

## Biofuel as a New Source of Energy

### Vanand Community Development NGO

#### BACKGROUND INFORMATION

##### Core issues addressed:

- **Unsustainable Biomass Management:** Burning of agricultural residues and the use of dung as fuel create environmental hazards and hinder the development of sustainable agricultural practices.
- **Energy Insecurity:** Rural households heavily depend on inefficient and environmentally harmful fuel sources for heating.
- **Land Degradation:** Inefficient land management practices, including improper grazing and the lack of bio-fertilizer use, contribute to soil degradation and reduce agricultural productivity.

##### Target Group:

- Akhuryan community, encompassing 35 settlements and a population of approximately 46,000 people.

##### Contribution to Green/Sustainable Agriculture:

- **Promoting Sustainable Biomass Utilization:** Straw-based biofuel briquettes reduce air and soil pollution, replacing burning.
- **Enhancing Soil Health:** Using dung as fertilizer, not fuel, boosts soil fertility.
- **Improving Energy Efficiency:** Energy-efficient stoves reduce fuel use and promote cleaner heating.
- **Promoting Circular Economy:** Local biomass to energy: a circular economy approach.
- **Capacity Building:** The project raises awareness and improves bio-waste management practices.



#### ACHIEVEMENTS/ PRODUCTS

- ✓ Established a facility with production capacity of 78 tons produced and 320,000 kW thermal potential, and a projected annual production of 500 tons with a 2,000 MW/year heating value
- ✓ Alternative to traditional fuels, enhancing energy security, promoting environmental sustainability, and contributing to poverty reduction in rural areas
- ✓ Mitigating soil degradation and carbon losses through the shift from field residue burning, and enabling the use of cow dung as a valuable bio-fertilizer

#### PROJECT IMPACT

- ✓ **Environmental impact:** Reduced land degradation and carbon loss through straw-to-briquette conversion; improved air quality by replacing dung burning; sustainable use of agricultural waste and improved soil.
- ✓ **Social Impact:** Enhanced energy security for rural households; improved health; community empowerment through sustainable solutions.
- ✓ **Economic Impact:** Lower heating costs with biofuel briquettes; new economic opportunities in briquette production; potential for increased agricultural productivity.
- ✓ **Project Sustainability:** Addressing policy gaps, technology transfer, and capacity building; scaling up the project and maintaining public awareness; strengthening partnerships.

The project is funded by the UNDP/GEF Small Grants Programme



Contact: Gevorg Petrosyan (+37493) 714533



## Sustainable Management of Land and Water Resources “Lernavan” Climate Revolving Investment Civil Fund

### BACKGROUND INFORMATION

#### Core issues addressed:

- **Lack of irrigation infrastructure:** Preventing the utilization of fertile land.
- **Climate-induced water scarcity:** Exacerbating existing water stress.
- **Unsustainable water management practices:** Leading to land degradation and economic losses.

#### Target Group:

Lernavan and Shenavan settlements of Lori region, encompassing 400 households and 970 farmers

#### Contribution to Green/Sustainable Agriculture:

**Climate-Smart Water Management:** Construction of low-cost, efficient water reservoirs and irrigation systems, adapting to climate change impacts.

**Land Rehabilitation:** Restoring degraded land through improved irrigation, promoting soil health and nutrient cycling.

**Community-Based Management:** Empowering communities to manage their water resources sustainably through the Climate Revolving Investment Civil Fund.

**Policy Influence:** Demonstrating successful pilot projects that can be replicated and scaled up

**Capacity Building:** Training farmers in sustainable agriculture and water management practices, promoting long-term resilience and knowledge transfer.



### PROJECT IMPACT

- ✓ **Environmental impact:** enhances ecosystem resilience by addressing water scarcity and land degradation through innovative, sustainable water solutions, setting a precedent for Armenia.
- ✓ **Social Impact:** improved livelihoods for 400 households, reduced migration, empowered women, and strengthened water management capacity for 970 farmers.
- ✓ **Economic Impact:** boosted productivity on 160 hectares, operationalized a community-led fund, and secured government funding, demonstrating economic viability.
- ✓ **Project Sustainability:** replicate the model in other water-stressed regions Inform national water management policies; explore innovative, low-cost water technologies; strengthen partnerships; diversify funding sources.



### ACHIEVEMENTS/ PRODUCTS

- Implementation of small-scale non-conventional water reservoirs using a waterproof membrane as a cost-effective alternative to reinforced concrete
- Attracting state funding (State Subvention program)
- Created a pathway for further government support of similar projects

The project is funded by the UNDP/GEF Small Grants Programme



SGP The GEF  
Small Grants  
Programme



Contact: Sargis Markosyan (+37455) 805205



# Sustainable Agriculture: Empowering Communities, Enhancing Resilience

## YMCA Spitak

### BACKGROUND INFORMATION

#### Core issues addressed:

- **Land Degradation and Unsustainable Practices:** traditional farming have led to soil depletion and reduced biodiversity.
- **Water Scarcity and Inefficient Irrigation:** existing irrigation systems lead to water waste and increased operational costs.
- **Limited Access to Modern Techniques and Markets:** lack of knowledge on modern agricultural technologies and market opportunities.
- **Lack of Community Resilience:** vulnerability to climate change and economic shocks.

#### Target Group:

Spitak and Lernantsk of Lori region, encompassing over 700 beneficiaries

#### Contribution to Green/Sustainable Agriculture:

- **Demonstrating Sustainable Practices:** The 1.2 ha high-density orchard serves as a model for resource-efficient agriculture.
- **Promoting Water Conservation:** Restoring the gravity irrigation system and implementing energy-efficient pumps reduce water waste and promote sustainable water management.
- **Enhancing Soil Health and Biodiversity:** Sustainable agricultural practices and the establishment of orchards for improved soil health and increased biodiversity.
- **Building Community Capacity:** Trainings to empower farmers with knowledge and skills to adopt and implement green practices.
- **Diversifying Income and Enhancing Resilience:** The introduction of high-value crops to create new economic opportunities and enhance community resilience to climate change and economic shocks.
- **Reducing Environmental Impact:** the greenhouse for controlled growing, the cooling storage to reduces food waste.



### PROJECT IMPACT

#### Environmental Dimension:

- ✓ **1.2 ha High-Density Orchards** to demonstrate modern agricultural techniques, improved infrastructure, and new market opportunities, leading to increased productivity and profitability.
- ✓ **Modernized Infrastructure** through restored gravity irrigation system and efficient pump, greenhouse for year-round economic activity, cooling storage for keeping products longer.

#### Social Dimension:

- ✓ Empowerment of approximately 750 individuals through knowledge and skill development.
- ✓ Increased community resilience by enhancing agricultural practices and income diversification.
- ✓ Created platform for sharing best practices and lessons learned

#### Economic Dimension:

- ✓ Increased income for local farmers through the production of high-value crops.
- ✓ Reduced operational costs for farmers through efficient irrigation and water management.
- ✓ Creation of new economic opportunities in related sectors (e.g., processing, marketing).

### ACHIEVEMENTS/ PRODUCTS

- Implementation of small-scale non-conventional water reservoirs using a waterproof membrane as a cost-effective alternative to reinforced concrete
- Attracting state funding (State Subvention program)
- Created a pathway for further government support of similar projects

The project is funded by the UNDP/GEF Small Grants Programme



Contact: Alvard Mkrtchyan (+37494) 161300