Scaling up Community-Based Fire Prevention and Peatland Restoration

Background

Sociopolitical and economic factors have driven and heightened the occurrence of vegetation fires (Purnomo et al. 2017, 2019), particularly in regions where peatlands have become degraded. Fires emit large volumes of greenhouse gas (GHG) emissions, cause significant economic losses, and have detrimental effects on health and other sectors.

From 2018 to 2020, with support from Temasek Foundation (TF) and Singapore Cooperation Enterprise (SCE), CIFOR and the Center for Disaster Studies University of Riau facilitated the development of a model for community-based fire prevention and peatland restoration in Dompas Village, Bengkalis District, Riau Province. The project was the first phase of a larger programme aimed at achieving the long-term goals of forest and peatland restoration by changing community behaviour to avoid the use of fire for land preparation, without reducing agricultural production and earnings.

The participatory action research (PAR) model has showed early successes in Dompas Village, where communities were equipped with improved knowledge, techniques, managerial skills and networks, following which, communities became the drivers of further action. Seeing these successes, the Siak District Government invited CIFOR and partners to scale up their community-based fire prevention and peatland restoration work. During a number of discussions, CIFOR and partners, Center for Disaster Studies University of Riau and Sedagho Siak, strategized how to pilot the PAR approach in Siak District to contribute towards the Green Siak Initiative. There are opportunities to scale the model up to the whole of Riau Province as part of a commitment to the 2019–2024 Green Riau programme.
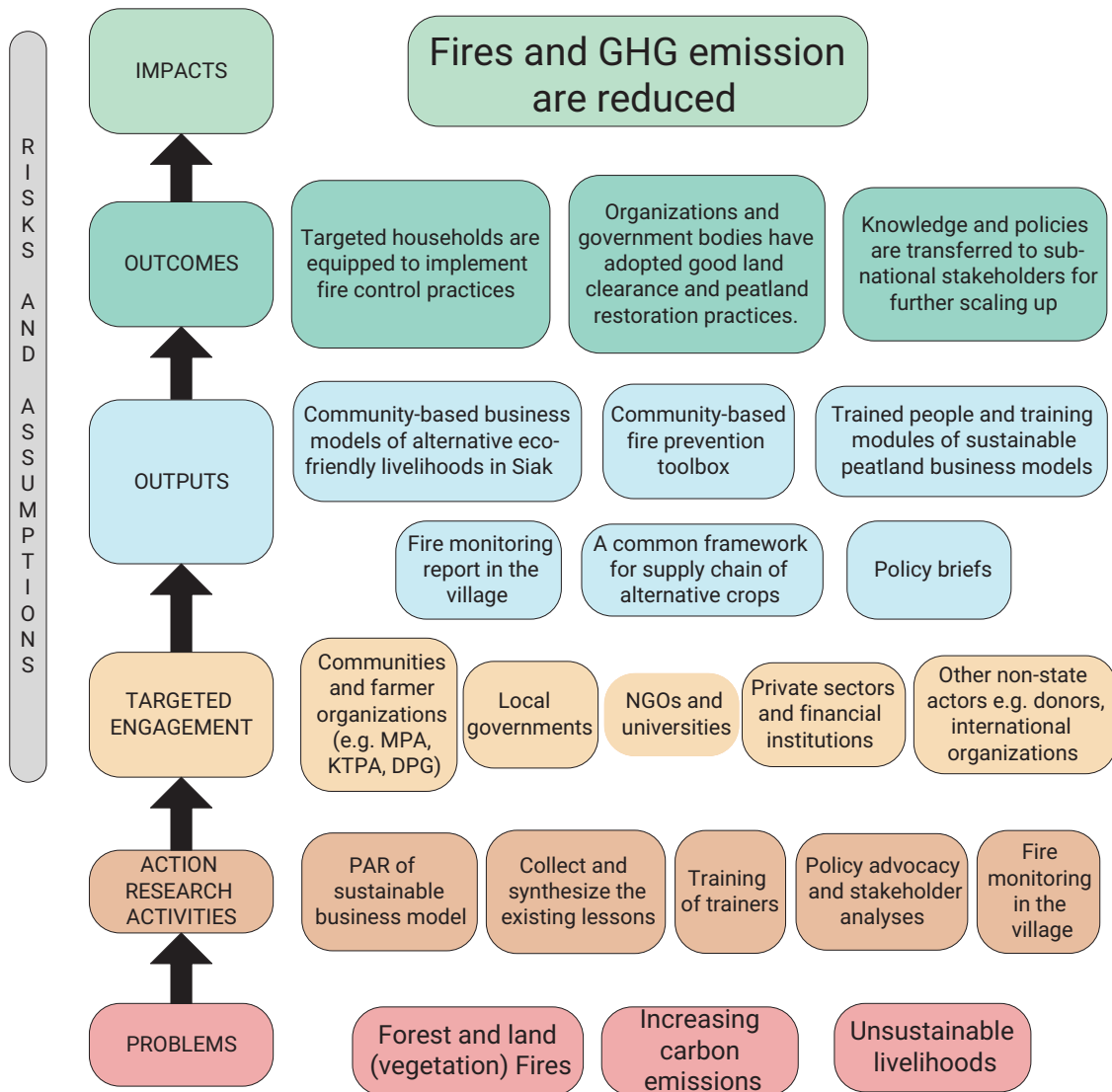
Objectives

CIFOR and partners will continue to scale up the community-based fire prevention and peatland restoration model in Indonesia. The project aims to reduce fires and GHG emissions across Siak District, Riau Province through the promotion of fire-free land clearance techniques, peatland restoration, and livelihood development for local communities.

Outcomes

✔ Targeted households are equipped to implement fire control practices;

✔ Organizations and government bodies have adopted good land clearance and peatland restoration practices;

✔ Knowledge and policies are transferred to subnational stakeholders for further scaling up.
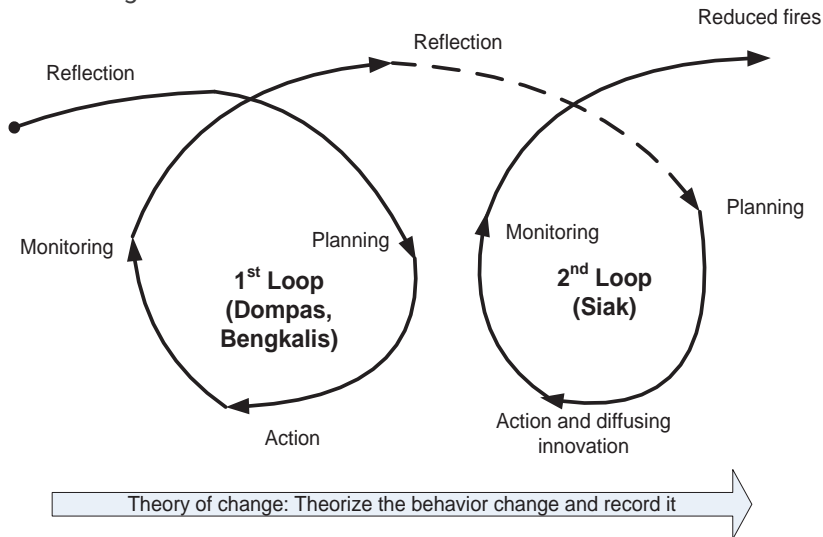
Theory of Change

The following is our Theory of Change for transforming community behaviour and strengthening local institutions and different levels of government.

RISKS AND ASSUMPTIONS

IMPACTS

Fires and GHG emission are reduced

OUTCOMES

- Targeted households are equipped to implement fire control practices
- Organizations and government bodies have adopted good land clearance and peatland restoration practices.
- Knowledge and policies are transferred to sub-national stakeholders for further scaling up

OUTPUTS

- Community-based business models of alternative eco-friendly livelihoods in Siak
- Community-based fire prevention toolbox
- Trained people and training modules of sustainable peatland business models
- Fire monitoring report in the village
- A common framework for supply chain of alternative crops
- Policy briefs

TARGETED ENGAGEMENT

- Communities and farmer organizations (e.g. MPA, KTPA, DPG)
- Local governments
- NGOs and universities
- Private sectors and financial institutions
- Other non-state actors e.g. donors, international organizations

ACTION RESEARCH ACTIVITIES

- PAR of sustainable business model
- Collect and synthesize the existing lessons
- Training of trainers
- Policy advocacy and stakeholder analyses
- Fire monitoring in the village

PROBLEMS

- Forest and land (vegetation) Fires
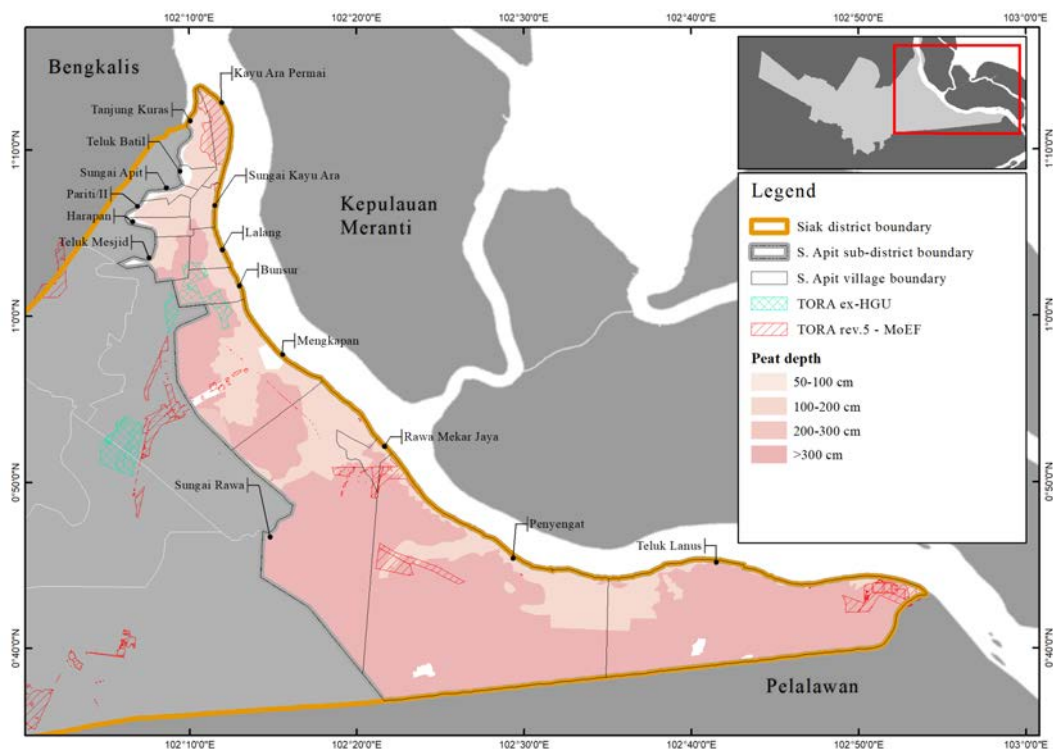- Increasing carbon emissions
- Unsustainable livelihoods

Research methods

Our research project employs Participatory Action Research (PAR). PAR is a scientific method to understand a phenomenon and simultaneously transform the behaviour of related actors. PAR is a means for carrying out social transformation in a participatory manner (Selener 1997; Purnomo et al. 2016). Despite being more complex and often more time consuming than conventional research, PAR encourages actors to think beyond themselves and their affiliated organizations to contribute to larger development cycles (Sayer and Campbell 2004; Bacon et al. 2005). It trains critical system thinking by engaging actors to redefine problems and then collaboratively find, co-create and implement viable solutions (Eelderink et al. 2020). Our PAR process is outlined in the figure below.

Research site

The Phase 2 of PAR focuses on Siak District in Riau Province. Siak contains the largest peatland area on Sumatra, and around 57% of the total district area is covered with peatlands. Around 21% of these peatlands have peat depths of 3 – 12 m. Our action arenas are located in Kayu Ara Permai and Penyengat Village in Sungai Apit Subdistrict, which has the highest peat coverage at 97%. Currently, we have nine action arenas on public- and private/community-owned land.

Work Packages

WP 1 – Participatory Action Research (PAR)

PAR activities consist of: reflecting on the first loop in Bengkalis District and collecting baseline data for the second loop in Siak; developing community-based business and fire prevention models, strengthening fire concern communities (MPAs), monitoring peatland water levels and disseminating toolboxes; taking action at the village level in Kayu Ara Permai and Penyengat and maintaining action arenas in Dompas and Bengkalis; and monitoring actions using the CO-PROMISE (Community-based Peatland Restoration Monitoring System). This PAR process will lead to a published document and training materials.

WP 2 – Knowledge management and sharing

CIFOR and partners will conduct literature reviews on peatlands and fire prevention in Riau, Indonesia and across the ASEAN region. The project will further stimulate co-learning from existing efforts and projects in Riau and beyond. We will capture lessons from both closed and ongoing projects for incorporation in publications and training materials.

WP3 – Capacity building (fire prevention toolbox and training for trainers)

The tools developed in WP1-2 will be incorporated in a Community-based Fire Prevention Toolbox. They will then be disseminated through training for trainers targeted at local/sectoral/central government officials, NGOs/CSOs, private sector companies, communities, academics and researchers, as well as other non-state actors.

WP4 – Outreach to and engagement with policymakers and stakeholders

We will conduct outreach and engage with government, private sector and other non-state actor programmes and initiatives, while expecting communities to secure further support and business relations. Governments can use the toolbox to support their work and programmes. Private sector companies can act as off-takers for community businesses and help disseminate products and services to communities. These links will help maintain and sustain project outcomes.

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