Ministry of Foreign Affairs of the Netherlands

DRYLANDS DEVELOPMENT PROGRAMME

# Kenya Drylands Development Programme (DRYDEV)

## Annual Report for 2016

## A Farmer Led Programme to Enhance Water Management, Food Security, and Rural Economic Development in the Drylands of Burkina Faso, Mali, Niger, Ethiopia, and Kenya

Name of Partner: World Vision Kenya (NLO)
Programme Contract: 2
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**April 2017**

World Agroforestry Centre

SNV

Caritas KENYA

ADRA

World Vision KENYA

**EXECUTIVE SUMMARY**

The Kenya DryDev Programme is in its third year of implementation and this Annual Report covers the period between 1st January to 31st December 2016. The annual partners and stakeholders review and reflection of the accomplishments, challenges and lessons learnt in 2015 informed the 2016 Detailed Implementation Planning and operationalization.

Cumulatively by the close of 2016, 15,499 (8,734 Women) farmers, representing 45% of the total programme target farmers, were reached directly through various interventions. Remarkable progress was realized in the implementation of plans with 75% budget utilization (vs 39% in 2015). Below are the key highlights of the accomplishments for the year:

- Completion of community action planning (CAP) process in 16 sites resulting in identification of contextually appropriate intervention options and corresponding learning priorities where interventions will be scaled up in 2017.
- Knowledge and skill enhancement for 13,971 (8,026 Women) farmers to undertake various interventions across the 8 sub-catchments on natural resources, soil and water management for increased climate smart production, market led production, financial capacity strengthening and linkages through platforms.
- Approximately 806 Ha were been put under natural resource management interventions and 2,989Ha on on-farm soil and water management initiatives.
- An uptake survey conducted indicated that 89% of farmers interviewed were reached with various on-farm soil and water management technologies and had started integrating the options while over 79% of those trained on complementary farming and production technologies have taken up climate smart production practices.
- Three rapid studies for emerging value chains for honey, indigenous chicken and goat that were identified during community action planning with farmers were completed and the findings incorporated in the 2017 implementation plans.
- Mobilization of farmers to form large and stronger groups for increased bargaining power and to meet the buyers' expectations led to 91% growth in the membership of 10 Farmer Organizations spearheading marketing initiatives.
- Intensified financial literacy and linkages to financial institutions resulted in farmers accessing loans worth 4,273,000 (US $ 42,730).
- To improve the functioning of local institutions, 116 farmer organization (FO) leaders, 110 WRUA committee members and 109 local government staff were equipped with skills on leadership, governance and financial management.
- Village level community awareness meetings on key polices held in collaboration with the Kenya Forestry Services (KFS), National Environment Management Authority (NEMA), Ministry of Environment, Ministry of Water, Ministry of Agriculture and Water Resource Management Authority (WRMA) reached 2,822 (1,935 Women) farmers.

The positive progress made by the Programme was not without challenges, for instance: i) collective marketing of farm produce was low as farmers are yet to fully embrace the practice and appreciate its benefits and ii) low production volumes of priority value chain commodities posed a challenge in attracting and retaining lucrative markets. To address these challenges, 2017 planning factored in farmers' sensitization and exposure to groups who had advanced in collective marketing, training on various production aspects and initiation of sustainable seed distribution systems.

A number of lessons were learnt during the year, one being that adoption of various on-farm rainwater harvesting (RWH), soil and water management technologies by young farmers (both men and women) was higher compared to their older counterparts.

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**LIST OF ACRONYMS**

| | |
|---|---|
| ADRA | Adventist Development and Relief Agency |
| CA | Conservation Agriculture |
| CAP | Community Action Plans |
| CBA | Commercial Bank of Africa |
| CSP | Climate smart (agricultural) Production |
| DIP | Detailed Implementation Plan |
| DryDev | Drylands Development programme |
| DTC | Drought Tolerant Crops |
| EP | Enrichment Planting |
| FMNR | Farmer Managed Natural Regeneration |
| FOs | Farmer Organizations |
| FSA | Financial Services Associations |
| GAP | Good Agronomic Practices |
| GoK | Government of Kenya |
| HOPPA | Household runoff Pond Protocol Application |
| ICRAF | World Agroforestry Centre |
| ICT | Information and Communications Technology |
| IPs | Implementing Partners |
| KALRO | Kenya Agricultural and Livestock Research Organization |
| KCB | Kenya Commercial Bank |
| KFS | Kenya Forest Service |
| KREP | Kenya Rural Enterprise Programme |
| KSC | Kenya Seed Company |
| KWFT | Kenya Women Finance Trust |
| MoU | Memorandum of Understanding |
| NDMA | National Drought Management Authority |
| NEMA | National Environment Management Authority |
| NLO | National Lead Organization |
| NRM | Natural Resource Management |
| PAC | Programme Advisory Committee |
| PC | Planned Comparisons |
| PMEL | Planning, Monitoring, Evaluation and Learning |
| RWH | Rain Water Harvesting |
| SACCOs | Savings and Credit Cooperatives |
| SCAPs | Sub-Catchment Action Plans |
| SCMPs | Sub-Catchment Management Plans |
| SEARNET | Southern and Eastern Africa Rainwater Network |
| SG | Savings Groups |
| SNV | Netherlands Development Organization |
| UON | University of Nairobi |
| VC | Value Chain |
| VSLA | Village Savings and Lending Association |
| WEF | Women Enterprise Fund |
| WP | Work Package |
| WRMA | Water Resource Management Authority |
| WRUA | Water Resources User Associations |
| WVA | World Vision Australia |
| WVK | World Vision Kenya |

## 1. INTRODUCTION

The Kenya Drylands Development Programme (DRYDEV) is a farmer-led programme to enhance water management, food security and rural economic development. World Vision Kenya (WVK) as the National Lead Organization (NLO) is implementing in partnership with the Adventist Development and Relief Agency Kenya (ADRA), Caritas Kenya, and Netherlands Development Organization (SNV). The NLO works closely with the World Agroforestry Centre (ICRAF), the programme overall implementing agency in the governance and oversight of the programme in Kenya. Interventions associated with Work Packages (WPs) 1-3 are implemented by Caritas in Makueni County, WVK in Machakos County and ADRA in Kitui County. SNV and WVK implement interventions associated with WPs 4-5 and WPs 6, 7 & 8 respectively throughout the entire target area. World Vision Australia (WVA) provides technical and programmatic support.

Compared to the previous year, 2016 had minimal challenges since the Programme received timely approvals and implementation picked up early enough. By the close of the year, the Programme had an overall under-expenditure variance of 25% (USD $635,039) made up of 22% ($122,383) for WVA match and 26% ($512,656) for DGIS funds. This indicated a positive progress when compared to 61% at the close of 2015. The positive progress in performance was attributed to early approval of plans and budgets and implementation of lessons learnt in 2015.

## 2. PROGRESS TOWARDS OUTPUTS (KEY DELIVERABLES)

### Work Package 1: Sub Catchment Level Natural Resources Management

***Activity Area 1.1: Sub-catchment Action Plan development***

Bottom-up planning process was undertaken for the remaining 16 sub-locations within the 8 sub-catchments. Teams constituted from 1,219 (702 Women) farmers, 11 DryDev Programme staff and 29 GoK officers representing the departments responsible for Agriculture, Water, and Gender/ Social Services, Kenya Forest Service (KFS), National Drought Management Authority (NDMA), Water Resource Management Authority (WRMA), National and County Administration officers, actively participated in the community action planning (CAP) exercise. Priority options developed through the process informed the generation of the 2017 Detailed Implementation Plan (DIP) covering all the 8 sub catchments.

***Activity Area 1.2: Capacity development for local institutions***

A total 13,971 (8,026 Women) farmers were reached through sensitization and capacity strengthening events based on sub catchment planning and management, water buffering on riparian land, land restoration with trees, and rehabilitation of degraded areas. Seven sub-catchment water resources users' associations' (WRUAs) and community representatives who participated in the CAP process were trained on leadership, management, Natural Resource Management (NRM) and the provisions of Water Act 2002.

One Sub-Catchment Management Plan (SCMP) (Miindu) was jointly reviewed with community leaders and programme representatives with a view to integrate these recent CAP results. The process equipped the participants with knowledge and skills for water resources management within their respective sub-catchments.

***Activity Area 1.3: Sub catchment level FMNR & Enrichment Planting***

To ensure effective and sustained roll out and adoption of sub-catchment restoration/reforestation initiatives by the community, 8 DryDev staff and 11 GoK extension officers were trained on Farmer Managed Natural Regeneration (FMNR) and enrichment planting (EP). As a result, the trained project team in collaboration with GoK technical teams and WRUA officials conducted sensitization

campaigns and demonstrations for 9,740 (5,970 Women) farmers. Monitoring reports indicated that 3,421 farmers (2,102 Women) have started applying sub catchment restoration, improvement and management practices on approximately 806 Ha.

***Activity Area 1.4: Establishment and maintenance of water buffering***

In pursuit of increased water availability at the sub-catchment level for agricultural production, 5,654 (3,102 Women, 132 Youth) farmers were trained on rainwater harvesting (RWH) technologies and sub-catchment water buffering. This resulted in the construction of 17 sand storage dams in the three counties (Machakos 7, Makueni 6, Kitui 4). This was achieved in collaboration with farmers, WRUAs, Water Committees, County Ministries of Water & Irrigation and local administration officers. These dams have an approximate total capacity of 88,548 $m^3$ and will serve about 5,950 households across the programme sub-catchments. So far, the structures have benefited 101 farmers practicing small scale irrigation and provided drinking water for over 9,800 domestic animals (goats, sheep and cattle). The below average rainfall experienced in the area posed a challenge to exploiting the full potential of the dams.

***Figure 1: Katothya Sand dam in Waita Sub-Location, Kitui County just after completion***

***Activity Area 1.5: Resource leveraging for water buffering infrastructure***

In order to equip WRUAs with skills for resource mobilization to finance development of water buffering infrastructure, 60 (31 Women) community leaders were trained on proposal writing and resource leveraging for RWH initiatives.

***Activity Area 1.6: Protection and Rehabilitation of denuded lands***

For enhanced protection and rehabilitation of degraded lands, 3,934 (2,275 Women) farmers across the programme sub-catchments with degraded areas were sensitized on principles of land reclamation/rehabilitation (gully healing, tree planting, grass reseeding, terracing and sustainable charcoal production and tree harvesting). As a result, 221 (151 Women) community members embarked on rehabilitation and restoration of 105 ha of degraded land.

## Work Package 2: On-farm Water and Soil Management

***Activity Area 2.1: On-farm rain water harvesting***

Collaborative efforts between stakeholders (AFRHINET[1], DryDev, SearNet[2], and KRA[3]) to enhance RWH among farmers resulted in training of 25 trainers (10 DryDev, 15 GoK staff) on advanced RWH and irrigation management. As a result, the trainers have been able to design and implement the promoted RWH technologies.

Availability of local level capacity to design, excavate, construct and maintain farm ponds was ensured through equipping of 61 (17 Women) artisans with basic knowledge, skills and necessary tools and equipment to further advance close technical support to other farmers in their villages.
Further, to enhance adoption of on-farm RWH technologies[4], 2,688 (1,283 Women) farmers were reached through training and sensitization during community gatherings, on-farm demonstrations

[1] *An ACP-EU Technology-Transfer Network on Rainwater Harvesting Irrigation Management for Sustainable Dryland Agriculture, Food Security and Poverty Alleviation in sub-Saharan Africa*
[2] *Southern & Eastern Africa Regional Network*
[3] *Kenya Rainwater Association*
[4] *Promoted RWH techniques and technologies include Zai pits, terraces, roadside harvesting, cut off ditches, retention ditches, roof catchment, shallow wells, sub surface watersheds and farm ponds*

and field days. So far, 1,998 (889 Women) have adopted various on-farm RWH technologies. To this end, 124 farm ponds (59 lined) with cumulative capacity of 3100m$^3$ were completed and were supplying water for off-season horticultural production.

***Activity Area 2.2: Agroforestry and on-farm FMNR***

Capacity of 1,384 (595 Women) farmers was strengthened on agroforestry (AF) and on-farm FMNR through on-farm training. 78 of the trained farmers were identified as champions and there has been a growing awareness among farmers. As such 3,060 (1,143 Women) farmers have raised different tree species on 943 Ha. A survival rate of 81.7% for over 6,317 trees planted by contact farmers was realized. Additionally, 1,621, (1,210 Women) farmers identified to implement action learning on tree planting were equipped with knowledge and skills on nursery establishment and management. Of the 15,000 assorted tree seedlings planted for action learning, Mango and *Senna Siamea* (Cassia) had higher survival rates whereas *Melia Volkensii* was most affected by the dry spells experienced in 2016.

***Activity Area 2.3: Soil conservation and fertility management***

Farmers (1,456; 784 women) benefited from training and learning events on soil conservation and fertility management in collaboration with African Conservation Tillage Network (ACTN), Kenya Network for Dissemination of Agricultural Technologies (KENDAT) and Agriculture Technology Development Centre (ATDC). Out of the trained farmers, 713 (48%) were practicing technologies on 1,443 Ha and reported better yields among farmers practicing Conservation Agriculture (CA) in relation to conventional methods.


***Figure 2: Training of farmers on Conservation Agriculture in Kitui County***

***Activity Area 2.4: Small-scale irrigation***

Field days and on-farm demonstrations on small scale irrigation were undertaken in partnership with Ministry of Agricultures, Water and irrigation staff, Atlah Company, and Kick-start Company that reached 1629 (721 women) farmers.

As a result, 225 farmers (14%) engaged in small scale irrigation on their farms.

***Figure 3:Training of farmers on micro irrigation in Myanyani, in Mwala, Machakos County***

## Work Package 3: Agricultural Commodity Production

***Activity Areas 3.1-3.2: Promotion of climate smart production for food security and for income generation***

Various capacity building events, conducted in partnership with government extension teams and input suppliers, equipped 2,112 (1,638 Women) farmers with relevant skills and knowledge in

climate smart production. These events included training on Conservation Agriculture), Good Agronomic Practices (GAP), post-harvest management as well as creating input and market linkages for targeted value chain commodities.

***Activity Area 3.3: Establishment of sustainable seed and seedling supply system***

As part of establishment of a sustainable community based seed system, nine Farmers Organizations (FOs) were supported with seed input of green grams and cowpeas seed totaling 3 tonnes. The initiative improved seed access for 2,473 (2,113 women) farmers. Through contractual arrangement between farmers and Simlaw Seeds Company (Kenya), 56 (25 Women) farmers were engaged to undertake green grams' breeders Seed multiplication. Upon assessment, more than two thirds of the farmers (39) had their crop certified, approved and purchased as seed. This linkage will continue in the upcoming seasons.

In addition, in partnership with the Kenya Agricultural & Livestock Research Organization (KALRO), 87 (41 Women) lead farmers were identified and engaged in local open pollinated seed varieties multiplication for green grams, cowpeas and pigeon peas. The farmers were further linked to relevant suppliers, and stockists/buyers within the respective counties. Due to the prolonged dry spell and lower than expected rainfall KALRO estimated that farmers would harvest about 30% and incur a 70% loss.

***Figure 4: Quality control check on Green grams N26 Variety by KALRO in Mwala and Yatta, Machakos County***

## Work Package 4: Enhancing Market Access

***Activity Area 4.1: Conduct market analysis for selected value chains***

Three studies for additional value chains, identified during the CAP process for indigenous chicken, goat and honey, were concluded. The studies indicated key opportunities for farmers to engage in these value chains. The findings were incorporated in the 2017 DIP.

***Activity Area 4.2: Establish and strengthen marketing groups***

Through peer learning events, exchange visits and training on various aspects of value chain development, 67 (35 Women) farmers acquired knowledge and skills on Warehouse Receipt System, post-harvest management for grains and management of Savings and Credit Cooperative Societies (SACCOS).

The Programme mobilized farmers to form large and stronger groups for increased bargaining power and to meet the buyers' expectations. This led to membership growth of the 10 FOs from 3,127 to 5,959 (91% growth) during the year. In addition, competitiveness of these FOs was enhanced through cooperative development trainings, since cooperatives are more attractive to Financial Institutions, market actors, government and other development agencies.

***Activity Area 4.3: Establish multi-stakeholder value chain platforms***

To strengthen established multi-stakeholder VC platforms, four stakeholder forums were held. The platforms brought together the VC issues of 3,638 (2,689 Women) farmers from 10 marketing groups in all three counties. Through these forums, farmers were linked to various markets for target value chains including 12 major pulses traders, 6 mango buyers, 10 major indigenous chicken traders and 2 honey buyers. One of the key results realized was that Muungano and Ngengi FOs sold Green Grams worth Ksh 4,773,600 (US $ 47,736 ) to Spiceworld Ltd at a price of Ksh 80 per kg (50-67% higher than prevailing local prices).

A total of 777 (555 Women) farmers acquired knowledge on market led production, VC financing and financial literacy, and interacted with various input suppliers and financial service providers through their participation in 6 field days.

***Activity Area 4.4: Strengthen market information systems***

A total of 3,638 (2,689 Women) farmers were enrolled into *iShamba,* a marketing information system (MIS) that provides real time market information and weather updates. The farmers utilized the information received to make informed production and marketing decisions.

## Work Package 5: Financial Services Linking

***Activity Area 5.1: Enhance financial literacy for the producer organizations***

To enhance financial literacy among the producer organizations, 24 farmer-to-farmer trainers from 6 VC financing and financial deepening platforms were equipped with Financial Literacy skills. The trainers in turn trained 2,564 (,1923 Women) farmers in collaboration with local financial institutions to improve financial management among the farmers.

***Activity Area 5.2: Broker linkages with financial service providers***

Through the engaged 10 FOs, 3,638 (2689 Women) farmers interacted with financial institutions (KCB, Equity, CBA, Cooperative, KWFT, KREP FSA, WEF, ECLOF, Sof dev, Vision Fund, Universal Traders SACCO) through various forums, which included VC Financing & Financial Deepening platforms, exposure visit, financial literacy training, field days and business plan launch. This contributed to improved access to loans (about 107 loans taken) and opening of new bank accounts by FOs in various financial institutions to improve their agricultural ventures.

***Activity Area 5.3: Support Existing Savings and Credit models***

To strengthen and promote sustainable savings and credit models, the Programme focused on two key interrelated interventions:

i). Training of 95 farmer Savings Groups' representatives on Table Banking, which is the most popular Savings and Credit model practiced by target farmers. In addition, farmers were introduced to and trained in other models/schemes offered by formal institutions (Banks, Micro Finance Institutions, SACCOs, Government funds) and mobile phone platforms (*M-Shwari* by CBA, *Equitel* by Equity bank and *Mobi-Chama* by KCB).

ii). Exposure visits for 67 (35 Women) farmer group representatives, 7 GoK staff and 3 Programme staff to 2 established SACCOs (Ngarua and Meru Herbs based in Tharaka) provided an opportunity to learn about Savings and Credit scheme operations.

## Work Package 6: Local Governance & Institutional Strengthening

***Activity Area 6.1: Strengthening existing and mobilizing new farmer organizations***

Training needs were identified for 116 FOs (5,378Members, 3,899 Women) engaged in WP 1-5 and training conducted in collaboration with the respective Sub County Cooperative Officers, and Gender and Social Development Officers. To this end, 319 (197 Women) leaders and 411 (309 Women) members from 112 FOs were trained on good governance, leadership and financial management.

In collaboration with both cooperative officers, and Gender & Social Development officers, farmers were mobilized and sensitized on the importance of joining existing groups. As a result, the membership of the marketing groups grew from 3,129 to 5,959.

***Activity Area 6.2: Action oriented capacity development for local Gov. Institutions***

Training of 110 (61 Women) WRUA committee members on governance, leadership, roles and responsibilities in relation to sub-catchment management as stipulated in the Water Act 2002 was conducted for four sub-catchments in Machakos and Kitui Counties.

109 (29 Women) GoK staff from Machakos and Kitui were trained on strategic leadership, integrity and ethics, corporate governance, policy development, human resources management, public finance management and public procurement – Procurement Act. This was undertaken in collaboration with County Secretaries, County Training Departments and National Government administrators from respective counties to fill technical and functional capacity gaps that had been identified during capacity assessment for key local government institutions.

Gender mainstreaming training for 12 (6 Women) GoK and 23 (6 Women) DryDev staff was conducted in collaboration with ICRAF and WVA.

## Work Package 7: Planning, M&E and Scaling of Learning

### *Activity Area 7.1: Programme Monitoring*

Programme implementation reached 15,499 (9,201 Women) farmers in 2016 across the counties which represents 45% of those to be reached during the life of the Programme.

Annual uptake survey undertaken based on Lot Quality Assurance Sampling method (LQAS) enlisted participation of 228 (106 Women) farmers in the Programmes' 6 Supervision areas. The results indicated increasing uptake of various technologies and initiatives promoted by the Programme.

Monitoring visits by Programme Advisory Committee (PAC), WVA, NLO, and Joint Quality Monitoring (by ICRAF and NLO) were facilitated to the Programme sites. Through these, all IPs were provided with technical support, corrective actions and recommendations to improve quality and timeliness in implementation. As a result, remarkable progress was realized in the implementation of plans as evidenced by 75% budget utilization as compared to 35% in the previous year.

Training was conducted for 13 (2 Women) DryDev staff on the Programme Planning, Monitoring, and Evaluation and Learning (PMEL) framework. The acquired skills enabled the staff to monitor and document evidences generated from implementation of activities.

### *Activity Area 7.2: Participatory M&E with FOs and local stakeholders*

A number of farmers (1,225; 693 Women) and local stakeholders were actively engaged in the Programme's field and national level annual and mid-year reviews, reflection and learning events. These events provided platforms for sharing technical expertise; challenges and lessons learnt that improved implementation quality and working relationship among partners and stakeholders.

### *Activity Area 7.3: Scaling of evidence and learning*

As part of generating evidence for scaling up/out, three Planned Comparisons (PCs) on tree planting (1,621 farmers), Zai pits technology (1,300 farmers) and Pest Control (1436) were rolled out after several technical training events. Evidence and learning generated through this process will be shared with the scaling stakeholders for further uptake.

## Work Package 8: Policy Analysis & Influencing

### *Activity 8.1 County stakeholder mapping/power analysis*

Stakeholder mapping was completed and report shared in all the three counties among 83 (27 Women) stakeholder representatives. This provided an opportunity to understand roles, capacities and interaction levels, bottlenecks on the information flow, critical networks and existing strength among the stakeholders.

### *Activity Area 8.2: Identification of key policy constraints & possible solutions*

Policy synthesis report was finalized and shared with 19 (5 Women) local level government extension and DryDev staff for awareness creation on key policies and status of implementation. As a result, village level community awareness meetings were held in collaboration with the KFS, NEMA,

Ministry of Environment, Ministry of Water, Ministry of Agriculture and WRMA that reached 2,822 (1,935 Women) farmers.

118 (83 Women) FO representatives from Makueni County were facilitated to engage with their elected leaders and policy implementers during the Financial Year 2016/2017 budget appropriation process. The farmers presented their development priorities in line with their CAPs to the County Government.

## 3. SUMMARY OVERVIEW OF PROGRESS TOWARDS OUTCOMES

### 3.1: Sub-outcome Level Progress

#### Sub-Outcome 1: Appropriate landscape/Watershed level NRM initiatives undertaken

The total number of farmers involved by the programme in landscape management and rehabilitation of degraded lands since 2015 is 18,695 (11,241 Women) representing 54% of the total target and 5,207 Ha (6.5% of targeted sub-catchment) of land is now undergoing restoration.

#### Sub-Outcome 2: Improved & climate smart on-farm water & soil management practiced

Of the 7,795 (3,892 Women) farmers were reached with various context specific on-farm soil and water conservation and fertility management practices promoted through different farmer learning events, 6,574 farmers (2,714 Women) had already started applying the knowledge and skills acquired. So far, 5,116 Ha of privately owned farm lands in the sub-catchments have been put under promoted soil and water management options (refer to Table 1 for uptake of various interventions).

***Table 1: Uptake of on-farm practices***

| Interventions taken up | Rate of uptake |
|---|---|
| • Farmers applying integrated soil and water management practices[5] | 89% |
| • Farmers practicing farm pond technology | 12% |
| • Farmers practicing at least one form of soil fertility management option | 100% |
| • Farmers already reached were practicing micro-irrigation | 53.9% |

The uptake survey indicated a positive but gradual increase in farmers' involvement in tree planting and FMNR practices.

#### Sub-Outcome 3: Improved & inclusive climate smart production options pursued

Climate smart production (CSP) for subsistence and market has gained an increasing adoption among the 3,547 (2,630 Women) farmers whose capacities were enhanced in various CSP practices through farmer learning events and trainings. Monitoring indicated that over 2,204 (1,106 Women) were engaged in different production options/practices promoted for the various value chain commodities (green grams, cowpeas, mangoes, pigeon peas). This was substantiated by the uptake survey as given below. Farmers so far have put 2,260 Ha on own private farms under promoted CSP options.

Uptake of CSP options by farmers were at 79% and 94% for CSP option 1[6] and CSP option 2[7] respectively. The women, both youth and non-youth, demonstrated higher adoption rate compared to men.

[5] *Integrated soil and water management options comprises in situ soil and water conservation technologies or rainwater harvesting (irrigation) with soil fertility management practices on the same crop*

[6] *Where a farmer plants or manages trees on-farm or through FMNR with crop growing and keeps a livestock-diversified system*

[7] *Where a farmers practices any soil and water conservation or RWH with soil fertility management, drought tolerant crops and livestock*

## Sub-Outcome 4: Increased participation of male, female & disadvantaged farmers in lucrative value chains

The uptake survey indicated variation in adoption of VC practices with most farmers engaging in the green grams value chain, especially production (87%) and marketing (78%). Most farmers consider green grams to have a ready market and to fetch higher prices.

Furthermore, nearly two thirds of the people trained (62%) were practicing sorting and grading; more than 40% were practicing collective buying of inputs and warehouse receipting while 18% were involved in collective marketing. Similarly to most other technologies, young farmers were the highest adopters of these VC practices.

## Sub-Outcome 5: Increased numbers of famers linked to credit & financial services

In collaboration with financial institutions (FIs), 3,638 (2,689 Women) farmers benefited from the VC Financing & Financial Deepening platform meetings, and literacy training. As a result: i) farmers accessed 107 loans worth 4,273,000 Ksh (US $ 42,730); ii) 56% of those trained were actually saving and 39% were accessing credit. While formal Banks, MFIs and VSLAs remained almost equally popular as saving platforms (31%, 37% and 31% respectively), MFIs were the major source for accessing loans (57%) followed by the groups (14%). Only a very small proportion borrowed from money lenders (5%).

## Sub-Outcome 6: Capacity of local duty-bearers and farmer organizations developed and/or 'duty fulfillment' pressure applied

A review forum in Machakos in which 45 (24 Women) trained group leaders participated, revealed that all 22 groups had revised their constitutions and by-laws; some re-organized their management teams and leaders, and members now have more clarity on their roles and responsibilities. The groups were reported to be more cohesive and had developed specific implementation and monitoring plans for achieving their objectives.

## Sub-Outcome 7: Key 'scaling stakeholders' identified, find evidence/learning credible and relevant, and actively promote its uptake

Over 90 potential scaling stakeholders including FOs, Government agencies, non-governmental organizations, research institutions and other private development agencies were profiled. The stakeholders will be actively engaged in 2017.

Action learning activities on three themes prioritized through the CAP process were set up involving 4,357 (3,278 Women) farmers. Evidence and learning generated through this process will be shared with the scaling stakeholders for further uptake.

## Sub-Outcome 8: Awareness raised and attitudes improved among key policy makers/other stakeholders, resulting in their taking desired action

To create a more conducive institutional environment and supportive policies, DryDev Kenya had decided to engage policy developers, implementers and farmers in a dialogue. In the devolved governance structure, farmers empowered to engage in such process would continue the process even beyond the DryDev programme. In line with this, a group of 19 (10 Women) policy implementers drawn from the KFS, NEMA, Ministry of Water, Ministry of Agriculture, WRMA and County Ministry of Environment were engaged in village level community sensitization meetings on key policies relevant to the programme to enhance awareness and compliance. They reached 2,822 (1,935 Women) farmers. As a result, some farmers in Mililuni Village (Makueni County) took a pro-active role to regulate exploitation of their natural resources e.g. sand harvesting and logging. Such engagements will continue in 2017 along with other relevant interventions.

## 3.2 Sub Outcome Tracking

***Table 2: Summary overview of Progress towards outcomes and outputs***

| Sub-Outcome | Indicator | Progress | Remarks |
|---|---|---|---|
| **Sub-Outcome 1: Appropriate landscape/watershed level NRM initiatives undertaken** | • Proportion of sub-catchments covered by expected 'foot prints' of the sub-catchment level NRM initiatives | • 5207.34 Ha<br>• App 6.5% of targeted area of the sub-catchment | Include all areas with water buffers and those with FMNR and EP -. Tree cover estimated to 30% (from uptake survey) |
| **Sub-Outcome 2: Improved & climate smart on-farm water & soil management practiced** | • # of farmers practicing promoted practices on-farm water and soil management practices | • 6,574 (2,714 Women) | From Monitoring |
| | • # of Farmers applying integrated soil and water management practices (> 2 practices). | • 89% from uptake survey | |
| **Sub-Outcome 3: Improved & inclusive & climate-smart production options (CSP) pursued** | • # of farmers practicing promoted production practices | • 2,204 (791 Women) | From monitoring |
| | • Farmers using/applying promoted climate smart production options | • 79% and 94% for CSP option 1 and CSP option 2 respectively | From Uptake survey |
| **Sub-Outcome 4: Increased participation of male, female and disadvantaged farmers in lucrative value chains** | • # of men and women in HH participating in targeted value chains | • 3,638 (2,689 Women) farmers from 10 FOs | |
| **Sub-Outcome 5: Increased numbers of famers linked to credit & financial services** | • # and value of loans accessed by men & women in HH in last 12 months | • Ksh 4,273,000 (US $ 4,273,000) | All these pertains to members from 107 FOs |
| | • # of male & female HH members provided with business training, advice, and/ or mentoring support in last 12 months | • 2,564 (1,923 Women) on VC Financing, Financial deepening platform and financial literacy training. | |
| **Sub-Outcome 6: Capacity of local duty-bearers and farmer organizations developed and/or 'duty fulfillment' pressure applied** | • Extent to which targeted local duty bearers and institutions have skills, knowledge, resources, and/or motivation to fulfill functions | | |
| **Sub-Outcome 7: Key 'scaling stakeholders' identified, find evidence/learning credible and relevant, and actively promote its uptake** | • # of identified 'scaling stakeholder' actively promoting uptake of evidence and learning generated under the programme. | • Over 90 potential scaling stakeholders identified. | Plans were underway for targeted engagement |
| **Sub-Outcome 8: Awareness raised and attitudes improved among key policy makers/ other stakeholders, resulting in their taking desired action** | • # of targeted policy makers and other policy relevant stakeholders meaningfully seeking to bring about targeted policy and institutional reforms | | |

# 4. KEY CHALLENGES AND CONSTRAINTS

## 4.1 Key constraints faced in this reporting period and what was done to overcome them.

- High key staff turnover experienced by Caritas negatively affected their pace of implementation and the respective IP leadership was engaged to make reassignments to fast track implementation.
- Insufficient stock of the farmers' preferred green grams variety (KS20) by the seed companies during the October – December 2015 cropping season resulted in low yields as farmers planted local seeds. Contractual arrangements between the farmers and seed companies (Kenya Seed/Simlaw Seed and KALRO) were then brokered to ensure sufficient improved seed was available for the subsequent 2016 growing season.

- Collective marketing of farm produce could only be partially achieved as farmers are yet to fully embrace the practice and its benefits. In addition, low production volumes for priority value chain commodities, a result of poor rainfall, posed a challenge in attracting and retaining those lucrative markets that had been identified. To address this challenge, farmers' sensitization and exposure to groups who had advanced in collective marketing, trainings on various production aspects and initiation of sustainable seed distribution systems shall be considered in 2017.
- The manual programme beneficiary tracking system proved tedious given the large number of indicators and the programme targets. Efforts were initiated towards co-developing a robust automated Management Information System (MIS) with online capability that would simplify data capture, consolidation, analysis, and reporting.

### 4.2 Key opportunities discovered and how the program shall capitalize on them

- The presence of both the KSC and KALRO within the programme sites provided an opportunity to contractually link farmers for seed multiplication for income generation and to increase local availability of seeds.
- The Agricultural Technology Development Centre that promotes Conservation Agriculture by training pilot famers, is based within the programme sites. The programme intends to formalize a working relationship with the Centre to reach more farmers with the technology.
- The Makueni and Kitui County governments have devolved their functions to the village level. This provides an opportunity for farmers to contribute towards identification, planning, implementation and monitoring of the government development initiatives and policies. Further, more information will be accessible to the farmers which include opportunities for various contracts and tenders among others. Already, the programme has identified an opportunity to supply the County governments with tree seedlings and efforts will be made to link the well-performing tree nurseries.
- Kenya Rainwater Association (KRA) in partnership with other agencies (ICRAF, APHRINET, WFP, Red Cross Society, the respective county governments, commercial banks and MFIs) have been piloting initiatives to support small holder farmers to access RWH technologies by financing training and inputs within the lower Eastern Kenya Region. DryDev identified a potential partnership with KRA for scaling up RWH through farm ponds and began the process of formalizing the arrangement through an MoU.

## 5. LESSONS LEARNED

### 5.1 Lessons Learnt and changes due to lessons learned

**Working with Partners**

- Regular in-depth field monitoring increased staff motivation and led to better performance due to the affirmation and prompt guidance on gaps identified.
- Working with existing farmer groups did not achieve the anticipated target number of farmers for the year. This realization has triggered a change in approach in how to engage with farmers such that in the new sites in 2017 farmers will be mobilized to form common interest groups along select value chains of their choice to complement the existing FOs.

**Functional involvement of stakeholders**

- Involvement of County GoK staff from the CAP process through to implementation and monitoring increased their ownership and commitment to the programme. As a result, annual plans for IPs and GoK were harmonized for improved coordination and synergy in implementation.

**Good Practice/Innovation**

- Some youth were noted to complement the conventional extension service provision through use of information communication and technology (ICT), and could access a variety of real-time

agricultural extension information on proven practices.

- In the promotion of farm pond technology, we found there was inconsistency in the structural design, which prompted the programme to develop the "HH runoff Pond Protocol Application (HOPPA)" for standardization and adoption of the technology across all the Programme areas.

**Project/programme Management**

- Timely provision of quality technical support, creating space for IPs to operate and timely communication resulted in an increased pace of implementation evidenced by an improved budget burn rate. This was further enhanced by improved timely approval of activities, linkages with relevant partners and collaboration between the partners and stakeholders.
- It was noted that the quarterly financial reporting by the IPs was not sufficient to track timely expenditure status, thus hindering effective monitoring of budget utilization. As a result, a negotiation and agreement to have the IPs submit monthly financial reports was reached. This will assist in the prompt identification and resolution of management bottlenecks.

## 5.2 Application of Key Principles/Cross cutting issues:

**i). Integration**

**Integrated soil and water management**

Various on farm Soil and water management technologies were promoted among the farmers which included CA, Zai pits and farm ponds among others. As a result, farmers selected combinations that best suited them in regards to costs, risks, and anticipated productivity and resilience benefits to complement previously adopted technologies. The uptake survey indicated that most farmers (79% )are implementing and integrating many interventions within their farms. However, the farmers were implementing programme interventions as disjointed activities in a few pockets thus attainment of right saturation levels is yet to be realized.

**Integrated Value chain development**

Various value chain commodities identified during the CAP process were promoted among the farmer organizations participating in on farm soil and water management interventions. While some farmers were in a position to take advantage of the value chain opportunities during the period, others required more time to be integrated. The focus for the remaining farmers has been to provide capacity strengthening for market participation through provision of input (seed), business plan development and linkage to credit access for increased agricultural productivity to exploit identified markets.

**Integrated County Planning**

Community forums were held at the sub locational level where farmers identified various context specific interventions in relation to sub-catchment and on-farm soil and water management, CSP, value chain options and learning priorities. These forums yielded the CAP which informed the 2017 planning process. Quarterly County level planning and reflections were conducted to review and develop integrated county plans. Different categories of farmers have been participating in the County planning, implementation and reflection processes.