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Annual Water+ Systems Award: Vietnam

World Water Day 2026



CARE Vietnam

Communities across Vietnam face mounting watershed-related challenges driven by steep terrain, deforestation, water scarcity, and longstanding reliance on rainfed farming systems. In key areas, farmers struggle with declining water availability, soil erosion, and degraded upstream forests. CARE Vietnam’s field experience shows that traditional farming practices, low access to irrigation technology, and limited local governance capacity compound these challenges, making it harder for communities to transition to resilient water and soil management approaches.

Our changing environment has significantly intensified these watershed threats. More erratic rainfall, prolonged droughts, and increasingly unpredictable wet seasons are straining already fragile water systems, especially for crops like Arabica coffee that require precise water management



during flowering seasons. As environmental pressures rise, they worsen existing vulnerabilities, accelerating groundwater depletion, deepening water scarcity, and heightening the need for resilient irrigation, water storage, and ecosystem protection.

In honor of **World Water Day 2026**, the CARE Water+ Team is pleased to present our **2026 Water+ Systems Award to CARE Vietnam**. In line with this year’s theme, this award recognizes their achievements in advancing long-term, community-

led water systems that center the needs of women and girls through synthesizing watershed protection strategies, innovations in irrigation technology, and resilient water resource management. To learn more, we asked **Vuong Thai Nga, CARE Vietnam’s Program Director**, about CARE Vietnam’s key innovations, challenges, and recommendations for how we can make WASH and water systems more resilient and equal.

Interview

1. **How would you describe CARE Vietnam's approaches to watershed protection? What are the innovations to these approaches?**



Technology-enabled irrigation innovation for water efficiency

CARE Vietnam promotes innovative irrigation technologies to optimize water use and reduce water loss within watershed systems. The approach emphasizes the application of **high-tech and automated irrigation design solutions** that allow precise water delivery to crops. By improving irrigation efficiency, these technologies help reduce unnecessary water extraction from local water sources while maintaining or increasing agricultural productivity.



Contextualized solutions adapted to local landscapes and farming practices

CARE Vietnam emphasizes **context-specific watershed protection strategies** that respond to local environmental and socio-economic conditions. Irrigation systems and water management solutions are designed based on local terrain, farming practices, available technologies, and soil characteristics. For example, in coffee plantation areas with steep slopes, pressure-compensating irrigation systems are applied to ensure even water distribution and minimize water waste.



Resource optimization to maximize water productivity

The approach focuses on **optimizing natural resource use**, particularly water, to achieve both environmental resilience and agricultural efficiency. By improving irrigation design and management practices, and forest protection, CARE Vietnam helps farmers reduce water loss, improve water productivity, and maximize crop yields, contributing to the protection and thoughtful use of watershed resources.



Community-led water management

A key element of CARE Vietnam's approach is **farmer ownership of water management solutions**. Farmers are actively involved in the design, operation, and maintenance of irrigation systems, ensuring that watershed protection measures are locally managed and resilient. This participatory approach strengthens community responsibility for water resources and supports long-term stewardship of watershed ecosystems.



Watershed-level environmental impact

Beyond improving irrigation efficiency at the farm level, CARE Vietnam's approach contributes to broader watershed protection. By reducing excessive water extraction, promoting rainwater harvesting, and improving soil moisture retention through purposeful land management practices, these interventions help **maintain natural hydrological cycles** within local watersheds. Reduced runoff and improved infiltration support groundwater recharge, minimize soil erosion on sloping land, enhance the agricultural quality, biodiversity protection and help stabilize water availability for downstream communities and ecosystems.

2. What are the key challenges Vietnam faces regarding water security and watershed governance? What do you see as a key barrier to sustainability in watershed protection?

High initial investment costs remain a major barrier. Many smallholder farmers lack the financial resources required to invest in irrigation infrastructure or water management technologies, even when such systems could significantly improve water efficiency and crop productivity. Another key challenge lies in **long-standing farming practices that rely heavily on rainfall**. In many upland areas, farmers have traditionally depended solely on rain-fed agriculture and have rarely considered irrigation as a viable option, particularly on steep or sloping land. As

a result, changing farming practices and perceptions becomes a significant challenge when introducing watershed-friendly irrigation solutions.

Overall, these factors highlight that beyond technical solutions, **financial accessibility and behavioral change** are critical to achieving long-term watershed protection.

3. How is CARE Vietnam integrating water replenishment, water governance that centers the needs of women and girls, and resilient resource management?

Water governance that centers the needs of women and girls is reflected in efforts to **reduce the labor burden on women in agricultural production**.

In many farming households, women are responsible for tasks such as irrigation and fertilizer application, which require significant time and labor work. By introducing water-efficient irrigation technologies, CARE Vietnam helps reduce the time and labor required for these activities, enabling women to spend less time on manual irrigation while improving farm productivity.



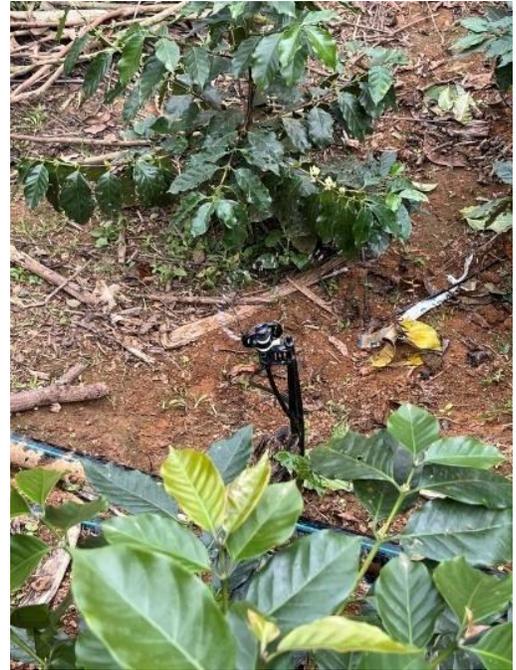
At the same time, CARE promotes **resilient resource management practices** that strengthen farmers' ability to thrive in changing environments. Key practices are:

- i) **Proactive water storage for dry seasons:** Farmers are supported to store water for irrigation during dry periods, helping reduce vulnerability to irregular rainfall and drought.
- ii) **Rainwater harvesting to reduce groundwater dependence:** The approach promotes rainwater storage and the use of surface water sources, reducing farmers' reliance on groundwater extraction and supporting the long-term sustainability of water resources.
- iii) **Resilient land management practices:** Farmers are encouraged to manage natural ground cover rather than completely removing weeds. Maintaining vegetation cover helps retain soil moisture, reduce evaporation, and improve the soil's capacity to store water, thereby supporting more thoughtful watershed management. It also reduces surface runoff and soil erosion, especially in upland coffee landscapes with steep slopes. In addition, improved soil structure enhances water infiltration, increases water-holding capacity, and promotes groundwater recharge. These benefits help stabilize stream flows and maintain watershed health during dry seasons.

4. What recommendations do you have for CARE colleagues and other sector partners on how to promote equal, long-term water systems for both people and nature?

a) Promote environmentally sound solutions with clear economic benefits for farmers

Water management solutions should avoid negative environmental impacts while clearly demonstrating economic value to farmers. When farmers can see tangible benefits—such as reduced water loss, improved productivity, or lower long-term costs—they are more likely to adopt and invest in long-term ecological water practices.



b) Strengthen local capacity and farmer ownership of water technologies

Resilient water systems require communities to understand and manage the technologies being introduced. CARE and partners should prioritize the transfer of technical knowledge and practical skills so that farmers can operate, maintain, and adapt irrigation and water management systems themselves. Building local ownership increases long-term sustainability.

c) Document evidence and engage government to scale successful models

Implementation methods, technical designs, and cost–benefit analyses should be well documented and shared to build confidence among stakeholders. CARE can play a key role as a broker and pioneer, piloting innovative approaches and generating evidence of success. This evidence can help engage local governments and sector partners to buy in, invest in, and scale up proven models for long-term watershed and water resource management.

d) Adopt watershed-based planning and cross-sector collaboration

Resilient water systems require planning beyond individual farms. CARE and partners should promote watershed-based approaches that consider upstream–downstream water dynamics, ecosystem conservation, and agricultural water use together. Collaboration between farmers, local authorities, and environmental stakeholders can ensure that water management interventions contribute to agricultural productivity and watershed resilience.

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To read more about CARE Vietnam, please visit: <https://www.care.org.vn/en/about-care/>