

# BUILDING A PROJECT PIPELINE: ADVANCING JUST TRANSITION



# TAP

Transformative  
Actions  
Program



APPLICATION OF CIRCULAR ECONOMY PRINCIPLES AS A CLIMATE CHANGE MITIGATION MEASURE FOR SURINAME'S RICE SECTOR – RE-PURPOSING OF RICE HUSK AGRO-WASTE INTO BIOCHAR AND ECO-BUILDING BLOCKS



## PROJECT CITY

New Nickerie, Nickerie District – Suriname



## SECTOR

Agriculture / Circular Economy



## COST

USD 1,000,000



## STAGE OF PROJECT CYCLE

CONCEPT

PLAN

IMPLEMENTATION

ONGOING

CLOSED

## PROJECT OVERVIEW

Nickerie is Suriname's main rice-producing region, responsible for roughly 90–95% of national output. Production takes place in low-lying coastal areas where most of the country's population lives, exposed to flooding, drought, and sea-level rise. Agriculture represents around 9% of GDP, employs approximately 9–15% of the workforce, and—together with livestock and fisheries—accounts for about 40% of national carbon emissions. Within this context, the project applies circular economy principles in the rice sector to reduce greenhouse gas emissions and local pollution.

The initiative repurposes rice husk—currently often burned in the open or illegally dumped—into two value-added products: biochar and eco-building blocks. Each year, about 400,000 tons of paddy are processed in Nickerie, generating ~25% husk (~100,000 tons). Valorizing this fraction curbs open-burning, improves air quality in urban and peri-urban zones near rice mills, and creates local business opportunities.

The proposal aligns with Suriname's Green Development Strategy 2025–2050 (guidance on circular economy and low-carbon development) and the National Adaptation Plan (NAP) (institutional capacity, climate data generation, and inclusive measures in agriculture). The project area comprises rice mills and surrounding communities in urban and peri-urban zones of Nickerie, using existing facilities and designated partner spaces—no land expropriation is required—under collaboration agreements with millers, farmers, and the Women/Youth Cooperative.

## EQUITABLE AND PEOPLE-CENTERED DEVELOPMENT APPROACHES

The design is territory-based and people-centered, involving from the outset the district office, millers, farmers, the Women/Youth Cooperative, ministries, and academia. Activities prioritize community participation in defining roles, collection routines, and monitoring protocols (emissions/air quality), alongside capacity-building for management, production, and data reporting. Eliminating open burning near residential areas directly improves the urban environment and local public health.

## GENDER EQUALITY AND WOMEN'S EMPOWERMENT

Women and youth have a structuring role across the proposed circular chain—collection, sorting, processing, record-keeping, and sales of biochar and eco-blocks. The project includes technical and managerial training, income generation, and participation in operational decisions, strengthening economic autonomy and productive inclusion.



## SUPPORT FOR VULNERABLE POPULATIONS

Reducing open burning of husk—common near residential neighborhoods—lowers particulate matter and toxic gases, improving health outcomes for local populations, including children and the elderly. New occupations linked to circularity expand livelihood options in rural and peri-urban areas.



## CO-BENEFITS

Improved air quality, reduced open burning near residential areas, strengthened community cooperatives, and new green employment opportunities for local populations.

### CLIMATE BENEFITS

- Avoids emissions from the burning of approximately 100,000 tons of rice husk annually, contributes to carbon sequestration through biochar use in soils, and supports national low-carbon development goals.



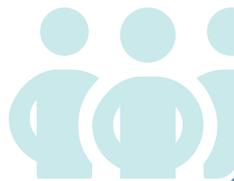
### RESILIENCE BENEFITS

- Builds local adaptive capacity by integrating waste valorization, institutional coordination, and circular practices that reduce environmental vulnerability in coastal areas.



### SOCIAL BENEFITS

- Enhances community health by reducing exposure to pollutants
- Promotes education and awareness on sustainable production
- Fosters collaboration among local institutions.



### ECONOMIC BENEFITS

- Generates new income streams through the sale of eco-building blocks and biochar, reduces waste management costs, and establishes a replicable business model for Suriname and neighboring Guyana



## RELATED SDGs



## SUPPORTED BY

