

# Contribution to Nature Based Solutions track of 2019 UN Climate Action Summit

Submitted by: Isha Foundation, NGO with UN ECOSOC special consultative status

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## **i. Title/Heading**

Rally for Rivers — a movement to revitalize India's dying rivers (adaptable for tropical regions globally)

## **ii. Context and Rationale**

India's rivers are largely forest-fed. However, our forests are fast disappearing due to rapid urbanization. India's current forest cover is 21.23% against the national mandate of 33%. Deforestation has severely impacted India's rivers, which have depleted 40% from historic flows, given that almost 65% of India's water needs are met by rivers. Depleting flows pose a serious threat to food and water security. In 15 years, India is expected to have only 50% of the water it needs.

Sadhguru, Founder, Isha Foundation, launched Rally for Rivers (RfR) in September 2017. It offers a comprehensive solution to augment water flow by restoring tree cover through massive community afforestation, driven by policymaking. Increasing tree cover along river banks for a minimum width of 1 km will restore soil nutrients and improve the soil's capacity to absorb water during rains and release it slowly into ground aquifers and rivers. Trees also influence precipitation patterns by recycling absorbed water back into the atmosphere through evapotranspiration.

The RfR Draft Policy Recommendations document outlines an economic plan that will incentivize greening of river banks. It has been accepted by the Government of India (GoI), recommended as a policy for implementation across all Indian states.

## **iii. An overview of the contribution**

Supported by 162 million people, RfR is the largest ecological movement in the world, offering a sustainable long-term solution to water flow depletion. Six Indian states have signed MoUs with Isha Foundation to implement river revitalization projects; 18 state governments are working to implement RfR recommendations, changing the national discourse on how India handles her natural resources.

The first pilot is underway in Maharashtra, which sanctioned USD 59 million to revitalize the Waghari river in Yavatmal district and a second project will be launched in Karnataka to revitalize river Kaveri.

## **iv. How the contribution leverages living natural systems as a solution to avert climate change**

RfR promotes planting endemic trees along river banks on government-owned land and converting privately owned land to agroforestry with lucrative economic benefits. This supports bio-diversity and enriches the riverine ecosystem by bringing back migratory birds, reviving aquatic life, offering a conducive environment for worms, insects and plant life to flourish, enriching soil and purifying water.

Agroforestry promotes tree-based agriculture, which supports groundwater replenishment as opposed to crop-based agriculture that draws groundwater without replenishing it.

**v. How might the contribution support both climate mitigation and adaptation as well as other important co-benefits and social, economic and environmental outcomes in coming years.**

**a. Reduction in carbon emission and carbon capture (GTonnes)**

RfR's first two river revitalization projects will raise 730 million trees primarily in riparian basins. A fully mature tree is estimated to absorb 30 kg of carbon annually.

**b. Increasing climate resilience**

Contrary to conventional belief, we receive rain because of trees and not the other way around. Catchment areas have turned barren and are exposed to climate risk in the form of severe droughts and floods threatening food and water security. Trees can influence precipitation patterns, mitigating drought and flood risk and increasing climate resilience. Stable precipitation patterns will lower dependence on groundwater sources.

**c. Social impact (job increase; poverty reduction; just transition, etc.)**

Riverside communities and agricultural communities can derive both economic and ecologic benefit by adopting afforestation and agro-forestry (tree-based agriculture). Farmers can plant commercially viable saplings, i.e., fruit/wood trees such as timber that command a high price. Agroforestry enhances farmer income 3–5 times over a 10-year period. RfR proposes a government incentive scheme to support farmers' income in initial years; the proposed incentive is less than the current burden incurred by waiving off farmer loans.

**d. Net economic impact (total in US\$; how was it achieved?)**

Agroforestry is a proven model with significant net economic impact. The model has been successfully implemented in Tamil Nadu (Southern India). Farmers have reported a 3-5 fold rise in income over a decade. The loss of income in the initial years was offset either through partial conversion into agroforestry, cultivating intercrops between tree rows or with monetary support via government schemes.

**e. Impact on realization of the 2030 Agenda for Sustainable Development (in particular SDGs 1,2,6,12,13,14,15,16)**

The RfR solution aligns with all the mentioned SDGs by way of:

- ✓ Providing income generation opportunities for poverty alleviation and enhancing farmer income
- ✓ Offering access to better nutrition choices
- ✓ Enriching soil with organisms that act as a filter to purify groundwater before releasing it into rivers and aquifers
- ✓ Encouraging communities to own the change and act responsibly towards the environment
- ✓ Equipping communities to adapt to climate variations and de-risk themselves from the impact

RfR considers ecosystem revival as a whole, regenerating aquatic, soil and tree-based life forms. Its stakeholders include the government, industry, scientists, agriculturists, hydrologists, riverside communities, children and the general public. It is primarily an economic model with an ecologic benefit. By providing opportunities for income generation and nutrition, it ensures no one is left behind in economic and social progress.

**f. Food security**

Enriching soil is the first step towards food security. The Center for Science and Environment study titled “State of India’s Environment 2017” states nearly 30% of Indian soil is degraded or facing desertification, threatening food security. Afforestation enriches soil with vegetation from leaves increasing soil nutrients, promoting soil life vital to maintaining soil integrity and reversing desertification. It increases food security and nutrition value.

**g. Minimizing species extinction, ecological losses and fostering an increase of biodiversity.**

Depletion in green cover and water flow leads to habitat loss, threatening species survival. RfR addresses both these issues. It minimizes species extinction and ecological losses by increasing biodiversity and creates natural filters and purification mechanisms, effectively leveraging natural living systems.

**vi. Which countries and organizations are involved in the contribution?**

Since the launch of RfR in 2017, 18 Indian state governments (out of 29) have been involved in the contribution. The Ministry of Environment, Forest and Climate Change; the Prime Minister’s Office; NITI Aayog (India’s apex organization for economic planning); various branches of the UN and other organizations (Global Landscapes Forum, Leo Dicaprio Foundation, etc.) have been supportive in highlighting RfR’s potential for economic and ecological impact. Six Indian states have signed MoUs with Isha Foundation to launch river revitalization efforts.

**vii. How have stakeholders (for example local communities, youth and indigenous peoples, where applicable) been consulted in developing the contribution?**

RfR sought public mandate from the people of India, the largest stakeholders. In 30 days, RfR enlisted the support of 162 million people. Backed by the record-breaking public mandate, Sadhguru handed the RfR Draft Recommendations to the Indian Prime Minister. 27 experts including agriculturists, industry leaders, policymakers, soil scientists, hydrologists, agroforestry experts, scientists, land reform experts, lawyers and environmentalists were involved in drafting the policy.

**viii. Where can the contribution be put into action?**

RfR’s contribution is afforestation with carefully chosen tree species, which can be put into action practically anywhere in the world, with sufficient government and community support. Compatible climatic conditions and sapling species ensure high survival rate of saplings.

**ix. How will the contribution be delivered? How will different stakeholders be engaged in its implementation? What are the potential transformational impacts?**

The contribution is delivered primarily by the community with government support. On government-owned land, endemic tree species are planted along river banks; on privately owned farmland, agroforestry will replace crop-based agriculture in less than one-third of the farmland. Tree seedling

nurseries are set up across river basins as an income generating proposition for local communities. Local farmers are trained in setting up FPOs; so land and other resources can be aggregated for maximum economic and ecologic benefit. Food and food processing industries are engaged in producing tree-based food products rich in nutritional value. Transformational impacts include groundwater replenishment; stable precipitation patterns reducing agricultural dependence on rains; poverty mitigation opportunities for riverside communities through economic activity; access to high-nutrition food; revival of riverine ecosystems and biodiversity; climate-resilient communities equipped with the knowledge and tools to combat adverse impact of climate change.

**x. Is this initiative contributing to other Climate Action Summit workstreams (industry transition; energy transition; climate finance and carbon pricing; infrastructure, cities and local action; resilience and adaptation; youth and citizen mobilization; social and political drivers; mitigation strategy)?**

The initiative contributes to the following workstreams: industry transition; resilience and adaptation; youth and citizen mobilization; social and political drivers and mitigation strategy. (The specifics are detailed in the sections above and below.)

**xi. How does this contribution build upon examples of experience to date? How does the contribution link with different ongoing initiatives?**

RfR has been scaled on a proven model that was initiated by Isha Outreach (the social development arm of Isha Foundation) in Tamil Nadu. Isha Outreach has successfully enrolled 2 million citizens in planting 35 million saplings through community afforestation. Its Project GreenHands initiative has individual verticals for community, student and farmer action. 1 million+ students have participated in afforestation efforts through the Green School Movement. FPOs undergo training in natural farming methods through Isha Agro Movement, an initiative that helps farmers transition to agroforestry and chemical-free farming practices and educates them in efficient water, soil and pest management. Result: A significant enhancement of farmer income and nutritional levels. RfR has built on these proven models to propose an impactful, comprehensive and economically viable solution that delivers economic and ecologic benefits.

**xii. What are the mechanisms for funding (with specific emphasis on potential for partnerships)?**

A significant portion of the financing for RfR has come from the central and state governments of India. Additionally, Isha Outreach, a non-profit charitable trust, has and continues to provide personnel on the ground for implementation of the policies outlined in the RfR proposal. RfR has also been supported by national and international corporate sponsors.

**xiii. What are the means of stewardship, metrics for monitoring?**

RfR is jointly stewarded by the community and government, driven by Isha Outreach. Its on-ground team of full-time volunteers known as “Nadi Veeras” or “River Champions” collaborate with stakeholders to implement end-to-end river revitalization projects. Their activities include liaising with government bodies for needs assessment; preparing detailed project reports (DPR); obtaining clearances and permits from government departments; communicating the economic model to farmers and riverside communities; building industry and civil society networks to enable the cause. Metrics for monitoring include successful presentation of DPR and on-boarding of state governments, conversion of crop-based farmlands to tree-based farmlands, obtaining industry

support to bolster FPO operations in areas such as micro-irrigation. Sadhguru stewards the RfR Board and personally monitors progress through monthly meetings.

**xiv. What is the communication strategy?**

Sadhguru launched RfR in 2017 “to save India’s dying rivers”. The RfR campaign communicated its cause through print and digital media and public events. Sadhguru personally drove 9,300 km traversing 16 Indian states, holding over 180 public events across 23 cities in 30 days. 13 Chief Ministers attended the events in an unprecedented tryst of political unity. Over 4,000 media stories were published with a 400 million+ reach. Across mediums, RfR generated over 4 billion impressions and won the 2018 National Water Award in the Best Educative/Mass Awareness Efforts category.

In the implementation phase, RfR has moved to more strategic communication. Sadhguru was invited to the UN’s launch of “Decade of Action” for water on World Water Day 2018 to present the RfR initiative. Sadhguru was also invited to the Global Landscapes Forum for a conversation with Erik Solheim, Executive Director of UNEP where the RfR model was considered as a possible solution for all tropical regions with similar water challenges. Through its Board and its on-ground network of volunteers, RfR communicates with stakeholder groups for partnership support as well as ongoing community education to promote community ownership of the movement.

**xv. What are the details of proponents (indicating the degree of commitment among the countries and organizations that are named)?**

Isha Foundation has moved into the implementation phase of this initiative in India with support from organizations including the following:

- Ministry of Rural Development (Government of India) – Issued a Draft Programme for Action on river revitalization projects in states;
- NITI Aayog Ministry – Issued a policy advisory to implement RfR recommendations in all Indian states;
- Department of Agriculture (Government of Maharashtra) –Sanctioned USD 59 million to pilot a river revitalization project in the state;
- Governments of Maharashtra, Karnataka, Gujarat, Chhattisgarh, Punjab and Assam – Signed MoUs with Isha Foundation for river revitalization projects;
- Ministry of Water Resources, River Development and Ganga Rejuvenation, GOI – Acknowledged the impact of the RfR campaign with the 2018 National Water Award in the Best Educative/Mass Awareness Efforts category

We expect that this proposal can be adapted to implementation in other countries with support from similar governmental and non-governmental organizations.

Thank you for your kind consideration.