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Nature-based Solutions: Sustainable Rice Landscapes Initiative

Context and rationale

The importance of Nature-based Solutions

Nature-based Solutions (NBS) are a critical requirement to address climate change while delivering co-benefits that span the environmental, societal and economic aspects of the 2030 Sustainable Development Goals. Looking at the land use sector, key areas such as agriculture and forestry are critical priorities in Nationally Determined Contributions (NDCs) – e.g. agricultural priorities around mitigation and adaptation feature in 90% of country NDCs¹. NBS such as the conservation, restoration and improved management of land that increase carbon storage and/or avoid GHG emissions have the potential to deliver up to 37% of cost-effective mitigation by 2030².

NBS Proposal for Climate Action Summit: Sustainable Rice Landscapes Initiative

Importance of Rice Landscapes for NBS

Rice is a mainstay for food systems across the world. It is eaten daily by 3.5 billion people, produced by 144 million farmers supports livelihoods for over 1 billion people. While “Green Revolution” approaches (including new varieties, agri-chemicals and improved irrigation systems) have resulted in major productivity gains over the past decades, rice also has considerable impacts on the broader landscapes, ecosystems and climate in which it is grown – methane from paddy fields is equal to 10% of global methane emissions (1.5% of global GHGs), and mis-management of agricultural practices has led to critical mangrove and forest degradation.

Sustainable Rice Landscapes Initiative overview

Since 2017, six key partners have been working to build and deliver the [Sustainable Rice Landscapes Initiative \(SRLI\)](#) with an objective to increase the resource use efficiency and reduce climate change

Key facts on rice:

- Serves as the daily staple for more than 3.5 billion people worldwide
- Provides 19% of the world’s calories, and represents livelihoods for >1 billion people
- Produced on 160 million hectares, mostly by 144 million smallholder farmers in Asia
- Responsible for up to 10% of global methane emissions (and up to 20% of national emissions for some countries); Equal to 1.5% of global GHGs or national emissions of Germany
- Uses 40% of world’s irrigation water for production
- Rice fields represent 15% of the world’s wetlands, including key bird, fish, amphibia and insect species
- Rice production must increase by 25% by 2050 to meet global demand

¹ <https://ccafs.cgiar.org/agricultures-prominence-indcs-data-and-maps#.XMBLaOgzZEY>

² <https://www.pnas.org/content/114/44/11645>



and other environmental impacts through the sustainable transformation of rice-based landscapes.

SRLI provides a vehicle to deliver massive GHG emissions reductions through NBS, while achieving a broad set of co-benefits across multiple geographies and issue areas. With a starting focus in south-east Asia, key countries include Thailand and Vietnam.

Showcasing both impacts already on the ground, alongside the opportunity for scale up over the coming years would be of major significance and relevance for the NBS aspects of the Climate Action Summit.

Rice represents a unique opportunity for scale up as a Nature-based Solution – GHG methane emissions can be reduced by up to 70% through innovative agricultural practices, and the landscapes within which it exists are essential carbon sinks and ecosystem services, from land-based to sea-based systems. These include not just plant-based cropping systems, but also livestock and forestry needs. The involvement of key food crops also means the private sector plays an important role in delivering sustainable change along the value chain, alongside civil society, government and research. It is also an area strongly supported by the [Global Research Alliance \(GRA\)](#) on agricultural GHGs to ensure robust science. Lastly, this has high potential to increase incomes for smallholder rural farmers, improving resiliency and livelihoods, and strengthening rice farming communities.

The specific aspects of SRLI for the Climate Action Summit are listed below:

Initiative Title:	Sustainable Rice Landscapes Initiative (SRLI)
Objective:	To increase resource use efficiency and reduce climate change and other environmental impacts through the sustainable transformation of rice-based landscapes, thereby strengthening farmer resilience and livelihoods.
Approach:	<p>SRLI delivers solutions in countries and specific rice growing landscapes in several ways – examples are provided below:</p> <ol style="list-style-type: none"> 1. Policy and planning: Enhanced National Government Policy and Institutional Development for sustainable rice (e.g. Policy instruments for land use planning, restoration roadmaps, financing instruments) 2. On-ground Management and Production Practices: Addressing on-farm and off-farm landscape-level needs and linkages (e.g. technical farming training, new farming methods such as Alternative Wetting/Drying to reduce methane, mangrove/forest conservation/restoration, improved watershed planning and regional governance and planning for resource use) 3. Markets: Market-based instruments supporting sustainable value chains (e.g. adoption of the Sustainable Rice Platform standard for managing agri-chemicals), maximising productivity/economic margins, ensuring efficient market and pricing, addressing post-harvest food loss, etc.

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	<p>4. Knowledge: Knowledge management, metrics and monitoring systems (e.g. ICT-enabled decision support tools, metrics that address MRV and carbon financing options, standardized metrics, etc)</p>
<p>Impacts:</p>	<p>SRLI delivers impacts in the following ways:</p> <p>1. Transformational impact: SRLI is a direct example of how nature-based, food systems transformation is implemented through multi-stakeholder partnerships (public, private, civil society, research) using landscape-based approaches in the regions that need it not just today, but also over the coming decades.</p> <p>2. Sustainable development co-benefits: SRLI delivers broad-based economic growth for rural and smallholder farmers (of rice and other local crops), addressing poverty alleviation (SDG1), food security and sustainable agriculture (SDG2), healthy and diets (SDG3), gender-targeted agricultural rice initiatives (SDG5), enhanced water use in irrigation (SDG6), inclusion of youth and new livelihoods for farmers and entrepreneurs (SDG8), tackling climate change mitigation for 1.5% of all global emissions (and 20% of country GHGs like Thailand) and resilience against physical climate shocks (SDG13), addressing coastal mangrove restoration (SDG14), conserving and restoring degraded terrestrial forests/watersheds, managing key rice landscape bird, fish, insect and amphibia species, and reducing localised agri-chemical pollution of waterways (SDG 15), and demonstrates strong, multi-sectoral partnerships (SDG17). Across the landscape it combines, agriculture, forestry, conservation sectors and through private sector engagement it creates market opportunity and livelihoods.</p> <p>3. Replicable and scalable: By applying the Sustainable Rice Platform (SRP) standard, SRLI takes a standardised, scalable approach that is being applied in ASEAN countries such as Thailand and Vietnam. It is also being used in South Asia and has significant opportunity in rice growing areas of West Africa and Latin America.</p> <p>4. Measurable and implementable: The SRP standard provides a clear performance monitoring framework, with global and in-country logframes. SRLI has secured \$25m of Global Environment Facility (GEF) financing under its GEF-7 Food Systems Impact fund, alongside bi-lateral finance and private sector contributions. Projects are active today in ASEAN and South Asia, with additional GEF finances to be mobilised in 2020.</p> <p>5. Innovative and visible: SRLI partners have created a strong group able to use the newest solutions and technologies arising from the latest research into rice solutions and private sector commitment and innovation along the entire value chain. SRLI has been communicated widely at key events to stimulate public awareness, both globally and regionally, including the GEF Assembly in Vietnam, COP24 in Poland and the Responsible Business Forum in Thailand.</p>
<p>Geographic application</p>	<p>SRLI is being applied in the rice growing landscapes of SE Asia (e.g. Mekong Delta countries), South Asia and has opportunities for scale in West Africa and Latin America. Key countries include Thailand and Vietnam.</p>

Participating countries / organizations	<p>Where SRLI projects are active, national government counterparts (including Ministries of Agriculture, Environment and Forests, key Agricultural Cooperatives, etc) are either leading or being engaged in implementation. Key countries include Governments of Thailand and Vietnam.</p> <p>Since 2017, six key partners have been working to build and deliver the Sustainable Rice Landscapes Initiative (SRLI) – The World Business Council for Sustainable Development (WBCSD), UN Environment, the UN Food and Agriculture Organization (FAO), the Sustainable Rice Platform (SRP), the German Agency for International Cooperation (GIZ) and the International Rice Research Institute (IRRI).</p>
Delivery method and impact	<p>SRLI is being delivered through financing to either (1) the consortium, (2) the relevant national governments, or (3) implementation agencies who work with farmers and civil society. See here for an example.</p>
Stakeholders consulted	<p>As required with project financing, multiple developments and consultations are undertaken with local groups in order to ensure equity and scale of impact, including relevant gender disaggregated requirements for reaching farmers.</p>
Broader relevance for Climate Action Summit	<p>SRLI has strong overlaps with other other Climate Action Summit workstreams, in particular: resilience and adaptation; climate finance and carbon pricing; youth and citizen mobilization; mitigation strategy.</p>
Linkages to other ongoing initiatives	<p>SRLI brings together multiple initiatives being undertaken by its partner organizations, including the Sustainable Rice Platform, Better Rice Initiative Asia (GIZ), Source to Sea (FAO), Climate Smart Agriculture project (WBCSD), GEF Food, Land use and Restoration Impact Program (FOLUR), Low Carbon Rice (IRRI), Global Research Alliance on Agricultural GHGs (NZ Gov't, Japan)</p>
Funding	<p>Funding options include: NAMA Facility, Adaptation Fund, Green Climate Fund, Global Environment Facility, Partnerships for Green Growth.</p>
Monitoring & Evaluation	<p>The SRP standard provides a clear performance monitoring framework, with global and in-country logframes.</p>
Communications	<p>SRLI has been communicated widely at key events to stimulate public awareness, both globally and regionally, including the GEF Assembly in Vietnam, COP24 in Poland and the Responsible Business Forum in Thailand.</p>
Contacts	<p>Contact details for committed parties: SRLI contacts: WBCSD: Tony Siantonas siantonas@wbcsd.org; GIZ: Matthias Bickel, Matthias.bickel@giz.de; SRP: Wyn Ellias ellisw@un.org; IRRI Ole Sander b.sander@irri.org; FAO: Beau Damen beau.damen@fao.org; Max Zieren zieren@un.org (UN Environment)</p> <p>Committed National Government Contacts: Thailand Ministry of Natural Resources and Environment: Dr. Wijarn Simachaya wijarn2002@yahoo.com; Vietnam Ministry of Natural Resources and Environment: Mr. Thuan Dun Nguyen ndthuan@monre.gov.vn</p>



About the World Business Council for Sustainable Development (WBCSD)

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than USD \$8.5 trillion and with 19 million employees. Our Global Network of almost 70 national business councils gives our members unparalleled reach across the globe. WBCSD is uniquely positioned to work with member companies along and across value chains to deliver high-impact business solutions to the most challenging sustainability issues.

WBCSD and the role of private sector in NBS

Business plays a critical role in delivering NBS that are scalable, economically sustainable, implementable and innovative. Through its projects, partnerships and member companies, the World Business Council (WBCSD) has been at the heart of NBS from several angles, including institutional partnerships with the UN Framework Convention on Climate Change (UNFCCC) that include the [Koronivia Joint Work on Agriculture](#), leading NBS policy and technology tracts as part of the [2019 Africa Climate Week](#), and [progressing optimal climate policies](#) under UNFCCC Article 6. More broadly, WBCSD has also led the business streams for the UN Convention to Combat Desertification (UNCCD) in Ordos, China and Ankara, Turkey, where NBS have included [public and private sector partnership recommendations](#). WBCSD has also led the development of the [Natural Capital Protocol](#), including toolkits and guidance for companies to effectively set metrics for mainstreaming and valuing the role of ecosystem services.

WBCSD proposals for the UN Climate Action Summit

The UN Climate Action Summit provides opportunities for multi-stakeholder cooperation on NBS, reversing climate change, implementing SDGs, delivering multiple social, economic and environmental outcomes, and benefiting lives and livelihoods everywhere. As such, WBCSD welcomes the call for contributions to the co-leads of the NBS coalition, highlighting below our proposition for your consideration.

Learn more at www.wbcd.org

About FAO

The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. Our goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide. We believe that everyone can play a part in ending hunger.

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About German International Cooperation Agency

GIZ is Germany's leading provider in the field of international cooperation services. As a service provider with worldwide operations in the field of international cooperation for sustainable development, GIZ works together with its partners to develop effective solutions that offer people better prospects and sustainably improve their living conditions. GIZ is a public-benefit federal enterprise and supports the German Government as well as many public and private sector clients in a wide variety of areas, including economic development and employment, rural development, energy and the environment, and peace and security.

About the International Rice Research Institute

The International Rice Research Institute (IRRI) is the world's premier research organization dedicated to reducing poverty and hunger through rice science; improving the health and welfare of rice farmers and consumers; and protecting the rice-growing environment for future generations. IRRI is an independent, nonprofit, research and educational institute, founded in 1960 by the Ford and Rockefeller foundations with support from the Philippine government. The institute, headquartered in Los Baños, Philippines, has offices in 17 rice-growing countries in Asia and Africa, and over 1,000 staff.

About Sustainable Rice Platform

The Sustainable Rice Platform is a multi-stakeholder alliance led by UN Environment, the International Rice Research Institute, GIZ and over 100 institutional members in the public and private sectors as well as international organizations, NGOs and the international research community. SRP promotes resource efficiency and sustainability, both on-farm and at landscape and policy levels.

SRP developed the world's first rice sustainability standard and impact indicators. Our goal is to harness innovation to encourage 1 million rice smallholders to adopt climate-smart, sustainable best practice, while enhancing smallholder livelihoods and protecting the environment

About UN Environment

UN Environment is the leading global voice on the global environment. It provides leadership and encourages partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UN Environment works with governments, the private sector, the civil society and with other UN entities and international organizations across the world.

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