



Preparedness of the Sri Lankan Rubber Sector to minimize the impact of Climate Change

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- Sri Lanka, an island of tropical nature, is highly vulnerable to adverse impacts of climate change
- National level actions - play a critical role - international cooperation is also important
- Government of Sri Lanka (GOSL) has launched a national initiative to face the impacts of climate change

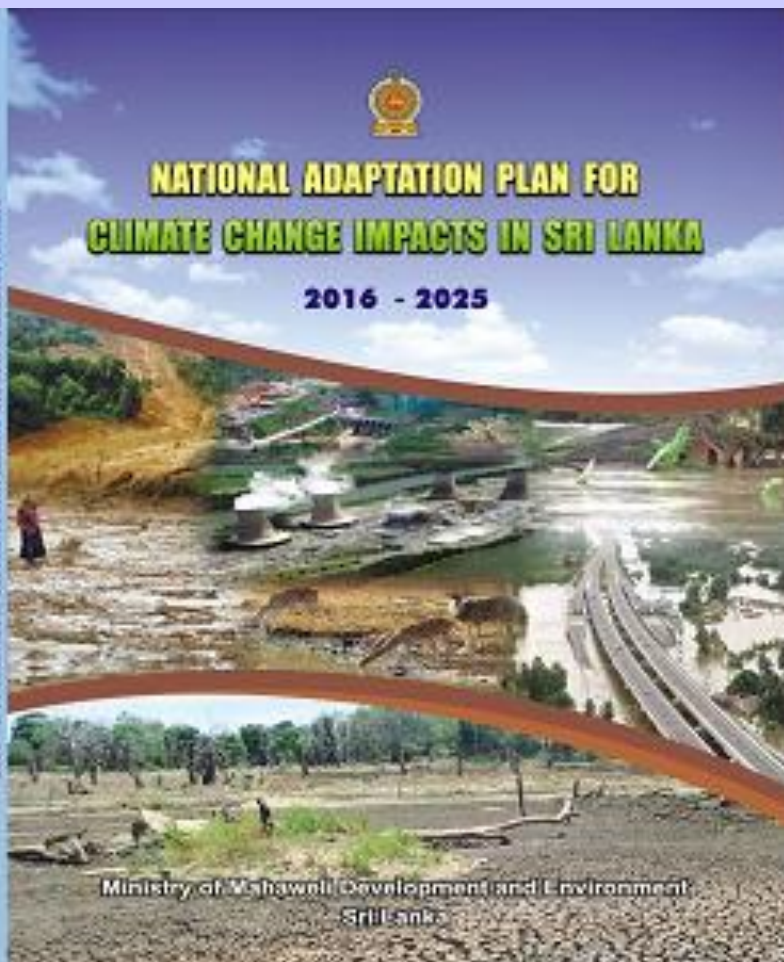
There are several national initiatives

- National Climate Change Adaptation Strategy for Sri Lanka 2011-2016
- National Climate Change Policy (NCCP) adopted in 2012
- The next logical step - The National Adaptation Plan for Climate Change Impacts in Sri Lanka (NAP) – 2016-2025
- Laid out National initiatives for meeting the adverse effects of climate change

- **RRISL** - involved in research in various disciplines in developing adaptation measures to adverse climate change impacts
- Also in the process of developing the knowledge base for carbon sequestering ability to prove the prospects in receiving carbon credits



Need to follow a systematic way by adopting the National Adaptation Plan for Climate Change Impacts



- Nine vulnerable sectors were identified
- Rubber - contained in export development
- Identifies adaptation options that can fulfill these needs and actions necessary to achieve these adaptation options

Relevant adaptation needs for the Natural Rubber sector as per the national adaptation strategy for 2016 – 2025

- **Enhance** - resilience of the rubber sector against heat and water stress
- **Minimize** - risk of crop damage due to biological agents
- **Minimize** - impact on export earnings due to erratic changes in precipitation
- **Enhance** - resilience of export crops and agro-ecosystems to extreme weather events

Actions : Enhancing the resilience against heat and water stress

Key areas : **Germplasm improvement** and improvement of nursery and plantation management practices

Breeding of new clones –

- Multiplication,
- Establishment and scientific evaluation of *Hevea* germplasm,
- Molecular level screening to identify drought tolerant clones
- RRISL-smallholder collaborative trials to test adaptability and performance under sub-optimal environmental conditions



Actions : Enhancing the resilience against heat and water stress

Breeding of new clones –

- RRISL 217 and RRISL 215 - identified as highly stable for all environments
- Through molecular screening: RRISL 2005 and RRISL 2006 > tolerant to drought compared to RRISL 203, RRIC121, RRISL centennial 3 and RRISL 2100
- Further research - Confirm the results

Actions : Enhancing the resilience of the rubber sector against heat and water stress

Key areas : Germplasm improvement and **improvement of nursery and plantation management practices**

- Improved planting material
- Priming of seeds to improve germination success
- Application of botanicals & physio-chemicals
- Irrigation practices to reduce moisture stress
- Studies on potting media for root trainers, bio-fertilizer development,

Actions : Enhancing the resilience of the rubber sector against heat and water stress

Key areas : Germplasm improvement and **improvement of nursery and plantation management practices**

- Use of organic fertilizer
- Bio-char application
- Intercropping systems
- Soil-moisture conservation practices with the objective of avoiding stress situations.



Actions : **Minimizing** - risk of crop damage due to biological agents

a. Germplasm improvement

Screening of existing clones for pest and disease resistance and developing pest and disease resistant clones.

b. Improvement of land and nursery management practices

Developing recommendations on best practices of pest and disease management through improvements in nursery management and crop sanitation.

Actions : **Minimizing** - risk of crop damage due to biological agents

c. Monitoring and surveillance of pests and diseases

- Establishing a surveillance programme for early detection of new diseases and pests
- Developing a system of forecasting risks of pests and diseases are the relevant actions under this adaptation option.

Be cautious:

Pestalotiopsis Leaf Disease spreading in Sri Lankan rubber plantations



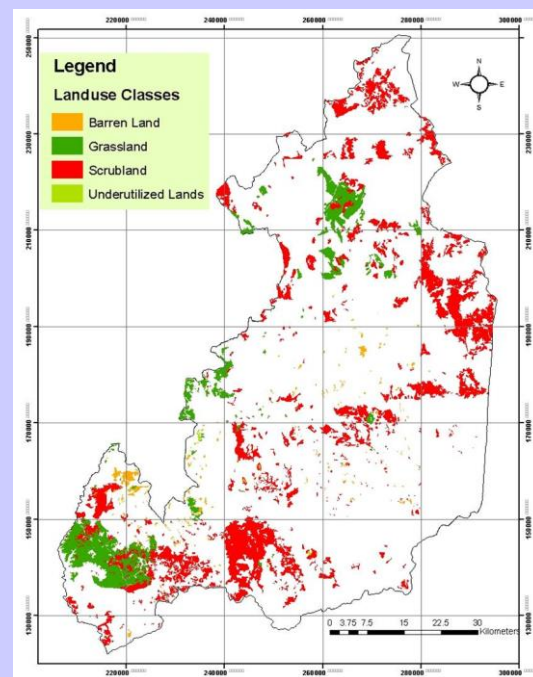
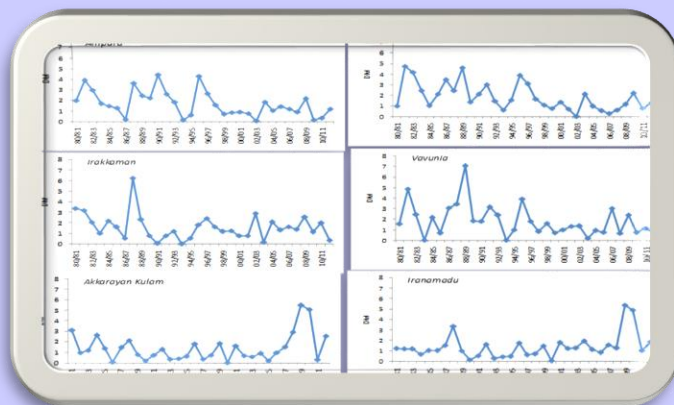
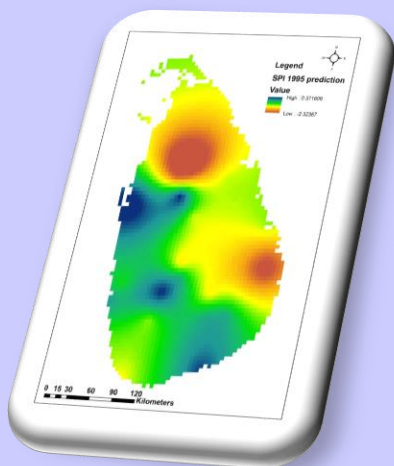
Actions : **Minimizing** - impact on export earnings due to erratic changes in precipitation

- Establishment of climate information management and communication system – *forecasts (short & long term), onset of rains, droughts etc. in collaboration with the Dept. of Meteorology*
- Minimizing the effect of interference to tapping operation - Timely application of rainguards (escaping from rain interference)
 - Adopting low frequency tapping system (escaping from rain interference)



Actions : **Enhancing** resilience of export crops and agro-ecosystems to extreme weather events

- Introducing suitable cropping systems with rubber
- Land suitability assessments
- Identify, monitor and forecast droughts
 - use of indicators and GIS mapping
- Modeling extreme events



Conclusion

- The R & D programme of RRISL adequately address the adaptation needs, options and activities according to the National adaptation plan for climate change of Sri Lanka
- Yet, several research are still on-going and at the initial stages - are to be recommended to the industry in future
- Research gaps – need to be identified further

Raising awareness – Immense importance

Overarching all the said strategies, it is important to make aware the planters and smallholder farmers about the adaptation needs and proposed strategies to build resilience of the rubber sector to anticipated climate change in overcoming the adverse effects





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Thank You