



World Food Programme

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Anticipating the impact of drought in Madagascar

Key findings from the Anticipatory Action activation in the Grand Sud, 2023/24

Madagascar is a low-income country facing endemic poverty, climate and economic shocks. 75% of the population is categorized as poor and 80% of the population relies on agriculture as their main activity. Amidst this context, droughts and other shocks disrupt livelihoods and exacerbate food security and nutrition challenges.

WFP, FAO, the Government of Madagascar and other stakeholders have collaborated to proactively prepare for drought events, identifying 'Anticipatory Actions' to implement in the window of opportunity between when

a drought is forecasted and when its impacts are felt by communities.

In July 2023, a forecast was issued for drought in three districts in the Madagascar Grand Sud, threatening to exacerbate existing issues of famine and malnutrition in the area. This forecast triggered the activation of the Anticipatory Action programme. As a result, WFP provided over 150,000 people with anticipatory cash transfers, agricultural inputs and early warning information.

This document analyzes the programme outcomes and presents key recommendations.

January 2025

In a nutshell



WHAT HAPPENED

WHEN

August 2023 -
June 2024

WHERE

3 districts
(Tsihombe, Betroka
& Betioky Atsimo)

WITH WHO

Government of Madagascar,
FAO, NORAD, Association Tompy,
Association Mahavotse, ADRA

WHAT



151,000

People reached with
anticipatory transfers (cash,
drought-tolerant inputs)



157,000

People reached with early
warning information



4.26M

Funds disbursed (USD)

KEY RESULTS

KEY OUTCOME

Anticipatory Action (AA) protected food security outcomes and reduced the reliance on consumption-based coping strategies

KEY INDICATORS *

FOOD CONSUMPTION SCORE: AA assistance improved food consumption scores by approximately 3 points (12%)

NEGATIVE COPING STRATEGIES: AA assistance decreased the consumption-based coping strategy index (rCSI) by 7 points (34%), with the people receiving anticipatory support adopting strategies to meet their food needs less frequently / severely. The effect on livelihood coping strategies (LCS) was not substantial.

RESILIENCE CAPACITY SCORE: AA assistance improved Resilience Capacity Scores (RCS) by 3 points (8%), indicating that the people receiving anticipatory support perceived AA as supporting their ability to manage shocks and stressors.

* These indicators compare outcome results in Betroka and Betioky Atsimo for the people receiving anticipatory support with a counterfactual scenario in which they would not have received the AA benefits. This was assessed using a control group who did not receive AA assistance, comparing the average changes over time in indicators for the group receiving anticipatory support to the average changes over time for the control group (applying the methodology 'Difference in Differences').

Implementing Anticipatory Action

SYSTEM DEVELOPMENT

Since 2020, WFP has been working with national stakeholders to develop the necessary systems for Anticipatory Action. Key steps include:

- Stakeholders co-drafted and agreed on an Anticipatory Action Plan, predefining the actions to take and funding to mobilize for different forecast scenarios.
- A forecast trigger model was developed by the General Direction of Meteorology (Direction Générale de la Météorologie - DGM), [International Research Institute for Climate and Society \(IRI\)](#) and WFP. WFP also strengthened forecasting capacities, such as through procuring weather stations and training personnel.
- A Technical Working Group was formed to coordinate Anticipatory Action among various government agencies and national and international organizations.

TRIGGER REACHED

In July 2023, the General Direction of Meteorology issued a forecast of moderate drought for October to December for the districts of Betroka, Betioky and Tsihombe.

The three districts are mainly agropastoral, with Betroka renowned as the breadbasket of the Grand Sud, and the forecasted drought risked severely impacting people's livelihoods. The drought would also coincide with the October to March lean season, exacerbating pre-existing challenges to food security and nutrition.

Following the forecast, the Anticipatory Action Technical Working Group confirmed the activation of the Anticipatory Action Plan in August 2023 for Betioky, Betroka and Tsihombe.

ACTIVATION

In line with the Anticipatory Action Plan, stakeholders implemented the following key actions:

- **Early warning messages:** the National Office of Risk and Disaster Management (BNGRC) coordinated the co-production of early warning messages between different sectors. The messages explained the forecast and key actions for households to take to cope with the expected impact of below-normal rainfall, e.g. to prioritize resistant crops such as millet and sorghum which can feed both people and livestock. WFP and partners disseminated the messages from November through local community agents, public gatherings, radio channels and other means.
- **Cash transfers and agricultural inputs:** anticipatory cash and drought-tolerant inputs were distributed to over 100,000 people from December to February in Betioky and Betroka and 50,000 people in the district of Tsihombe from February to



June.¹ Cash distributions were conditional on the participation of people we supported in agricultural and environmental activities, such as land preparation and reforestation, which aimed at improving and protecting their livelihoods.

- **Water point rehabilitation:** WFP supported the construction and rehabilitation of 11 boreholes to support the sustained access to safe water for household and agricultural use in the district of Betroka. 21 community assets were also completed to support with access to water, such as a water retention basin and irrigation canals.

During the season, the affected districts experienced high temperatures and low rainfall, which disrupted land productivity, crop yields and access to water, all of which had a significant impact on the harvest. Agricultural production across the districts decreased significantly, with about 50% of rice fields in Betroka uncultivated, and 90% of households across Betioky reduced the quantity and frequency of their meals.

The next section will assess the impact of anticipatory assistance on helping communities within these districts to cope with the drought.



Farmers in Madagascar are preparing compost baskets, as indicated in the early warning message, to address the challenges posed by drought in their farming activities.

¹ The timeline for Tshiombe was later as the funding for this district was confirmed in December 2023.

TIMELINE OF DROUGHT ANTICIPATORY ACTION



DRY SEASON



PLANTING



GROWING



HARVEST
(REDUCED)



DRY SEASON

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG

2023 - 2024

AA SYSTEM DEVELOPMENT:

- Anticipatory Action Plan (AAP) prepared + funds pre-allocated (2022/23).
- Updated AAP approved in July 2023 and presented to local communities
- Sector Working Group established
- Trainings and awareness-raising workshops on AA

READINESS PHASE:

- Trigger monitoring and meeting with the National AA Technical Working Group
- AAP activation
- Internal resource mobilization

ACTIVATION PHASE:

- Household targeting
- Contracting Cooperating Partner (CP)

PROJECT LAUNCH:

- Meeting with local authorities to launch activities
- Dissemination of Early Warning Messages
- Baseline Survey

IMPLEMENTATION OF ANTICIPATORY ACTIONS:

- Early warning messages dissemination
- Conditional cash transfers and agricultural inputs distribution
- Water points rehabilitation
- Small ruminants distribution

- Endline survey
- **After-action review** with key national stakeholders



Results of the activation

Field data was gathered to understand the results of the Anticipatory Action assistance provided, with a baseline conducted in November 2023 and endline in June 2024 post-intervention in Betroka and Betioky. Data was collected from a group of people who received anticipatory support and from a control group who did not receive AA assistance.

The data was analyzed to create a counterfactual for understanding the effect of the Anticipatory Action programme compared with the scenario in which the people we supported would not have received AA assistance. The changes in outcome results for the control group were compared with the changes in outcome results for the group receiving anticipatory support to understand the differences that could be attributed to the AA programme.²

The data analysis highlights the following key conclusions:

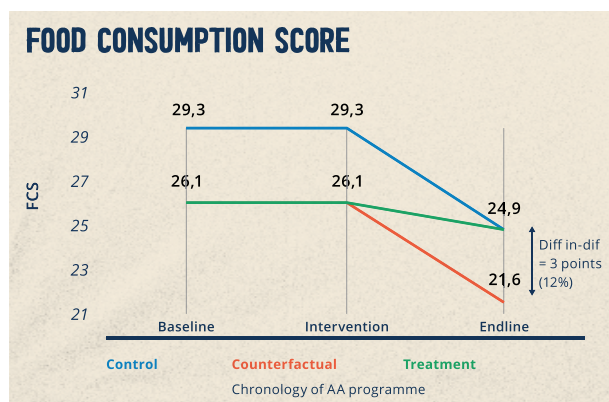
AA assistance improved food security outcomes

Cash transfers provided to households significantly enhanced the ability of people to purchase food, ensuring better nutrition and reducing the risk of hunger. AA assistance improved food consumption scores (FCS) by approximately 3 points, or by 12% compared to what would have been the case without the intervention.

These results are based on a comparison of the average change in FCS demonstrated by the group receiving anticipatory support (-1 point) with the change in FCS demonstrated by the control group (-4 points). While both groups experienced a net deterioration, the smaller decrease in FCS for the people receiving anticipatory support highlights the positive

programme in protecting food consumption.

Figure 1: Effects of AA on food consumption scores



effect of the AA. The impact on dietary diversity was also positive but more marginal, with AA assistance improving household dietary diversity scores (HDDS) slightly by 0.95 points using the same comparison methodology.

AA assistance strengthened community resilience

The interventions improved communities' ability to interpret weather forecasts and apply adaptive measures, making them more resilient to future climate shocks.

AA assistance improved Resilience Capacity Scores (RCS) by 3 points, indicating that people perceived AA as supporting their ability to manage shocks and stressors. This is equivalent to an 8% improvement compared with the counterfactual scenario of the individuals not receiving AA assistance.

AA assistance helped to reduce consumption-based coping strategies

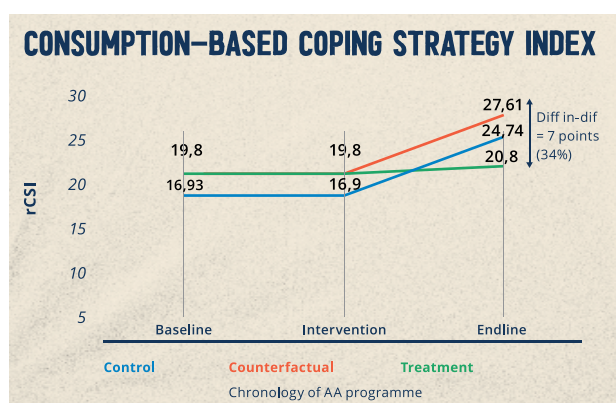
AA households were less reliant on harmful coping strategies, such as selling assets or

² 'Difference in Differences' methodology applied; see WFP guidance on [Monitoring & Evaluation for Anticipatory Action](#). An additional analysis was also conducted to account for demographic differences between the people receiving anticipatory support and control group, applying an Inverse Probability Weighting regression methodology. This methodology effectively matches recipients of AA to respondents from the control group with similar characteristics and uses a weighting approach to adjust for imbalances in characteristics. The results from this analysis provided similar results to those above for the key indicators, confirming the trends from the Difference in Differences analysis.

reducing meal frequency, indicating improved economic stability and food security.

AA assistance decreased the consumption-based coping strategy index (rCSI) by 7 points, which means that the people supported had to adopt strategies to meet their food needs on a less frequent and/or less severe basis than the control group. This is equivalent to a 34% reduction in rCSI compared with what would have been observed without the AA assistance.

Figure 2: Effects of AA on the consumption-based coping strategy index



The effect on livelihood coping strategies (LCS) was not substantial.

AA assistance enhanced agricultural productivity

The people we assisted received training and inputs that enabled them to adopt climate-smart agricultural practices, supporting their crop yields and resilience against drought:

- Analysis of planting practices shows that 78% of households who received WFP support planted crops compared with only 60% of households in the control group.
- 38% of households receiving anticipatory assistance used fertiliser, compared with only 12% in the control group. This indicates the likelihood that people receiving anticipatory support applied the training and inputs provided by WFP.

AA assistance was perceived as timely and cash was largely spent on food

77% of surveyed people reported that the assistance arrived in time to help them cope with or mitigate the effects of the drought on their household or on their main income-generating activity. This highlights the timely nature of the anticipatory support provided.

81% of households receiving anticipatory assistance used the cash received mainly for the purchase of food, highlighting the link between the anticipatory support received and food security.

The majority of people received early warning messages, although with some limitations in reach

61% of households receiving anticipatory assistance reported having access to early warning information, compared with 39% in the control group. While it is positive that the majority of people received the messages, these figures highlight the scope for improving communication to reach the people we serve.

Figure 3: comparison of the endline-baseline changes experienced by the people we supported versus the control group for key outcome indicators

A. Control group				
RCSI	FCS	HDSS	LCSI	RCS
(endline-baseline)				
7,81	-4,487	-0,69	-0,618	3,2
B. Group receiving AA assistance				
RCSI	FCS	HDSS	LCSI	RCS
(endline-baseline)				
0,99	-1,211	0,26	-0,484	6,2
Difference in differences (a-b) comparing the changes experienced by the two groups				
RCSI	FCS	HDSS	LCSI	RCS
(endline-baseline)				
-6,82	3,26	0,95	0,13	3,1

Lessons learned for future activations

A joint WFP-FAO After-Action Review was convened in July 2024 to reflect with the Government of Madagascar on the outcomes of the 2023/24 activation and identify areas for future improvement.

The Country Office has also reflected on improvements made to the programme since the 2022-23 Grand Sud activation, for which specific areas were identified for actioning in the 2023 After-Action Review. The following section reviews these areas and the progress made this year, along with recommendations for further improvement:

Assistance provided

After-action findings:

- While the endline results from the 2023-24 activation were positive, the after-action review highlighted the need to examine opportunities to enhance the programme and its impact on food security and other outcomes.

Recommendations:

- Review the amount of financial assistance provided to families, taking into account their dietary needs (110 kcal/day/person), especially for children, pregnant women and nursing mothers. This review will be carried out by the Cash Working Group.
- To ensure the availability of seeds, explore the opportunity to make a group purchase according to local needs, and to provide a seed bank and support measures for seed producers.

Targeting

After-action findings:

- In the 2023-24 activation, different partners used different targeting criteria, which did not necessarily guarantee that the most vulnerable people were reached with assistance.

Recommendations:

- Ensure that the targeting criteria is relevant to reach people in need and have a single criterion for all partners working in the same geographical area.
- Explore the opportunity to use the single social registry developed by the Ministry of Social Protection and to share the list of people we assisted with the Ministry to maximize on reach.

Readiness

After-action findings:

- The 2022/23 activation concluded that a longer readiness phase would be beneficial, with assistance ideally beginning in October.
- For the 2023/24 activation, the preparedness phase started as soon as the July forecast was announced. Assistance began in December, which was reported as timely by the people receiving anticipatory assistance.
- The cash transfers in December were particularly timely to provide additional support for seed security, as a key programme component to support the productive assets of the people.

Recommendations:

- To further enhance readiness, explore the possibility of dormant partnerships with cooperating partners to accelerate preparations.

- Set up a capacity-building programme for cooperating partners and a standard training programme for the stakeholders involved.

Sub-national localization

After-action findings:

- The 2022/23 activation had highlighted a gap in AA readiness between central and decentralized actors and had recommended capacity strengthening activities at subnational level.
- In 2023/24, local stakeholders were involved in the planning of activities to ensure that the project met local needs. After-action review processes were held at a decentralized level, with local communities and stakeholders participating in order to increase their capacity and project involvement.

Recommendations:

- To support further localization, set up a capacity-building programme for cooperating partners and a standard training programme for the stakeholders involved, including at subnational level.

Inclusivity and community participation

After-action findings:

- The 2022/23 activation highlighted the need to improve the inclusivity of early warning information e.g. using different languages, and to engage community participants throughout the AA process.
- The 2023/24 activation identified progress. Messages were translated into local dialects and awareness-raising sessions were held at community level, such as in farmers' field schools and on local radio stations. Communication channels included visual aids (posters and concept maps), announcements in places of worship and on market days, mobile audio devices and USB sticks.

Recommendations:

- To further multiply dissemination and ensure its effectiveness, a wide-range of communication should be used. For example, strengthening the use of mobile phones as a channel for early warning messages and ensuring that the format of the communication is accessible and clear for different people.



Role of cash for forecasted scenarios

After-action findings:

- The 2022/23 activation highlighted the need to clarify with the people we serve how households can utilize cash to prepare for droughts.
- The 2023/24 activation made progress in this area. Awareness campaigns were intensified at the start of the project to further explain the project to the people receiving anticipatory assistance, including on the role of cash and to support decision-making.

Recommendations:

- Further strengthen communication towards the people we serve so that they can differentiate between post-shock responses vs the AA assistance provided. For example, by raising awareness at the beginning of interventions about targeting criteria and highlighting the difference between response and anticipation, potentially in collaboration with the Ministry of Education.

Coordination

After-action findings:

- The 2022/23 activation highlighted the opportunities for further inter-agency collaboration and synergies.
- These opportunities were explored in the 2023/24 activation. The technical working group was used effectively at national and regional levels to enhance coordination, complementarity and synergy between interventions.

Recommendations:

- Further reinforce the collaboration between local stakeholders and ensure that interventions are complementary. Ensure

the operationalization of the AA task force, including to enhance its localization in the Grand Sud.

Building and sharing evidence

After-action findings:

- The 2022/23 activation called for further investments in AA M&E, and to share M&E findings with drought-affected populations.
- In 2023/24, comprehensive baseline and endline studies were undertaken and additional studies are underway on the return-on-investment and cost-effectiveness of AA.

Recommendations:

- To further enhance field monitoring, increase resources deployed to the cooperating partner and ensure that they are used at the recommended times.
- Support tool optimization (e.g. the use of biometrics).
- Update the AA national framework by integrating M&E and ensure that M&E processes are carried out regularly, including thorough endline reflection.





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