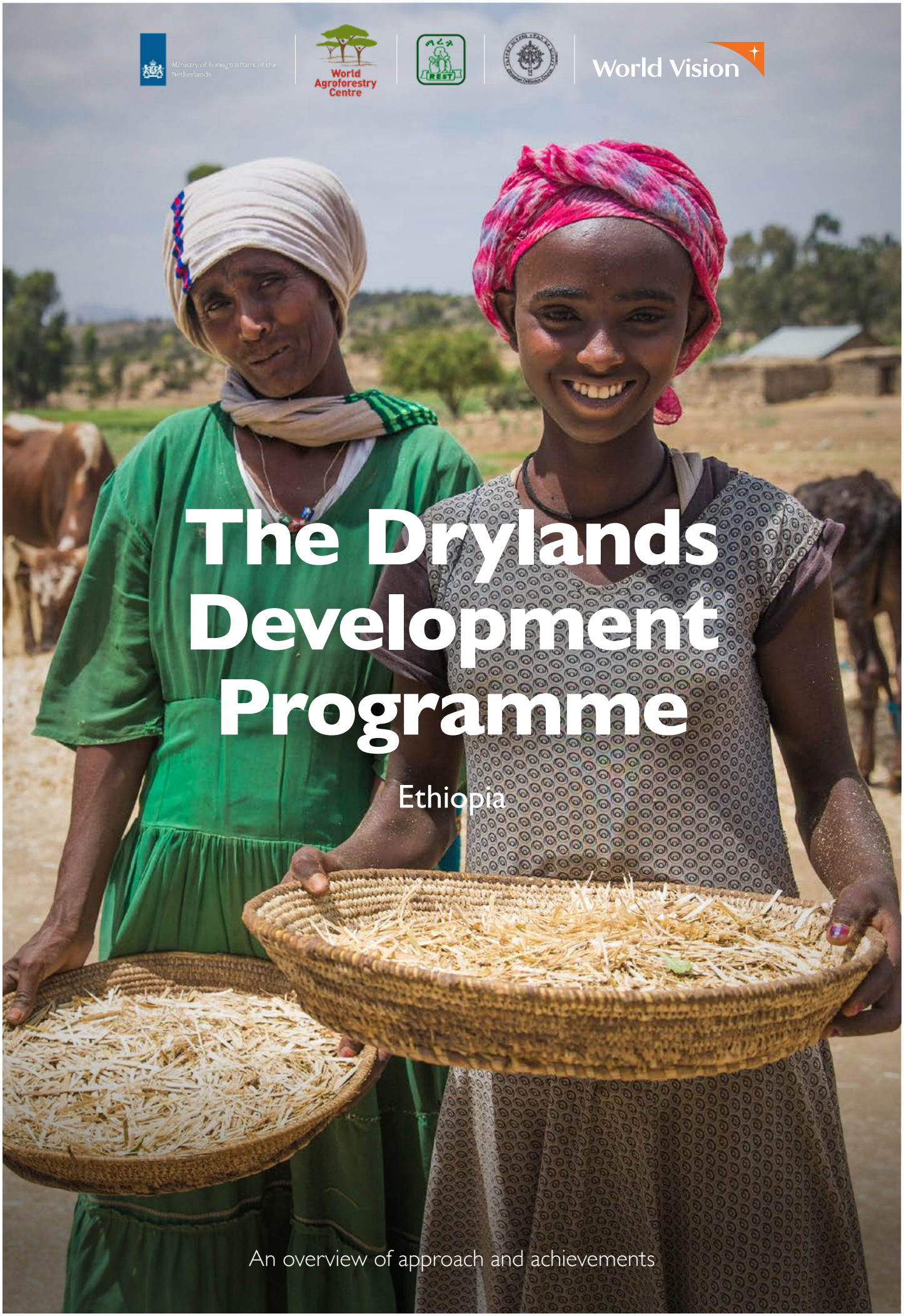


Ministry of Foreign Affairs of the Netherlands

World Agroforestry Centre

REST

World Vision

The Drylands Development Programme

Ethiopia

An overview of approach and achievements

Programme overview

The Drylands Development Programme (DryDev) is a farmer-led initiative that aims to contribute towards a vision where smallholder farmers in dryland areas transition from subsistence farming and emergency aid to sustainable rural development.

To achieve this, the programme is employing an integrated approach designed to:

- Increase food and water security.
- Enhance market access.
- Strengthen the local economy.

DryDev is funded by the Ministry of Foreign Affairs of the Netherlands (DGIS) through the World Agroforestry Centre (ICRAF) as the overall implementing agency, with substantial contribution from World Vision Australia (WVA).

The programme implementation context

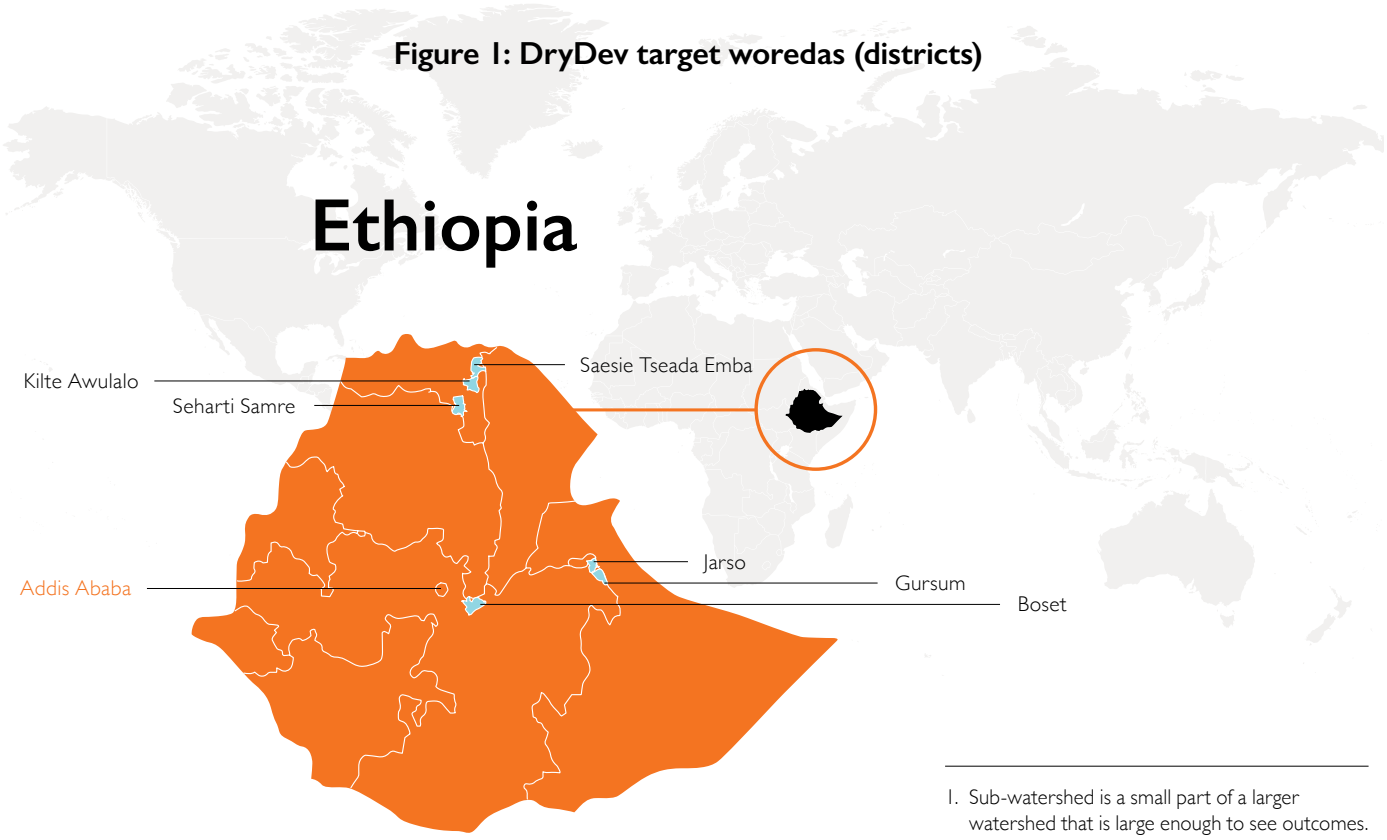
Drylands make up 43 percent of land area in Africa and are home to nearly 325 million people. Relatively neglected by governments and starved of private sector investment, poverty rates tend to be particularly high in these areas. This reflects the challenges associated with reliance on rainfed agriculture in soils degraded from continuous use without replenishment. Lack of commercialization and poor connectivity to markets further hinders rural development in these areas.

Dryland areas in Ethiopia account for 46 percent of the total arable land. Rural poverty in these areas is partly driven by over-use of natural resources, and as such, DryDev aims to address this by working with rural communities living in degraded watersheds or those at risk of degradation.

DryDev is being implemented in 29 sub-watersheds[1] within six districts (or woredas) (Figure 1) categorised as semi-arid (i.e. having an average annual rainfall of 400-800 mm) and with a high incidence of poverty and population density.

Contextually appropriate support is provided in an integrated manner through eight Work Packages which collectively contribute towards the achievement of programme outcomes and sub-outcomes.

Figure 1: DryDev target woredas (districts)



1. Sub-watershed is a small part of a larger watershed that is large enough to see outcomes.

Implementation structure

World Vision Ethiopia (WVE) is the National Lead Organization of DryDev Ethiopia, providing country-level coordination to the consortium partners and working with ICRAF to guide and oversee implementation. In addition, WVE implements the programme in two woredas: Boset and Tseada Emba.

The country consortium includes two implementing partners: Relief Society of Tigray (REST), applying the programme in Kilte Awulalo and Samre woredas, and the Ethiopian Orthodox Church – Development and Inter-Church Aid Commission (EOC-DICAC) in Jarso and Gursum woredas (Figure 1).

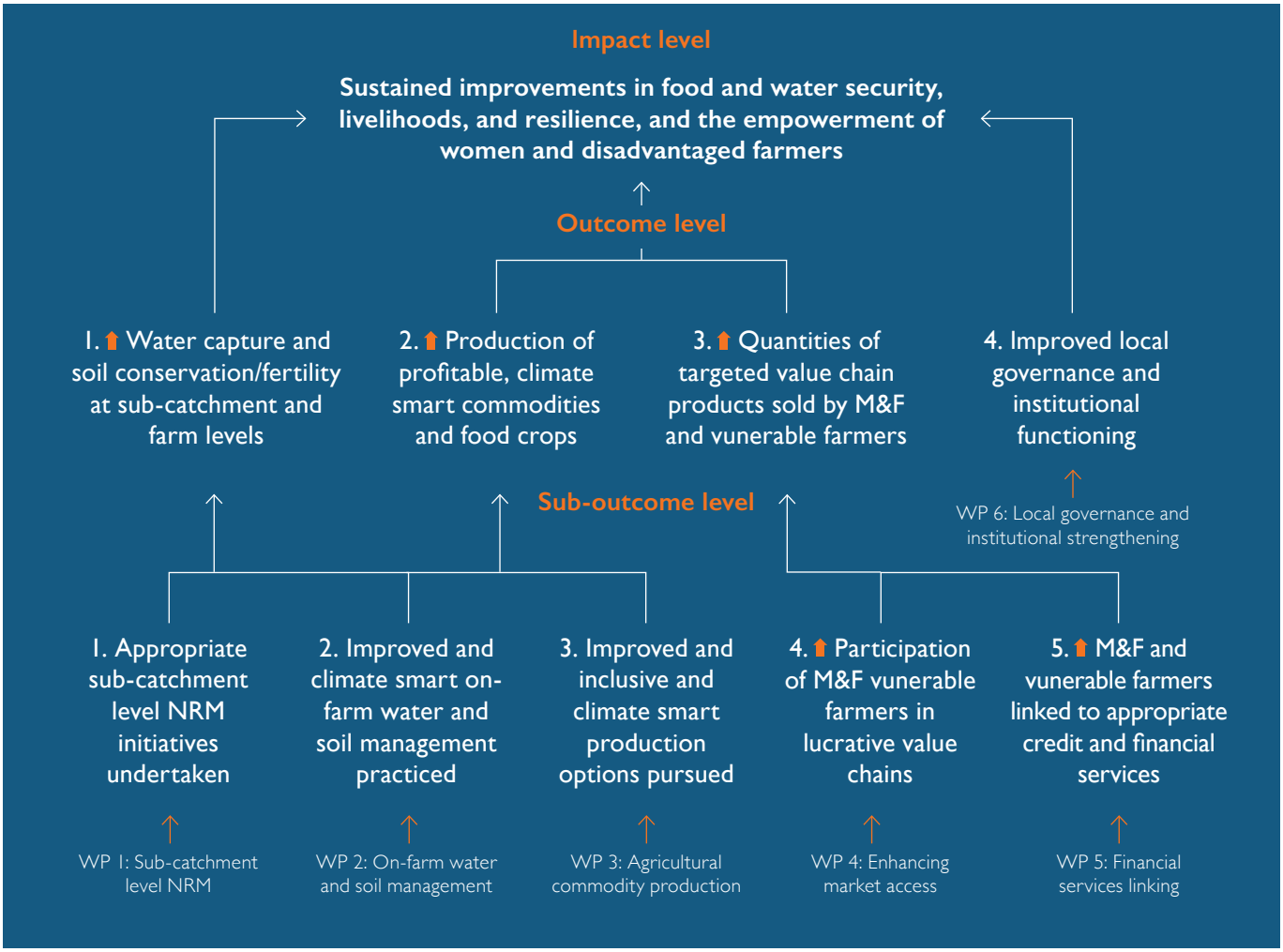
Programme approach

The DryDev programme approach, in which customised interventions are co-delivered in each sub-watershed, is guided by two complimentary and overarching "theories of change".

The first is focused on DryDev's direct development work with farmers and how these interventions will contribute towards sustained improvements and rural development (Figure 2). The second, led by ICRAF, is focused on promoting the uptake of evidence and learning generated by the programme, and how this might influence and inform policy, practice and investment.

DryDev's approach recognizes that the circumstances and environments of smallholders vary considerably and intervention options may not be self-evident to farmers or so-called "experts". Options, or activities, must be tailored to suit each context. Implementing partners work alongside rural communities in a participatory bottom-up manner to customize the options.

Figure 2: Overarching theory of change guiding DryDev's direct work with farmers

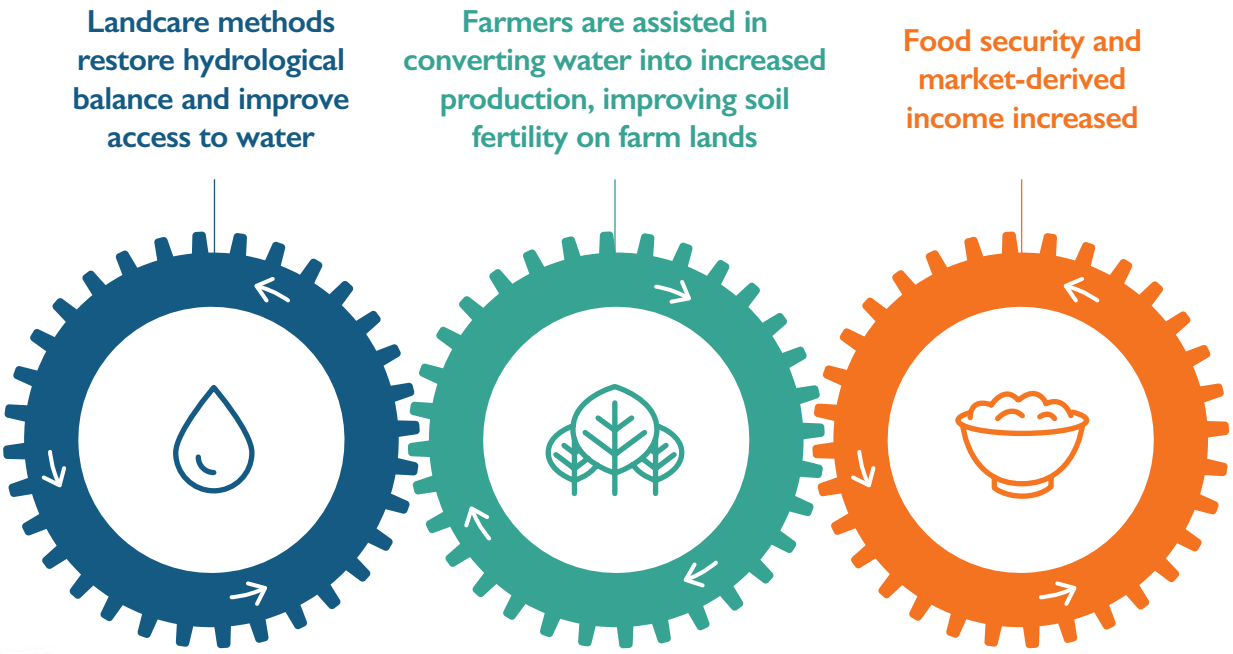


These options are grouped into interlocking "Work Packages" (WPs) that form the basis for DryDev's Theories of Change:

1. Sub-catchment level natural resource management (NRM).
2. On-farm water and soil management.
3. Agricultural commodity production.
4. Enhancing market access.
5. Financial services linking.
6. Local governance and institutional strengthening.
7. Planning, monitoring and evaluation, and scaling of learning.[2]
8. Policy analysis and influencing.

At the commencement of the DryDev programme in Ethiopia, communities in sub-watersheds (SWS) nominated men, women and youth to become members of the SWS committee. DryDev staff facilitated Community Action Planning, where committees prepared a SWS plan that contextualized interventions in various DryDev WPs to guide them towards development. At the district (woreda) level, representatives from the government (in areas of agriculture, women and children affairs, irrigation, cooperative promotion, and youth and sports), programme staff and members of the SWS group formed a woreda steering committee to coordinate programme interventions for sustainable outcomes. Close alignment with government policies and DryDev approaches ensured a high level of ownership at the community and woreda level. It also allowed for co-sharing of some costs associated with the programme, which is expected to increase the sustainability of programme outcomes.

2. WPs 7 and 8 relate to the second theory of change, which focus on promoting the uptake of programme-generated evidence and learning by policymakers for upscaling. For more information, refer to DryDev website: **DryDev.org**

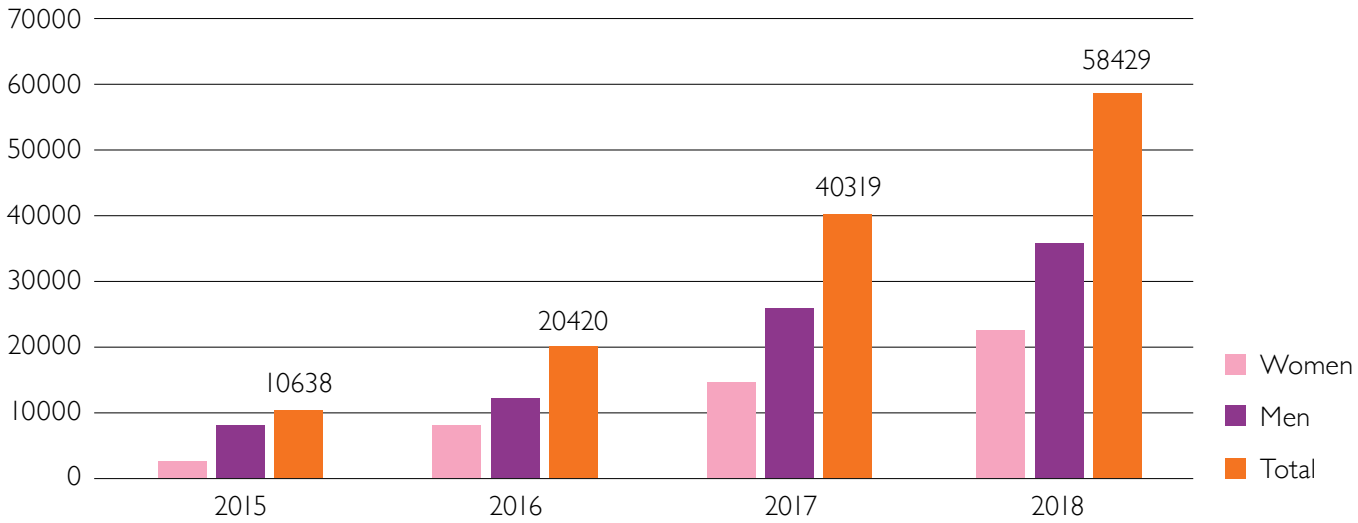


DryDev landscape restoration, Kilte Awulalo

Programme achievements as of June 2018

At the end of June 2018, DryDev Ethiopia has reached
58,429 farmers, including 22,441 women, rehabilitating a total area of 43,678 hectares.

Figure 3: Farmers reached by DryDev



Progress against suboutcomes: Landscapes improved

Farmers in Ethiopia have worked together to create significant changes in formerly degraded catchments by constructing terraces, deep trenches, check dams, percolation ponds and weirs. These developments have improved water percolation, reduced water run-off, flooding and soil erosion and reduced the depths of water-tables. They have also increased availability of water for community members, crops and livestock, making water available year-round despite the drought conditions experienced in 2016.[3]

These physical developments were supplemented with increased vegetation cover by planting trees and grass, allowing existing tree stumps – formerly over-grazed or cut – to regenerate through Farmer Managed Natural Regeneration (FMNR).[4]

SWS committees agreed on social contracts to control free-grazing and mobilize community members to rehabilitate degraded areas. Committees participated in training on mitigating drivers of deforestation and promoting the use of energy-efficient cooking stoves to reduce the demand for wood as fuel.


Trenches with terraces, Tseada Emba

In some SWS, the increasingly shallow water table is causing wetland areas and soaks to appear, which is attracting and hosting bird life, contributing to increased biodiversity.

3. In 2015-2016, Ethiopia experienced the worst drought in decades, but DryDev sites were able to retain sufficient water, enabling farmers to take their crops through to full term.
4. FMNR is a low-cost land restoration technique which involves the systematic regrowth and management of trees and shrubs from felled tree stumps, sprouting root systems or seeds; see **fmnrhub.com.au** for more information.


A weir for gully healing and water capture, Kilte Awulalo

Transforming landscapes and improving social cohesion

The Maego sub-watershed in the Kilte Awulalo in the Tigray region of Ethiopia presents a perfect example of landscape transformation, becoming a learning centre for those who are interested in sub-watershed management.

Community members are not only enjoying the economic and environmental transformations, but the social benefits too.

A 10 kilometre long, 35 metre wide and seven metre deep gully, created by years of flooding and soil erosion, had divided the village in two.

"We were unable to exchange goods and even attend funerals and other social events," said Mr Hagos, a priest at the local church. "One had to walk long distances of five to six kilometres just to get to the other side of the gully. Two people lost their lives by drowning during flood times."

Children had to walk long distances to reach school and women had to walk up to three hours each day to fetch water. Villagers from the two sides were unable to solicit help from each other in times of need.

The DryDev programme gave the community hope. During the community action planning process, gully repair was among the top priorities for people in the SWS. But this was not a simple task and a suite of activities were undertaken to sustainably rehabilitate the area.

Within three years, the whole area had been transformed. As a result of the DryDev interventions, the gully has been rehabilitated with a depth of only 1.5 metres. People on both sides can cross and meet each other daily. Women no longer need to walk for hours to fetch water as the water table has risen and water is now available throughout the year.

Children take a direct and shorter route to school and there is much higher interaction between both sides of the gully. Community members sell and buy fruits and vegetables from each other.

"We can now even borrow fire from the people living on the other side," Mr Hagos said.

Tree-raising nursery, Gursum

Grass production for animal raising, Tseada Emba

Cut-and-carry feeding for animals, Tseada Emba

On-farm soil and water-management improved

At the farm-level, interventions have increased access to water for farmers through the use of water-lifting devices, including motor pumps, treadle pumps and canals.[5] Farmers have been trained on rainwater harvesting techniques, combining these with fertility management practices such as composting, use of manure and fertilizer.

These interventions reached 25,607 farmers (38 percent women) in total with 14,085 farmers participating in training on a range of context-specific topics, focusing on soil and water conservation and soil fertility management. According to the DryDev Uptake Survey[6], by the end of 2017, 77 percent of farmers were practising soil and water conservation and 84 percent were practising soil fertility management practices promoted by the programme.

Improved inclusive and climate-smart production

Farmers have adopted various climate-smart production practices, focusing on increasing yields and productivity of crops and livestock in increasingly dry climates. These practices support farmers in pursuing options that are appropriate, given both current and predicted levels of climatic variability and disaster risk.


Irrigation canal, Tseada Emba

For example, farmers are encouraged to specialize in crops that are less susceptible to climatic variability and/or sharp fluctuations in market price. Where possible, options should help to reduce greenhouse gas emissions.

In total, 17,158 farmers have been trained on climate-smart production, and 27,181 farmers have been linked to improved inputs for crops and livestock. 200 producer groups have been established, all having a business plan for production.

DryDev's 2017 Uptake Survey showed 92 percent of farmers were practicing climate-smart production. All woredas have reported increased production of community-selected value-chain commodities, thus contributing to enhanced food security and increased income.

Mrs Safi Abdu was a food-aid recipient for many years in the Mudi SWS of Jarso Woreda. Before participating in DryDev, she couldn't produce enough food on her half-hectare of land.

Last year, she harvested 0.5 tonnes of sorghum and 0.9 tonnes of wheat from the same plot – a direct result of: a) practices such as terracing, FMNR and tree planting being undertaken by DryDev in the upper catchment, which significantly reduced water run-off and b) capacity development of good agricultural practices. She is now a member of the local savings group and can now confidently feed her family.

5. DryDev makes use of cost-sharing, subsidizing an input, or creating revolving funds or assets to maximize sustainability for the benefit of farmer organizations.
6. DryDev Uptake and Sub-Outcome Tracking Survey (termed DryDev's Uptake Survey) is an annual snapshot to determine the extent by which training has been taken up and put into practice by participating farmers.


Potato production, Tseada Emba


Onion grower, Boset

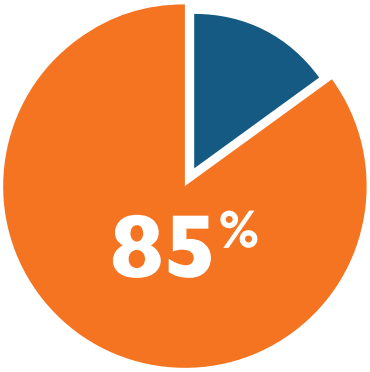
Improved production contributes to healthy and happy families, Kilte Awulalo

Increased participation of farmers in lucrative value-chains

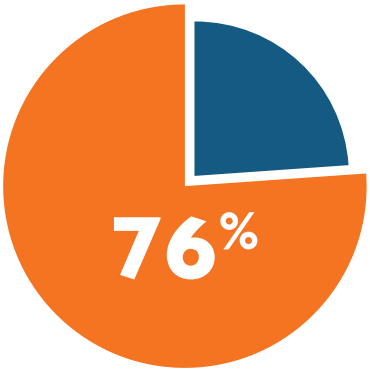
DryDev has successfully linked 9,257 farmers to post-harvest technologies which reduce post-harvest losses and improve the quality of produce across nine agricultural commodities selected through the Community Action Planning committees and the community's value-chain analysis undertaken in the six target districts (Figure 3). As a result, farmers have been able to reduce their post-harvest losses by up to 30 percent (2017 DryDev Uptake Survey).

So far, DryDev has reached 13,166 farmers through value-chain capacity building, 53 marketing groups have been established and 17,144 farmers have been linked to markets. The 2017 DryDev Uptake Survey revealed **76 percent of farmers have been exposed to marketing strategies by DryDev and 74 percent of farmers in the targeted sub-watersheds are now linked to markets as a result of the programme's interventions.**

In target sites,



of those engaged in production of promoted commodities had larger yields and



reported increased sales.

Prior to DryDev, there were only 15 members in the Boset-based Tokuma Farmers' Cooperative. Farmers were growing haricot bean using local inputs and selling them to local traders who only bought the produce when the market price was low. DryDev initiatives linked farmers with improved seeds and stronger agronomic practices, improving productivity.

In 2016, farmers produced 12 tonnes of quality haricot beans. DryDev connected farmers to the Lume Adama Farmers' Union and have since increased their income by US$310 to US$2,054 per farmer. By 2017, the cooperative had tripled its membership and is now licensed to produce certified haricot bean seed. By gaining access to financial services, farmers can now take loans to invest in production and earn even higher profits.


Beekeeping by landless youths, Kilte Awulalo

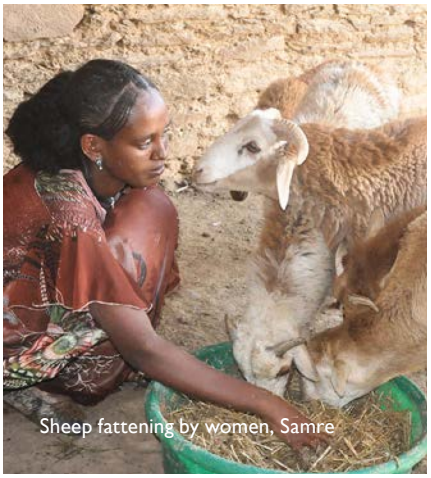

Groundnut processing by women, Gursum

Youth engagded in egg production, Tseada Emba

Figure 3: DryDev programme value chain commodities and major achievements

	Districts	Commodities
Boset	Haricot bean	• Productivity by farmers in Tokuma Cooperative improved from 1.6 t/ha to 2.5 t/ha; the cooperative is now linked with Lume-Adama Farmers' Cooperative Union for input and output market. • Tokuma Cooperative is now licensed to produce haricot bean for seed.
	Onion	• Minimized brokers' involvement and farmers' income has now doubled. • Farmers now linked to wholesalers in Addis with signed agreements to regularly supply onions.
Jarso	Potato	• Farmers started selling using weighing balance instead of selling by estimation. • Linked to buyers in Harar and Dire Dawa Towns.
	Shoat	• Women farmers are now linked with Microfinance Institutions. • Women farmers are now linked to exporters in Dire Dawa.
Gursum	Groundnut	• Productivity increased from 0.7 to 1.5 t/ha. • Linked with Afrankello Farmers Union for market in 2017.
	Dairy- Milk	• A milk processing unit was established in the woreda centre. • Women farmers are now linked to milk processing and marketing groups.
Tseada Emba	Poultry	• Improved breed introduction increased productivity from an average of 60 to 240 eggs per year. • Farmers are linked with Mekelle market and multiple buyers have caused prices to rise for farmers.
	Tomato	• Productivity increased from 22.2 to 36 t/ha. • Farmers are linked with Mekelle market and multiple buyers have caused prices to rise for farmers.
	Potato	• Productivity increased from 19 to 25 t/ha. • Farmers now linked with multiple buyers in Mekelle market, and farmer groups in two SWS have contractual agreements with buyers.
Kilte Awulalo and Samre	Shoat	• Sheep fattening attracted returnees from Saudi Arabia to work at home. • Farmers are linked with Mekelle and Wukro town markets and have been able to secure better prices.
	Honey	• Volume of honey produced per year has increased from 9kg/hive (local) to 25kg/hive. • Farmers are linked with Mekelle and Samre town markets.


Haricot beans, Boset


Sheep fattening by women, Samre


Potatoes ready for marketing, Jarso

Increased access to financial services for farmers

Given the importance of farmers' access to financial services, DryDev adopted a two-pronged strategy: (1) establishing new or strengthening existing Village Savings and Loan Associations (VSLAs) and assisting them to cultivate a culture of savings among farmers and availing small loans; (2) linking VSLAs to RuSACCOs[7] and other financial institutions (such as the local institution, WALQO) to increase farmers' access to loans.

As of June 2018, DryDev has established or strengthened 212 VSLAs with a membership total of 12,257 farmers. A total of 11,426 farmers (49 percent women) have been linked to formal financial institutions and accessed loan products. Farmers have accessed US$343,480[8] worth of loans and saved US$78,910.

According to the 2017 DryDev Uptake Survey, 80 percent of farmers in the targeted sub-watersheds have been exposed to savings and credit schemes. Following the DryDev interventions, **the average amount of village level savings per person in one year has more than doubled.**

The DryDev External Review (2018) found that women from all woredas have reported access to savings and loans as the most beneficial intervention in helping them improve their household economy.

Capacity development of local duty-bearers and farmer organisations (FOs)

DryDev has significantly contributed to the capacity-building of local farmer-based institutions by educating farmers on sustainable best practice procedures, scaling-up learning, and strengthening staff capacities, enabling them to continue helping communities. The programme has established and strengthened 202 farmer organizations engaged in various programme interventions.

The 2017 Uptake Survey results shows that 80 percent of respondents were members of a farmer organization, with 81 percent having linkages to agricultural extension agents. The reach of the programme and strong linkages with local service providers will enhance the likelihood of sustaining long-term impact.

A savings group meeting, Tseada Emba

A small investment goes a long way

Chickens were never considered a viable business to farmers in Endacharkos SWS in Saz Kebele of the Tseada Emba woreda three years ago, because of their high mortality rate and susceptibility to disease. In collaboration with the Kebele Government, DryDev established a demonstration site at the Kebele Farmer Training Centre to educate farmers on the importance of housing when raising chickens. The demonstration showed farmers how to care for 50 six-week-old chickens, instructing farmers on creating a healthy environment where chickens are more resilient to disease and can grow faster.

DryDev has facilitated chicken-raising training for 600 farmers, with 70 percent of farmers already practicing their learnings. More than 2,000 people have visited the centre and most households in Saz Kebele are selling eggs, with many farmers adopting the process as a source of income generation.

7. RuSACCOs are Rural Savings and Credit Cooperatives
8. This may include loans to and savings of non-DryDev beneficiaries of RuSACCOs and MFIs from the same area

Impact of the DryDev Programme

A quasi-experimental design has been set in place by ICRAF to evaluate and assess the programme's impact by the end of the implementation phase in July 2019. Two additional pieces of evidence document the impact of the DryDev programme:

1. DryDev External Review undertaken by an external evaluation team.
2. Preliminary impact assessment study undertaken by DryDev Ethiopia.

DryDev external review

The external review, commissioned by the DGIS, was undertaken by an independent evaluation firm in May 2018. The report concluded that:

- The programme has been highly successful in Ethiopia.
- The embedding of DryDev interventions in government policies and strategies in Ethiopia is a unique feature among DryDev countries and in Africa as a whole.
- The integrated community-planning process has resulted in beneficiaries feeling ownership over planning and interventions, allowing farmers to feel confident in managing their sub-watershed and surrounding areas, strengthening the stability of the interventions.
- The initiatives in the dryland locations have contributed to increased resources, crop and livestock production and access to inputs, markets and credits, with DryDev beneficiaries indicating their livelihoods and incomes have increased. **Men and women are both increasingly acting like commercial farmers.**
- Some beneficiaries have reported they have achieved **clear improvement in their food security situation and income** and are no longer in need of support from the Productive Safety Net Programme of the government.
- The programme has **significantly contributed towards women's empowerment**, particularly with value-chain commodities such as dairy and shoat fattening. Women have reported improved status and are investing in income-generating activities, such as poultry and fruit trees.
- Women are greatly appreciating being connected to a savings culture and this ability to create and manage wealth has given them more bargaining power within the family, contributing to increased school attendance of children.

Landscape restoration brings benefits for the whole family, Kilte Awulalo

Preliminary impact assessment

DryDev Ethiopia's preliminary impact assessment study[9] collected data on a range of indicators from randomly selected participating households and compared this data against baseline figures. The findings revealed that:

Minimum dietary diversity has increased from

1.89 in 2015[10] to 5.07 in 2018,

indicating an increase in access to diverse food categories.

The number of hungry months reduced from

3.41 in 2014 to 1.6 in 2018,

indicating increased household food security.

According to the household hunger scale,

93 percent of households reported no household hunger

and only six percent and one percent of households reported moderate and severe food insecurity respectively.

Average household income and expenditure has

nearly doubled

from US$716 to US$1,286, and from US$470 to US$1,080 respectively.

9. A survey of 120 randomly selected programme participating households in six woredas.
10. Conducted by ICRAF.

Key learning and recommendations

Use an integrated approach: DryDev facilitated the integration of natural resources management, livelihoods, value-chain development, policy analysis and facilitating an enabling environment – within a specific landscape domain. Woreda steering committee platforms and SWS committees were the key instruments in delivering the integrated approach.

As a result, the community learned how water-buffering activities in their upper catchment (mostly communal areas) were leading to enhanced water access and increased production of market produce in their lower catchment areas (mostly farmer-owned). Realising this connection spurred communities to embed their lessons and share with others.

Align programmes with government policy: DryDev worked closely at the district level to build linkages with several government sectors, all of which had a vested interest in the livelihoods of households in the target SWS.

The woreda steering committee served as a local platform to evaluate the activities, taking lessons from one SWS to another. Where government policy was poorly understood, the programme sought to strengthen that knowledge, and to show how government policies might better contribute towards landscape restoration.

This close alignment resulted in a deep level of cooperation and support, enabling the programme to leverage US$140,727 of government funding and human resources.

Use bottom-up planning and contextualise appropriately: DryDev adopted a series of scaling principles in order to ensure the programme interventions remained farmer-driven and site-specific. Options or interventions that may be appropriate in one dryland context may not be relevant in others, therefore local knowledge and community input was integral in selecting options. Such an approach resulted in communities' contributing resources in the form of labour and materials worth US$3,293,654 and is likely to drive sustainability as a consequence of community ownership.

Learn from one another: During the implementation of the programme, DryDev worked to clearly define roles and responsibilities between partners, stakeholders and farmer organisations. Landscape restoration is complex and depends on clear and transparent lines of communication, especially to build local ownership.

Collective action – a key driver of landscape-level activity – became commonplace. Through reflections and self-evaluation, all parties shared a common understanding and framework of action and continued adapting throughout the implementation.

Programme investment over 4½ years was an average of US$158 per hectare, around US$26 p/a for each farmer reached

(investment is based on total programme cost to June 2018).

Carrots ready for sale in the nearby town, Samre

World Vision

Transforming the lives of smallholder farmers in dryland areas and helping them transition to sustainable rural development.

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DryDev Ethiopia is led by World Vision Ethiopia in partnership with REST and EOC-DICAC under the oversight of the World Agroforestry Centre (ICRAF).