UNIDO Internal Report: “Bamboo Processing in Sri Lanka”-Preparatory Assistance:</li><li>Niels Schulz, IC June 2012 internal report, titled: “Development of a holistic implementation strategy for the environmental impacts monitoring and sustainability criteria of bamboo plantations in Sri Lanka”. <i><b>This report may be considered as part of the preparatory work for discussion with the draft prepared by Victor Brias in 2016.</b></i></li></ul>				<b>UNIDO &amp; Sri Lanka Government</b>
· Development of a draft national bamboo strategy for Sri Lanka...	<b>Partially DONE.</b> <ul style="list-style-type: none"><li>April 2016 - Mission of Victor Brias (IC), Internal, Report: “Establishment and design of financial model for bamboo plantations”, which includes<ul style="list-style-type: none"><li>a “Provisional Bamboo Strategy Framework”,</li><li>a “pre-feasibility study for a 100 ha plantation in the wet zone”</li><li>“Layman Bambooguide”- on Bamboo cultivation and post-harvest treatment.</li></ul></li></ul> <i><b>No evidence of further action(s) taken on the above outputs of Brias’s mission; communicating them to those who need to know/Potential users, following up on it, etc.</b></i> <p>Project Manager Antonio Levissianos (Nov 2016, Vienna) stated that a marketing strategy is to be prepared soon by a local marketing research company in Sri Lanka. This should add value and help in finalizing the strategy. It will be up to the SL government (Ministry of Industry &amp; Trade) to move it forward as per the project document.</p>				<b>UNIDO &amp; Sri Lanka Government</b>
· An awareness - raising program for government officials on achieving this strategy, its benefits, and the need to sustainably manage bamboo and other agro-energy crops.	<b>Partially DONE.</b> <ul style="list-style-type: none"><li>June 01<sup>st</sup> 2012: meeting with 29 representatives of plantation industry and ministries, at Ministry of Industry and commerce. Follow up letters sent by focal point office.</li><li>September 2012 – Public Project Launching Conference at Galle Face Hotel, Colombo.</li><li>November 2012 – First Steering Committee Meeting.</li><li>March 9<sup>th</sup> 2016 Second Public Project Conference at Galle Face Hotel, Colombo.</li></ul> <b>There is no evidence that this activity was completed. However, the upcoming Marketing strategy study will help in this regard. There will also be an event launched with Hutton National Bank on the bamboo project and the revolving fund which could be used as an opportunity to raise the awareness needed.</b>				<b>UNIDO</b>

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<p>· Strategic Environmental Impact Assessment and identification of mechanisms to mitigate impacts and reduce risks.</p>	<p><b>Partially DONE.</b>  <b>Recommendations:</b> This activity is not needed anymore because the environmental impact of bamboo is well known as a positive one in India and elsewhere and as demonstrated by UNIDO projects worldwide.</p> <p>June 2012, Niels Schulz, IC, internal report titled: "Development of a holistic implementation strategy for the environmental impacts monitoring and sustainability criteria of bamboo plantations in Sri Lanka" which included e.g. on page 62 a project flow chart on "Milestones and their activities for the long-term monitoring and verification"</p> <p><i>There is no evidence as to what happened to this report, whether it was communicated or followed up any further.</i></p>				UNIDO
<p>· Seminars for all stakeholders on producing and marketing value-added bamboo-based Products and on the rural development and environmental protection potential of bamboo as an energy crop.</p>	<p><b>Partially DONE:</b>  The two public seminars at Galle Face Hotel, regarding stakeholder outreach.</p> <p><b>The upcoming marketing study will also help in this. More seminars and workshops will be done.</b></p>				UNIDO
<p><i>Output 1.2: National policy adjustments supported</i></p>	2hy1	2hy2	Very Partially DONE. & LATE.	This output cannot be done prior to completing Output 1.1.	
<b>Corresponding activities:</b>					
<p><input type="checkbox"/> <input type="checkbox"/> Establishment of an intra-governmental working group on bamboo development and agro energy policy more generally.</p>	<p><b>NOT STARTED YET.</b>  <b>There is no evidence that any activities or outputs were accomplished in this regard.</b></p> <ul style="list-style-type: none"> <li>Ad-hoc meetings were held with key ministerial stakeholders (forest department, ministry of environment, Mahaweli authority) about once a year during visit of ICs. No permanent working group was established.</li> <li>Consultant met with Secretary of Ministry of Industry &amp; Commerce during last day of his mission. Secretary asked Director of Development to prepare a memo for his signature to form a taskforce from all concerned ministries to work on a draft land policy strategy.</li> </ul> <p><b>Secretary of Ministry of Industry and Trade asked his director of development to form a committee during the consultant's visit in Sep-Oct 2016.</b></p> <p><u><b>Recommendations:</b></u></p> <ul style="list-style-type: none"> <li><b>UNIDO project coordinator should follow up on these issues.</b></li> <li><b>UNIDO should have a permanent representative in Sri Lanka to coordinate all projects with which UNIDO is involved.</b></li> </ul>				

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<input type="checkbox"/> <input type="checkbox"/> Review of national forestry policy and determination of the jurisdiction of these policies for bamboo and other agro-energy crops.	<b>Partially DONE.</b> <ul style="list-style-type: none"> <li>A review of relevant forest policy in context of UNFCCC REDD+ (reducing emissions from deforestation and forest degradation) was included in Schulz 2012,</li> <li>The outline of a bamboo monitoring system, which included features of biosafety monitoring for release of TC plants as well as Greenhouse gas benefits, was proposed in Schulz 2015</li> <li>Reference to procedures of certification for compliance with European Union wood import regulations were included in Schulz 2016.</li> </ul> <b>Recommendation:</b> <i>UNIDO should follow up on his issue with the Secretary of the Ministry of Industry &amp; Trade.</i>				Sri Lanka Government
<input type="checkbox"/> <input type="checkbox"/> Drafting of suitable revisions in national forestry policy and supporting legislation and/or regulations as necessary – especially related to the provision for the transport of bamboo biomass resources, paying particular attention to address concerns about deforestation and biodiversity.	NOT STARTED YET.				Sri Lanka Government
<input type="checkbox"/> <input type="checkbox"/> Presentation of the revisions to the responsible government officials for adoption.	NOT STARTED YET.				Sri Lanka Government
<input type="checkbox"/> <input type="checkbox"/> Monitoring of adoption and implementation.	NOT STARTED YET.				Sri Lanka Government
<i>Output 1.3: Land use policy adjustments</i>	<i>2hy1</i>	<i>2hy2</i>	<i>Very Partially DONE &amp; LATE.</i>	This output is dependent on the previous one, and thus cannot finish before the latter is finished or accomplished.  <i>Output not realized. Most activities are partially done while the rest not started.</i>	
<b>Corresponding activities:</b>					
· Review of national land use policy as it pertains to the development of locations for bamboo and other agro-energy crops.	NOT DONE.			This activity cannot be done since it is dependent on previous activities that are not achieved or completed yet.	Sri Lanka Government

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016				
Description	Plan		Actual	Remarks
	From	To		
· Carry out environmental impact assessments and implement mitigation mechanisms	<b>Partially DONE.</b> Internal Report of Niels Schulz 04/2014 on "Land availability and Suitability" after field visit at various Tea estate lands. Additional visits in October 2016 at community organizations. Outline of a Monitoring system was drafted in 2015  <i>The above may only be considered as a Preparatory step to an Environmental Impact Assessment.</i>			<b>UNIDO</b>
· Carry out the application process for changing land-use policies on degraded lands to allow for the development of energy crops – particularly bamboo species.	<b>NOT STARTED YET.</b>			<b>Sri Lanka Government</b>
· Review the process for changing national land use policy and provide recommendations for Streamlining the process to encourage better use of degraded lands.	<b>Partially DONE.</b> <ul style="list-style-type: none"> <li>Basic land use policy structure and drivers of deforestation were analyzed in Schulz 2012</li> <li>Recommendations and opportunities for integration of the Bamboo project with other national level programs (UNFCCC REDD+, reforestation targets, UNDP and forest department GEF projects on community forestry and fuelwood/dendropower plantations) were pointed out in Schulz 2016 and Schulz 2016 (forthcoming).</li> </ul> <i>The above may only be considered as a Preparatory step to an Environmental Impact Assessment.</i>			<b>Sri Lanka Government</b>
· Presentation of the revisions to the responsible government officials for adoption.	<b>NOT STARTED YET.</b> <b>This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.</b>			<b>Sri Lanka Government</b>
· Monitoring of adoption and implementation.	<b>NOT STARTED YET.</b> <b>This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.</b>  A proposed structure of a monitoring mechanism was outlined in Schulz 2012 and Schulz 2015.  <b>This is a preparatory step in this activity.</b>			<b>Sri Lanka Government</b>
· Support to land registration and inspection, and regulation of illegal land use change as necessary to address environmental sustainability of the plantations.	<b>NOT STARTED YET.</b> <ul style="list-style-type: none"> <li>This activity may be farfetched for the project, mainly because it takes a very long time to resolve issues of land registration and regulation of illegal land use.</li> <li>The government has started this mission which normally takes decades to finish. So, the project cannot help in this regard.</li> </ul> The relevance of this activity is close to NIL now due to the situation in the country. <b>Recommendation: This step should be cancelled from this project.</b>			<b>UNIDO</b>

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<b>Output 1.4: Supportive policies and regulations on a local and regional level</b>	2hy1	1hy3	<b>NOT Started &amp; LATE.</b>	This output is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.	
<b>Corresponding activities:</b>					
· Review of any regional and/or local forestry, land use, energy, and rural development policies with recommendations on how they might be more supportive of bamboo and other agro-fuel crops – especially in the dry zone, while protecting biodiversity and ecosystems.	<b>NOT STARTED YET.</b> This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.				<b>UNIDO &amp; Sri Lanka Government</b>
· Drafting of local and regional “good practice” policies and regulations to support and implement the National Bamboo Strategy to be developed under the project (Output 1.1).	<b>NOT STARTED YET.</b> This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.				<b>UNIDO &amp; Sri Lanka Government</b>
<b>Output 1.5: Information on the project activities disseminated to the public and decision-makers</b>	2hy1	2hy7	<b>Very Partially DONE &amp; Ongoing.</b>		
<b>Corresponding activities:</b>					
· The development (based on project activities and other activities in the sector) of a periodic newsletter to be disseminated electronically to decision-makers, stakeholders, and media representatives;	<b>Partially done, A website for the project will be ready by end of 2016 to inform people on the project.</b>				<b>UNIDO</b>
The placement of stories via press releases and interviews about the project in various media sources, including local and national news media (TV, radio, and newspapers). Additional efforts will be made by UNIDO centrally to gain attention in international media circles;	<b>Very Partially DONE.</b> <ul style="list-style-type: none"><li>Media coverage of the public project workshops at Galle Face Hotel in September 2012 and March 2016.</li><li>Project Leaflet</li></ul>				<b>UNIDO</b>
· The placement of stories via news articles written on various web-pages related to project implementation. It is not foreseen that the project will have its own web-site, but rather the stories will be placed on the web-sites of those organizations involved with the project (including UNIDO).	<b>Partially DONE.</b> <ul style="list-style-type: none"><li>Several News articles covered the activities, mainly workshops held in Colombo.</li><li>A draft website is being set up by Niels Schulz. Work started recently (April 2016) and expected to be ready by end of 2016.</li></ul>				<b>UNIDO</b>
· The development and dissemination of four (4) short videos (maximum 10 minutes) highlighting the project's accomplishments and activities throughout various stages of the project. These will be disseminated to various TV channels in and outside of Sri Lanka, via web-sites, and be available for use by the GEF.	<b>NOT STARTED YET.</b>				<b>UNIDO</b>



STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
Component 2: Bamboo Tissue Production	Overall, this component's outcomes and outputs were very partially DONE (Output 2.1 only. The rest were not started).				
Outcome 2: Bamboo reproduction technology transfer - National capacity to provide bamboo planting material on a large scale					
Output 2.1: Acquisition and installation of laboratory equipment for appropriate species	2hy1	2hy2	Very Partially DONE & LATE.	Very partially started. Identification on lab equipment was done. But the remaining activities did not start.	
Corresponding activities:					
· Review assessment on potential impacts and risks on environment by introduced new species	NOT STARTED YET.				UNIDO
· Identification of suitable laboratory equipment and tissues for the production of bamboo tissue from the five selected species.	Partially DONE. <ul style="list-style-type: none"><li>Several discussions by the ICs with Mahaweli TC lab and several private TC labs. They all would require a firm order of many thousand plants to start a new culture. In absence of dedicated land, and the financial mechanism no orders were placed so far.</li><li>A network of interested stakeholders was established, basic data on germplasm /planting stock availability (e.g. in botanical garden collections, nurseries, etc.) was compiled, as condition of effective TC setup. (Schulz, various reports, V Brias 2010 &amp; 2016, J Stamm 2015).</li><li>Bamboo tissues have been identified.</li><li>Lab equipment has not been identified.</li></ul> This work is underway as soon as the “university” professor is back from her sabbatical leave after one year. Furthermore, the Mahaweli authority labs wanted to sell plants to UNIDO instead of having new equipment purchase and installed.				UNIDO
· Procurement of the equipment and bamboo planting material	NOT STARTED YET. This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.				UNIDO
· Installation of the equipment	NOT STARTED YET. This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.				UNIDO
Output 2.2: Functional laboratory and availability of high quality planting material for appropriate species	2hy1	2hy7	NOT STARTED & LATE.	This output is dependent on Outputs 2.1 and cannot start if the latter is not finished.	
Corresponding activities:					

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
· Provision of training to laboratory staff	NOT STARTED YET.				UNIDO
	TC lab of Mahaweli authority reported a new training course on Bamboo TC to have started in Summer 2016. This was not arranged through the project!				
	The above is not relevant to the project and cannot be considered as an in-kind contribution.				
· Establishment of production targets for the laboratory	NOT STARTED YET.				UNIDO & Sri Lanka Government
	New production of D. Gigantheus is supposed to start in fall 2016 by TC Lab of Mahaweli Authority.				
	However D. Asper and a dry zone species like D. Strictus would be even more desirable.				
· Oversight of equipment performance and provision of maintenance as needed.	NOT STARTED YET.				UNIDO
· Monitoring of laboratory performance and tissue production by assessing production levels, consumer satisfaction and delivery lead times.	NOT STARTED YET.				Government
	Recommendation:				
	There a need to monitor the quality from nursery through the fields.				
Component 3: Plantation establishment					
Outcome 3: Plantations established to provide feedstock for bamboo industry	This outcome is partially dependent on outcomes of component 2 which is not complete yet.				
	Very partially DONE.				
Output 3.1: Bamboo plantations established in unused lands in the dry zone and wet zone	2hy1	1hy3	Partially DONE & LATE.	Only the first activity was done when list of publicly and privately owned lands were identified. Rest of activities either partially done or not started.	
Corresponding activities:					

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<p>· Finalize the list of publicly owned land to be used for bamboo production;</p>	<p><b>DONE.</b></p> <ul style="list-style-type: none"><li>• Basic data is provided in report of Sisira Hapuarachichi (NC) 2010 titled STUDY ON LAND AVAILABILITY AND IDENTIFICATION OF POTENTIAL SITES FOR ENERGY PLANTATIONS AND BAMBOO CULTIVATION.</li><li>• This data was updated and complemented with the returns from the plantation industry after the first two workshops in 2012, and mapped in a GIS database, presented in Schulz 2013 titled CREATION AND ASSESSMENT OF POTENTIAL BAMBOO PLANTATION MAP AND INITIAL PRIORIZATION OF POTENTIAL PLANTATION SITES UNDER PROPOSED ENVIRONMENTAL MONITORING CRITERIA AS A BASIS OF SUSTAINABLE BAMBOO SUPPLY CHAIN IN SRI LANKA.</li><li>• Stakeholder's workshop with representatives mainly from the plantation sector conducted June 1st 2012, at Ministry for Industry and Commerce (A. Levissianos presentation during 2<sup>nd</sup> SC meeting in May 2014).</li><li>• The public project inception ceremony conducted on September 19<sup>th</sup> 2012 at Galle Face Hotel: returned questionnaire (A. Levissianos presentation during 2<sup>nd</sup> SC meeting in May 2014).</li><li>• PILOT PROJECT AT PADDUKA VILLAGE (DURATION 03 MONTHS). <i>What happened to this pilot?</i></li><li>• "A viable institutional setup involving around <b>100 CBO's</b> is expected to be developed in the near future to carry forward the project initiatives in the Seethawaka region" (A. Levissianos presentation during 2<sup>nd</sup> SC meeting in May 2014). <i>What happened to this initiative?</i></li></ul> <p><b><u>Recommendation:</u></b> <b>UNIDO has done its part of this activity, and should send a reminder to its counterpart to continue the finalization process. Moreover, the project has identified private sector lands which are suitable for bamboo and should be used accordingly to eventually meet the market demand. Public land is not easily accessible for cutting. While in private lands, it can be done much easier.</b></p>				

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
· Mapping logistically and ecologically suitable land for bamboo production and spatiotemporal monitoring after planting;	<b><i>Partially DONE.</i></b> Reports on sustainability monitoring strategy, land availability and suitability of Niels Schulz (IC) (2012, 2013, 2015).  Planting was done by Mahaweli Authority. But after planting monitoring was not done. This activity is connected with the previous one concerning quality of plants. <b>To be continued throughout the project.</b>				<b><i>UNIDO &amp; Government</i></b>
· Establish leasing agreements/revenue sharing agreements for farmers who will carry out bamboo production;	<b><i>NOT STARTED YET.</i></b> Discussion with landowners/operators is ongoing/on hold, the financial mechanism was not operational so far. Discussions with one more stakeholder, the irrigation department was initiated in 2016, particular in Matara region. NGOs and private landowners in Matara and Trincomalee region were visited in Sept 2016 for discussion. <b>This activity is also dependent on the previous ones, and thus cannot start before the latter is finished or accomplished.</b>				<b><i>Government</i></b>
· Establish cooperation with private sector landowners for their plantations;	<b><i>Partially DONE.</i></b> <b>This activity is dependent on the previous one, and thus cannot start before the latter is finished or accomplished.</b>				<b><i>UNIDO &amp; Government</i></b>
· Acquire plant stock necessary for crop production.	<b><i>NOT STARTED YET.</i></b>				<b><i>Government</i></b>
Component 4. Plantation operation	<b><i>Overall, the activities to achieve this component's outcomes and outputs were VERY PARTIALLY DONE.</i></b>				
Outcome 4: National know-how for maintaining bamboo plantations	<b>Very partially DONE.</b>				
<b><i>Output 4.1: Economically sustainable, functional bamboo plantations running in currently unused dry lands and wet lands</i></b>	<b><i>2hy2</i></b>	<b><i>2hy7</i></b>	<b><i>Very Partially DONE &amp; Pending.</i></b>	Victor Brias, International Consultant, August 2014: "Establishment And Design Of Financial Model For Bamboo Plantations".  <b><i>The preparatory work have been done. It is now for the plantations owners to move forward.</i></b>	
Corresponding activities:					

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<p>· Technology transfer through provision of technical support and guidance to RBP/ Mahaweli Authority of Sri Lanka staff to conduct outreach to farmers and entrepreneurs (training of trainers);</p>	<p><i>Partially DONE.</i></p> <p><i>This activity may need to be changed to include Irrigation Department.</i></p> <p>Biomass Initiative: For biomass renewable, the project has identified and initiated discussions with Biomass Supplies PLC- Sri Lanka, which came into operations in March 2013. The company has already signed up 15,000 farmers as well as a number of private landowners to be suppliers of Gliricidia and fuelwood for supply to industrial customers. The company plans to scale up operations to deliver the biomass tonnage required by a series of pellet and power plants, the first of which will be in Kantale (A. Levissianos presentation during 2<sup>nd</sup> SC meeting in May 2014). <i>No further actions were taken regarding these initiatives.</i></p>				<p><i>UNIDO</i></p>
<p>· Technology transfer through provision of technical support and guidance to farmers, extension services, private plantation owners and managers via trainers from the RBP/Mahaweli Authority;</p>	<p><i>NOT STARTED YET.</i></p> <p>As above</p>				<p><i>UNIDO</i></p>
<p>· Technology transfer by improving business processes via technical support and guidance in the development of business plans and marketing. This will include support to establish logistics and infrastructure for a simple collection/distribution approach using storage facilities as hubs to ensure the stable quantity of supply to the proposed sites/factories (flooring, shoot, for handcraft by local farmers) under other components;</p>	<p><i>NOT STARTED.</i></p> <p>A website and virtual community of practice certainly should play a central role, i.e. some of the capacity building may be done online (such as cutting, storing, grading, sorting, etc.).</p> <p>However this cannot replace hands-on training.</p> <p><i>Above has little relevance.</i></p>				<p><i>UNIDO</i></p>
<p>· Building skills through the transfer of knowledge to workers in good practice growing and harvesting techniques.</p>	<p><i>NOT STARTED.</i></p> <p>Email exchanges by the international consultants - as follow-up - on visits e.g. with Beverly estate in 2012 and 2016, Kahawatte plantation in 2015, and others. Exchange of pdfs with knowledge on plant propagation and clump management.</p> <p><i>Above is not sufficient and should be institutionalized o systemized.</i></p>				<p><i>UNIDO</i></p>
<p><b>Component 5. Bamboo processing equipment</b></p>	<p><i>Overall, the activities to achieve this component's outcomes and outputs were PARTIALLY DONE.</i></p>				
<p><b>Outcome 5: Bamboo processing technology transfer to Sri Lanka</b></p>	<p><b>Partially DONE.</b></p>				

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<i>Output 5.1: Bamboo processing machinery for industrial use bought and installed</i>	2hy3	2hy4	Partially DONE & LATE.	However, according to the Project Manager (Levissianos) and the international consultant (N. Schulz) a project with an NGO in the south is currently underway to establish production of industrial products. The NGO will be applying for a loan through the Revolving fund as soon as it is ready. Schulz is visiting Sri Lanka in Dec 2016 or Jan 2017 for this purpose. There is money left for the energy section of the project which may be transferred to the revolving fund or used to buy machinery directly.	
<b>Corresponding activities:</b>					
· Information on the potential utilization of technologies distributed to various businesses in the appropriate industries;	<i>Partially DONE.</i>				<i>UNIDO</i>
· Identification of the businesses interested in purchasing the equipment;	<b>DONE.</b> There is a study done by Mr. Piyasiri Gunasekara "Study of Sri Lanka Forest Wood and Paper (incl. Bamboo) Product Sector and Industrial Opportunities. This study shows (in section 13) a LIST OF COMPANIES AD PRODUCERS such as "Furniture Manufacturers...", "Timber Flooring Companies", "Timber Treatment Facilities", "Paper Manufacturers", and "MDF & Particle Board Manufacturer".  <i>This was partially done through the workshops and seminars.</i>				<i>UNIDO</i>
· Identification of suitable equipment;	<b>DONE.</b> Internal Report of Mr. Jörg Stamm (IC) after mission travel in August 2015 "Assistance on Identification of location for the creation of pilot bamboo plantation and selection of bamboo processing Equipment" Joined visit of several potentially suitable locations for processing facility with Niels Schulz (IC) 2015				<b>UNIDO</b>
· Identification of applicable renewable energy systems for the installed facilities;	<i>NOT DONE.</i>				<i>UNIDO</i>
· Procurement of the equipment;	<i>NOT DONE.</i>				<i>Private Sector</i>
· Installation of the equipment.	<i>NOT DONE.</i>				<i>Private Sector</i>

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<b>Output 5.2: Establishment of bamboo flooring production capacity</b>	2hy3	2hy7	<b>Very Partially DONE &amp; LATE.</b>	Only some technical training was conducted.	
<b>Corresponding activities:</b>					
· Technology transfer to establish the supply-chain of raw materials (bamboo and others) for industrial processing (from Component 4);	<b>Partially DONE.</b> The training sessions shown below were conducted: - October 18-28, 2013: Six Training workshops, one day each with same ten participants. Training subjects were Sizing Bamboo & Treating Bamboo Parts, Bamboo Cutting, and Bamboo Polishing. Bamboo Part Manufacturing, Bamboo Assembling Part, Bamboo Manufacturing Final Products. - October 13, 2013: One day training session with 21 participants on Identification of Beneficiaries Social Mobilization and CBO Strengthening. - September 29, 2013: One day training session for ten participants on Identification Marketable Products/Designs and Marketing / Enterprise Skills / Formulating a Sale Team and a Marketing Team. - September 30, 2013: One day training session for ten participants on Product Design and Manufacturing Product.				<b>UNIDO &amp; Private Sector</b>
· Transfer of skills in operating the equipment for production;	<b>NOT STARTED YET.</b> Since equipment is not in place yet.				<b>UNIDO &amp; Private Sector</b>
· Enhancement of skills for the provision of maintenance as necessary;	<b>NOT STARTED YET.</b> Since equipment is not in place yet.				<b>UNIDO &amp; Private Sector</b>
· Enhancing business processes and capacity in marketing the flooring materials domestically and abroad as needed.	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
<b>Output 5.3: Establishment of bamboo shoots industry</b>	1hy4	2hy7	<b>NOT Started &amp; little LATE.</b>		
<b>Corresponding activities:</b>					
· Transfer of skills in establishing the supply-chain of raw materials (bamboo shoots) for food processing (from Component 4);	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Transfer of knowledge in using the equipment for production;	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Transfer of knowledge in the provision of maintenance as necessary;	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Transfer of skills and business methods in marketing the edible bamboo shoots domestically and abroad as needed.	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
<b>Component 6. Pelletizing / briquetting / chipping</b>	<b>NOT STARTED &amp; LATE.</b> <b>This Component, together with its outcomes and outputs, are dependent on outputs of Component 4 which is not accomplished yet. It is planned to start in the second half of the project.</b>				

STATUS OF PROJECT'S OUTCOMES, OUTPUTS, AND ACTIVITIES AS AT 31 October 2016					
Description	Plan		Actual	Remarks	Responsibility of
	From	To			
<b>Outcome 6: Biomass pelletizing / briquetting / chipping technology transfer and development</b>					
<b>Output 6.1: Pelletizing / briquetting / chipping machinery bought and installed for bamboo</b>	2hy3	2hy4			
<b>Corresponding activities:</b>					
· Transfer of knowledge about on the potential utilization of technologies distributed to various businesses in the appropriate industry/related industry	<b>NOT STARTED YET.</b>				<b>UNIDO</b>
· Identification of the businesses to purchase the equipment;	<b>NOT STARTED YET.</b> However, discussions with Haycarb, a world leading manufacturer of activated charcoal were conducted in Sept 2016 (Semaan & Schulz). Previous and still ongoing discussions with Dilmah/Kahawatte plantations on production and application of biocharcoal as soil amendment in tea planting (Schulz 2016a), including discussions about purchasing options of mobile chipping and charcoal making equipment.				<b>UNIDO</b>
· Identification of suitable pelletizing equipment or other possible options such as briquetting;	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Transfer of knowledge and methods to support the procurement of the equipment;	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Transfer of technical knowledge about the installation of the equipment.	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
<b>Output 6.2: Production of biomass pellets, briquettes or chips</b>	2hy3	2hy7			
<b>Corresponding activities:</b>					
· Technology transfer in establishing the supply-chain of raw materials (bamboo and others) for palletization (from Component 4 and using feedstock from existing wood industries until the bamboos are available);	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Technology transfer by enhancing skills in operating the equipment for production;	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Technology transfer by enhancing skills for the provision of maintenance as necessary;	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>
· Technical Assistance in quality control and marketing the biomass pellets or briquettes domestically and abroad as needed.	<b>NOT STARTED YET.</b>				<b>UNIDO &amp; Private Sector</b>

**Legend:**

- **1hy1: first half year 1; 2hy1: second half year 1; 1hy2: first half year 2; 2hy2: second half year 2, Etc.**
- **DONE: Activities completed and Output achieved; Partially DONE: some steps in certain activities were accomplished; Very Partially DONE: few steps in few (one or two) activities were accomplished; NOT STARTED YET: should have started but did not.**



Annex 5       Extracts from JOINT COUNTRY PORTFOLIO EVALUATION – SRI LANKA MAIN  
FINDINGS AND RECOMMENDATIONS - May 2014

[https://www.thegef.org/sites/default/files/council-meeting-documents/GEF.ME\\_C.46.Inf\\_05\\_Joint\\_Country\\_Portfolio\\_Evaluation\\_Sri\\_Lanka\\_-\\_Main\\_Findings\\_and\\_Recommendations\\_May\\_2\\_2014\\_4.pdf](https://www.thegef.org/sites/default/files/council-meeting-documents/GEF.ME_C.46.Inf_05_Joint_Country_Portfolio_Evaluation_Sri_Lanka_-_Main_Findings_and_Recommendations_May_2_2014_4.pdf)

**Conclusion 8: GEF support is aligned to Sri Lanka's environmental and sustainable development objectives in terms of laws, plans and policies, but weaknesses in the implementation of such laws and policies reduce the full integration of environmental concerns into sectoral agendas Sri Lanka's vision for Sustainable Development, as stated in the 10-year national development framework Mahinda Chinthana, which envisions an economy with a green environment and rapid development.**

- Project design did not factor adequate time for changes to national laws. The Protected Area Management and Wildlife Conservation Project (GEF ID 878) estimated that the changes to the Fauna and Flora Ordinance could be made within the first year of the project, but it ultimately took seven years. Also in the case of the Sustainable Use of Medicinal Plants Project (GEF ID 95) the progress of enacting the Intellectual Property Rights Act was significantly delayed.
- Lack of technical staff within the DWLC and the opposition to recruitment of qualified...

**Conclusion 13: Monitoring and Evaluation in GEF projects in Sri Lanka is not fully operationalized**

Monitoring and Evaluation (M&E) for GEF projects in Sri Lanka includes the usual tools and reports, starting from the initial project logical framework matrix to quarterly progress and financial reports, annual reports, project implementation reviews, mid-term reviews, terminal reports, implementation completion reports and independent evaluations. In many cases the various M & E reporting steps have not been followed and information has not been recorded adequately. Many projects do not have Project Implementation Reviews (PIR). In the case of some completed projects the evaluation reports indicate that the poor quality of the logical framework matrix has had an impact on the quality of project monitoring. GEF Agencies, including the WB and UNDP, use different M&E systems, implying differences in how project outcomes are assessed. The GEF Project Management Information System (PMIS) does not have up-to-date information on the status of the projects and often project monitoring documentation is not uploaded.

## Annex 6      Extracts from Victor Brias Report 2016

□ **Private sector** companies are **very interested to know more** about bamboo. They especially want to know more about the economics of bamboo and what they need to do to get involved in bamboo planting and industry. They lack information about bamboo and are unaware of the UNIDO/GEF project, but also of previous initiatives in the country, notably the MASL Riverine Bamboo Project.

Most private sector companies that the ICs (V. Brias and N. Schulz) met requested more information about the financial costs and returns of a bamboo plantation. It is important for companies to do a cost benefit analysis and compare bamboo with other crops before they invest in bamboo. **They were glad to hear that a pre-feasibility study was prepared by the IC and requested a copy.** (As discussed with the project manager, the Pre-FS for a 100 ha plantation would be repackaged and the dissemination of the report would be channeled through the Association of Bamboo Growers and Industry.)

□ On the whole, there is a lack of dissemination of project information. Many of the studies prepared by other international and national consultants (on environment and land availability, biomass, market, etc.,) could also be edited and repackaged for dissemination – for example through a project website or through a website of the Association of Bamboo Growers and Industries.

# Annex 7 Questionnaire Template

UNIDO Bamboo Processing for Sri Lanka

September 2016

By Antoine G. Semaan

Name of Interviewee:

Position/Title:

Organisation:

Interview Date:

<b><u>EVALUATION QUESTIONNAIRE</u></b>		
<b>Area/Question</b>		<b>Answer</b>
<b><i>Overall satisfaction with the project so far (from 1 to ten with 10 being Excellent):</i></b>		
<b>Project identification and formulation</b>		
	A participatory project identification process including all main stakeholder groups was instrumental in selecting problem areas and counterparts requiring technical cooperation support.	
	The project had a clear thematically focused development objective and immediate objective and/or outcomes, the attainment of which can be determined by a set of verifiable indicators.	
	The project/program was formulated based on the logical framework approach and included appropriate output and outcome indicators within a realistic timeframe.	
	A logically valid means-end relationship has been established between the project objective(s) and outcomes and the higher-level program-wide or country level objectives.	
	Lessons from earlier UNIDO projects were taken on board in the formulation process including lessons and recommendations given on existing evaluation reports at the time.	
<b>Ownership and relevance</b>		
	The project design was based on a needs assessment	
	The project was formulated with participation	

<b>EVALUATION QUESTIONNAIRE</b>		
<b>Area/Question</b>		<b>Answer</b>
<b>Overall satisfaction with the project so far (from 1 to ten with 10 being Excellent):</b>		
	of the national counterpart and/or target beneficiaries	
	The project takes account of and reflects national and local priorities and strategies	
	The counterpart(s) has (have) been appropriately involved and were participating in the identification of their critical problem areas and in the development of technical cooperation strategies and are actively supporting the implementation of the project approach including through in-kind and cash contributions.	
	The outputs as formulated in the project document are relevant and sufficient to achieve the expected outcomes and objectives.	
<b>Efficiency of implementation</b>		
	The project takes account of and reflects national and local priorities and strategies	
	The counterpart(s) has (have) been appropriately involved and were participating in the identification of their critical problem areas and in the development of technical cooperation strategies and are actively supporting the implementation of the project approach including through in-kind and cash contributions.	
<b>Effectiveness</b>		
	(i) Outputs produced and how the target beneficiaries use the outputs.	
	(ii) Achievement of outcomes or are these likely to be realized through utilization of outputs.	
<b>Impact and sustainability</b>		
	Which long term developmental changes (economic, environmental, social) have occurred or are likely to occur as a result of the intervention and are these sustainable.	
	Was the project replicated/had a multiplying effect.	
	Was any sustainability strategy formulated	
	What is the prospect for technical, organizational and financial sustainability	

<b>EVALUATION QUESTIONNAIRE</b>		
<b>Area/Question</b>		<b>Answer</b>
<b>Overall satisfaction with the project so far (from 1 to ten with 10 being Excellent):</b>		
<b>Project coordination and management</b>		
	The national management and overall field coordination mechanisms of the project have been efficient and effective.	
	The UNIDO management, coordination, quality control and technical inputs have been efficient and effective.	
	Monitoring and self-evaluation was carried, were based on indicators for outputs, outcomes and objectives and using that information for project steering and adaptive management.	
	Changes in planning documents during implementation have been approved and documented.	
	Synergy benefits can be found in relation to other UNIDO activities in the country or elsewhere.	
<b>Project coordination and management</b>		
	The national management and overall field coordination mechanisms of the project have been efficient and effective.	
	The UNIDO management, coordination, quality control and technical inputs have been efficient and effective.	
	Monitoring and self-evaluation was carried, were based on indicators for outputs, outcomes and objectives and using that information for project steering and adaptive management.	
	Changes in planning documents during implementation have been approved and documented.	
	Synergy benefits can be found in relation to other UNIDO activities in the country or elsewhere.	
	Recommendations	