

WHY NIPM SHOULD CONSIDER GOING GLOBAL

The Agriculture Modernization Project recommends examining all agricultural practices through the lens of value chain management. We perceive a significant opportunity for NIPM to expand its reach globally..

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This short report was prepared by consultants from Vivonta Green Tech Consultants Pvt Ltd in response to a request made by the Chairman of NIPM on March 27, 2024.

Vivonta was established to address the value chain management requirements outlined by the World Bank's Agricultural Modernization Project. For more information, please visit www.vivonta.lk.

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The executive summary highlights the urgent need for large-scale plantations to mitigate climate change impacts in Sri Lanka. Proposing a 1000-hectare plantation for every 5000-hectare block of agricultural crops, the summary emphasizes the necessity for swift national planning and policy implementation. With Sri Lanka's landmass totaling 6,552,500 hectares, the proposal entails establishing 1000 plantations of 1000 hectares each across the country. This initiative aims to address various climate change challenges, including extreme weather events, rising sea levels, declining agricultural productivity, biodiversity loss, health risks, and economic losses. It underscores the importance of immediate action to secure a sustainable future for Sri Lanka.

Plantations play a crucial role in mitigating the negative impacts of climate change, especially in tropical countries like Sri Lanka. Here's how:

Carbon Sequestration: Trees in plantations absorb carbon dioxide from the atmosphere during photosynthesis, helping to mitigate greenhouse gas emissions and reduce atmospheric carbon levels, thus mitigating climate change.

Biodiversity Conservation: Well-managed plantations can support diverse ecosystems, providing habitats for various plant and animal species. This biodiversity helps maintain ecosystem resilience against climate change impacts and supports ecosystem services such as pollination and soil fertility.

Soil Conservation: Plantation crops, such as trees, can help prevent soil erosion and degradation, which are exacerbated by climate change-induced extreme weather events like heavy rainfall and droughts. Healthy soils contribute to agricultural productivity and water retention.

Water Regulation: Plantation forests can regulate water cycles by influencing rainfall patterns, reducing runoff, and replenishing groundwater reserves. This is particularly important in tropical countries where water scarcity and extreme weather events are common challenges associated with climate change.

Microclimate Regulation: Large-scale plantations can influence local microclimates by providing shade, reducing temperatures, and increasing humidity. This can help mitigate heat stress and create more favorable conditions for both agricultural activities and human settlements.

Regarding the size of large-scale plantations, the concept of intercropping or incorporating plantation crops within existing agricultural land is beneficial for both agricultural productivity and environmental sustainability. In the context of planting 1000 hectares of plantation within 5000 hectares of other agricultural crops, the size and layout of the plantation would depend on various factors such as the type of plantation crop, local climate, soil conditions, and land availability.

In general, the plantation layout should be designed to maximize environmental benefits, such as promoting biodiversity, enhancing ecosystem services, and minimizing negative impacts on existing agricultural activities. Additionally, careful planning and management are essential to ensure optimal land use, minimize conflicts with existing land uses, and maximize the overall sustainability and resilience of the agricultural landscape.

In conclusion, the establishment of large-scale plantations to leverage economies of scale is both urgent and critical throughout Sri Lanka. We advocate for the implementation of a policy wherein a 1000-hectare plantation is established for every 5000-hectare block of agricultural crops. Those concerned about climate change impacts must prioritize national planning and swiftly enact policies to address this pressing issue.

Sri Lanka's landmass spans 6,552,500 hectares. According to our proposal, the country would require 1000 plantations, each spanning 1000 hectares, distributed across the nation. This proposal should not be viewed solely as advocacy for the National Institute of Plantation Management (NIPM), but rather as a call to action to urgently mitigate the negative impacts of climate change.

These impacts include extreme weather events, rising sea levels (as exemplified by the Beach Belt of Coconut initiative by Vivonta), declining agricultural productivity, loss of biodiversity, health risks, and economic losses. It is imperative that swift and decisive action is taken to address these challenges and secure a sustainable future for Sri Lanka and its citizens.

The Ministry of Plantations and Agriculture should thoroughly assess the merits and drawbacks of the proposal before proceeding with any actions to bolster the National Institute of Plantation Management (NIPM). This may involve collaborating with leading educational institutions globally to establish strategic partnerships and develop timely professional programs. It is imperative to carefully consider all aspects of the proposal to ensure the effective strengthening of NIPM and the advancement of the plantation sector.

Numerous educational institutions worldwide provide study programs focused on plantation management. Here are some illustrative examples:

University of Oxford, UK:

The School of Geography and the Environment at the University of Oxford offers a Master of Science (MSc) in Biodiversity, Conservation, and Management, which may include modules or specializations in plantation management.

University of Queensland, Australia:

The University of Queensland offers a Master of Science in Environmental Management, which may include courses related to plantation management and sustainable land use.

University of California, Davis, USA:

The University of California, Davis offers a Master of Science in Horticulture and Agronomy, with courses that cover topics such as crop production, plant physiology, and agricultural management, which may include aspects of plantation management.

University of Pretoria, South Africa:

The University of Pretoria offers a Bachelor of Science in Forestry and a Master of Science in Forestry, which may include modules or specializations in plantation management, forest economics, and sustainable forestry practices.

University of British Columbia, Canada:

The University of British Columbia offers a Bachelor of Science in Forest Sciences and a Master of Science in Forestry, which may include courses related to plantation management, forest ecology, and sustainable forest management.

Bangor University, UK:

Bangor University offers a Bachelor of Science in Forestry and a Master of Science in Forestry, which may include modules or specializations in plantation management, forest ecology, and conservation.

Swedish University of Agricultural Sciences, Sweden:

The Swedish University of Agricultural Sciences offers a Bachelor of Science in Forest Engineering and a Master of Science in Forestry, which may include courses related to plantation management, forest economics, and sustainable forestry practices.

These are just a few examples, and there are many other universities and colleges worldwide that offer programs in forestry, environmental management, agriculture, and related fields that may include courses or specializations in plantation management. Prospective students should research specific programs to find the best fit for their interests and career goals.

Several countries have institutes or organizations dedicated to plantations management. Some of these include:

Malaysia:

Malaysian Institute of Plantation and Commodities (MPOB) focuses on research, development, and promotion of the oil palm and rubber industry, among others.

Indonesia:

Indonesian Oil Palm Research Institute (IOPRI) conducts research and provides expertise in oil palm cultivation and management.

India:

Indian Institute of Plantation Management (IIPM) in Bangalore offers specialized education and training programs in plantation management.

Sri Lanka:

National Institute of Plantation Management (NIPM) in Sri Lanka provides education, research, and training in the field of plantation management.

Australia:

The Australian Institute of Tropical Health and Medicine (AITHM) conducts research and provides expertise in tropical agriculture, including plantation management.

Brazil:

Brazilian Agricultural Research Corporation (EMBRAPA) conducts research and provides technical assistance in various agricultural sectors, including plantation management.

United States:

The University of Hawaii at Manoa offers the Tropical Plant and Soil Sciences program, which covers various aspects of plantation management, particularly in tropical environments.

South Africa:

The South African Sugarcane Research Institute (SASRI) focuses on research and development related to sugarcane cultivation and management.

These institutes play crucial roles in advancing research, providing technical expertise, and offering educational programs to support the sustainable management of plantations in their respective countries.

Cranfield University in the UK did not offer a specific degree program focused solely on plantation management. However, Cranfield University is well-known for its expertise in environmental science, agriculture, and related fields. They offer several relevant degree programs and research opportunities that may include aspects of plantation management, sustainable agriculture, and land management.

Some of the relevant programs at Cranfield University include:

MSc Environmental Management for Agriculture: This program covers various aspects of environmental management in agricultural systems, which may include topics related to plantation management and sustainable agriculture practices.

MSc Land Management: This program focuses on sustainable land use and management practices, which may encompass aspects of plantation management within the broader context of land management.

MSc Environmental Water Management: While not directly focused on plantations, this program covers water resource management, which is often a critical aspect of plantation management in agricultural contexts.

MSc Environmental Risk Management: This program may cover risk assessment and management strategies applicable to agricultural systems, including plantations.

While Cranfield University may not offer a specific degree program solely dedicated to plantation management, students interested in this field can explore related programs and opportunities for research and specialization within relevant disciplines.

Additionally, it's worth checking the latest updates from the university's website or contacting them directly for any new programs or initiatives related to plantation management that may have been introduced since my last update.

In this brief concept paper, we emphasize the necessity of establishing 1000-hectare plantations, incorporating elements of analog forestry, for every 5000 hectares of agricultural land across the country (excluding jungle and protected areas). These plantations, featuring carefully selected crop species, aim to mitigate the adverse effects of climate change. Additionally, we underscore the importance of empowering NIPM to design new study programs by forging partnerships with premier educational institutions

worldwide. Furthermore, we advocate for student exchange initiatives facilitated by NIPM, offering mutual benefits to participating nations thus qualifying for global impact.