



# ENHANCING RESILIENCE THROUGH INTEGRATED SEASONAL CLIMATE ADVISORY SERVICE

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## 1. INTRODUCTION

Smallholder farmers in the Horn of Africa, particularly in Ethiopia, face significant challenges due to climate change. Increasingly unpredictable rainfall patterns, more frequent droughts, and extreme weather events threaten their livelihoods. These changes disrupt traditional agricultural practices, leading to crop failures, reduced income, and food insecurity.

Despite these challenges, Ethiopian farmers have a long history of adapting to climate variability using indigenous knowledge and practices. For centuries, they have relied on traditional forecasting methods based on environmental cues, diversified crops and livestock, and employed water conservation techniques. However, the limitations of these traditional methods become apparent in the face of a rapidly changing climate. Access to accurate and actionable climate information is crucial for farmers to make informed decisions and implement effective adaptation strategies.

In response to these challenges, Strengthen PSNP5 Institutions and Resilience (SPIR II) aimed to enhance the resilience of smallholder farmers by providing

them with integrated seasonal climate advisory services. This innovative approach recognized the value of both indigenous and modern climate knowledge and fostered collaboration between indigenous forecasters, meteorologists, and local communities. By blending these different knowledge systems, SPIR II developed downscaled, actionable climate advisories tailored to specific local contexts and needs.

By focusing on targeted districts in Oromia and Amhara regions, SPIR II reached large populations of vulnerable smallholder farmers.

This learning brief highlights the transformative impact of implementing an integrated early warning information system, focusing on the collaboration between SPIR II, indigenous forecasters, and local communities. The primary objective was to enhance resilience among farmers in the face of climate change-induced hazards, rainfall variability and uncertainty. This learning brief also highlights implementation challenges and potential recommendations for future planning and programming.

## 2. IMPORTANCE OF THE EARLY WARNING INFORMATION SYSTEM

The early warning information system plays a crucial role in saving lives, protecting property, and increasing overall resilience. By enabling proactive measures, timely responses, and informed decision-making, the system empowers farmers to adapt to and mitigate the impacts of floods, droughts, and climate change.

## 3. CONDITION OF FARMERS BEFORE THE INFORMATION SYSTEM

Before SPIR II, farmers relied on a patchwork of methods to navigate climate risks. Indigenous practices, while rich in history, lacked consistent accuracy in the face of changing weather patterns. High-level modern forecasts from the radio offered broad information, often failing to translate into actionable decisions for specific farms. This left farmers vulnerable to crop failures and climate shocks. With SPIR II, a game-changer arrived. Its early warning system seamlessly blends indigenous knowledge with modern scientific data, generating downscaled advisories tailored to local needs. Imagine farmers in Ethiopia: traditionally, they might delay planting based on observed dryness. Now, SPIR II's precise forecast predicts a delayed, drier-than-average season, urging them to adjust the window further and choose resilient crops. This proactive approach, unlike the reactive nature of the past, empowers farmers to make informed decisions, minimizing losses and maximizing opportunities. SPIR II's system represents a leap forward, offering actionable, community-specific information that puts the power of resilience into the hands of those who need it most.

## 4. IMPLEMENTATION PROCESSES

The success of the intervention hinged on several key processes:

**I. Building Understanding:** Fostered awareness among indigenous forecasts, modern forecasts, farmers, and the community regarding the importance of both indigenous and modern climate forecasts.

**II. Participatory Scenario Planning (PSP) approach:**

a. **Developing scenarios:** The PSP approach helps create climate services customized to local needs. Stakeholders work together to develop possible climate scenarios based on historical data, current trends, and future projections.

b. **Assessing impacts:** Each scenario is analyzed

for its potential impact on agriculture, water resources, and other livelihood sectors. This allows communities to anticipate and prepare for different eventualities.

c. **Developing contingency plans:** Based on the scenario analysis, communities work together to develop contingency plans outlining specific actions they can take in response to different climate challenges.

**III. Capacity Development:** Identified and addressed the capacity development needs of the Early Warning team at the Woreda and Kebele levels, providing training on climate advisory services.

**IV. Multistakeholder forum:** Multi-stakeholder interaction and dialogue to understand and collectively interpret seasonal forecasts and uncertainty to co-produce decision relevant information (Local government, Communities, Meteorologists, researchers, local forecasters; community leaders, community representatives.)

**V. Community Engagement:** Activated Kebele-level early warning committees to facilitate the communication of climate forecasts to users in the communities.

**VI. Blend of Forecasts:** Integrated indigenous and modern forecasts to create a more accurate and actionable downscaled seasonal climate advisory for end users/farmers.

**VII. Local Implementation:** At the Kebele level, development agents ensured farmers received and used climate information and made necessary preparations and decisions based on the developed climate advisory services.

## 5. MAJOR ACHIEVEMENTS

The intervention has led to notable achievements:

**a. Increased Awareness and empowerment:** End users are now well-informed about climate information, leading to proactive adaptation efforts. Since SPIR II launched 105,840 people received awareness to adapt to the effects of climate change in targeted districts of Oromia and Amhara regions.



**b. Adaptation:** SPIR II supported 20,112 people, exceeding the target of 18,640 by 7.9% to access climate information and implement risk-reducing actions. This achievement was reached through programs focused on targeted districts in Oromia and Amhara regions, providing people with access to early warning systems, climate projections, and seasonal forecasts to help them make informed decisions and implement drought-resistant crops, flood preparedness measures, and improved water management to improve their resilience to climate change.

105,840

People received awareness to adapt to the effects of climate change

20,112

People used climate information to reduce risks and improve resilience to climate change

93%

Targeted Kebeles received early warning information and weather forecasts on a monthly/bi-weekly basis

96%

Targeted Woredas have an Early Warning System with a strong shock-responsive system that responds to anticipated climate related shocks

## 6. KEY LEARNINGS

The climate information service has provided valuable insights:

**a. Diversification of Livelihoods is Effective:** Farmers are diversifying their livelihoods based on climate forecasts. They began producing crops and vegetables that needed a shorter time to harvest. They sell the surplus products to the market.

**b. Collaboration Matters:** Internally, SPIR II collaborates with livelihood and nutrition departments to enhance farmers' livelihoods. Externally, collaboration with various government sector offices ensures proper communication of seasonal climate advisory services.

**c. Innovative Approaches is Crucial:** The blending of indigenous and modern climate forecasts has proven effective in delivering actionable information to end users.

## 7. CHALLENGES

Providing climate advisory services entails various hurdles. Here are some key issues:

**a. Limited sectoral participation:** After delivering climate information to farmers, effective collaboration between sectoral offices, such as health and agriculture, is essential to furnish comprehensive multi-hazard information and precautions.

**b. Inadequate coverage of climate forecast information:** The current climate information only reaches SPIR II's targeted Woredas. Broadening the coverage of the indigenous and modern climate forecast information could yield more impactful and sustainable results.

## 8. GENERAL SUCCESSES

Farmers are now more sensitive to climate change, making informed decisions aligned with climate forecasts, thereby enhancing overall resilience.

## 9. RECOMMENDATION

**a. Improve internal and external collaboration:** explore opportunities to expand both internal and external collaboration through different activities to enhance the program's impact.

**b. Contiguous skill development and identifying additional communication channels:** Implement ongoing skill development sessions for the agricultural extension services to ensure coverage of the indigenous and modern climate forecast and maintain relevance in their chosen livelihoods. And also identifying additional channels such as the Village Economic and Social Associations (VESAs) discussion group to adequately communicate the seasonal climate forecast advisory services.

## KEDIR'S STORY

Kedir's life has been a tapestry of challenges woven by poverty and unpredictable seasonal changes. Struggling to meet the demands of his family, he found solace when he joined the government's PSNP program in 2016, ensuring a stable food supply for his household. Despite earning a meager income from his small plot, primarily cultivating Khat, Kedir faced losses due to the relentless impacts of climate change.

A turning point occurred when Kedir was invited by a village development agent to a climate forecast training session over a year ago. Until then, he had relied solely on the traditional wisdom inherited from his farmer father. Embracing the fusion of indigenous knowledge and modern forecasts, Kedir started tuning in to radio climate forecasts regularly. Development officers played a crucial role in supporting farmers like Kedir, bridging the gap between traditional and contemporary weather predictions.



*Kedir pictured working at his farmland in Welargi village*



*Kedir's carrot plantation, as shown in the picture, will be harvested soon.*

"The greatest benefit I have gained from this combined approach is its accuracy compared to our traditional forecasts. I have become more productive by aligning my planting and sowing with the climate forecast, saving me from previous losses," shares Kedir.

Acting on the climate forecast information, Kedir sowed teff in August 2023, anticipating a harvest of around three quintals. Sweet potatoes, also in the pipeline, are expected to yield another three quintals. With plans to both consume and sell the surplus, Kedir looks forward to an abundance that extends beyond his immediate needs. Additionally, the imminent births of three calves from his cows promise a new source of milk for his family and children.

"Our challenge as farmers is the delay in obtaining seeds once we receive the rain forecast. Nevertheless, we are optimistic about the progress we have made in our production," Kedir asserts.

Both Girma and Kedir aspire to build on the progress they have made, improving the resilience of their farming systems, and contributing positively to their communities.

## 10. CONCLUSION

The implementation of an integrated early warning information system, marked by the collaboration between SPIR II, indigenous forecasters, and local communities, has brought about transformative impacts, enhancing farmers' resilience to climate change-induced hazards. The success is evident in increased awareness, proactive mitigation efforts, and the adoption of more resilient farming practices. Noteworthy achievements include livelihood diversification, internal and external collaboration fostering enhanced farmers' livelihoods, and the effectiveness of blending indigenous and modern climate forecasts. Despite facing challenges such as limited sectoral involvement and insufficient coverage, the recommendation underscores the vital need to strengthen government institutions to ensure seamless collaboration and widespread dissemination of climate forecast information. This comprehensive approach is essential for sustaining and expanding the positive outcomes, ultimately creating a more resilient agricultural community.