

1. Project: Developing a sustainable value chain of products from lotus silk in Vietnam to support the flood retention strategy for the Mekong Delta, Vietnam

2. Timeline: 2021-2025

3. Proposed location for the project:

Being areas with significant amount of lotus and many traditional weaving villages, Dong Thap, Long An and An Giang will be chosen as the locations to implement the project, in which Dong Thap will be the center due to its well established brand that associates with the cultural and Buddhism spiritual values of Vietnamese people.

- **Location 1: Thap Muoi district, Dong Thap province:** Developing a closed value chain model: from planting, spinning, weaving, designing and manufacturing products and bringing them to the market (with connection to area 4 & 5 in designing and bringing products to the market); building trademarks and geographical indications of locally produced lotus silk products.

- **Location 2: Tan Hung district, Long An province:** Developing the area that provides fiber material from natural lotus in the buffer zone of Lang Sen wetland conservation area. This area has the potential to provide year round fibre production as the conservation area itself consists of large areas of lotus which could additionally be harvested under co-management arrangements between Land Sen Management and the community.

- **Location 3: Tri Ton district, An Giang province:** Developing the lotus weaving cooperative model and producing lotus-based products in the Khmer weaving village at Van Giao, Tinh Bien district and the Chau Phong village of the Cham people in Tan Chau town. Lotus fiber materials could be sourced from Dong Thap and Long An to improve product availability.

- **Location 4: My Duc commune, Hanoi:** Developing the lotus weaving cooperative model in Phung Xa commune, My Duc district, Hanoi with lotus fiber materials produced in Dong Thap and Long An and improving weaving technology.

- **Location 5 & 6: Hanoi and Ho Chi Minh City:** The project will select a number of commercial establishments (enterprises and cooperatives) to connect with weaving areas in Tri Ton, An Giang and My Duc, Hanoi to design, produce, introduce and display the product, implement trade promotion and market development activities.

4. Project idea:

- Vietnam is a country with a long outstanding weaving industry, associating with traditional craft villages and communities of many ethnic groups to supply the demand from daily use such as pants, shirts etc. to interior decoration or for festival use, using **materials made from many different sources such as silk, cotton, hemp and fibers of plants found in nature...** This tradition has been maintained, developed and gives Vietnam a global reputation in textile industry and the competitive ability while contributing to the country's exports.

Vietnam is located in the natural lotus distribution of the world, with lotus plants all across the country, especially concentrated in the wetlands of the Mekong Delta. The lotus plant parts such as seeds, leaves, buds and roots have been harvested with great economic value through the use of medicinal herbs, cosmetics, and as daily food. However, the main part of the lotus plant – **the lotus stem – is barely used.**

The results of the State-level scientific project "**Research and test the model which uses lotus stem to produce silk**" implemented by the **Institute of Ecological Economics (Eco-Eco)** and The Coca-Cola Foundation funded project '**Flood-based livelihood model to support flood retention strategy for Mekong Delta, Vietnam**', implemented by IUCN which is demonstrating lotus cropping as a flood-based crop to replace the third rice crop in flooded areas, have opened up a new opportunity and direction in the development of textile materials and diversification of industry products. This idea does not only contribute to the creation of a new industry that brings economic efficiency, diversifying people's livelihoods, and creating more jobs, but also makes a great contribution to resource saving & efficiency, preserving and improving the ecosystem function of wetlands, increasing resilience to climate change, and contributing to preserving the traditional cultural values of craft villages.



Lotus stalk

Drawing lotus silk

Weaving lotus silk

The success of the above projects indicates that in order to commercialise, maintain and develop this new industry sustainably, it is essential to continue: **(1)** researching and perfecting the technology and equipment of taking and weaving silk, thus improving both quality and efficiency; **(2)** establishing lotus growing areas to provide concentrated and stable fiber materials for the production of lotus silk products and selecting suitable lotus varieties with the ecological conditions of the growing area; **(3)** designing and diversifying products to commercialize and enhance the added value of products made from lotus stalks; **(4)** connecting the stages in the value chain of the industry to develop and sustainably maintain this new industry and **(5)** building a brand with a geographical indication of the textile industry from lotus to enhance added value, honoring traditional values, spiritual and cultural values of the Vietnamese people.

Lotus silk and products made from lotus silk are a great resource with high economic value, contributing to the diversification of farmers' livelihoods and the conservation of natural resources... Although being wasted in Vietnam, it has been utilised in making furniture, fashion etc. by other neighbouring countries such as Myanmar, Cambodia and some other East Asian countries. The reason is that **Vietnamese people do not know how to extract fibers from lotus stems nor having experience in lotus planting and intensive farming techniques; Vietnam's traditional weaving villages have never woven fabrics from lotus silk; Vietnamese people have never used products woven from lotus silk.**



Products made from fabrics woven from lotus silk in Myanmar and Cambodia

By successfully piloting lotus cultivation, drawing silk from lotus stem, weaving silk from improved loom, designing and commercialising several products made from lotus silk within the scope of the Eco-Eco and IUCN projects, this has opened a new opportunity to develop the manufacturing industry of products made from lotus silk. However, the current process of cultivating, spinning, weaving and producing etc.

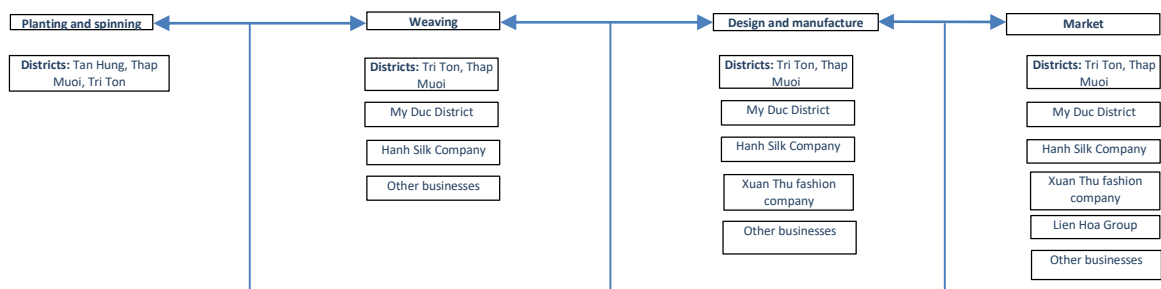
are all based on experience and traditional craft technology dating back hundreds of years, thus being outdated and inefficient, leading to high cost and low quality; outdated product designs. In addition, product diversification and market development have not been improved, therefore cannot compete with modern textile products, resulting in the disappearance of weaving villages and with them - the traditional cultural values. Therefore, **it is necessary to improve and upgrade technology in lotus cultivation to spinning and weaving fabrics from lotus, thus being able to improve productivity and product quality; improving designs and diversifying products made from lotus silk to improve market access and economic efficiency.**

Developing products from lotus silk requires **establishing an industry's value chain** to connect suppliers, involving in lotus seed selection, planning the cultivation area, spinning, weaving, designing and developing products, building brands, developing markets and diversifying products to enhance the added value of products, creating sustainable economic value for all stakeholders in the industry's value chain. Therefore, it is necessary to **connect the three stages** in the supply chain to build the value chain of the industry, including: producers of fiber materials (lotus farmers or cooperatives), fabric producers (traditional weaving villages or cooperatives, businesses) and commercial establishments (businesses or cooperatives that provide product designs and market connections). The length of the value chain depends on the capacity of the parties involved, in which the members in the chain can link together or organise the value chain independently and perform all stages.

The project will pilot 02 models of **sustainable value chain development of lotus fiber products in Vietnam** as follows:

(1) **The closed value chain model** will be implemented in Thap Muoi district, Dong Thap province and Tri Ton district, An Giang, carrying out several stages including planting lotus, spinning and weaving, designing, displaying and trading products. This model can be considered to be expanded with the participation of companies in designing and trading of lotus products in Hanoi and Ho Chi Minh City.

(2) **An expanded value chain model** that connects stages is implemented in many different areas, in which: **(1) planting and spinning** (Tan Hung district, Long An province and Thap Muoi district, Dong Thap province through farmers or cooperatives) --->> **(2) weaving** (weaving village in My Duc district, Hanoi and Hanh silk company) --->> **(3) designing and producing products** (weaving village of My Duc district, Hanoi Hanh silk company and Xuan Thu fashion company) and --->> **(4) marketing** (weaving village of My Duc district, Hanoi Hanh silk company, Xuan Thu fashion company and Lien Hoa group).



Sustainable value chain model of lotus products

- The Institute of Ecological Economics is the first entity to successfully carry out the project "Research and test the model which uses lotus stem to produce silk". The project has successfully implemented the model to extract silk from the lotus stem, using silk to develop textile products, handicraft products and opening up opportunities to create a new profession for lotus farmers in the wetlands of the Southwest region and the Red River Delta.



Lotus field

Lotus extracting class

Lotus silk

scarf made from lotus silk

The success of the project has attracted textile and fashion businesses/enterprises such as Hoa Sen Group (Chau Thanh District, Ben Tre Province), Hanh Silk Company, Xuan Thu Fashion Company (Hanoi) etc. who have asked Eco-Eco to find the source of raw fiber materials to produce fashion products. After the success in producing fabric from Vietnamese lotus stalks, the Government Office has placed an annual order to purchase lotus products as gifts for Senior Leaders. Saitex International Dong Nai Company – one of the the world's leading garment enterprise that uses environmentally friendly materials and production methods – has worked with Eco-Eco and ordered products made from lotus plants to export to the United States and Europe markets.

- IUCN has implemented the project 'Flood-based livelihood model to support flood storage strategy for the Mekong Delta, Vietnam' based on the successful pilot implementation of lotus cultivation models and via the idea formed by Eco-Eco's Project. In addition, IUCN has successfully tested spinning using natural lotus in the buffer zone of Lang Sen Wetland Reserve and successfully woven products from lotus fibers in the Van Giao village of Khmer people in Tinh Bien district.

- The success in developing products from lotus silk in Myanmar and Cambodia is based on the cooperation between lotus silk weaving villages and fashion businesses that invest in technological improvement, products' diversity and quality to meet the demand from tourism and export.

5. Objectives and expected outcomes of the project

Objectives	Activities	Results	Outcome
<ul style="list-style-type: none"> - Building a sustainable supply chain for the production of products made from lotus silk; create livelihoods and improve economic conditions for lotus farmers and craftsmen in traditional weaving villages; - Building trademarks and geographical 	<ul style="list-style-type: none"> - Researching and establishing areas to supply material; select suitable lotus varieties for fiber and organise the development of centralised production of products made from lotus stems; - Improving the technology of fiber extraction, spinning and weaving silk in traditional textile villages in the project area, thus improve productivity, quality and lower the production cost; - Diversifying product categories and product designs for products made from lotus fibers to match the market demand; 	<ul style="list-style-type: none"> - The parties involved in the process of planting, spinning, weaving cloth from lotus silk, producing and commercializing lotus-based products will have more jobs and increase incomes; - A new profession is created, maintained sustainably, which contributes to raising incomes for many social groups at family level as well as local economy and the agricultural sector; 	<ul style="list-style-type: none"> - Some lotus varieties that are suitable for silk production in the lotus production areas of Dong Thap and An Giang are selected; - Areas to plant/supply materials, weave using lotus silk, produce products using fabrics woven from lotus silk, display and introduce products are determined and planned. - The production technology & process of products using lotus fibers are improved and perfected; The spinning technology and looms are industrialised, improved and perfected. - Product designs meet the market's requirements; - Brand identities and geographical indications for Vietnamese products made from lotus fibers are built;

<p>indications for Vietnam's lotus silk production industry.</p>	<ul style="list-style-type: none"> - Developing the market for products made from lotus silk; connecting supply and demand; - Building a branding development department (including geographical indication registration) for lotus fiber products. - Organise training courses for farmers, artisans in craft villages and other stakeholders on branding, geographical indication development, trade promotion and market development. 	<ul style="list-style-type: none"> - Cultural values of lotus and traditional villages are maintained and promoted, thus contribute to cultural preservation. - Wetlands are preserved, ecological functions are sustainably maintained; - Awareness of project participants and other stakeholders is enhanced. 	<ul style="list-style-type: none"> - A sustainable value chain model of products produced from lotus silk is built (connecting all stages, including cultivating, spinning, weaving, designing, commercialising and developing products & market etc.) - Training materials; training courses for stakeholders of the value chain are provided.
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About 1,000 people will benefit from the Project – both direct and indirect – including: about 200 farmers in lotus cultivating and spinning areas; 50 artisans from traditional weaving villages; 04 companies with more than 300 workers; 100 staff at the project sites and related regions as well as other stakeholders.

How the project will be successful:

- The planting and spinning activities are maintained sustainably, incomes of lotus farmers and seeders increase; The ecosystem functions of wetlands are improved and maintained.

- The weaving villages, weaving fabrics from lotus silk and cultural values are maintained, developed, preserved and promoted; the income of artisans increased as the market for lotus products is expanded and maintained.

- The sustainable value chain of the lotus silk products industry is maintained and developed sustainably as the connection of roles and benefits sharing between members within the chain are established.

- The cultural and spiritual values of the Vietnamese people associated with lotus and traditional craft villages are developed and maintained through branding development and a system of identification and geographical indications, ultimately, this adds more value to the products.

6. Contributions to VB4E topics

The project contributes to two main topics, including: water & wetland conservation, and climate change.

7. Management structure:

6.1. Project implementing agency: Institute of Ecological Economics (Eco-Eco).

- Full name of the head of the agency: Assoc.Prof.Dr.KH. Nguyen Duy Chuyen.

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- Phone: 0913214373.

6.2. Project coordination agency (resources):

- Thap Muoi District People's Committee, Thap Muoi Farmers Association; Tan Kieu Agricultural Cooperative.

- People's Committee of Tinh Bien district, An Giang province; People's Committee and Cooperative of Van Giao commune, Tinh Bien district; UNBN and Chau Phong craft village of Cham people in Tan Chau town;

- People's Committee of Tan Hung district, Long An province and Lang Sen Wetland Reserve.

- Xuan Thu fashion design company, Hanoi; Joint Stock Company – Hanh Silk Trading Company, Hanoi;

- Lien Hoa Group - Phu Tuc commune, Chau Thanh district, Ben Tre province: Domestic output and export of lotus silk products;

- Department of Textile and Fashion - Hanoi University of Science and Technology;

- Center for Natural Resources and Environment - Forest Investigation and Planning Institute: Survey and planning of lotus material supply areas.

The project activities will be supported technically and monitored by the National Advisory Board of VB4E (NAB). IUCN will act as the secretariat of the NAB to organise monitoring, evaluation and learning tours for the NAB.

8. Budget: 300,000 USD

Co-sponsor: 20,000 USD

IUCN and Eco-Eco will obtain funding from different sources to co-finance the project

Please contact the coordinator via VB4EAlliance@gmail.com for further information if you are interested in the project.