



FACTSHEET: WCARO BEST PRACTICES
ON WOMEN'S ECONOMIC EMPOWERMENT



EMPOWERING RURAL WOMEN IN NIGERIA THROUGH PROMOTING LOW-COST BIOGAS SOLUTIONS

The **Low-Cost Household Biogas Project** is an initiative by UN Women that addresses the nexus of climate change mitigation and gender equality in rural areas of Nigeria. By providing rural women with sustainable energy and clean cooking alternatives, the project improves bio-waste and manure management and reduces dependence on firewood for cooking, contributing to a reduction of greenhouse gas emissions, particularly methane and carbon dioxide. It improves the health of household members, particularly women and girls, and supports them to become leaders in their local economies. Additionally, by reducing the time spent on unpaid care work —such as gathering firewood and preparing meals—this project supports women in reducing their time poverty and freeing up their time for remunerated activities, as well as for leisure or education and personal development.

- **Project Title:** Low-Cost Household Biogas Production for Rural Women in Nigeria
- **Duration:** November 2023 – December 2028
- **Geographical scope:** 6 states: Kwara, Ebonyi, Niger, Bauchi, Yobe, and Sokoto
- **Target Beneficiaries:** 1,950 households in 18 communities (impacting approximately 11,700 individuals)
- **Partners:** Ministry of Agriculture, Ministry of Environment, Ministry of Energy, Ministry of Women Affairs, FAO, UNDP, Women in Renewable Energy (NGO), and Small-Scale Women Farmers Organization in Nigeria (SWOFON)

The Project

Implemented across six Nigerian states, the project is aligned with the country's Renewed Hope Agenda for food security and contributes to Nigeria's achievement of the Agenda 2030, by promoting gender equality and women's empowerment (SDG 5), enhancing access to clean and sustainable energy (SDG 7), opening opportunities to accelerate young women's access to new green jobs in the rural economy (SDG 8), and strengthening rural households' resilience to climate change (SDG 13).

The primary goal of the Low-Cost Biogas Project is to improve the livelihoods and health of rural women, decrease deforestation rates, and lower greenhouse gas emissions in Nigeria. The project leverages a circular economy model, by supporting the production of biogas from animal waste, transforming it into clean energy. Women primarily use the biogas produced for household cooking, significantly reducing the time spent collecting firewood, while surplus biogas is sold locally, generating additional income. Additionally, the project trains women and local artisans to install, maintain, and repair biodigesters, equipping them with technical skills to manage the bio-slurry; this is a by-product that is both directly used by the women farmers as organic fertilizer and supplied to local farmers, providing additional income. Crucially, the project also supports women to advocate for the adoption of this new and clean technology within their communities.

By providing an accessible, low-cost alternative to traditional cooking fuels, the project contributes to:



Empower Women Economically

Freeing women from time-consuming and physically demanding firewood collection allows them to engage in income-generating activities, boosting economic independence.



Enhance Health and Well-being

Switching from traditional biomass fuels to biogas reduces respiratory illnesses linked to indoor air pollution, benefiting both women and their families.



Combat Deforestation and Promote Environmental Sustainability

Reduced dependency on firewood decreases deforestation rates, helping to mitigate climate change and combat land degradation, protect biodiversity, and support the conservation of natural resources.

Impact

Since 2023, the project has contributed to the following results:



Women's Access to Green Jobs

700 women have formed cooperatives producing biogas, earning income by selling surplus to households, schools, and businesses. They also sell bio-slurry, a by-product, as affordable organic fertilizer for farmers. This model enhances women's economic independence while creating jobs for youth and artisans in biodigester and stove production and maintenance.



Reduction of Women's Unpaid Care

Women who previously spent hours collecting firewood now have more time to invest in social, economic, and educational pursuits, fostering greater engagement in community development.



Climate Change Mitigation

The project aligns with national climate and energy goals, contributing to a reduction in the GHG emissions of the energy and AFOLU sectors, by reducing emissions of carbon dioxide and methane, two among the most potent and harmful greenhouse gases.



Enhancing Agricultural Output

The digestate or bio-slurry, a by-product of biogas, is used and promoted as an effective organic fertilizer, offering rural women a sustainable alternative to costly chemical inputs. This not only increases crop yields and productivity, but also supports incomes for the women farmers and food security for their households and communities.



Building Resilience

1,500 women in rural areas have been sensitized to adopt and promote clean energy solutions and are now better equipped to respond and adapt to climate challenges through sustainable, community-driven initiatives.

Success Factors



Community Involvement

Engagement of local leaders has been essential for building trust among community members, raising awareness, and encouraging acceptance of biogas solutions. Local leaders serve as advocates, demonstrating the benefits of biogas for health and productivity.



Enabling Policy Environment

Active government involvement, especially from the Ministries of Agriculture, Environment, Energy, and Women Affairs, has helped establish the policy framework necessary to reduce deforestation and foster the adoption of alternative fuels. On the other hand, by promoting biogas as an accessible and alternative energy source, the project has supported the implementation of existing policies, such as Kwara State's ban on firewood and charcoal.



Private Sector Engagement

The project's focus on sourcing materials for biogas production locally has fostered collaboration with private sector partners. This partnership aims to scale up production, develop a sustainable market for biogas products, and create new local economic opportunities, while ensuring that women remain well positioned across the entire value chain and benefit fully and equitably from these advancements.

Sustainability Strategy

Building on the first year of implementation, the project is currently scaling up its reach to more rural communities and expanding the scope of women's roles in renewable energy and agricultural value chains. Key focus areas include:



Financial Literacy and Market Access

equipping women with financial skills to manage and reinvest income from biogas production, along with opportunities for access to markets.



Partnering with the Private Sector

for local production and marketing of biogas equipment such as biodigesters, biogas stoves, and other biogas products to be made from local materials.



Enhancing Capacity

of local artisans, producers, extension workers and other support services, including training of young women and men on the maintenance and use of biogas and sales of biogas products.