Project Plan:
Sustainable Water Solutions for North Kivu, Democratic Republic of Congo

Project Leader: PALPER asbl (NGO)
Prepared by: Clean Water Help (Technical Advisor and Partner)
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1. Executive Summary

This document outlines a project to address the critical Water, Sanitation, and Hygiene (WASH) crisis in the North Kivu province of the Democratic Republic of Congo (DRC). Led by the DRC-based nonprofit, PALPER asbl, with technical guidance from Clean Water Help, this initiative targets displaced and returning populations in the territories of Rutshuru, Nyiragongo, and Masisi. These communities face a complex humanitarian emergency driven by armed conflict, resulting in a severe lack of access to safe drinking water, the destruction of infrastructure, and a high incidence of waterborne diseases like cholera.

The proposed solution is a multi-tiered approach that matches proven, cost-effective water treatment technologies to the specific context of each community. This plan includes immediate household-level support through disinfection kits and high-efficiency filters, alongside a long-term strategy to rehabilitate and develop community water sources and install robust filtration systems at central points like schools and clinics.

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2. Background

The Community: The project serves populations who have been displaced by conflict and are now returning to their places of origin in the Rutshuru, Nyiragongo, and Masisi territories. These areas face indescribable vulnerability. In the Rwanguba health zone alone, an estimated

41,570 returned households are struggling to survive amidst damaged infrastructure and contaminated water sources.

The Project Leader (PALPER asbl): PALPER is a registered non-profit organization founded in 2015 and based in North Kivu, DRC. With deep roots in the community, PALPER's mission is to fight poverty and improve the living conditions of vulnerable populations by implementing projects in key sectors, including WASH and Health. PALPER serves as the on the ground partner and project leader for this inititative.

The Technical Advisor (Clean Water Help): Clean Water Help is a partner US-based 501(c)3 non-profit organization founded in 2024 and providing technical expertise for this project. Their role is to analyze the specific water quality challenges and community needs to recommend the most appropriate, sustainable, and cost-effective treatment technologies. They will provide guidance on implementation, training for local maintenance, and support for long-term project success.

3. The Challenge: A Compounded Water & Health Crisis

The core challenge is a critical failure of WASH infrastructure in a region destabilized by prolonged conflict. The consequences are severe and multifaceted:

Destroyed Water Infrastructure: Decades of conflict have destroyed or damaged essential water installations. In the Rwanguba health zone, an evaluation found that of

174 identified water sources, only 11 (6.3%) are developed and functioning properly. 54% of sources are completely undeveloped, and nearly 40% are developed but non-functional.

Widespread Contamination and Disease: The lack of safe water forces the population to use contaminated sources, leading directly to outbreaks of waterborne diseases. The region has documented significant cholera outbreaks, a direct result of consuming unsafe water.

Systemic Barriers: The problem is exacerbated by challenges common in post-conflict, rural areas. These include geographic isolation, the prohibitive upfront cost of solutions for families living in poverty, broken supply chains for essential parts and consumables, and knowledge gaps regarding safe hygiene practices.

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4. Needs Assessment

Based on PALPER's direct field evaluations, the needs are acute and require a comprehensive response. Key priorities identified include:

1. **Improve Access to Water:** The immediate priority is to provide the **41,570 returned households** with a reliable supply of safe drinking water. This requires a dual approach: rehabilitating the 69 damaged but captured sources and developing the 94 completely uncaptured sources in the Rwanguba zone.
2. **Improve Hygiene and Sanitation:** There is an urgent need for the construction of sanitary facilities, including latrines and showers at both the household and community level (e.g., at schools).
3. **Implement Health & Hygiene Education:** The population is largely unaware of barrier gestures to prevent "dirty hands diseases". Therefore, awareness campaigns and regular training sessions on hygiene promotion are essential to ensure the long-term health benefits of improved hardware.

5. Proposed Technology Portfolio

No single solution fits every situation. Therefore, we propose a flexible, multi-tiered portfolio of technologies to provide immediate relief and build long-term resilience.

Intervention Tier	Technology Solution	Cost (Estimate)	Optimal Use-Case & Rationale
Tier 1: Emergency & Basic Disinfection	Chlorination + DIY Activated Carbon	< $20 per family	For broad, immediate distribution in returnee areas. This method is extremely low-cost and effective. PALPER will manage the bleach supply chain and provide the critical training needed to empower families to treat their water and build their own carbon filters to improve taste, ensuring consistent use.
Tier 2: Household Resilience	Gravity Membrane Filter	$40 - 95 per family	For individual households, providing a "set it and forget it" solution. These robust filters require no electricity and can provide safe water for a family for over 15 years, offering an excellent balance of cost, ease of use, and long-term value.
Tier 3: Community Hub Protection	Ultrafiltration (UF) System	< $1,000 per site	For schools, clinics, and community water points. UF provides the highest level of protection by removing viruses, bacteria, and protozoa. It achieves economies of scale, making it the most cost-effective and safe solution for protecting the most vulnerable community members.

6. Proposed Solution & Next Steps

Our strategy is to deploy this portfolio in phases, ensuring both immediate impact and sustainable, long-term change.

Phase 1: Immediate Relief & Education (Months 1-6)

- **Deploy Household Solutions:** Distribute Tier 1 and Tier 2 solutions to families in high-priority return zones.
- **Launch WASH Campaigns:** PALPER will immediately begin awareness campaigns on hygiene, sanitation, and the prevention of waterborne diseases, as planned.
- **Technical Site Assessment:** Clean Water Help will work with PALPER to conduct detailed technical assessments of the 174 water sources to prioritize sites for rehabilitation and new construction.

Phase 2: Infrastructure & Sustainability (Months 7-24)

- **Rehabilitate & Develop Sources:** Begin the technical work of repairing the 69 damaged water points and capturing the 94 undeveloped sources.
- **Install Community Systems:** Install Tier 3 Ultrafiltration systems at priority schools and health clinics identified during the assessment phase.
- **Establish Water Committees:** Train and empower local water committees to manage and maintain the new and rehabilitated infrastructure, ensuring long-term success.

Action Plan & Key Collaborators:

- **PALPER asbl (Project Leader):** Will lead all on-the-ground activities, including community mobilization, educational campaigns, logistics, distribution, and overall project management.
- **Clean Water Help (Technical Advisor):** Will provide expert guidance on source selection, technology appropriateness, quality control for construction, and training curricula for local water committees.
- **Local Community & Authorities:** Will be engaged from day one to ensure community ownership and long-term sustainability, a critical factor for success.

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7. Contact Information

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