Key success factors in strengthening the capacity to manage risks at farm level: emerging lessons learned
Managing risks to improve farmers’ livelihoods
Key success factors in strengthening the capacity to manage risks at farm level: emerging lessons learned

March 2019

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Foreword

The Platform for Agricultural Risk Management (PARM) is an outcome initiative of the 2010-2013 G8-G20 discussions on food security and agricultural growth. It was established in December 2013 through a multi-donor partnership between the European Commission (EC), the French Development Agency (AFD), the Italian Development Cooperation (DGCS), the German Cooperation (BMZ/KfW) and the International Fund for Agricultural Development (IFAD). PARM works in strategic partnership with the African Union Development Agency – the New Partnership for Africa’s Development (NEPAD) - and many country-level partners to ensure risk management becomes an integral part of policy planning and implementation. PARM’s activities are currently focused in eight (8) Sub-Saharan African countries - Uganda, Ethiopia, Zambia, Cameroon, Senegal, Niger, Liberia and Cabo Verde.

Over the years PARM has played an important role in increasing access to and exchange of knowledge on agricultural risk and management strategies through global, regional and country level events and webinars.

This publication builds on PARM’s recent regional workshop on “Building capacities to empower farmers to manage risks at farm level: lessons from experience” held in Lusaka, Zambia on December 12, 2018. It also benefited from the knowledge and experiences of the PARM Team – Ilaria Tedesco, Balikisu Osman and Karima Cherif – as well as PARM Technical Consultant – Gideon Onumah. The publication could not have been possible without the constructive contributions of the representatives of the case study initiatives. PARM is grateful to Noah Phiri (CABI, Zambia), Joyce Phiri (Heifer International Zambia), Kinfe A. Gebreeyesus (Hawassa University), Turnbull Chama (FAO, Zambia), Ayebare Prudence (UNFFE), Richard Miiro (Makerere University), Gilbert Tarimo (CTA, Tanzania), Derrick Ndimbwa (WFP, Zambia), Marygoretti Gachagua (EAFF, Kenya), Penina Muoki (CIP, Kenya) and Cheikh Tidiane GUEYE (Soft Consulting, Senegal) for the knowledge and time in providing information to develop the section 4 on case studies. PARM would also like to thank David Kahan and Nalishebo Meebelo for their comments in shaping the final version of this publication, as well as the Acosta Design Lab for the formatting and branding of the publication.
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<tbody>
<tr>
<td>AGRA</td>
<td>Alliance for a Green Revolution in Africa</td>
</tr>
<tr>
<td>ARM</td>
<td>Agricultural Risk Management</td>
</tr>
<tr>
<td>ASPRODEB/FAFA</td>
<td>Senegalese Association for the Promotion of Development by the Base / Federation of Associations of the Poultry Sector</td>
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<tr>
<td>CABI</td>
<td>Centre for Agriculture and Bioscience International</td>
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<tr>
<td>CAK</td>
<td>Cooperative Alliance of Kenya</td>
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<tr>
<td>CAVEs</td>
<td>Community Agro Veterinary Entrepreneurs</td>
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<tr>
<td>CBTS</td>
<td>Community Based Trainers</td>
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<tr>
<td>CD</td>
<td>Capacity Development</td>
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<tr>
<td>CD4ARM</td>
<td>Capacity Development for Agricultural Risk Management</td>
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<tr>
<td>CFs</td>
<td>Community Facilitators</td>
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<tr>
<td>CFU</td>
<td>Conservation Farming Unit (CFU)</td>
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<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
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<tr>
<td>CIP</td>
<td>International Potato Center</td>
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<tr>
<td>CTA</td>
<td>EU Technical Centre for Agricultural and Rural Cooperation</td>
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<tr>
<td>DAPP</td>
<td>Development Aid from People of People</td>
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<tr>
<td>DFAs</td>
<td>District Farmer Associations</td>
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<tr>
<td>DFAs</td>
<td>District Farmer Association</td>
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<tr>
<td>DrID</td>
<td>UK Department for International Development</td>
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<tr>
<td>EAFF</td>
<td>Eastern Africa Farmers Federation</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FAO</td>
<td>Food and Agricultural Organisation of the United Nations</td>
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<td>FFS</td>
<td>Farmer Field Schools</td>
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<td>Farmers’ Organisations</td>
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<td>GCF</td>
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<td>IITA</td>
<td>International Institute for Tropical Agriculture</td>
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<td>M&amp;E</td>
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<td>OECD</td>
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<td>PMCs</td>
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<td>Public-Private Partnerships</td>
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<td>R4</td>
<td>Rural Resilience Initiative</td>
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<tr>
<td>SDC</td>
<td>Swiss Development Corporation</td>
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<tr>
<td>SDC</td>
<td>Swiss Agency for Development and Corporation</td>
</tr>
<tr>
<td>SEGDS</td>
<td>School of Environment, Gender and Development Studies</td>
</tr>
<tr>
<td>SNV</td>
<td>Netherland Development Organisation</td>
</tr>
<tr>
<td>ToT</td>
<td>Training-of-Trainers</td>
</tr>
<tr>
<td>UCA</td>
<td>Uganda Cooperative Alliance</td>
</tr>
<tr>
<td>UNFFE</td>
<td>Uganda National Farmers Federation</td>
</tr>
<tr>
<td>VBHCD</td>
<td>Heifer's Values-Based Holistic Community Development</td>
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<tr>
<td>VSLAs</td>
<td>Village Savings and Loans Association</td>
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<td>WFP</td>
<td>World Food Programme</td>
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<tr>
<td>WVZ</td>
<td>World Vision Zambia</td>
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<tr>
<td>ZARI</td>
<td>Zambia Agriculture Research Institute (ZARI)</td>
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<tr>
<td>ZMD</td>
<td>Zambia Meteorological Department</td>
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<tr>
<td>ZNFU</td>
<td>Zambia National Farmers Union (ZNFU)</td>
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Agriculture is a risky business. Over the last decade, risks related to weather shocks, market uncertainties and policy fragilities have escalated with increasingly negative impacts on farming livelihoods and food security of rural households in developing countries. This call for farmers and farm level actors to change their behaviours by improving farming techniques and strengthening understanding of risks within a holistic management approach that does not further exacerbate or generate new risks. Moreover, it is important to acknowledge that though risks “traditionally” imply damage or loss, they often provide an avenue for innovations in agricultural value chains: risk can encourage innovation and entrepreneurship with possibilities for farm actors to gain higher returns. While the knowledge and information to pursue farming innovations in this direction might not be easily accessible to smallholder actors, development agencies and partner organizations such as PARM/IFAD deliver capacity development for agricultural risks management (CD4ARM) activities, which represent a shift beyond conventional training approaches and proves to be an effective way for learning and sharing of best practices on agricultural risk management.

There is no singular blueprint for CD initiatives, but certain steps and factors could be adopted for a more farmer-friendly and impactful CD activity. Furthermore, specific attitudes and actions of stakeholders during the design and implementation phases of CD activities could contribute to successful delivery, long-term sustainability and adoption of the ARM knowledge transferred in the process. During discussions at the PARM K-sharing event in Lusaka, December 2018, stakeholders identified key factors for effective and successful CD initiatives at the farm level. This publication reflects on the outcomes of the event to provide an in-depth analysis and discussion into the top key factors for a successful CD. It presents case studies from 11 initiatives presented during the K-sharing event, and further elaborate on opportunities and challenges that stakeholders face in designing, implementing and enhancing sustainability and adoption of the ARM knowledge delivered in CD activities.

Among the key factors identified and discussed in this publication are the following: i) ensuring CD4ARM implementation within a framework in which holistic ARM is institutionalized in government (including at state or national and local government levels) and at civil society levels; ii) engaging with private sector; iii) responsive and responsible partnership; and iv) long-term funding for CD activities. Other important factors include: availability of key resource persons required for training farmers, and the need to ensure that the training needs of farmers are properly identified and well-integrated in the design of CD activities.

Building on these key factors, this publication also highlights on the role of Government as a focal point of CD4ARM activities. This is because Government has the ‘operational arm’ and existing network of trained extension officers within its decentralized departments of agriculture and respective public institutions at the local level. However, the Government cannot ensure sustainability and adoption of ARM knowledge alone owing to financial constraints. It is for this reason that, a result-driven policy dialogue with other stakeholder groups such as development agencies and the private sector is essential to mainstream, scale up and scale out CD initiatives for sustainability. Similarly, the universities/research centres, by virtue of their multidisciplinary expertise from areas of agriculture, market, risks and environment have a great opportunity to fill-in farmers’ knowledge gaps, where necessary. Farmers’ organizations, NGOs and foundations on the other hand have excellent proximity, communication channels and resources to reach farm level stakeholders.

This evidence generated is intended to guide policymakers, practitioners and a diverse range of stakeholders on how to better reach farmers with required knowledge and capacities on ARM and to make more informed decision when investing, designing and implementing CD activities for better impact and sustainability. It will also serve as a reference document for practitioners, providing methodological guidance that can be adapted in developing and delivering their own CD activities.
Over the last decade, risks related to weather shocks, market uncertainties and policy fragilities have escalated with increasingly negative impacts on farming livelihoods and food security of rural households in developing countries. This calls for an advancement in farmers’ knowledge to develop innovative mechanisms to cope and manage risks. It also demands a transformation in the skillset of agricultural workers and actors and, therefore, a renewed focus on the human resource capabilities of the agricultural sector. Agricultural risk-sensitive education, training and extension services have therefore become critically significant to strengthening the existing capacities, facilitating knowledge sharing and learning as well as coordinating innovation processes among farm level actors and enhancing their contributions to risk management and adaptation efforts.

In this context, the Platform for Agricultural Risk Management (PARM) and its partners have called for the need to fill farm level actors’ knowledge gaps on ARM through improved knowledge sharing and transfer of good practices to develop innovative strategies to mitigate, cope and/or transfer risks of all kinds.

PARM organizes national, regional and global K-sharing and learning events to promote the knowledge transfer on ARM. On December 12, 2018, PARM organized a K-sharing workshop in Lusaka, Zambia1 to collect and identify key success factors for effective and successful innovative and solution-based CD approaches in agriculture and risk-related issues, by discussing how different stakeholders can bring such learning and practices to the farmer. The event provided an avenue to showcase successful CD approaches from key stakeholders - both PARM partners and non-partner organizations. It also presented a valuable opportunity for a diversity of stakeholders involved in ARM including farmer organizations, development agencies, government and the private sector to discuss the challenges and opportunities in delivering CD initiatives at the farm level and identifying the specific roles that each of them can play in contributing to more success and effective knowledge uptake.

1.1 Purpose of publication

This publication presents one of the main outcomes from the K-sharing event held in Lusaka and seeks to bring together lessons that emerged from the discussion and the various CD initiatives showcased. It aims to achieve three main objectives:

• To discuss the key factors for effective and successful CD4ARM initiatives at the farm level;
• To illustrate case studies of how the key success factors are achieved in specific CD4ARM initiatives at the farm level;
• To highlight stakeholders' roles, opportunities and challenges in designing, implementing and ensuring sustainability and adoption of knowledge delivered through CD4ARM activities.

In addition to the objectives outline above, it is important to mention that this publication is not intended to make an in-depth evaluation of the different selected approaches to CD, but to offer guidance on what the key success factors for CD4ARM initiatives are, based on PARM and its partners’ experiences and discussions.

The evidence generated is intended to guide policymakers, practitioners and the diverse range of stakeholders on how to better reach farmers with required knowledge and capacities on ARM, and to inform their decisions for sustainable investment, design and implementation of CD activities. It will also serve as a reference document for practitioners to adapt their CD activities to respond to the knowledge needs of farm level actors.

It should be noted also that this publication and consequently all the illustrated capacity development activities, are by no means, an exhaustive tool to guide towards all the farmers’ learning needs. Farmers rarely use only just one learning source; they combine multiple sources, such as traditional trainings, learning from people and from media, observation and experience, based on their needs and information accessibility.

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1 The workshop organized by PARM had the theme “Building capacities to empower farmers to manage risks at farm level: lessons from experience” and was held on 12 December 2018 in Lusaka, Zambia. Click here to read more about the workshop.
1.2 Approach and methodology

Information for this publication is sourced from the panel discussions, group work, case study showcases activities of 11 initiatives and ranking exercises by participants of the PARM K-sharing event in Lusaka, Zambia. The showcase initiatives were selected after the launch of a call for proposal for CD initiatives focusing on agriculture and risk related issues. Selection was based on the diversity, approach, geographical areas, and relevance to deliver knowledge directly or indirectly to farmers.

In this publication, we refer to “success factors” as the variables, conditions, competences and levers which contribute to successful delivery of an initiative or project.

A two-stage methodology was adopted in identifying the key success factors for CD4ARM initiatives. The first stage involved generating a list of factors perceived by practitioners as important in achieving set outcomes for their initiatives. The second stage required each of the participants of the regional workshop in Lusaka took part in a prioritization exercise which required the assignment of three priority “selections” among the list of identified factors.

The illustration of the selected initiatives is not evaluative since CD approaches are context-specific – adaptable to the socio-economic and institutional situations of a country, supply chain, target group etc. It is in fact not possible to create a singular blueprint for designing and implementing a CD initiative. Nonetheless, there are some important steps and key success factors that could be adopted by all CD approaches, as emerged from the K-sharing event discussions.

1.3 Outline of publication

The publication is structured into five main sections:

1. **Background.** This section presents the context, objective and methodology for this paper, including the definition and understanding of “success factors”, sources of information and selection criteria of the case study initiatives.

2. **Why is capacity development a pillar for agricultural risk management?** This section aims at providing a definition for agricultural risks and how they affect farmers’ lives, leading to the conceptualization of capacity development and its crucial role for improving farmers’ knowledge of risks and management strategies. In this context, PARM’s conceptual framework for CD4ARM is also presented.

3. **Key factors for success in capacity development for agricultural risk management.** This section illustrates the prioritization process which brought about the identification and ranking of 11 key success factors for CD initiatives at the farm level.

4. **Learning from experiences: capacity development approaches to disseminate agriculture and risk related knowledge to farmer.** This section provides a structured collection of local, national and international CD initiatives cased at the PARM K-sharing workshop in Zambia. It presents and analyses how the top five success factors for CD were achieved in each case study initiative. It also identifies specific lessons learned in the process.

5. **Roles, opportunities and challenges in the partnership framework to deliver innovative, farmer-friendly and impactful capacity development approaches.** This section focuses on the stakeholders’ roles in line with each of the key success factors. It first identifies the opportunities and challenges in designing, implementing and evaluating successful capacity development initiatives at the farm level; and then outlines specific stakeholders’ roles in addressing the challenges.

- **Conclusions and take-away.** The last section brings together the top takeaways for successful CD4ARM.

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2 More details on the methodology to determine the key success factors can be found under par. 3.1 of the publication.
2. Why is capacity development a pillar for agricultural risk management?

2.1. Defining agricultural risks and agricultural risk management

2.1.1. The nature and significance of risk in agriculture

Risk is a key factor in the agri-food sector. It has the potential to impact the sector in several ways – by affecting producers’ outputs, urban consumers’ food quality as well as value chain actors’ profits. Risk is one of the major reasons why smallholder farmers are trapped in poverty. Consequently, understanding the nature and significance of risk cannot be over-estimated.

Agricultural risks are defined by PARM as uncertain events (potential situation or scenario) involving exposure to danger or loss of something of value\(^3\). Henceforward, a risk can typically impede the achievement of objectives of individuals or organisations. The PARM learning resources on Managing risk at the farm level\(^4\) and Agriculture Risk Management in Developing Countries: a learning course for practitioners\(^5\) stress that agricultural risks involve potential loss or damage in production or output, household income and/or access to food.

Agricultural risks can be man-made or natural, isolated (that is, affect individual actors in the value chain) or systemic (affect multiple actors). The range of risks most commonly experienced by farmers and value-chain business operators can be grouped into: (i) production risks, such as weather and pest and disease risks; (ii) price and market risks; (iii) financial risks; (iv) institutional, regulatory & policy risks; (v) human element risks; (vi) social risks; (vii) environmental risks.

Figure 1: Illustration of some key risks in crop production and marketing, including drought, floods and erratic rainfall as well as volatility in output prices

Source: PARM (2018a)

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\(^3\) This is based on the ISO (2009) definition of risks.

\(^4\) Managing risk at the farm level is a four-volume capacity development resource developed by the PARM Secretariat. It can be accessed from http://p4arm.org/document-type/learning-resources/

\(^5\) Agriculture Risk Management in Developing Countries: a learning course for practitioners is a four-module capacity development resource that provides an advanced and hands-on agricultural risk management (ARM) knowledge to create a pool of local ARM experts to timely advice and train farmers on managing agricultural risks. It can be accessed from http://p4arm.org/a-training-resource-on-agriculture-risk-management-in-developing-countries-a-learning-course-for-practitioners/
2.1.2. The holistic approach to agricultural risk management

With increasing extreme weather events, political instabilities and liberalization of markets and the world economy, farmers and farm business owners in developing countries face adverse risks than many economic groups. This calls for the need to protect farm level actors from potential loss that they may incur due to unfavourable events. Risk management comprises everything farmers and other actors in the agri-food system do to understand and deal proactively with risks. There are three main elements of risk management: 1) anticipating that an unfavourable event may happen; 2) taking action to reduce the chances that those events will happen; and 3) contingency planning and management decisions implementation to reduce (or mitigate) the negative consequences.

In the context of PARM’s activities, agricultural risk management (ARM) is defined as a process of anticipating potentially loss-causing events and planning solutions in advance to limit the negative consequence (PARM, 2018). A holistic approach to agricultural risk management involves managing different agricultural risks in such a manner that the whole set of elements and interactions of risk strategy and policies are taken into account (OECD, 2009). Thus, no single risk, strategy or policy is analysed in isolation. This helps the farmer or other actors to be systematic and methodological and not overly tempted to make short-term, short-sighted decisions. A holistic approach entails assessing risks; taking decisions on tools to manage the risks; and monitoring and evaluating the effectiveness of tools and strategies to be adopted. Though risks “traditionally” imply damage or loss as discussed above, it should also be acknowledged that they often drive innovations in agricultural value chains and encourage good entrepreneurship with the possibility for actors to obtain higher returns. Hence, agricultural risk management is not only about minimising losses but also broadening the opportunities that smallholder farmers and other actors can optimise for better earnings.

2.2 The need for capacity development to manage agricultural risks

One of the challenges to ARM is the limited capacity to assess and manage risks at farm-level, along the value chain and across the whole agricultural system, making single actors and the entire system vulnerable. As shown in the figure 2, when actors have no/limited knowledge on risk and management strategies, they become less able to reduce, adapt, mitigate or prevent the specific risks and the corresponding impacts – therefore, making them vulnerable to loss their outputs, profits and income. However, when actors have the capacity to manage risks, they become less vulnerable and the entire value chain may remain ‘safe’ or less susceptible to disruptions. The need to invest in capacity development and stakeholder engagement in the agricultural and food sector is therefore compelling to build resilience in the sector.

**Figure 2: Vulnerability and capacity to manage risk**

<table>
<thead>
<tr>
<th>Expected loss</th>
<th>Capacity to manage risk</th>
</tr>
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<tbody>
<tr>
<td>HIGH</td>
<td>VERY VULNERABILITY</td>
</tr>
<tr>
<td>LOW</td>
<td>VERY LOW VULNERABILITY</td>
</tr>
<tr>
<td>HIGH</td>
<td>HIGH VULNERABILITY</td>
</tr>
<tr>
<td>LOW</td>
<td>VERY VULNERABILITY</td>
</tr>
</tbody>
</table>

Source: PARM 2019

6 In the context of risk management, vulnerability refers to the ability of the farmers, producers and other actors in the value chain to manage risks and the potential losses from the occurrence of some unfavourable event. PARM, 2019.
In this context, capacity development for agricultural risk management (CD4ARM) can be defined as a process of obtaining, strengthening and/or optimizing abilities, skills, understandings, attitudes, relationships, behaviours, motivations, resources and conditions to manage agricultural risks for enhanced investment or development objectives over time (Bolger, 2000). This implies that CD is not just about the transfer of skills, or the dissemination of information or sharing of knowledge to address specific problems. It is rather, a drive to sustainable institutional and behavioural change beyond conventional training approach.

At the farm level, it is established that farmers are aware of the prevalent risk environment within which they pursue their livelihoods. However, the context of risks is constantly changing in the face of the increasing environmental changes, poverty and political fragility. To counter these challenges, smallholders need to improve their farming techniques and strengthen their understanding of the emerging risks through enhanced and context-specific capacity development activities. In addition, the diverse nature of agricultural risk demands holistic management strategies that do not further exacerbate or generate new risks. While the knowledge and information might not be easily accessible, CD4ARM proves to be an effective way to share best practices on various risk management tools.

2.3. Transferring knowledge on ARM: the PARM holistic approach

Implementing a capacity development activity is complex. It requires several factors and processes as well as the engagement of the different actors in the value chain, each of whose needs must be met and adapted to. Efficient capacity development on ARM activities should in fact be based on a thorough needs assessment and targeted to diverse stakeholders at the farm level. If possible, it should be organized in a collaborative effort with local, national and international research centres/universities, and with governmental, non-governmental and international organizations to ensure success and effective delivery of knowledge to farm level stakeholders.

Overall, CD activities aim to share ARM knowledge to vulnerable households and empower them to make their own risk management decisions regarding uncertainties of weather, market prices and pest. PARM developed a conceptual framework to support selected African countries – Uganda, Cameroon, Ethiopia, Zambia, Senegal, Niger, Cabo Verde and Liberia – to create, disseminate and transfer knowledge to build robust ARM systems at the national level. The framework is holistic and ensures broader human capital development and inclusive contribution of all stakeholders in the ARM process. It comprises of knowledge and learning activities that focuses on:

- **Definition of risk**: Tailored to strengthening the basic knowledge of the concepts of risk by focusing on the different risks affecting farming activities, their characteristics and main causes, together with how to manage them for improved livelihood and food security.

- **Methods to assess and prioritize the risks** (according to severity and probability): Delivers knowledge on how likely or unlikely risks can occur, and what the expected impacts are, in terms of farm production or income losses. Enhancing knowledge of risk assessment helps prioritize potential risks and plan for the implementation of risk management strategies.

- **Risk management tools and instruments**: Focuses on management options that can be implemented to either mitigate, transfer or cope with risks in agriculture are important. Knowing and choosing the most appropriate tools or instruments depends on many factors, such as type of risk, availability of tools and resources, and the layer of responsibility.

- **Concrete strategies based on a holistic approach to risk** (including risk layering and levels of responsibility: It provides the basis of developing and implementing ARM strategies from farm to national level involves a combination of different sets of risk management tools and supporting measures, such as policies and programs to address constraints and broader issues. Also, monitoring and evaluating outcomes of the strategy gives feedback to improve the overall approach to risks management.
PARM process of developing capacity on ARM handle the abovementioned learning areas and pursues agricultural risk management as a strategy designed with a strong focus on capacity outcomes to improve knowledge, to drive institutional, policy and behavioural changes beyond a humanitarian approach to disasters and to enhance more proactive and business-oriented management of agricultural risks. Reaching farmers is however challenging. There is still the need to identify key factors for designing, implementing and ensuring sustainable adoption and operationalization of farmer-friendly CD4ARM approaches at the farm level.
3. Key success factors in CD4ARM

3.1. Determining the key success factors in CD4ARM: methodology

The methodology adopted in determining key success factors of CD4ARM activities involved the following process:

1. Generation of identified list of success factors from discussions in the workshop:
   - 5 panellists identified factors that are key to the success of ARM initiatives, which their organizations have been involved in. Panel discussions took place during the first session of the workshop focusing on “Capacity development as pillar for ARM at the farm level”.
   - 11 presenters who shared experiences on approaches to disseminating agriculture and risk-related knowledge to farmers during the second session of the workshop were also required to identify key success factors in their initiatives.
   - Flipcharts were provided for all participants to suggest key success factors in building the capacity of farmers in ARM.

2. Prioritization of identified success factors – this involved two steps:
   - Summary of identified success factors, with the list posted on flipcharts. This was done by the workshop coordinator who, as is worth noting, is an independent professional facilitator with no direct involvement in any CD4ARM initiative.
   - All participants “voted” for the listed success factors – each having 3 “votes”.

3. Analysis of participants’ responses on key success factors: this was undertaken using mainly basic statistical analysis of frequency of the responses, nuanced with analysis of the emerging patterns. The report is below.

The 46 respondents were mainly practitioners who participated in the knowledge-sharing workshop. As shown in Table 2, they were representatives of governments (mainly Ministries of Agriculture), civil society organizations such as regional and national farmers’ representative organizations (FOs), NGOs working with smallholder farmers on ARM-related development projects and private companies who are engaged in providing various ARM technologies and services to farmers and other players in agricultural value chains. Also represented were research and education institutions as well as donor agencies.

Table 1: List of categories of participants at workshop in Lusaka (December 2018)

<table>
<thead>
<tr>
<th>No.</th>
<th>Participants category</th>
<th>Share of votes (%)</th>
<th>Number of voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Civil society</td>
<td>37</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>Academia/research institutions</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Government agencies</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Development organizations</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100</td>
<td>46</td>
</tr>
</tbody>
</table>


Various stakeholders voted on the key success factors for CD at the farm level. Votes were grouped by assigning a colour dot to each stakeholder category as outlined in the Table. Stakeholder views on the key success factors are reported in Table 3 followed by the analysis in the next subsection.
### Table 2: Prioritization of identified success factors for CD4ARM by practitioners

<table>
<thead>
<tr>
<th>Suggested success factor</th>
<th>Universities &amp; research institutions</th>
<th>Development agencies (local and international)</th>
<th>Government agencies</th>
<th>Civil society (FOs, NGOs &amp; private sector)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source material (for) cross-country, lesson sharing and evidence-based training material</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Process ownership (national commitment by Governments)</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Long term CD funding</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Key expertise from research, education, international organizations as key resources for farmers</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>CD approach by facilitation, interaction, diagnosis, and M&amp;E</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Responsive and responsible partnership</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Trust among partners without hidden agendas</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Consistency between CD design, implementation and target group(s)</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Strong farmers’ motivation in being trained</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Integrate farmers into training needs assessment and design to meet their needs</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Engage the private sector in developing PPPs to reduce gap in financial resources</td>
<td>2</td>
<td>3</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Institutional holistic ARM at Government, local government and civil society level/programs</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Voting by participants at International Workshop on CD lessons in Lusaka, Zambia (12 December 2018)

As note of caution, the factors identified do not represent the only key factors for effective and successful CD initiatives at the farm level but the ones that emerged during the workshop discussions. Moreover, the key success factors identified might be subjected to interpretation, include a broader scope, as well be neutral about their implementation. For example, process ownership can be linked not only to Government’s but also to all stakeholders’ commitment, trust among partners without hidden agendas can include need for transparency and accountability, as well as responsive and responsible partnership and consistency between CD design, implementation and target group might be not fully disentangled in their application.

### 3.2. Categorizing the success factors in CD4ARM process

It is apparent as depicted in Table 4 that the suggested success factors are quite broad, ranging from factors which apply at the design of CDs, to those which are considered important during implementation as well as cross-cutting factors which are critical at both stages. This is not surprising as the participating practitioners are generally involved in CD activities at different levels. The lessons which emerge can therefore be relevant to all players involved in CD4ARM and related activities.
Table 3: Categories of identified success factors

<table>
<thead>
<tr>
<th>Category of success factor</th>
<th>Suggested success factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design factors</td>
<td>Source material (for) cross-country, lesson sharing and evidence-based training material</td>
</tr>
<tr>
<td></td>
<td>Key expertise from research, education, international organizations as key resources for farmers.</td>
</tr>
<tr>
<td></td>
<td>Integrate farmers into training needs assessment and design to meet their needs</td>
</tr>
<tr>
<td></td>
<td>Long term CD funding</td>
</tr>
<tr>
<td>Implementation factors</td>
<td>CD approach by facilitation, interaction, diagnosis, and M&amp;E</td>
</tr>
<tr>
<td></td>
<td>Trust among partners without hidden agendas</td>
</tr>
<tr>
<td></td>
<td>Strong farmers’ motivation in being trained</td>
</tr>
<tr>
<td>Cross-cutting factors</td>
<td>Process ownership (national commitment by Governments)</td>
</tr>
<tr>
<td></td>
<td>Responsive and responsible partnership</td>
</tr>
<tr>
<td></td>
<td>Consistency between CD design, implementation and target group(s)</td>
</tr>
<tr>
<td></td>
<td>Engage the private sector in developing PPPs to reduce gap in financial resources</td>
</tr>
<tr>
<td></td>
<td>Institutional holistic ARM at Government, local government and civil society level/programs</td>
</tr>
</tbody>
</table>

Source: International Workshop on CD lessons in Lusaka, Zambia (12 December 2018)

Aggregating rating (“votes”) of success factors by the three categories, it is evident that practitioners rank the cross-cutting factors affecting both design and implementation phases much higher than those which apply at either of the two phases. For instance, success factors which are relevant at both stages are, on the average, rated 1.5 times higher than those which apply only at the design stage and 2.2 times higher than those which are relevant only at the implementation stage. Design stage success factors have average rating which is about 1.5 times the factors applicable at the implementation stage. These ratings may be indicative of the need to take account of the key success factors over a horizon spanning from design through implementation but also ensures that the design is right. Below we discuss the various success factors which have been identified, but at this point not in the order of their ranking by respondents.

3.2.1. Design Factors

The assertion from respondents underlines the need to ensure, in the design of CD4ARM, that the basic training materials for smallholder farmers reflect their needs and context and not a single generic training manual. For this reason, respondents identified as a success factor, the need to “Integrate farmers into training needs assessment”. However, the training offered should also be underpinned by cross-country, lesson-sharing and evidence-based training materials. Under PARMs’ CD4ARM generic training materials have been developed to guide national programmes. However, national resource persons, drawn from academic and research institutions are involved in customizing the materials to fit the national context and the specific needs of target farmers. This approach under PARM has, therefore, been validated as has been the programme approach of delivering the CD through a high level of engagement by “expertise from research, education institutions as well as international organizations”. Hence, from the responses obtained in this review of success factors, this collaborative effort needs to be sustained in the CD programme into the future.

Securing long term CD funding is another success factor which needs to be considered when designing CD4ARM initiatives. The range of sources is not limited to donors such as those supporting PARM but also includes governments and private sector actors involved in ARM activities. This is essential to avoid unsustainable initiatives which end up raising farmers’ expectations and subsequently disappointing them as funding ends with the completion of a project.
3.2.2. Implementation factors

Factors identified as key to success during implementation include a pedagogic approach which places emphasis on “facilitation and, active interaction with target trainees”, including farmers and their trainers. The key assumption here is that the trainees are not only recipients of knowledge and skills but are also a fountain of knowledge and experience relevant to their specific environment and the risks to which they are vulnerable. Hence, the process of developing their capacity in ARM should include, for example, an evaluation process which allows them to feed into the design or refinement of CD programmes and ARM tools in general.

Partnership is stressed between governments and international organizations involved in CD4ARM and among national stakeholders. This is partly because several interests are aligned in the management of agricultural risks, including governments and private sector players. It is acknowledged that there also exist nuances in the motivations of different partners even though a common interest is what holds the partnership together. Building “trust among partners without hidden agendas” is therefore seen as critical to the success of the partnership and the CD programme to which it is committed.

To sustain farmers’ participation in CD4ARM programmes, respondents identified “strong farmers’ motivation in being trained”. This requires that the capacity development implemented is aligned to their needs and context and offers tangible net benefits from adopting ARM tools which either boost yields and/or household income or reduce losses associated with the incidence of risks to which they are vulnerable. This is quite clearly because adoption of most ARM tools involves investment of time and other costs, a factor which may be marginalized in some programmes with consequences which increase the risk of failure.

3.2.3. Cross-cutting factors

The cross-cutting factors which can be critical at both design and implementation phases of CD4ARM programmes include process ownership and commitment by governments. This implies that ARM forms an integral part of national agriculture sector development agenda, and CD4ARM is perceived as part of achieving that objective. It avoids challenges occasioned by perceptions that the programme is parachuted into a country by an external agency. Hence, mobilisation of resources; customisation of training materials; monitoring and evaluation etc. to ensure success becomes one of the priorities of the government rather than an external agency associated with its promotion.

Trust among partners was highlighted as an important success factor above. The need for the partnership to be “responsive and responsible” is another factor identified by respondents. These attributes of the partnership underscore commitment to a programme that is perceived as owned by the partners and requiring prompt attention being paid to issues which emerge, especially during implementation. Respondents note that it is important to “engage the private sector in a public/private partnership (PPP) to reduce gaps in financial resources” required for the CD4ARM programmes.

Successful implementation of CD4ARM programmes also depends on “institutionalising holistic ARM at Government, local government and civil society levels”. This implies that the CD4ARM programme cannot be implemented independent of processes to mainstream ARM in agricultural policy and planning at different levels of government.

3.3. Ranking key success factors

The Figure 1 and Table 5 illustrate prioritization of key success factors by the practitioners. It is evident that the rankings coalesce around three groups: high, moderate and low-ranking factors. There are four (4) high ranking factors with scores between 26 and 16 points (votes), five (5) moderately-ranked factors scoring between 8 and 12 points (votes). The lowest-ranking factors scored only 2-3 points and there are three (3) of them.
Figure 3: Ranking of success factors for CD4ARM

![Bar chart showing the ranking of success factors for CD4ARM.](chart.png)

Source: Authors from Workshop data

Table 4: Total votes from the prioritisation of identified success factors for CD4ARM by practitioners

<table>
<thead>
<tr>
<th>No.</th>
<th>Suggested success factor</th>
<th>Total Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Institutional holistic ARM at Government, local government and civil society level/programs</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>Engage the private sector in developing PPPs to reduce gap in financial resources</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Responsive and responsible partnership</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>Long term CD funding</td>
<td>16</td>
</tr>
<tr>
<td>5</td>
<td>Key expertise from research, education, international organizations as key resources for farmers</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Integrate farmers into training needs assessment and design in order to meet their needs</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Source material (for) cross-country, lesson sharing and evidence-based training material</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>Process ownership (national commitment by Governments)</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>CD approach by facilitation, interaction, diagnosis, and M&amp;E</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>Trust among partners without hidden agendas</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Consistency between CD design, implementation and target group(s)</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Strong farmers’ motivation in being trained</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Voting by participants at International Workshop on CD lessons in Lusaka, Zambia (12 December 2018)
3.3.1 Top four success factors

The high-ranking factors consist of the following: ensuring that the CD4ARM is implemented within a framework where holistic ARM is institutionalized in government (including at state or national and local government levels) and at civil society levels. The involvement of government is ranked highest among the factors and is even reinforced by another factor which is ranked moderate – i.e. the CD process ownership by a national government needs to be assured through its commitment. However, as indicated by the second highest ranked factor, it is also essential that the process involves engagement of the private sector through partnerships which are responsive and responsible (ranked third). The fourth ranked success factor is the need to secure long-term funding for CD activities. Interestingly, this is stressed particularly by civil society organizations and development agencies, though less so by representatives of government and academic institutions.

A clear message from the identified top four success factors is the need for a shift in approach, in this specific case, in implementing CD4ARM. There needs to be a shift from a typical project approach where the need funding agent, which can be a government, donor or private actor, basically drives the agenda. Other players are “brought to the table” and contribute as determined by the main driver, who is looked upon to provide the main resources for the action being implemented. The evidence here stresses the need for national ownership led by government but in which each player commits to the pursuit of the agenda because it is recognized as critical to the overall performance of the sector. Parts of the commitment to the partnership are joint efforts to mobilize sustainable, long-term funding to secure the CD programme.

3.3.2. Medium-ranked success factors

These success factors were ranked below the top four but obtained significant scores ranging from eight to 12. The main theme common to this grouping of factors is emphasis on design and implementation approach, including ensuring, for instance, that key resource persons required for training farmers are available. The evidence also shows the need to ensure that the training needs of farmers are properly identified, flexible and are well-integrated in the design of CD programmes. This is important as the CD needs to be context-specific. Despite this, the evidence clearly suggests the need for basic materials used for CD programmes to reflect valid cross-country lessons and experiences in order that the target farmers benefit from relevant lessons from counterparts elsewhere in Africa and other developing countries. Designers of various ARM initiatives can similarly benefit from cross-country such cross-country lessons and experiences. In particular, where they are replicating ARM tools, understanding the context could bring into sharper focus the specific factors which are needed to ensure success.

The apparent outlier factor in this group is the need for “process ownership and national commitment by governments. This factor is, however, consistent with the group of Top 4 success factors discussed above.

3.3.3. Lowest-ranked success factors

Three factors scored lowest in the ranking by respondents, scoring rather low 2-3 points. Among these is trust among partners, which we speculate is ranked low not because it is not important but rather that it is presumed to be embedded in what has been described “responsive and responsible partnership”, which is ranked high by practitioners. Furthermore, another low-ranked factor - the need for “consistency between CD design, implementation and target groups” – may have been ranked rather low because it is again presumed to be integrated in other design and implementation factors identified during the process.

The third of the lowest-ranked factors, which is “strong farmers’ motivation in being trained” is rather more difficult to explain. The reason for this needs to be validated, especially since presuming interest of farmers in being trained can lead to suboptimal design of CD packages and therefore uptake by farmers. Evidence on technology-focused extension service delivery attest to the fact that where messages “pushed” by extension personnel are inconsistent with farmers’ need for a holistic approach to ARM, they tend to “vote with their
feet” by opting out or failing to take up the training opportunities. How these factors translate into success factors for CD4ARM depends also on the role and the capacity of the service providers to serve the scope.

Validation of the rankings as they apply in specific CD4ARM initiatives as well as understanding in more depth the rationale and evidence supporting these rankings is discussed in the next section. The evidence for it is generated through follow-up questionnaires completed by practitioners.

**Figure 4:** Ranking of identified key success factors by ARM practitioners

<table>
<thead>
<tr>
<th>Key ingredient</th>
<th>0</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source material (for) cross-country, lesson sharing and evidence based training material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process ownership (national commitment by Governments)</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Long term CD fundings</td>
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<tr>
<td>Key expertise from research, education, international organizations as key resources for farmers.</td>
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<td>CD approach by facilitation, interaction, diagnosis, and M&amp;E</td>
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<tr>
<td>Responsive and responsible partnership</td>
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<td>Trust among partners without hidden agendas</td>
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<td>Consistency between CD design, implementation and target group(s)</td>
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<tr>
<td>Strong farmers’ motivation in being trained</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrate farmers’ into training needs assessment and design in order to meet their needs</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engage the private sector in developing PPPs to reduce gap in financial resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional holistic ARM at Government, local government and civil society level/programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors from Workshop data

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7 This was evident during a recent feasibility study on CD4ARM in Ethiopia (forthcoming).
4. Learning from experiences: capacity development approaches to disseminating agriculture and risk related knowledge at the farm level

4.1. Introduction

There is no doubt that farmers are among the hardest hit by risks in the agri-food value chain. From production and harvesting to storage and marketing, farmers are bound to lose their produce and experience a percentage cut in the profit margin and income from agricultural livelihoods. Recognizing these risks and the associated threat, many organizations have designed and implemented capacity development initiatives to strengthen knowledge on ARM and to build capacities to manage risks at the farm level. This section presents case studies of 11 capacity development initiatives and explores how the key success factors for delivering CD at the farm level are/were being applied/achieved in each of the initiatives.

Case studies were selected after the launch of a call for proposal for the workshop held on December 12, 2018. The selection criteria were based on diversity in terms of the CD approach, geographical location, innovativeness in reaching the farm level and relevance to deliver knowledge directly or indirectly to farmers. It should be noted, however, that this section does not aim to evaluate the initiatives presented here. Rather, it seeks to offer an illustrative presentation of the initiative in terms of the following checklists:

1. Aim/objective of the CD initiative
2. Knowledge areas of the CD initiative
3. Delivery platforms/methods of the CD initiative
4. Supporting material resources for delivering the CD initiative
5. Country (s) of implementation
6. Funding and implementing organizations
7. Timeframe of implementation, target beneficiaries and estimated number of beneficiaries
8. Experience in achieving the following key success factors in delivering CD at the farm level:
   • Institutional holistic ARM at the government, local and civil society levels, programs
   • Engaging the private sector for PPPs to reduce gaps in financial resource
   • Responsive and responsible partnership
   • Long term funding
   • Key expertise from research, education, international organizations as key resources for farmers

The initiatives selected for the workshop and eventually presented in this working paper are diverse in terms of approach, thematic areas of focus and implementation across the East African region and beyond. Nevertheless, they can be grouped into six thematic areas of ARM: electronic-based CD, holistic CD, gender and youth inclusive CD, collective-sharing CD, Insurance/finance for resilience CD and profit-seeking CD approaches. Details of each group and the identified case initiatives are given below.

4.2 Going electronic with CD

As technology advances, so do the ways of engaging with farmers improve. In recent times, ICT is playing an active role in the agricultural sector. There is a proliferation of mobile/ICT/web/internet-based applications, SMS and picture-based algorithms that enable farmers to plan, manage and track their progress in production, harvesting, storage, marketing and financing their agricultural enterprises. With these innovations, farmers send or input their information and receive real-time feedback on how to manage corresponding risks in agriculture. Some of the innovations further connect farmers to specific extension services that could render support. Two case study initiatives (1 and 2 below) illustrate the instrumental roles of implementing capacity development and delivering ARM knowledge electronically. These are from the Centre for Agriculture and Bioscience International (CABI) Southern Africa Center based in Zambia and a private initiative by Soft Consulting in Senegal.
Case Study 1: Plantwise (Plant Clinics) in Zambia, CABI

Quick facts

- Knowledge areas of the CD initiative
  - Agricultural production and storage
  - Nutrition
  - Gender and youth
  - Climate and environment

- Delivery platforms/methods of the CD initiative
  - Classroom/Lecture/Workshop
  - Plant Clinics & Farm Visits
  - Village and Town Meetings (Plant Health Rallies)
  - Print, Broadcast & Social Media
  - Website & Mobile Phone-based App

- Supporting material/resources for delivering the CD initiative
  - Pamphlets/manuals
  - Electronic references (pest management decision guides, fact sheets, photo sheets) on the Knowledge Bank website
  - Mobile Apps
  - Posters
  - Videos
  - Games

- Timeframe of implementation
  Zambia: 2013 to 2020

- Target beneficiaries
  - Farmers
  - Extension workers
  - Students & researchers
  - Agro-dealers, including seed sellers

- Implementing organizations
  - CABI International
  - Ministry of Agriculture (MoA)
  - Self-Help Africa
  - Zambia Agriculture Research Institute (ZARI)
  - University of Zambia
  - Natural Resources Development College
  - Zambia National Farmers Union (ZNFU)
  - Zambia Environmental Management Agency
  - Conservation Farming Unit
  - SNV Netherlands Development Organization
  - World Vision Zambia
  - CropLife

- Funding organizations
  DFID, SDC, IFAD, Irish Aid, EU, Government of the Netherlands, Government of Australia and the Government of the Republic of China
Description of the initiative

Plantwise is a global programme designed and implemented by CABI and its partners to reduce crop and income losses from pest and disease attacks. It is built on a network of Plant Clinics – a specifically designated facility where farmers get solutions to their plant health problems. The plant clinics are operated by Plant Doctors - local extension officers. These officers are well-trained under the Plantwise programme to diagnose, treat and respond to farmers' plant health and advisory needs. As a capacity building and knowledge reinforcing initiative, the Plantwise programme also connects the plant clinics and plant doctors to a Knowledge Bank that collects, analyses data and disseminates practical plant health information resources to facilitate effective diagnosis and best practice management based on integrated pest management (IPM) approaches. With these two tools – Plant Clinics and Knowledge Bank – the Plantwise offers a unique opportunity for farmers to get access to actionable information and build knowledge on plant health risks within their local areas. This strengthens farmers capacity to manage the plant health risks, lose less from what they grow and improve food and income security.

Key success factors in practice: strengths and challenges

1. Institutional holism ARM at the government, local and civil society levels

   **Good practices/Strengths**
   Plant clinics are led and operated by the extension officers appointed by the Ministry of Agriculture (MoA). CABI facilitates the establishment of clinics and delivery of training modules on pest management and diagnosis. This paved way for plant clinics to be incorporated into the MoA’s plans and activities. Plantwise also attracted partners like the Conservation Farming Unit, the Self-Help Africa, SNV and World Vision Zambia, who have integrated plant clinics into their activities.

   CABI and national partners have been engaging agriculture colleges and universities so that they include the plant doctor training modules (diagnosis of, and giving recommendations on management of plant health problems, and running plant clinics), so that graduates are fully equipped in providing the plant health advisory service to farmers when they come out of agriculture universities and colleges.

   **Issues to consider/Challenges**
   There is a growing demand for plant health information from farmers. Reaching out and meeting this demand is challenging because the government and sponsors have limited budget to integrate the establishment of plant clinics throughout the country.

2. Engaging the private sector for PPPs to reduce gaps in financial resource

   **Good practices/Strengths**
   Facilitated linkages to private sector organisations like the Conservation Farming Unit, and encouraged it to run plant clinics, after sponsoring the training for its extension service officials.

   **Issues to consider/Challenges**
   Highly possible to underrate the private sector and ignore their involvement at the initiative formulation or development stage.
### 3. Responsive and responsible partnership

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<tr>
<th>Good practices/Strengths</th>
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<tr>
<td>Partnered with the Ministry of Agriculture (Department of Agriculture and Zambia Agriculture Research Institute), assigned clear roles to partners in the ministry and NGOs (such as the SNV, DoA, ZARI, Self-Help Africa and others) and involved partners in the steering committee, and the implementation and coordination team memberships. This enhanced their active participation and responsibilities over decision-making regarding training, sponsorships/supports, and administrative/logistics for smooth running of plant clinics. For instance, the coordination team worked hard to influence the World Vision Zambia (WVZ)'s decision to join the Plantwise programme. WVZ now sponsors the training for plant doctors in Mumbwa District and runs plant clinics. WVZ's sponsorship has now extended to Chongwe, and other districts.</td>
<td>Working with diverse stakeholders can steer unhealthy power relations. Some partners may feel that they were left out or given a lesser role than expected.</td>
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### 4. Long term funding

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<tr>
<td>The impressive potentials of Plantwise training and knowledge on plant health attracted international donors (including DFID, SDC and IFAD) interest to guarantee financing of the initiatives from 2013-2020. Sponsors were also received from local agencies like the Conservation Farming Unit, SNV, SHA and World Vision Zambia. Additionally, the government is paying the salaries of plant doctors, which is the major long-term funding, hence the plant doctors should be able to use their training and experience to continue providing a plant health services to farmers.</td>
<td>Strictly budgeted donor and government funding versus meeting the needs of all the farmers across the country. Donor/government funds are only available to support a targeted number of farmers even though farmers across the country would want to access the services of plant doctors/clinics. There is need to have a sustainable long-term funding to continue extending the service to all parts of Zambia so that many farmers can benefit from this great service.</td>
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### 5. Key expertise from research, education, international organizations as key resources for farmers

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<tr>
<td>Availability of diverse research support to assist the plant doctors in times of complex plant health problems. Where national researchers are not able to diagnose a condition, plant samples are sent to CABI's laboratory in UK. Photos are also posted on WhatsApp and Telegram network for recommendations from an expert group.</td>
<td>Time and resource constraints – the cost of sending samples to UK as well as the internet to post photos of plant over social media network, though effective, depends solely on individual plant doctors paying for their internet bundles, which might limit the frequency of sending photos of difficult plant health problems. Also, sending the samples overseas implies that farmers do not get a timely response to deal with their diseased crops.</td>
</tr>
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### Key lessons

1. **Increasing need for plant health services calls for institutionalization commitments.** For a long time, farmers have waited for a plant clinic service to address the problems of “sick” crops just like veterinary clinics are available for farm animals. With the establishment of the CABI-Ministry of Agriculture partnered plant clinics, farmers are patronizing the plant health services. In 2017, Plantwise with partners organized 10 plant health rallies attended by more than 998 farmers, to address plant health problems affecting many farmers. It also trained 126 doctors and established 21 clinics. In 2018, 38 plant doctors were trained by the national trainers with backstopping of CABI staff, and 20 new plant clinics were started. Plant clinics were also showcased at 9 agriculture shows. Partners under the Plantwise programmes also carried out mass communication on Fall armyworm (FAW) through national and community radios and reached approximately 90,000 farmers with information on management of FAW.
2. While the number of farmers attending the rallies and receiving advice through mass communication is expected to increase from year to year, Plantwise’s budget can hardly support an increased number of rallies/farmers. This is because the external donor funds and local (including government) sponsorships are stringently limited, in terms of the number of farmers, plant clinics and doctors to be supported over a specific period, which is 2013-2020.

3. Acknowledging the situation, however, CABI is working with the Ministry of Agriculture to integrate/institutionalise a more strengthened plant advisory service into the ministry’s existing extension service activities. This will enable extension officers to offer plant pest management and diagnosis to farmers (mostly those in remote areas) across the country without necessarily establishing the plant clinics throughout the country. In addition, CABI is increasingly working with more country partners including the agriculture colleges and universities to integrate the plant doctor training in their curriculum, so that graduates from these institutions come out with enhanced knowledge of plant health advisory service.

Learn more

www.plantwise.org

Case Study 2: AviApp in Senegal, Soft & Consulting

Quick facts

- **Knowledge areas of the cd initiative**
  - Agricultural production and marketing
  - Access to market and finance
  - Institutional strengthening

- **Delivery platforms/methods of the CD initiative**
  - Mobile-based - calls and text messages
  - Mobile application
  - Class room (e.g. lecture, seminar/workshop)

- **Supporting material/resources for delivering the CD initiative**
  - Videos
  - Test material

- **Country of implementation / Timeframe**
  Senegal / Developed in January 2018 and is currently being tested.

- **Target beneficiaries**
  - Farmers
  - Commodity marketers/middlemen

- **Estimated number of beneficiaries**
  Over 1700

- **Funding and implementing organisations**
  - Soft Consulting
  - ASPRODEB/FAFA
Description of the initiative

AviApp is an ICT (mobile-based) application for poultry farmers to manage and plan their production and finance. It is being developed and tested since January 2018 through a collaborative effort between Soft Consulting – a private firm – and ASPRODEB/FAFA, a poultry farmers’ federation in Senegal. These two partners are implementing and financing the AviApp in a co-ownership agreement. Instead of keeping farm records manually in a book, the application provides an online platform for farmers to input and track progress on their production activities. It allows farmers to record data of the quantity of chicken feed, weight, mortality rate and many more. The data collected from each farmer is synthesized and analysed to provide real time responses on specific operation needs and advice related to production and marketing activities. Through the AviApp, farmers get a perfect knowledge of their finance and production cost to determine the best price to offer/accept in the poultry market. Such information records can also strengthen their access to finance from banking institutions.

Key success factors in practice: strengths and challenges

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic arm at the government, local and civil society levels</td>
<td>Avi App’s is built on production, finance and marketing information sourced from and validated by the local farmers’ organization (ASPRODEB/FAFA) for use within the membership and beyond.</td>
<td>Difficulty reaching farmers to collect and even in terms of their using of the information. Thus, more training and videos are required to train and empower the farmers to use the AviApp.</td>
</tr>
<tr>
<td>2. Engaging the private sector for PPPs to reduce gaps in financial resource</td>
<td>Developed a business model and showcased it to attract individual/groups of farmers to pay as they use the application.</td>
<td>Monetary contribution from farmers is difficult to secure because they have limited income.</td>
</tr>
<tr>
<td>3. Responsive and responsible partnership</td>
<td>Operates in co-ownership agreement with ASPRODEB/FAFA, which is a larger ecosystem of multiple poultry farming actors. Both ASPRODEB/FAFA and Soft &amp; Consulting has a shared commitment and vision for the business agenda. Partners explore the benefits of the initiatives beyond the existing potential.</td>
<td>Farmers are always busy. Much time is required to follow-up on the potential outcomes/benefits to maintain the interest of partners.</td>
</tr>
<tr>
<td>4. Long term funding</td>
<td>Designed to solicit fund from users through the business model of pay-as-you-go</td>
<td>Monetary contribution from farmers is difficult to secure because they have limited income.</td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers</td>
<td>Gather and validate data through ASPRODEB/FAFA members. This ensured reliable information to farmers and farm experts through ICT solution.</td>
<td>Differences in opinions and operations can result in data validation challenges with the farmers.</td>
</tr>
</tbody>
</table>
Key lessons

ICT learning applications demand much time and monetary investment. AviApp was developed and is being tested with the support of the poultry farmers’ federation of Senegal – ASPRODEB/FAFA. The procedures involve in developing the application, collecting data and processing the information (on production and marketing) demands much time and monetary commitments. As a start-up firm, Soft & Consulting did not have much of these resources to invest in the App. To meet financing needs, however, Soft & Consulting entered into a co-ownership agreement with ASPRODEB/FAFA. This made it possible to secure co-funding and farmer-sensitization support from the federation. This guaranteed farmers willingness to commit their time to input data into the App and do pay-as-you-go for the App.

Learn more

• Website and App coming up soon.

4.3. Integrated partnership and strategies for ARM

Agricultural risks are intertwined and compounded at different levels. For instance, climate-induced risks such as erratic rainfall, wind storm and increasing temperature affect not only farmers’ production but also their access to a better market price, their profit margin and net income. Addressing these interconnected risks demands integrated strategies and partnerships at various levels of the agricultural value chain. Such strategies and partnerships are not hard and fast. Rather, they should be informed by high-level expertise and buy-in from the stakeholders at the farm level, including, research institutions, government agencies and farmers’ organizations. The case studies 2 and 4 illustrate CD initiatives that are delivering ARM knowledge to farmers through integrated strategies and partnership frameworks.

Case Study 3: Partnership Framework for Capacity Development in Ethiopia, Hawassa University

Quick facts

• Knowledge areas of the cd initiative
  - Agricultural value chain – production, harvesting, processing, storage and marketing
  - Access to market and finance
  - Climate and environment
  - Land and water
  - Climate and environment
  - Institutional strengthening

• Delivery platforms/methods of the cd initiative
  - Farm demonstrations
  - Class room (e.g. lecture, seminar/workshop)
  - Study visits (e.g. to ECX facilities to learn at first hand)

• Supporting material/resources for delivering the cd initiative
  - Pamphlet/Manuals/Flyers
  - Videos
Key success factors in strengthening the capacity to manage risks at farm level: emerging lessons learned

Platform for Agricultural Risk Management | Managing risks to improve farmers' livelihoods

- **Timeframe of implementation**
  May 28 to June 2 2018

- **Target beneficiaries**
  - Farmers
  - Extension workers
  - Commodity marketers/middlemen
  - Student and researchers

- **Funding and implementing organisations**
  - PARM/IFAD
  - MoA-Ethiopia,
  - ATVETs

Description of the initiative

- Partnership framework for CD on ARM is a Training-of-Trainers (ToT) initiative led by the Hawassa University College of Agriculture, School of Environment, Gender and Development Studies (SEGDS). The initiative is supported by PARM as part of its aim to institutionalize the development of ARM competencies at the college/university level. It is built on a series of training offered to national and regional experts with qualified diploma/degree in agricultural science, agricultural economics, agro-business or related fields of agricultural risk management. The trainers received advanced knowledge and skills to further train district assistants and farmers, and to support the understanding of risks and the development of strategies to manage agricultural risks of all kinds. The trainings were delivered in 6 days from May 28 to June 2 2018, and was structured into 6 interlinked modules of ARM knowledge areas: 1) An Overview of Agricultural Risk Management; 2) Assessment and Prioritization of Agricultural Risks Module; 3) Agricultural Risk Management Tools Module; 4) Additional Considerations and Monitoring and Evaluation; 5) Roles and Responsibilities; and 6) Training of Trainers.

Key success factors in practice: strengths and challenges

- **Key pillars**
  - Good practices/Strengths
  - Issues to consider/Challenges

1. Institutional holistic arm at the government, local and civil society levels
   - The training was developed as a need-based CD for diverse institutions, sectors, regions. All the multiple working partners were engaged in the agenda setting and in the financing of the initiative to ensure continuity and scale up.
   - Institutionalization demands extensive mobilization of different stakeholders, firm support and integration of CD plan into finance and technical activities. This comes with a high cost (money commitment), which is difficult to secure locally.

2. Engaging the private sector for PPPs to reduce gaps in resource needs
   - Trainings were designed in collaboration with interested international (PARM/IFAD) and local agencies (Government and the University of Hawassa). It also brought to the attention of Insurance companies, commodity exchange, and private poultry firms to contribute and share their expertise on risk management with the participant trainees.
   - Chances of international and the private agencies interests superseding and possibly not addressing the training needs of the trainees.

3. Responsive and responsible partnership
   - An agreed MoU with the different stakeholders, which enabled partners to abide by their monetary, time and other resource commitments. A collaborative design and implementation that improves responsible co-financing for sustainability.
   - Difficulty to guarantee a continued time commitment of partners and their cooperation in all aspects of the CD – sometimes CD activities may overlap with partners' commitments/activities elsewhere.
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<tr>
<td>4. Long term funding</td>
<td>The focused agenda on ARM throughout the training and the well-targeted group of trainers guaranteed financial and logistical commitments from both the Government of Ethiopia and PARM/PARM.</td>
<td>Donor financing is time-bound, and government sponsorships are highly likely to be unreliable.</td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers</td>
<td>The training has been developed by international experts (supported by PARM/IFAD) in collaboration with the local institution (Hawassa University) delivering the training and research on the technologies to support CD on ARM for farmers.</td>
<td>Limited high-level expertise at the local level to manage the triple relationship (of research-education-farmer) when doing CD at the local/national level.</td>
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**Key lessons**

1. **Collaborations with the government ensure institutionalization of CD activities.** In implementing this Training-of-Trainers (ToT) initiative, the Hawassa University sent out requests to many organisations working with farmers, including local government agencies to nominate trainers to for the training. PARM/IFAD supported Hawassa University with the development and delivery of the modules. However, the sustainability of the training demands financial and technical commitment for integration into various institutions at the local/national level. This would not have been successful without the collaborative efforts of the government of Ethiopia. The government through its Ministry of Agriculture committed to pilot the training for extension workers and promised to integrate into agricultural development activities in the coming years.

**Learn more**

- Training reports can be downloaded from the PARM Library.
Case Study 4: Climate Change Adaptation: Operationalization of FFS in Zambia, FAO

Quick facts

Knowledge areas of the cd initiative
- Land and water
- Agricultural value chain – crop, aquaculture and livestock production, harvesting, storage
- Nutrition, food security and income generation
- Climate and environment
- Institution strengthening
- Partnership fostering among stakeholders

Delivery platforms/methods of the CD initiative
- Participatory appraisal
- Community consultation meetings, Workshops
- On-farm demonstrations
- Field day events and farmer-to-farmer exchange visits
- Social media - what’s app among the partners

Supporting material/resources for delivering the cd initiative
- Pamphlet/Training Manuals/Flyers
- Posters

Country of implementation / Timeframe
Zambia / 3 years

Target beneficiaries
- Smallholder farmers
- Extension workers
- Researcher and students

Estimated number of beneficiaries
1800 households

Implementing organisations
- FAO-Zambia
- University of Zambia
- Zambia Meteorological Department
- Ministries of Agriculture, Fisheries & Livestock, National Development Planning

Funding agency (s)
Government of Flanders through FAO

Description of the initiative
Farmer Field School (FFS) is a ‘school without walls’ initiative established at farm level for improving decision-making capacity of farmers (FFS participants) and encouraging local innovation through experiential learning and knowledge sharing, in this case, of climate resilient agricultural practices. As applied within the context of Climate Change Adaptation, FFS is an initiative designed to build smallholder farmers’ resilience to climatic shocks through the promotion of well-tested and proven climate adaptation options suitable for the biophysical, and socio-economic conditions prevalent in target communities.
FAO FFS in Zambia is a recommended national agricultural extension methodology. The participatory nature and experiential learning inherent in the approach introduces farmers to a wider range of resilient options and good agricultural practices that are cost effective and efficient, in terms of the use of locally available materials, livelihoods diversification and integration of crop-livestock production systems. FAO is currently providing technical and financial support to the Government of Zambia and various partners to implement this initiative in 14 target agricultural camps across 20 local communities in Nyimba and Mambwe districts of Eastern Zambia, where farmers are highly vulnerable to climate change related risks and are likely to face severe food insecurity and other livelihoods associated challenges. The initiative will be subsequently up-scaled to other 16 districts with over 160 agricultural camps (farming communities) starting in the 2019/2020 farming season.

Through the initiative, knowledge on various climate adaptation options are shared with the farmers on diverse platforms, including field-based adaptation demonstrations, consultative meetings, field days and regular FFS sessions. These learning channels enable the farmers to interact with FFS facilitators who provide them with technical knowledge and guidance. FFS groups are designed to accommodate 25-30 participants based on gender and interest, and on the proximity to selected farmers’ school fields. Such an accommodative groupings and interactive based capacity development on climate adaptation options is enhancing experiential learning and lucid knowledge sharing of area specific challenges and lessons among farmers, FFS facilitators, researchers, policy makers and many interest groups.

### Key success factors in practice: strengths and challenges

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<tr>
<td>Institutional holistic ARM at the government, local and civil society levels</td>
<td>Built a strong institutional arrangement – involving the farmers, Government of Zambia, University of Zambia and the Zambia Meteorological Department – to facilitate the selection and prioritization of climate adaptation options/knowledge that can be sustainably integrated and scaled-up and out.</td>
<td>Limited technical capacity of the local extension officers to sensitize farmers from the perceptions of business-as-usual to adopt the prioritized/institutionalised climate adaptation options.</td>
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<tr>
<td>Engaging the private sector for PPPs to reduce gaps in financial resource</td>
<td>Prioritized adaptation options that rely on locally available knowledge and resources. This opened-up opportunities for local private partners to invest in the priority adaptation/ARM knowledge technologies. For instance, the initiative attracted COMACO to identify a clear need to multiply fodder and soil fertility enhancing agroforestry tree seedlings such as Gliricidia sepium to meet the growing demands within the communities.</td>
<td>Possibility of conflicting interest of the private sector - sustainable practice versus profit-oriented practices.</td>
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<tr>
<td>Responsive and responsible partnership</td>
<td>Supported field partners with financial and technical resources, organized joint reviews and meetings and encouraged feedbacks as mechanisms for learning and sharing. This compelled partners to always deliver their responsibilities as expected.</td>
<td>Poor communication networks limit persistence follow-ups with partners in remote areas. Thus, making it difficult to ensure a continued transparency.</td>
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Key success factors in strengthening the capacity to manage risks at farm level: emerging lessons learned

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<tr>
<td>4. Long term funding</td>
<td>Established robust and accountable financial reporting system to ensure efficient use of project funds throughout the expected years of delivery. Prioritized locally-sustainable adaptation options that are self-sustaining with little/no reliance on external financing after project closure.</td>
<td>Effective prioritization of where money is spent is required. Otherwise stringent finances may affect the speedy availing of resources to the field, and the delays may cause losses to farmers because of seasonality of their production.</td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers organisations</td>
<td>Availability of international technical specialist in key areas of livestock production, crop protection, crop production, economics and marketing, teaching, engineering, fisheries and aquaculture, soils agroforestry, etc.</td>
<td>External/international technical specialists may have limited understanding of local contextual issues linked to climate adaptation knowledge.</td>
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Key lessons

1. **Follow-up with field partners strengthens knowledge for agricultural risk management.** In this FAO-supported initiative, field-level partners play a key role in the delivery of knowledge linked to climate adaptation and agricultural risk management. The sustainability and impact of operations are tied to the availability of resources to partners in the field and their commitment to deliver. Meanwhile, poor communication networks limited the proper engagement and follow-ups with the field partners. However, the FAO dealt with this issue by providing financial support to the field partners through a robust and accountable financial reporting system. It also facilitated the organizing of joint planning and review meetings and encouraged feedbacks as mechanisms for learning and sharing of experiences among the relevant stakeholders. This compelled partners to always deliver their responsibilities as expected.

2. **Well-enhanced farmer participation increases the adoption of climate adaptation technologies and practices.** This initiative enables farmers to interactively learn in consultative meetings, field days and regular FFS facilitation where they get to acquire knowledge on climate adaptation options, understand the great potential for and become aware of risk management. As such, through the experiences, farmers become convinced, accept and adopt the adaptation options even before the established protocols are taken through the complete cycle of field demonstration, for certain demonstrations.

Learn more

  FAO Zambia country office, Lusaka
4.4 Bringing gender and youth to the table of ARM

Gender-responsive and youth-oriented capacity development activities play a key role in ensuring inclusive agricultural development to achieve the globally promised sustainable development goals. On average, women make up about 43% of the labour force in agricultural production and postharvest activities in developing countries\(^8\). The proportion is even much higher in a number of developing countries. In terms of ARM, it is widely documented that women face higher risks than men, and gender inequalities also affect women’s capacity to manage risks (Villamor, 2014; World Bank, 2017). Thus, empowering women and strengthening their participation in ARM CD activities guarantees productivity in the agricultural sector. Equally, Africa like many developing regions of the world has a very youthful population, many of whom, are gaining high interest to transform agriculture activities into socially responsible and green investment enterprises. Proper inclusiveness of these two key groups in ARM CD activities is undoubtedly beneficial for the agricultural sector risk management. The case studies 5 and 6 are two instrumental CD initiatives in the Eastern Africa region, which are prioritizing, integrating and implementing gender and youth components.

Case Study 5: Integrating gender for collective agricultural risk management in Uganda, University of Makerere

Quick facts

- **Knowledge areas of the CD initiative**
  - Agricultural value chain – production, harvesting, storage, processing and marketing
  - Access to market and finance
  - Gender
  - Household decision making

- **Delivery platforms/methods of the CD initiative**
  - Primary school class room or outdoor space as well as training workshops
  - Village and town meetings
  - Experiential learning
  - Hands on training

- **Supporting material/resources for delivering the CD initiative**
  - Training manuals and guides

- **Country of implementation / Timeframe**
  - Uganda / October 2015-October 2018

- **Target beneficiaries**
  - Men and women farmers
  - Children and youth in primary schools (of Namayumba Primary School, Buguwa Primary School, Kawuku Mixed Primary School in Wakiso, Kamuli and Mukono Districts respectively)
  - School teachers and community-based facilitators (Bujjampola Bridget female school-based facilitator, and Kizito Daniel a male community-based facilitator)

- **Estimated number of beneficiaries**
  - 311 men and 558 women farmers

\(^8\) Information from the FAO infographics on “The female face of farming” shows that percentage of women engaged in agricultural sector in the Latin America and the Caribbean, the North East and North Africa, the South Asia, the East and Southeast Asia and the Sub-Saharan Africa.
Key success factors in strengthening the capacity to manage risks at farm level: emerging lessons learned

Implementing organisations
- Makerere University, Department of Extension and Innovation Studies, School of Agricultural Sciences
- National Crop Resources Research Institute
- IITA Uganda
- CIP Uganda

Funding organisation
Bill & Melinda Gates Foundation through the Republic of Tanzania

Description of the initiative
The Integrating gender for collective agricultural risk management is an initiative developed to facilitate gender analysis in the orange fleshed sweet potato value chain. The process involves a series of training on agronomic practices, gender analysis, nutrition and value addition delivered by the University of Makerere in collaboration with the NACRRI. Trainings are offered to community-based trainers, and farmers are paired with the trainers for a holistic step by step assessment of strengths, weaknesses, opportunities, and threats in potato value chain with a gender lens, using a simplified guide. Trainees and farmers take away ample amount of knowledge and skills that are applied in various areas of potato management and beyond. The initiative also established a follow-up support to document success stories and enhance further application as best practices. So far, the 471 teachers, 10,388 pupils, 870 farmers, 644 farmers have benefited from the initiative. About 3100 manuals on gender and value chain have also been printed and shared across Uganda and beyond. This has helped beneficiaries to identify the gendered constraints and risks in the crops value chain and prompt a set of family and institutional based solutions to mitigate the identified risks.

Key success factors in practice: strengths and challenges

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</tr>
</thead>
<tbody>
<tr>
<td>Institutional holistic arm at the government, local and civil society levels, programs</td>
<td>Built the capacity of various community level stakeholders, including farmers, teachers and students on the significance of gender in orange fleshed sweet potato value chain. This ensured that farmers integrate the knowledge into their activities, and individuals get information to influence their daily food decision making, where possible.</td>
<td>Cultural understanding of gender issues, and the lack of local expertise in gender, especially to support farmers to manage risks. More importantly, lack of resources to enable these actors to fully implement gender into holistic ARM programs.</td>
</tr>
<tr>
<td>Responsive and responsible partnership</td>
<td>Consistently engaged with ambitious partners with committed agenda, including the government who provided funds, and the National Crop Resources Research Institute for technical services on sweet potato production and marketing. At the community level, the schools such as Namayumba Primary School, Bugwa Primary School, Kawuku Mixed Primary School in Wakiso, Kamuli and Mukono Districts respectively supported with demonstration and learning centres as well as facilitators for gender responsive agricultural risk assessment and management.</td>
<td>Limited partnership management and people skills to maintain a strong trust and transparency. Also, community partners lack the confidence for gender sensitive ARM.</td>
</tr>
</tbody>
</table>
Key pillars

3. Long term funding
   - Relied on international agency with long-term commitment to gender – the Bill & Melinda Gates Foundation through the Republic of Tanzania.
   - External funding dependency can limit the achievement of the intended outcomes if the donor pulls out its funds or even at the end of the implementation phase.

4. Key expertise from research, education, international organizations as key resources for farmers
   - Availability of training materials and guides for facilitators. This made it easy to run training workshops – the training materials were posters, books, ICT equipment that allows playing of videos.
   - Poor infrastructural services, roads and electricity hamper the communication channels to organise and reach out to beneficiaries for the trainings.

Key lessons

1. Promote alternatives to external donor financing for sustainability of CD on ARM initiatives. A key opportunity of this training-based initiative is that it is handled by community-based workers who reside in the same localities as the farmers and can easily be contacted. Also, the training activities are supported by a well-developed guide on how to do gender analysis, identify and tackle challenges. The guide is available both in English and in local languages for enhanced communication. A major shortfall, however, is that the initiative is a short-lived project dependent on international donor funds. Once the funding for the targeted farmers runs out, the technical support will no longer be delivered to the farmers. Recognising this, the Makerere University has partnered with private financial institutions to provide financing packages including loans and insurances to buyers of orange-fleshed potato produce and products. It is expected that such support could enable farmers and the other beneficiaries to make profitable investments into orange-fleshed potato and support the gender-sensitive training from within their local communities.

Learn more

- Dr. Richard Miiro, Senior Lecturer, Department of Extension and Innovation Studies, School of Agricultural Sciences, Makerere University, rfmiiro@gmail.com, +256-772-378185

Case Study 6: Financial inclusion for youth in agribusiness, EAFF

Quick facts

- Knowledge areas of the CD initiative
  - Access to market
  - Access to finance
  - Youth

- Delivery platforms/methods of the CD initiative
  - Class room (e.g. lecture, seminar/workshop)
  - Mobile-based - calls, text messages, mobile application
  - Social Media (e.g. Facebook, Twitter, WhatsApp)
  - Mentorship activities

- Supporting material/resources for delivering the CD initiative
  Training manuals and reports
Country(s) of implementation / Timeframe
Kenya, Uganda and Rwanda / 3 years Nov 2017-Nov 2021

Target beneficiaries
- Youth farmers
- Extension workers

Estimated number of beneficiaries
- 6566 youth (48% women) responded to the call for proposals
- 33 youth groups trained in business planning in Kenya alone
- 6 youth agri-enterprises pitched to investors

Implementing organisations
EAFF and member organization from the above listed 3 countries - NUCAFE, UCA, UNFFE, IMBARAGA, INGABO, NCCR, KENAFF, CAK and KLPA – and others including African Agribusiness Academy and Agriprofocus

Funding organisation
IFAD

Description of the initiative
The financial inclusion for youth in agribusiness initiative is designed to build the capacities of poor rural youth in East Africa to start-up and manage agri-business enterprises. It also aims to encourage local financial institutions to offer start-up/scale-up capital for pro-poor youth development, and to consolidate and share knowledge on agribusiness development. The initiative is based models of entrepreneurship training, mentorship, business development services, and partnership services. More specifically, an investor-ready youth proposal for finance (either in form of grant, equity, loan etc.) is matched with a technical expert to support with the prerequisite skills and knowledge to operate risk-free agribusiness. Such an approach provides an important network for the youth to access knowledge and guidance to manage finance and market development risks that may be encountered in the process of growing an agribusiness. The youth are mainly at the ages of 18 and 35, both aspiring and existing entrepreneurs in Kenya, Uganda and Rwanda. In 2018 alone 6566 youth have benefitted from the initiative, of which 48% are from women.

Key success factors in practice: strengths and challenges

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional holistic ARM at the government, local and civil society levels, programs</td>
<td>Developed a comprehensive strategy for youth and gender inclusiveness in agriculture, and worked with many institutions such as NUCAFE, IMBARAGA, UCA, UNFFE, NCCR, INGABO, KLPA, CAK, African Agribusiness Academy and Agriprofocus, who are keen to mainstream youth into their agricultural development projects.</td>
<td>Misconception that youth are high-risk population to invest in, especially for the private sector institutions (banks).</td>
</tr>
</tbody>
</table>
2. Engaging the private sector for PPPs to reduce gaps in financial resource

Offered youth mentorship and training on de-risking businesses, which attracted and convinced the private sector agencies like African Agribusiness Academy and Agrifocus to support the training and to invest in youth in agriculture activities.

Youth groups are inexperienced and need more trainings and mentorships. Besides, the private sector may use breakeven assessment to neglect youth investment.

3. Responsive and responsible partnership

Partners’ independence and clearly defined roles was based on trust built over the years. For instance, the various youth and farmers groups like the IMBARAGA and INGABO trust EAFF because of the past experiences in supporting them on capacity building and mentorship.

Trust might come along with over expectations from the youth partners some of which the EAFF or the other partners might not be able to fulfill with their capacity.

4. Long term funding

Committed agenda on youth and the experiences in making impacts and achieving results made it possible to secure a consistent funding from IFAD.

Long-term funds from international agencies like IFAD demands high level expertise and managerial responsibilities to oversee the funds.

5. Key expertise from research, education, international organizations as key resources for farmers

Availability of diverse partners including business professionals from NUCAFE, African Agribusiness Academy and Agrifocus with real experiences to motivate and impart knowledge to the youth enterprises.

Most of the experiences professional have not documented their successes to serve as a best practice for the youth.

Key lessons

Connecting with experienced professionals can help build youth knowledge to de-risk in agribusiness. Youths are mostly inexperienced, perceived as a highly risked to be supported for investments. This perception among lending partners made it difficult for EAFF to secure financing supports for youth in the Eastern Africa region to start-up agri-business enterprises. However, the EAFF managed to identify and connect to professionals from NUCAFE, African Agribusiness Academy and Agrifocus to support the youth with training, mentorship and knowledge on how to development activities. This enabled to youth to understand the risk factors and prepare themselves for investment lending. From this experience, the EAFF learned that building the skills and expertise of youth in business demands partnerships with experienced agribusiness professionals.

Learn more

- www.eaffu.org
4.5. Collective-sharing of knowledge on ARM

A key important, yet, least recognized is the knowledge farmers have at their disposal to share with all stakeholders of ARM. As farmers operate their farms, they learn and relearn from their operations and from others as well. Through this process of learning, farmers become key agents of information and can provide a great avenue to collect and share best practices. In recent times, development organizations are increasingly working with farmers and implementing different approaches and processes to capitalize on farmers’ experiences to capture and formalize tacit knowledge that is often unrecognized and unsystematised. Such a farmer-oriented process helps stakeholders to document successes and failures, and to identify best practices for agricultural innovations. Case studies 6 and 7 demonstrate how two organisations are assisting farmers to learn from their own experience for better understanding and management of agricultural risks.

Case Study 7: Experience Capitalization Approach in Tanzania, CTA

Quick facts

- **Knowledge areas of the cd initiative**
  - Agricultural value chain – production, harvesting, storage, processing and marketing
  - Access to market and finance
  - Nutrition
  - Gender / youth
  - Climate and environment
  - Institutional strengthening
  - General knowledge development and information management

- **Delivery platforms/methods of the cd initiative**
  - Class room (e.g. lecture, seminar/workshop)
  - Farm demonstrations
  - Web-based
  - Print/Broadcast/Social media

- **Supporting material/resources for delivering the cd initiative**
  - Pamphlet/Manuals/Flyers/Articles/books etc.
  - Posters
  - Videos/Audios/Radio
  - Test material

- **Target beneficiaries**
  - Farmers
  - Extension workers
  - Commodity marketers/middlemen
  - Service providers examples Mufindi and Mwanga Community banks and Rukodia, Seida and Litenga business development services companies working with farmers groups (AMCOs)

- **Funding and implementing organisations**
  - CTA, FAO, IFAD and IICA

Description of the initiative

Experience capitalization approach aims to provide farmers and actors in the agriculture value chain with the tools, skills and methods to plan and implement knowledge that emerges from their own experience for better understanding of specific agricultural practices and for improving, upscaling and sharing of best
practices. The approach allows actors to validate their own experiences and identify best practices that can be adapted, adopted and/or improved into projects and programmes. This is because many developmental problems are recurring, and successful experiences are usually not captured. As such, the approach is an opportunity for actors to describe, analyse and document unsystematised knowledge for future reference. Directly, the documented knowledge benefits farmers by allowing them to learn and relearn from their past and existing practices. It also offers opportunity for farmers and actors to share the knowledge with colleague and interested groups such as development agencies looking to gain insights for better agricultural and rural development programming.

### Key success factors in practice: strengths and challenges

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic ARM at the government, local and civil society levels, programs</td>
<td>Sensitized farmers and agriculture value chain actors such as Tanzania Agriculture Marketing Cooperative Societies (AMCOs) and Rural community banks such as Kilimanjaro Cooperative bank, Mwanga and Mufindi community banks and many others on the essence of experience capitalization. Also, supported them with the techniques/tools they need to continually integrate the documentation of experiences (ARM knowledge) in all aspects of their activities/projects.</td>
<td>Limited time, finance and human capital to commit, adapt, and adopt capitalization experiences. Farmers and various actors in the agriculture value chain might not be able to commit themselves to integrate documentation of knowledge into all aspect of the practices.</td>
</tr>
<tr>
<td>2. Engaging the private sector for PPPs to reduce gaps in financial resource</td>
<td>Promoted collaborative capitalization process between private sector agencies and agricultural middlemen or service providers. For instance, the (Mwanga and Mufindi) Community banks and business development services companies such as Seida, Rukodia and Litenga companies are using the approach to work for farmers groups such as AMCOs. Also, individual farmers are being empowered to sponsor their own process to offset the financial needs in implementing knowledge capitalization activities.</td>
<td>Collaborating with the private agencies may affect priorities setting – in terms of which experience should be documented and not, and where funds should be allocated.</td>
</tr>
<tr>
<td>3. Responsive and responsible partnership</td>
<td>Sensitized farmers and value chain actors about the significance of documenting practices and how they can benefit from it. This enabled them to regularly record their experiences as they get along with their work.</td>
<td>Farmers have limited time to adhere to capitalisation commitments. This is because they are busy stakeholders: they are always toiling from one chore to another, even when they are sick; they might not have time to give out or document every aspect of their experiences.</td>
</tr>
<tr>
<td>4. Long term funding</td>
<td>Established discussions with donors on the need to learn from past experiences to inform future development financing decisions. This attracted donors’ priorities to finance capitalization approach.</td>
<td>Donor-dependency syndrome – on the part of the farmers who would be volunteering to give information or document their experiences.</td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers</td>
<td>CTA connects farmers and value chain actors to a network of experts who guide and train them on the experience capitalization methodologies and how to use the documented knowledge to make informed decisions.</td>
<td>Potential for knowledge misinterpretation – if the experience or knowledge is not well-documented or learned or adapted appropriately it can lead to contextual misconception or misinterpretation.</td>
</tr>
</tbody>
</table>
Key lessons

Continuous sensitization can increase farm level stakeholder’s commitment to gather best practice from their experiences. The experience capitalization approach provides an opportunity for farmers and value chain actors to collect knowledge from their experiences that can be useful reference for future improvement. Yet, its implementation and application are not without challenges. The CTA found it somewhat difficult to secure the farm level actor’s commitment to document every aspect of their experiences. This is because the actors are always busy with their informal agricultural activities; toiling from one chore to another and always find it difficult to mainstream the capitalization approach into every aspect of their practices. Mainly because it appears time-consuming for them to do so. However, CTA is increasingly sensitizing the actors about the significance of documenting practices. It is also looking to collaborate with experts to develop time-friendly capitalization methodologies for farmers to attract commitments to regularly record experiences in all aspects of farming practices.

Learn more

http://experience-capitalization.cta.int/

Case Study 8: Values-Based Holistic Community Development in Zambia, Heifer International

Quick facts

Knowledge areas of the cd initiative
- Agricultural value chain – production, harvesting, storage, processing and marketing
- Access to market and finance
- Nutrition, gender and youth
- Climate and environment
- Institutional strengthening, partnership, leadership and wash

Delivery platforms/methods of the cd initiative
- Class room (e.g. lecture, seminar/workshop)
- Farm demonstrations
- Village and town meetings
- Print/Broadcast/Social media
- Community-based groups meeting like the Community Agro Veterinary Entrepreneurs (CAVEs) and Community Facilitators (CFs), Project Monitoring Committees (PMCs)

Supporting material/resources for delivering the cd initiative
- Pamphlet/Flyers/Training manuals
- Posters
- Videos

Timeframe of implementation
2010-2016

Target beneficiaries and estimated number of beneficiaries
23,000 beneficiaries:
- Farmers
- Extension workers
- Middlemen & Service providers
- Students and researchers

**Implementing organisations**
Heifer International-Zambia and partners:
- National Food and Nutrition Commission
- Village Water Zambia
- Expanded Church Response
- International NGO’s - Self-help Africa, Oxfam, SNV, Plan International and Sustainable Agriculture Production, Send A Cow, Bothar
- University of Illinois, University of Zambia and Wageningen University
- Bimeda & Shen Agro, private veterinary extension support providers, Seba Foods, Parmalat, Vision Fund, Mayfair, and others

**Funding organisations**
- Government of Zambia – the Ministries of Agriculture, Fisheries & Livestock
- IFAD
- DFID
- World Bank
- African Development Bank
- WFP
- Elanco

**Description of the initiative**
Heifer’s Values-Based Holistic Community Development (VBHCD) model combines the transfer of assets such as livestock (physical capital), seeds and farm tools with a set of trainings (human capital) to enhance social capital and productive capacities for beneficiary households to secure livelihoods and strengthen local economies. The capacity development and knowledge sharing process in this Value-Based approach is based on training and assessment, sensitization campaign/engagement, organisational strengthening, empowerment/ leadership skills, general knowledge use, enterprise management, linkages with service providers and monitoring and evaluation. It is also grounded on total community transformation and societal values that encourages people to use their collective strengths and values to learn and share knowledge to overcome risks in agriculture and livelihoods in all forms. So far, through this approach, Heifer International Zambia has worked with different Government departments and development agencies to ensure that the challenges faced by communities are identified and a holistic social approach is applied to mitigate at the early stage.

**Key success factors in practice: strengths and challenges**

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional holistic ARM at the government, local and civil society levels</td>
<td>VBHCD model is developed as a community-based approach. This facilitates the integration of ARM knowledge and learning activities in self-help groups and cooperatives activities.</td>
<td>Limited technical capacities to integrate the knowledge at the community level. Demographic disparities – gender, age and language barriers – may also limit the number of activities that can be sustainably institutionalized or implemented.</td>
</tr>
</tbody>
</table>
### Key pillars

<table>
<thead>
<tr>
<th><strong>Good practices/Strengths</strong></th>
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</tr>
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<tbody>
<tr>
<td><strong>Engaging the private sector for PPPs to reduce gaps in financial resource</strong></td>
<td>Heifer identified areas of private sector interest with farmers and invited them for multi-stakeholder meetings and collaborative implementation of knowledge activities right from the inception phase. For instance, Parmalat sponsored a series of training activities for farmers on milk quality standards. Mayfair also assists with finance and insurance risk management.</td>
</tr>
<tr>
<td><strong>Responsive and responsible partnership</strong></td>
<td>Engaged partners throughout the various stages of activities and educated them on specific cultural/local contextual norms to increase their understanding of what to do, how to do and what is expected of their responsibilities. Besides, Heifer organizes regular multi-stakeholder meetings where different stakeholders identify areas of synergy and plans to work together. This created a trusting relationship for transparency and regular communication among all partners.</td>
</tr>
<tr>
<td><strong>Long term funding</strong></td>
<td>Track record of building the capacities of communities and the successes in achieving targeted goals continually attracts external donor supports and local sponsorships from private agencies. For instance, Elanco has been a generous donor over the past years because of Heifer’s result-based delivery to farmers.</td>
</tr>
<tr>
<td><strong>Key expertise from research, education, international organizations as key resources for farmers</strong></td>
<td>Heifer connects universities and experts to the farmers for training, on-farm demonstration, peer to peer learning and evidence-based lessons learned activities on animal and crop management.</td>
</tr>
</tbody>
</table>

### Key lessons

- **Demographic disparity factor.** There was a great willingness of community members to embrace Heifer’s Values-Based Holistic Community Development approach for continued cooperation and sharing of knowledge in peer learning using community-based trainers and organised farmers groups. However, demographic disparity was a key lesson for the success. Farmer groups comprise of diverse profiles – men, women, youth, elderly, literate, semi-literate and illiterate. These differences hamper the potential of Heifer’s Values-Based Holistic Community Development approach to meet various farmers’ need. However, Heifer is still negotiating with the research centres to train more community-based trainers so that they can cater for the knowledge needs of all the farmers.

### Learn more

4.6. Insurance/finance for agricultural resilience

Access to financial services, including small-scale packages such as micro-savings and micro-credits plays a role in increasing farmers’ potential to manage risks. With accessible finance, farmers’ can secure funds to buy quality inputs, to contract additional labour, and to transport their produce to post-harvest storage centres or to the urban market centres where commodity pricing are usually better. However, access to finance means also access to debts. Therefore, a successful access to finance requires a careful assessment of farmers’ cash flow and ability to pay-back loans. Similarly, agricultural insurance is beneficial in protecting farmers’ assets against weather shocks and other disastrous events that are encountered during production activities and beyond but farmers’ skill to understand how insurance works are essential. While the importance of these two tools cannot be disputed, farmers have found it challenging to access the tools, in general, and the knowledge on the tool, in particular. Among the organisations supporting farmer to understand and manage finance related tools are WFP and the UNFFE. The case studies 9 and 10 shows how these two agencies are delivering CD initiatives to assist farmers in the areas of finance and insurance risk management.

Case Study 9: R4 Rural Resilience Initiative in Zambia, WFP

Quick facts

- **Knowledge areas of the CD initiative**
  - Agricultural value chain – marketing
  - Access to market and finance
  - Climate and environment

- **Delivery platforms/methods of the CD initiative**
  - Farm demonstrations
  - Farm clinics
  - Broadcast media – radio and megaphones
  - Lead farmer and farmer group model

- **Supporting material/resources for delivering the CD initiative**
  - Posters
  - Videos

- **Country of implementation / Timeframe**
  
  Zambia / August 2014-June 2021

- **Target beneficiaries**
  
  Farmers

- **Implementing organisations**
  
  - WFP
  - Heifer international
  - Vision Fund Zambia
  - Zambia Meteorological Department (ZMD)
  - UNDP
  - FAO
  - Ministry of Agriculture
  - Ministry of Community Development and Social Welfare
  - Mayfair Insurance Company
  - Development Aid from People to People (DAPP)
Funding organisations
- KOICA
- SDC
- GCF

Description of the initiative

- R4 Rural Resilience Initiative (R4) is a joint WFP and Oxfam America intervention launched in 2011 to increase food and income security of vulnerable households in the face of the increasing climate risks. The initiative is built on an innovative model that combines four risk management strategies: improved resource management through asset creation (risk reduction); insurance (risk transfer); livelihood diversification and microcredit (prudent risk-taking); and savings (risk reserves). R4 was first initiated in Ethiopia, Senegal, Malawi and Zambia, and currently piloted in Kenya and Zimbabwe.

- In Zambia, the R4 is creating bridges to reinforce knowledge and impact of actions to build resilience and better manage climate and agricultural risks. Farmers receive knowledge on financial literacy, numeracy and index insurance design. Experts are also trained to deliver the knowledge and training to farmers in extension lead or follower farmer model. With this, the R4 has broken new ground in the field of integrated climate risk management knowledge and capacity development on ARM. Thus, enabling the poorest farmers to acquire knowledge and skills to receive crop insurance in exchange for investing in asset creation and improved resource management through social safety nets, assets management and conservation agriculture activities.

Key success factors in practice: strengths and challenges

### Key pillars

<table>
<thead>
<tr>
<th></th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Institutional holistic ARM at the government, local and civil society levels, programs</strong></td>
<td>Worked with local agricultural offices and the district partners to secure local buy-in of R4 initiative’s components – credit, insurance and savings. This enhanced the institutionalization process from local to national level activities/plans.</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Engaging the private sector for PPPs to reduce gaps in financial resource</strong></td>
<td>Components are built on a purely market-based financing opportunity/agreement, which are lucrative and attractive to the private. Also, the WFP delivered basic financial literacy activities to build farmers understanding, which encouraged private finance partnership in the project.</td>
</tr>
<tr>
<td>3.</td>
<td><strong>Responsive and responsible partnership</strong></td>
<td>Comprehensively coordinated activities from the district up to the national level – in working groups with quarterly review meetings to monitor progress of each partner’s contributions. This improves check and balances.</td>
</tr>
</tbody>
</table>
4. Long term funding

<table>
<thead>
<tr>
<th>Good practices/Strengths</th>
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<tbody>
<tr>
<td>Continuously engaged with donors through meetings and presented ongoing results from the project. Also, efforts have been made to integrate into existing government systems and social protection programmes - this attracted more funding. Also, additional funds were sourced from the government and the GCF through their commitment to green financing and climate risk management.</td>
<td>Donor dependency. Limited local opportunities/capacities to design tools that could attract more funds from within the local people than external.</td>
</tr>
</tbody>
</table>

5. Key expertise from research, education, international organizations as key resources for farmers

<table>
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<tbody>
<tr>
<td>WFP provides technical support on information services for the insurance packages, communication and translation support for the knowledge materials, transportation network to reach the farmers etc.</td>
<td>Technical expertise is mostly external-based personnel whom cannot be engaged after the end of the project.</td>
</tr>
</tbody>
</table>

Key lessons

- **Build the micro-insurance knowledge and data for weather simulations.** The R4 initiative plays an important role in increasing farmers’ knowledge on ARM and capacity to manage risks. It enables farmers to improve their livelihoods and dietary diversity for food security. It also strengthens their access to and capacity to build financial capital. The achievement of these success in some cases, are hampered by the farmers limited understanding of micro-insurance systems, together with inadequate robust climatic observation and weather information for the service delivery partners. Thus, tapping the full potential of the R4 initiative in Zambia calls for more financial literacy training for farmers and improvement in the weather information systems.

Learn more

- [https://www1.wfp.org/r4-rural-resilience-initiative](https://www1.wfp.org/r4-rural-resilience-initiative)

Case Study 10: Financial Access for Rural Poor Communities in Uganda, UNFFE

Quick facts

- **Knowledge areas of the cd initiative**
  - Agricultural value chain – production and harvesting
  - Access to market and finance

- **Delivery platforms/methods of the cd initiative**
  - Class room (e.g. lecture, seminar/workshop)
  - Farm demonstrations
  - Village and town meetings

- **Supporting material/resources for delivering the cd initiative**
  - Pamphlet/Manuals/Flyers
  - Posters
  - Videos
**Country of implementation / Timeframe**
Uganda / 2010-2017

**Target beneficiaries**
Farmers

**Estimated number of beneficiaries**
- 2500 adult farmers’ groups
- 800 youth groups
- 3800 businesses established by the farmers
- 1800 youth are registered and employed in agri-food activities

**Implementing organisations**
- Uganda National Farmers Federation (UNFFE)
- District farmers’ associations
- Community based farmer groups

**Funding agency**
Swedish Cooperative Center.

**Description of the initiative**

The Financial Access for Rural Poor Communities initiative implemented by the UNFFE is a village savings and loan association model informed by democratic choice of leadership, consultations and accountability. It aims to increase farmers’ access to finance for increased production and productivity, and to strengthen farmers’ collaboration and network in understanding risks, and jointly find possible solutions. Through this initiative, the UNFFE deliver trainings for District Farmer Associations (DFAs) coordinators, who, in turn, mobilise Community-Based Trainers (CBTs) for training. The CBTs are mandated to also mobilise farmers in the sub-counties together in groups of 30 members for more grassroots level knowledge sharing. Each farmer group therefore mobilises the individual farmers for the knowledge sharing and learning activities. The trainings focus on knowledge and capacity building in the areas accounts management, gender, entrepreneurship, business management and leadership.

The knowledge, hitherto delivered through this initiative, has reached over 70,000 adults and 19,000 youths organized in 2,400 VSLA groups for adults and 800 VSLA/farming groups for youths respectively in 7 Districts, and more than 7000 businesses have been established. These rural farmers have been able to make savings amounting to a cumulative value of Ug.Shillings 19.3 billion and borrowings of a cumulative value of Ug.Shillings 17.6 billion for adults. While the youth have savings of a cumulative value of Ug.Shillings 6.4 billion and borrowings of a cumulative value of 5.6 billion. These achievements are making it possible for farmers to secure finance to purchase pumps for irrigation, hire land for cultivation, buy inputs and lease farm implements for productivity.

**Key success factors in practice: strengths and challenges**

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional holistic arm at the government, local and civil society levels</td>
<td>Sensitized and established a savings culture among farmers, which increased trust and confidence to strengthen the institutionalization of finance risk management options at the farm level.</td>
<td>Problems of theft, risk of non-payment and defaults, informality of the group activities because most cooperatives are not registered with the government.</td>
</tr>
<tr>
<td>Key pillars</td>
<td>Good practices/Strengths</td>
<td>Issues to consider/Challenges</td>
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</tr>
<tr>
<td>Engaging the private sector for PPPs to reduce gaps in financial resource</td>
<td>Introduced banks to understand the financial potential of farmers. This attracted the banks such as Blac, Tropical Bank, DFCU, Centenary in Uganda to invest in group savings and loans activities to serve the farmers.</td>
<td>Farmers’ ability to borrow is usually in small amounts not attractive to make big investment impact as preferred by the private sector.</td>
</tr>
<tr>
<td>Responsive and responsible partnership</td>
<td>Relied on intra-group partnerships where each farmer group member watches over (reminds) the one another of its expectations by the group - this assures internal checks and balances and reduces default rates.</td>
<td>Partners/members are in remote areas and are difficult to reach out to – mostly of them are like a loose coalition, their address, registration is not easily facilitated.</td>
</tr>
<tr>
<td>Long term funding</td>
<td>Combines self-funding from the farmers groups and external support for capacity building activities to guarantee sustainability.</td>
<td>Unreliability of farmers’ financial resources – income is seasonally earned and usually minimal.</td>
</tr>
<tr>
<td>Key expertise from research, education, international organizations as key resources for farmers</td>
<td>Uganda National Farmers Federation provides technical expertise for financial literacy training. It also offers translation services for better communication, where necessary.</td>
<td>Difference in the contextual understanding of the knowledge delivered.</td>
</tr>
</tbody>
</table>

**Key lessons**

Agricultural finance risk management knowledge sharing and learning activities may end with the savings cycle. Farmer-friendly financing mechanisms such as the Village Savings Loans Associations (VSLAs) is key in enabling smallholder access to credit to manage agricultural finance risks associated in purchasing inputs, storage and marketing and processing commodities. VSLAs also offer more than 99% recovery rate of the loans taken since the community knows where the borrower’s lives, their lifestyles and relatives etc. However, the opportunity for farmers to acquire continuous agricultural finance risk management knowledge may end with the savings cycle. Farmers usually lack the motivation to restart the savings activities once the cycle ends and the money is shared.

**Learn more**

- www.unffe.org
4.7. From risks to profits

Motivating farmers to cultivate for the market is crucial for poverty reduction. This raises the need to ensure that farmers have access to knowledge and information on the best quality inputs, reliable market and accessible information for the crops they intend to invest in as well as the right financing packages to steer investment.

In view of this, many organisations are designing and implementing CD initiatives to equip farmers with the knowledge required to develop pathways to commercialize low-value subsistence crops/staples into profitable ventures. By doing this, the organisations are supporting farmers to step up against the risks in commercializing agriculture. They are also providing an opportunity to attract private investments for agricultural development. A key effort on the ground, which is ensuring farmers’ access to high-value crops and strengthening their potential to penetrate commercial production, is illustrated in the case study 11 below;

Case Study 11: Value Chain for Bio fortified Orange-Fleshed Sweet Potato in Kenya, CIP

Quick facts

- **Knowledge areas of the cd initiative**
  - Agricultural value chain – production, harvesting, storage, processing and marketing
  - Market access
  - Nutrition

- **Delivery platforms/methods of the cd initiative**
  - Farm demonstration
  - Village and town meetings
  - Mobile-based - calls, text messages, mobile application
  - Cooking demonstrations
  - Online upload of sweet potato recipes- that show stepwise preparation
  - Community based meetings dabbed ‘field days’
  - Structured nutrition education in mother to mother support groups

- **Supporting material/resources for delivering the cd initiative**
  - Pamphlet/Manuals/Flyers
  - Posters
  - Audience appropriate recipe books
  - Pictorial flipcharts
  - Technical workshop reports- available free online
  - Peer reviewed journal articles- Open access

- **Country of implementation / Timeframe**
  Kenya / October 2013 to March 2019

- **Target beneficiaries and estimated number of beneficiaries**
  About 750,000 beneficiaries:
  - Farmers
  - Extension workers
  - Commodity marketers/middlemen/processor (private sector)
  - Service providers like hotels, schools, hospitals
  - Consumers
Implementing organisations
International Potato Center, Safe Produce Ventures, Government Departments, NRI-UK, various Traders such as the Organic Limited and Safe Produce Ventures

Funding organisations
DFID

Description of the initiative

Value Chain for Biofortified Orange-Fleshed Sweet Potato (OFSP) is an initiative designed to promote pathways to commercialize OFSP. It also aims to build the capacity of value chain actors to meaningfully support and invest in the OFSP, and to contribute to the reduction of Vitamin A deficiency in Kenya. The partnership framework for this initiative involves CIP and a range of actors such as the beneficiary farmers, entrepreneurs and consumers. CIP delivers knowledge on agronomic skills and income generating avenues of OFSP to attract farmers and businessmen to invest into OFSP and consider it as an alternative to other crops in the market. Farmers and entrepreneurs gain access to the technologies and management practices to address the production, storage, processing and marketing risks. Information on the nutrition and gastronomic benefits are posted publicly on media platforms to entice consumers to choose and eat OFSP as a staple.

Key success factors in practice: strengths and challenges

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic arm at the government, local and civil society levels, programs</td>
<td>Trained partner institutions like the Safe Produce Ventures, government agriculture department and farmer organisations on good agronomic practices for orange fleshed sweet potato including use of low-cost screen houses referred to as net tunnels. This created pool of experts on OFSP to support farmers even after the end of the project. It also enabled the government to aim for aligning OFSP knowledge activities into the Health, Education, Agriculture administration and programmes.</td>
<td>After the end of the project, training activities are likely to be seasonal and not continuous. This is because of the seasonality of potatoes production in Kenya.</td>
</tr>
</tbody>
</table>

2. Engaging the private sector for PPPs to reduce gaps in financial resource | Partnered with hospitals, schools, commodity marketers and processors like the Safe Produce Ventures who provide buying contracts to farmers and add value addition to sweet potatoes. These linkages with the partners increased farmers’ confidence to access the market for OFSP for better income. Also, the availability of partners and their contributions to consumer research and monitoring enhanced learning opportunities to develop cost-saving technologies for OFSP value-chains. | The long dry months within the year is highly likely to affects farmers potential to continuously produce more to meet the market demand. |
Platform for Agricultural Risk Management
Managing risks to improve farmers' livelihoods

<table>
<thead>
<tr>
<th>Key pillars</th>
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</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td><strong>Responsive and responsible partnership</strong>&lt;br&gt;Partners including the government, universities and the Safe Produce Ventures collaborated and supported the training activities to reduce risk of OFSP by engaging in the design and delivery of the components and providing inputs for further improvements.</td>
<td>Continuous supports of time and efforts from partners cannot be guaranteed. Partners may be tied up by other commitments elsewhere.</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Long term funding</strong>&lt;br&gt;The project has a strong focus to commercialize orange fleshed sweet potato in the long term. This will enable each value chain actor to internally generate its own funding for further investments.</td>
<td>Transition to a full commercial value chain may take time – as the market for OFSP in developing countries like Kenya is still not well-developed.</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Key expertise from research, education, international organizations as key resources for farmers</strong>&lt;br&gt;This project brought to farmers technologies around bio fortified orange fleshed sweet potato. This included new varieties, low-cost ways for disease control, post-harvest handling and quality assurance as required by local and international markets.</td>
<td>Appropriateness of OFSP farming and value addition technologies to the local situations and conditions - some technologies may cost higher to be maintained by local farmers and value chain actors.</td>
</tr>
</tbody>
</table>

**Key lessons**

- **The need to build resilient CD4ARM options in the face of increasing climate change conditions.**<br>With the knowledge of OFSP disseminated to various value chain actors, farmers now prioritize and specialize in the production of OFSP as an income-generating crop and not a poor man’s crop. It has also attracted businesses to invest and trade in OFSP bread, puree and other products. Also, as a bio fortified crop, the OFSP is a good source of nutrient contributing to the reduction of Vitamin A deficiency in Kenya. Despite these advantages, the value chain actors have not really harnessed the full potentials of the OFSP. Farmers often lost their planting materials during the long period of dry spells within the year. Very few are able to produce and benefit from the OFSP training activities. CIP is however finalizing the development of a methodology for storing drought-resistance vines to ensure the crop is secure throughout the year. It is also integrating climate adaptation components into its training to strengthen farmers' knowledge to cope with climate variations. Additionally, the project directly aligns with the Government of Kenya's goals for food and nutrition security, thus creating opportunities to sustainable support the initiative.

**Learn more**

- [https://cipotato.org/regions/sub-saharan-africa1/](https://cipotato.org/regions/sub-saharan-africa1/)
4.8. Lessons learned

The 11 case studies in this session illustrate the experiences of delivering and achieving success in CD on agriculture and risk-related knowledge at the farm level. Each initiative has a unique experience, in terms of the target population, focus areas of knowledge, delivery platform/methodology, focused materials, country of implementation and among others. Nevertheless, the experience can be adapted to facilitate successful CD in different situations. The process of adapting best practices from these experiences should also be accompanied by a careful learning of the lessons that emerged.

A key lesson learned from the experiences is that adequate financing plays a crucial role in extending knowledge sharing activities to farmers and ensuring sustainability of CD. For instance, the CABI’s Plantwise – Plant Clinic – initiative is highly patronized by farmers within and beyond the beneficiary communities, but budgetary and financial limitations could not make it possible to reach many farmers and respond to their needs. Hawassa University’s ToT also demands financing obligations to train a wide range of trainers working with farmers, and to follow-up with the beneficiary trainees for results and impacts assessment. To prevent the financial constraints from thwarting the success of CD, various organizations – like the CABI – learned to work with extension service workers and focused on key areas of relevance for knowledge transfer to farmers. Others, such as the FAO also established contractual instruments Letters of Agreement that outlines the expected roles of field partners/institutions and the spending modalities. This ensures effective use of limited finance for CD at the farm level. Most of the challenges, however, lie in ensuring an adequate budget for CD4ARM as part of a national ownership programme after the exhaustion of external funds. For this, advocacy and awareness raising, and strong commitments are needed at cross-cutting policy level, from agriculture to planning department and finance ministry.

Another important lesson can be drawn from the difficulty in delivering CD for a larger network of diverse farmer groups and how to ensure that each farmer absorbs and uses the knowledge acquired. As revealed in the Heifer’s Values-Based Holistic Community Development approach, farmer’s profiles are diverse in terms of age, gender, language and educational level. These differences hamper the potential of to meet various farmers’ needs. On the other hand, the challenge of knowledge use and adoption stems from the “already-knowing everything” perception among youth farmers. For instance, EAFF’s youth farmers portray themselves as knowledgeable of agribusiness operations and do not need any further understanding on risk management. This perception existed among the target groups in several of the initiatives illustrated above. In dealing with this, the experience suggests the need for a differential targeted approach, that amongst all the steps include negotiating with volunteer professional facilitators to reach out to farmers of similar demographic profiles in small groups. Also, the use of demonstration activities and other interactive methodologies are key approach to convince youth farmers to learn more in addition to what they already know. Videos on specific areas on knowledge can proof effective in enhancing the use and adoption of knowledge for better understanding of ARM.
5. Roles, opportunities and challenges in the multi-stakeholder framework to deliver impactful capacity development approaches for ARM

As highlighted in Section 2, risks and capacities vary from one actor to another. Each actor faces unique risks that test the ability to manage portion of the value chain that might may also have impacts on other actors through a cascade effect. In this context, policy and other decision-makers, development partners and civil society must consider farm-level risks impacting the whole agri-food system when designing long-term strategies for the development of the agricultural sector.

Building upon the key elements identified for effective and successful CD activities at the farm level as discussed in Session 2, this section presents the opportunities and the challenges faced by stakeholder groups – government, development agencies, university and research centres, farmers’ organizations and civil society – in designing, implementing and ensuring the sustainable adoption of ARM knowledge activities. It also highlights on how specific stakeholder challenges can be addressed for farmer-friendly and impactful CD initiatives.

5.1. Government

From the evaluation of the main key factors for successful CD4ARM initiatives, it emerges the key role of government and local public institutions for a full-functioning knowledge transfer process at farm level. This comes unsurprisingly, considering the vocation of public sector to perform not only the operational but also the strategical management role in serving the communities and looking after their interests (Poister and Streib, 1999).

The ‘operational arm’ of the Government for CD4ARM is constituted by a (more or less) wide network of qualified and trained extension officers that are considered a key resource (to build) farm expertise. Needless to say, the ideal effectiveness of extension service to transfer ARM knowledge and practices to farmers clashes with many constraints encountered in many African countries, mostly related to scarce resources to invest for providing such service. The bottlenecks are constituted by the limited personnel, the challenges to reach remote areas and communicate with poorly literate farmers, the lack of opportunities for continuous training and for promoting innovative solutions to farmers. These limitations create nevertheless incentives for different and complementary solutions in transferring knowledge and skills, for example adopting a farmer-to-farmer extension services and experience capitalization approaches (Kiptot and Franzel, 2015; FAO, 2013).

Strategically, the Government is empowered to institutionalize an ARM holistic (approach), a key element for successful CD activities, through integrating ARM into new or existing policy frameworks, mobilizing resources and create a favourable environment for all the stakeholders to participate and prosper in handling agricultural risk management. The organizational capacity to gather resources and partners, and its role on mainstreaming CD initiatives to ensure their sustainability gives also to the Government the central role in pursuing other two key elements for success, i.e. building responsible and responsive partnership and PPPs to reduce gaps of financial resource. Partnerships are however seen by Government not only as the principal means to build, consolidate and disseminate knowledge but also as an element of interference to ownership and policy that, paring with internal challenges constituted by corruption, weak regulatory enforcement and policy inconsistencies, might compromise the entire process of building successful CD4ARM. Long-term (dedicated) funding, that is another key element to ensure farmer-friendly and impactful CD approaches, is one of the sorest points of the Government action; their absence, however, emerged from our discussions and related literature (see for example, Martinez Peria and Schmukler, 2017).

Despite the potential for Government actions, insufficient monetary resources (both short- and long-term) can in fact compromise both the sustainability of ARM knowledge transfer actions that appear to be at stake without development agencies and/or private sectors budget interventions.
### Table 5: Key factors – strengths and challenges for Government

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic ARM at government, local and civil society levels, programs</td>
<td>• Existence of regularly reviewed strategic framework; • Potential to mobilise resources • Wide outreach • Sustainability and upscaling • Organisational capacity • ICT availability • Easy mobilization through cultural, religious and producer organizations • Potential to mainstream into government planning and budgeting framework • Institutionalizing ARM into already existing structures</td>
<td>• Limited finance • Policy inconsistencies • Weak regulatory enforcement • Poor communication systems • Institutional buy-in and ownership challenges • Weak M&amp;E systems</td>
</tr>
<tr>
<td>2. Engaging the private sector for PPPs to reduce gaps of financial resource</td>
<td>• Potential to mobilise resources • Potential to mainstream into government planning and budgeting framework Institutionalizing ARM into already existing structures</td>
<td>• Limited finance • Political interferences • Institutional buy-in and ownership challenges • Limited finance</td>
</tr>
<tr>
<td>3. Responsive and responsible partnership</td>
<td>• Potential to mobilise resources • Wide outreach • Sustainability and upscaling • Organisational capacity Easy mobilization through cultural, religious and producer organizations • Potential to mainstream into government planning and budgeting framework • Institutionalizing ARM into already existing structures</td>
<td>• Limited finance • Policy inconsistencies • Governance challenges – corruption • Political interferences • Weak M&amp;E systems • Donor dependency • Lack of exit strategy • Limited finance</td>
</tr>
<tr>
<td>4. Long term funding</td>
<td>• Potential to mobilise resource • Potential to mainstream into government planning and budgeting framework • Institutionalizing ARM into already existing structures</td>
<td>• Limited finance • Governance challenges – corruption • Weak M&amp;E systems • Lack of exit strategy • Limited finance</td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers</td>
<td>• Availability of trained and qualified human capital • Wide outreach • Wide network of extension officers • ICT • Continuous awareness and capacity building</td>
<td>• Inadequate data • High extension officer-farmer ratio • Low literacy levels among farmers • Poor communication systems • Limited finance</td>
</tr>
</tbody>
</table>

### 5.2. Development agencies

Through incorporating ARM in their projects and programs, and dialoguing with Governments to integrate the ARM component in national policies, development agencies play a major role in raising awareness, put knowledge into action and disseminating (good) practices to manage risks. More directly, they can even contribute to the development of sustainable and innovative ARM tools to be then implemented at farm level. In building responsible and responsive partnerships development agencies represent one of the stakeholders that could contribute and assure to the overall CD4ARM process coherence, monetary resources and technical expertise. The
latter represents their main strength also as key resource for farm expertise, due to their know-how capitalized in different countries and contexts, the support of people specialized in different fields, and their rigour throughout all the knowledge transfer process, from the design to M&E. One example is agencies’ contribution to provide data evidence that is mostly needed to validate actions and possible upscale of development projects (Kusek, and Rist, 2004). All these strengths contribute to institutionalize an ARM holistic approach that can also be more inclusive of gender, climate and nutrition elements considering broader agenda of development agencies that include for example the accomplishment of Sustainable Development Goals (SDG), within the desired objectives of single CD4ARM initiatives (UN, 2015). Another positive role attributed to development agencies for successful and effective CD initiatives is their contribution to mobilise private sector funds in building PPPs to reduce gaps of financial resource and help the long-term funding issues with the injection of own or external monetary resources into public budget.

Although development agencies might facilitate a policy dialogue for the sustainability and mainstreaming of CD initiatives, insufficient follow-up of the process has been detected as a challenge that could jeopardize the institutional holistic ARM at Government, local government and civil society level, the responsive and responsible partnership and the provision of key resources for farmers. Besides their “good samaritan” intentions, the discussions held during the workshop highlighted that development agencies actions for farmers’ friendly and effective CD initiatives are affected by their short-term and circumstantial conditions that are hardly sustainable and often designed with no exit strategy in case termination and sudden funds interruptions. If not well-thought or adapted to the local context, their intervention might lead to non-adequate solutions, chaos and scarce effectiveness.

While their expertise and “holistic” ARM vision might be appreciated as a key resource for farm expertise, unrealistic and not systematic design, top-down approach, and excessive focus on public sector and on solutions instead of processes are identified as weaknesses for development agencies. Implementation phase of CD initiatives remains the strong asset of development agencies, but limitations can be found in their excessive bureaucratic and rigid approach, their distance from the real field-life and limited involvement of other stakeholders, for example the private sector and their contribution in engaging it into PPPs. In general, to pursue success of CD4ARM initiatives through their key factors, development agencies should not operate in a vacuum with respect to other stakeholders in order to avoid duplication and/or inconsistencies, especially when called to build responsive and responsible partnership.

Table 6: Key factors – strengths and challenges for development agencies

<table>
<thead>
<tr>
<th>Key pillars</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic ARM at government, local and civil society levels, programs</td>
<td>• Convene and coordinate discussions around ARM solutions; • Design rigour – inclusive of gender, climate and nutrition • Integration into bigger instruments/programmes • Holistic assessment • Bring in implementation experience • Technical assistance for design • Bring M&amp;E methods and expertise • Exchange experience • Build capacity • International coordination</td>
<td>• Weak adaptation to local context • Lack of expertise on ARM • IFIs distance from the field • Rigidity and bureaucracy • Lack of exit strategies • Difficult in learning lessons</td>
</tr>
<tr>
<td>2. Engaging the private sector for PPPs to reduce gaps of financial resource</td>
<td>• Engage private sector</td>
<td>• Rigid and bureaucratic • Excessive focus on public sector • Limited private sector engagement • Opportunistic</td>
</tr>
</tbody>
</table>

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(...)

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Responsive and responsible partnership</td>
<td>- Financial resources – funding&lt;br&gt;- Integration into bigger instruments/programmes&lt;br&gt;- Bring in implementation experience&lt;br&gt;- Technical assistance for design&lt;br&gt;- Bring in resources -funds&lt;br&gt;- Bring M&amp;E methods and expertise&lt;br&gt;- Exchange experience&lt;br&gt;- Build capacity&lt;br&gt;- International coordination</td>
<td>- Reconciling objectives and prospective&lt;br&gt;- Excessive public sector&lt;br&gt;- IFIs distance from the field&lt;br&gt;- Rigid and bureaucratic&lt;br&gt;- Excessive focus on public sector&lt;br&gt;- Opportunistic&lt;br&gt;- Lack of follow-up supports</td>
</tr>
<tr>
<td>4. Long term funding</td>
<td>- Bring in resources -funds</td>
<td>- Short duration&lt;br&gt;- Lack of exit strategies</td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers</td>
<td>- Data evidence&lt;br&gt;- Bringing experience from different countries - people and knowledge&lt;br&gt;- Technical support for design&lt;br&gt;- Implementation experience&lt;br&gt;- Design rigour – inclusive of gender, climate and nutrition</td>
<td>- Chaos and duplication&lt;br&gt;- Weak adaptation to local context&lt;br&gt;- Design not systematic and realistic&lt;br&gt;- Too much solution focus&lt;br&gt;- targeting&lt;br&gt;- IFIs distance from the field&lt;br&gt;- Difficult in learning lessons</td>
</tr>
</tbody>
</table>

### 5.3. Universities and research institutions

With their high expertise and scientific focus on major agricultural risks and trends, such as climate change, and their multidisciplinary approach in filling farmers’ knowledge gaps, the strengths of universities and research centres through all CD4ARM process undoubtedly contribute to reach many of the highly ranked key factors for success. Their role is particularly important in stimulating a favourable institutional holistic ARM environment, contributing to responsive and responsible partnerships and being a key knowledge resource for farmers. Universities and research centres’ contribution is also essential considering their unique way to mobilize human resources, have access to ICT technology and work in tandem with local actors to build responsible and responsible partnership and to assure a consistency between design and needs.

There are also challenges identified to contribute to farmers’ friendly and effective CD initiatives. As designers of CD4ARM initiatives, they face limited funds/opportunities when applying for innovative research to transfer into practices practice; monetary and opportunities constraints are worsened by slow (and very competitive) application process and delays before and the approval of research projects. As executers of CD4ARM initiatives, the discussants mentioned that an externally driven agenda (of donors or sponsors, for example) can be an impediment to their intellectual freedom and actions when participating into partnerships, together with a lack of platform for stakeholders’ exchange in order to ensure coherence policy and dialogue.

While universities and research centres’ expertise and multidisciplinary approach is widely recognized and essential for pushing forward a holist ARM approach, the participants to our workshop underline that the reality may offer a less outlined picture. Their work is internally identified as proceeding along “separate compartments” in different fields, despite the need for cross-cutting approaches and fertilization of knowledge. The limited staff involved with respect to needs, poor coordination and lack of management capacity are identified as further challenges that can compromise the successful involvement of universities and research centres aforCD4ARM success. Their short-term project involvement is also an element that jeopardizes their contributions for sustainable and long-term CD initiatives. Despite here we are dealing with universities and research centres’, the latter seems to be a challenge valid for different stakeholders involved in CD initiatives.

In conclusions, the potentials to generate and disseminate evidence and ARM knowledge of university and research centres appears still not fully exploited due to their structural weakness that seem to be common through geographical area and scientific fields.
Table 7: Key factors – strengths and challenges for universities and research centres

<table>
<thead>
<tr>
<th>Key pillars</th>
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<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic ARM at government, local and civil society levels, programs</td>
<td>• Climate change focus at global level • Highly trained professional trainers or scientist • Multidisciplinary approach providing for a range of needs</td>
<td>• Not being able to work in interdisciplinary teams • Working in disciplinary silos • Weak/lack of platform for joint implementation</td>
</tr>
<tr>
<td>2. Engaging the private sector for PPPs to reduce gaps of financial resource</td>
<td>• ICT • Ability to engage in partnerships • Partnerships with farmer organizations, private and others</td>
<td>• Limited funds to apply innovative research to practice • Slow pace in ICT take up • Poor linkages with private sector which could take up innovations • Weak/lack of platform for joint implementation</td>
</tr>
<tr>
<td>3. Responsive and responsible partnership</td>
<td>• Ability to engage in partnerships • Ability to follow procedure, logic and Theory of Constraints (ToC) • Position of intellectual respect • Multidisciplinary approach providing for a range of needs • Partnerships with farmer organizations, private and others</td>
<td>• Externally driven agenda • Limited resources • Poor coordination</td>
</tr>
<tr>
<td>4. Long term funding</td>
<td>• Long term and slow approval process for innovative ideas • Limited funds to apply innovative research to practice • Limited resources • Short term project-linked funding for institutionalizing innovations</td>
<td></td>
</tr>
<tr>
<td>5. Key expertise from research, education, international organizations as key resources for farmers</td>
<td>• Highly trained professional trainers or scientist • ICT • Ability to follow procedure, logic and Theory of Constraints (ToC) • Position of intellectual respect • Multidisciplinary approach providing for a range of needs • Able to involve students</td>
<td>• Not being able to work in interdisciplinary teams • Working in disciplinary silos • Limited scientist/staff compared to the need • Slow pace in ICT take up • Lack of capacity to manage long term projects at the grassroots level • Lack of skills to engage with farmers directly</td>
</tr>
</tbody>
</table>

5.4. Farmers’ organizations

In developing countries, farmers often operate at subsistence level, suffering from government’s lack of investment in smallholder agriculture and from poor conditions to reach markets, including weak rural infrastructures, inadequate production and financial services (AGRA, 2017). Organizing themselves into farmers’ various self-help groups and associations at local, national, regional and international level to promote poverty reduction in rural areas, addressing in the meantime also gender and youth issues, is one of the solutions to overcome the abovementioned constraints (Petunia, 2011). During the last few years farmers’ organizations, have gone from passive receivers and beneficiaries of aid and support to main drivers of changes occurred at farm level, including the ones affecting ARM practices and tools. They are now widely recognized as essential actors for all the phases of the CD process, especially if we consider their attempt to find complementary solutions to public intervention in transferring knowledge and skills.
The ways they communicate with farmers seem to be their strength for CD4ARM, especially for the element key resources for farm expertise. FOs’ geographical proximity make them more effective in the agricultural risk assessment and CD design phases for their better knowledge of the context with respect to other stakeholders; the implementation of training activities is eased by their branched organizational structure, and access to technology and media close to farmers’ needs and preferences. Moreover, their indigenous knowledge is definitely a strength in making their contributions effective. All these reasons indicated FOs amongst the most accountable stakeholder in enhancing farmers’ knowledge ownership and sustainability. These strengths also contribute to create and support responsive and responsible partnership and institutional holistic ARM at government, local and civil society levels, and programs: thanks to an overall inclusive approach – for example of the gender and youth agendas just to mention a few, and work at the grassroots level, FOs are able to bring farmers’ full representation into multi-stakeholder engagement.

Nevertheless, few are the challenges faced in the overall CD process at farm level. The lack of (own) funds remains one of the barriers to their contributions when they interact with other stakeholders in building CD4ARM, translating also in possible lower influence and contractual power; limited internal knowledge moves along the same line considering the complexity of the ARM framework and the limitations in covering a full holistic approach. For the discussants attending our workshop, also conflicting strategies and policy gaps are the major challenges in building responsive and responsible partnership with other stakeholders. Also working with farmers might present its own difficulties. Different acceptability of FOs’ interventions, for example when farmers’ drive is more for incentives rather than knowledge, and information flow that can overload CD activities recipients need to be properly handled not to jeopardize FOs contribution for the sustainability and mainstreaming of CD4ARM.

Table 8: Key factors – strengths and challenges for farmers’ organizations

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Institutional holistic ARM at government, local and civil society levels, programs</td>
<td>Technical expertise for capacity development</td>
<td>Inadequate understanding of the ARM concept</td>
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<td></td>
<td>Opportunity to deliberate on agricultural risk assessment and management</td>
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<td>Gender and inclusivity</td>
<td></td>
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<tr>
<td></td>
<td>Farmer ownership of the process by tapping into indigenous knowledge</td>
<td></td>
</tr>
<tr>
<td>2. Engaging the private sector for PPPs to reduce gaps of financial resource</td>
<td>Mobile technology</td>
<td>Funding</td>
</tr>
<tr>
<td>3. Responsive and responsible partnership</td>
<td>Organise farmers with structures to the grassroots</td>
<td>Funding</td>
</tr>
<tr>
<td></td>
<td>Partnerships</td>
<td>Conflicting strategies of development</td>
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<td></td>
<td>Inclusive partnerships</td>
<td>Policy gaps</td>
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<td></td>
<td>Political will</td>
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<td></td>
<td>Gender and inclusivity</td>
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<td></td>
<td>Farmer ownership of the process by tapping into indigenous knowledge</td>
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<tr>
<td>4. Long term funding</td>
<td>–</td>
<td>Funding</td>
</tr>
</tbody>
</table>
## 5.5. Private Sector, NGOs & foundations

Private sector is becoming more and more attractive in in terms of being integrated in development initiatives (Growthafrica, 2017). Undoubtedly, the presence of private sector brings a more business oriented /market driven approach, also into the CD initiatives; this approach is mostly needed in a farmers’ environment that is eager to change and to adapt to new challenges. Moreover, their presence appears necessary for expanding knowledge and learning possibilities, due to their technology and practical solutions contribution. In particular, considering the ARM topic, private sector has been involved into promoting insurance as an ARM tool, in building data collection processes, tracking and disseminate information, etc. This innovation also translates into the use of ICT and more technology driven platforms serving the purpose of disseminate knowledge, also at farm level. and ICT.

Moreover, the structural lack of resources of the public sector made participants identify the need to engage the private sector through Private and Public Partnerships (PPPs) as one of the key elements for CD4ARM success and effectiveness. Along with private sectors, other stakeholders such as NGOs and foundations are partners for CD4ARM. Farmers’ proximity, communication and resources to complement national providers, such as extension service, are their strengths to fulfil the key ingredients for success such as responsive and responsible partnership and (providing) key resources for farm expertise. However, their limited finance and time horizon constitutes main weaknesses that put their participation at risk, paring with their organization-al and institutional challenges.

### Table 9: Key factors – strengths and challenges for Private Sector, NGOs & foundations

<table>
<thead>
<tr>
<th>Key pillars</th>
<th>Good practices/Strengths</th>
<th>Issues to consider/Challenges</th>
</tr>
</thead>
</table>
| 1. Institutional holistic ARM at government, local and civil society levels, programs | • Increase knowledge and learning  
• Enabling policy environment  
• Implementation framework | • Short term institutional support |
| 2. Engaging the private sector for PPPs to reduce gaps of financial resource | • Availability of ICT and social media platforms  
• Market-driven initiatives | - |

(...)
### 3. Responsive and responsible partnership
- Availability of ICT and social media platforms
- Commitment of stakeholders
- Existence of farmers’ cooperative
- Enabling policy environment
- Implementation framework
- Farmer-focused

### Issues to consider/Challenges
- Competition among stakeholders
- Change of mindset
- Organizational/institutional challenges among farmers’ groups

### 4. Long term funding
- Limited resources: financial and social capital
- Short term institutional support

### 5. Key expertise from research, education, international organizations as key resources for farmers
- Increase knowledge and learning
- Willingness of farmers to participate
- Vastness of information resources
- Availability of extension workers
- Existence of farmers’ cooperative
- Need-based
- Behavioural change communication (BCC)
- Farmer to farmer learning

### Issues to consider/Challenges
- Low literacy levels
- Fast changing technology
- Lack of informed decision
- Organizational/institutional challenges among farmers’ groups

### 5.6. Multi-stakeholder framework to deliver innovative, farmer-friendly and impactful CD approaches

How can the challenges raised by one stakeholder be addressed by other stakeholders’ contributions? Table 10 presents the roles of each stakeholder group in enhancing successes of CD4ARM.

The Government self-identifies as the stakeholder in charge of creating conducive policy environment in which CD4ARM can prosper, not necessary by creating new opportunities but building on what still exist in term of formulation and design. Being a cross-cutting issue, ARM could in fact be adapted and included in other agricultural and risk related CD programs involving farmers. Engaging the right stakeholders and adopt a right communication strategy are nevertheless other important contributions to partnerships. Development agencies promote themselves with the role of partner in developing collaborative projects, assisting with both resource mobilization and building capacity at higher level to support the entire CD4ARM process. The role of Universities and research centres is more to generate knowledge, connect evidence and implement technology into practical support of projects/programs and policy. FOs see themselves more as a mediator between different stakeholders, for example collaborating with government to reduce the risks of limited finance and human resources, strengthen relationship civil society and communicate outcomes to farmers. A similar role is what civil society may embrace: connecting different stakeholders to the final users lobbying and advocating and make a multi-stakeholder platform to work to reach communities and leaders.
<table>
<thead>
<tr>
<th>Table 10: Roles of the various actors in enhancing successes of CD ARM</th>
<th>Role of Government</th>
<th>Role of Development agencies</th>
<th>Role of Universities and research centres</th>
<th>Role of farmers’ organizations</th>
<th>Role of civil society (Private Sector, NGOs &amp; foundations)</th>
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</thead>
<tbody>
<tr>
<td>Formulating design of innovative CD solution</td>
<td>• Create a conducive policy environment that prioritizes research and enforcement to reduce lengthy processes</td>
<td>• Developing collaborative projects</td>
<td>• Context specific data</td>
<td>• Creation of awareness</td>
<td>• Lobby and advocacy on the part of donors and government agencies linked to agricultural research on ARM</td>
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<tr>
<td></td>
<td>• Multisector approach</td>
<td>• Responsible and responsive partnership</td>
<td>• Programs to show negative implications of corruption</td>
<td>• Joint design and co-creation</td>
<td>• Proper targeting and selection</td>
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<tr>
<td></td>
<td>• Build on existing initiatives</td>
<td>• Use of lessons learned from other contexts</td>
<td>• Appropriate communication to the local context</td>
<td>• Multi-stakeholder platform to consistently engage government and advocate for policy change</td>
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<tr>
<td></td>
<td>• Enhanced communication</td>
<td>• Assist decentralised agencies with resource mobilisation</td>
<td></td>
<td>• Civic education for communities to demand capacity development on ARM</td>
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<td></td>
<td>• Reduce the time-frame to match with changing technology</td>
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<td>• Design new solutions to collect data - ICT</td>
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<td></td>
<td>• Facilitating capacity development programs</td>
<td></td>
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<tr>
<td>Organizing/ implementing innovative CD activities reachable by farmers</td>
<td>• Prioritize demand driven research</td>
<td>• Responsible and responsive partnerships</td>
<td>• Access, use and availability of data</td>
<td>• Collaborating with government and many partners to reduce the risks of limited finance and human resources</td>
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<td></td>
<td>• Funding to give direction and quality assurance</td>
<td>• Feedback mechanisms</td>
<td>• Business models for ICT solutions</td>
<td>• Awareness creation</td>
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<td></td>
<td>• Engage with village-based leaders</td>
<td></td>
<td>• Strong voices of continuity to fight political interference</td>
<td>• Civil society role to translate research output and their relevance for needs assessment</td>
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<td></td>
<td>• Collaborative efforts</td>
<td></td>
<td>• FFS study circles and improve extension officer-farmer ratio</td>
<td>• Strengthen community-based extension system, village agents</td>
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<tr>
<td></td>
<td>• Utilization of research and evidence</td>
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<td></td>
<td>• Facilitate farmer to farmer training</td>
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<td></td>
<td>• Packaging information into appropriate format - language</td>
<td></td>
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<td>• Translation of information into understandable languages</td>
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<td></td>
<td>• Collaborate with government to use existing infrastructures</td>
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<td>• Train local expertise to be active and effective facilitators</td>
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<td></td>
<td></td>
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<td></td>
<td>• Build local ownerships</td>
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<td>• Introduce ICT</td>
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<tr>
<td>Ensuring long-term support, adoption and sustainability</td>
<td>• Communication and information, skill transfer and methodology</td>
<td>• Align strategies with rational policies</td>
<td>• Integrate into curriculum</td>
<td>• Partner with the universities/ research institutions to lobby government for research funding</td>
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<td>• Effective regulation of intellectual property rights</td>
<td>• Clarity and agreement of goals, objectives and responsibilities at the inception phase</td>
<td>• Incoming generating activities for university to internally fund research.</td>
<td>• Engage with government on policy review issues</td>
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<td>• Funding for long-term research and development</td>
<td>• Proper use of policy</td>
<td>• Training on M&amp;E for farmers</td>
<td>• Engage with communities and leaders</td>
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<td></td>
<td>• Longer term projects</td>
<td>• Learn from experience</td>
<td>• Create a mindset for business among farmers</td>
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<td>• Coordinate funding community and align with government priority</td>
<td>• Support government structure and build capacity of government officials</td>
<td>• Involve relevant stakeholders in the information packaging for farmers</td>
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<td></td>
<td>• Institutional strengthening</td>
<td>• Support government structure and build capacity of government officials</td>
<td>• Partnership with civil societies to lobby for government funding on R&amp;D programmes</td>
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<td></td>
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<tr>
<td></td>
<td>• Appropriate and beneficial technology</td>
<td></td>
<td>• Multi-stakeholder approach</td>
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<tr>
<td></td>
<td>• Coordination among stakeholders</td>
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<td>• Experience capitalisation</td>
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<td>• Farmer focused activities for sustainability</td>
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<td>• Cost sharing for farmers for continuity</td>
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<td></td>
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<td></td>
<td>• Public private partnerships</td>
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6. Conclusion: key takeaways

1. One of the challenges of managing agricultural risks is the capacity to initially assess the risks at farm-level, along the value chain and across the whole agricultural system. Limitations on the capacity to assess and manage risk obviously make each actor’ risk exposure impact other actors. A comprehensive capacity development approach should deal with different levels – institutional, organizational and individual needs.

2. High level vulnerability to agricultural risks among smallholder farmers impacts on their livelihoods and well-being through two main channels. First, the risks often lead to output and/or income losses, creating major coping challenges for already poor households. Second, the prevalence of risks tends to discourage smallholder farmers from taking up innovations which have the potential to improve their wellbeing because of the higher returns they can generate. The holistic approach to capacity development, aims to strengthen the capacity of smallholder farmers to anticipate loss-causing events; plan solutions in advance to limit the negative consequences of such events using available ARM tools; as well as monitor and evaluate the effectiveness of tools and strategies they have adopted.

3. In Section 3 the key factors driving success in implementation of the CD4ARM are identified through a ranking process involving practitioners implementing ARM-related activities. A most crucial success factor is the importance of anchoring CD4ARM initiatives in a policy framework in which ARM is mainstreamed. This is important in order to ensure local ownership of the programme. It does not, however, mean that government alone drives the agenda but does so in partnership with other players, including the private sector and other civil society actors. The key lessons which have emerged regarding such partnerships include the need for it to be transparent, engendering trust through a process where “hidden agenda” are avoided. The partnership also needs to be responsive – one that ensures that local stakeholders are not passive beneficiaries but rather take control over implementation of the CD4ARM. It should be noted that how these factors work and how different partnerships are implemented might be circumstantial.

4. In terms of the design of CD4ARM programmes, the key to success involves ensuring that all the main elements are in response to identified capacity development needs of the target smallholder farmers. The design of CD initiatives should incorporate elements to motivate farm-level actors to take up and remain committed because of the acknowledged benefits rather than to presume that the target smallholder farmers “need” the initiative. Moreover, risk management should also be envisaged as part of a broader set of farmer decision-making that aim at profitability and sustainability of the farm as a business.

5. The approach adopted in knowledge transfer should be that of facilitating acquisition of knowledge on ARM rather than a top-down pedagogy. This is essential in sustaining farmers’ interest and commitment. Use of local or contextualized training materials is seen as particularly helpful in this regard. Knowledge transferred as part of the CD4ARM needs to be evidence-based, and enriched with relevant cross-country experiences in order to broaden the horizon of the target audience as well as validate information provided on unfamiliar ARM tools.

PARM’s CD4ARM trainings focus principally on delivery via national agricultural extension systems. Though this is acknowledged as important, as field extension personnel are the closest to farmers, it also emerged that success in delivery of the CD requires the involvement of a pluralism of extension/advisory service providers. Resource persons to be involved in delivery of CD4ARM can include local and international stakeholders working with farmers, such as private sector actors, farmer organizations and NGOs, as well as experts from agricultural research and education institutions.

6. Highly stressed as a key success factor is the need to secure long-term funding for CD4ARM as its sustainability can be in doubt if funding follows project-tied, short term funding cycles. A key to ensure sustainability is that governments recognise the importance of ARM, and more specifically CD4ARM, and ensure that budgets are adequate to implement nationally-owned programmes.

7. The relevance of these success factors is further demonstrated in the cases of ARM-related initiatives which are discussed in Section 4. The cases cited are varied and include promoting technologies which strengthen the capacity of smallholder farmers to adapt to climate change and/or enhance household resilience under
projects being implemented by donors. Also included are projects which exploit advances in ICT for purposes of enhancing and/or speeding up diagnosis of plant and animal diseases, for example by CABI in Zambia and AviApp in Senegal. Other ARM-related initiatives cited include those which aim to foster financial inclusion for youth in agriculture (in Kenya) and for the rural poor (in Uganda). They also include two cases from Ethiopia and Uganda which aim to develop the capacity of smallholder farmers in ARM mainly via knowledge transfer through interactive training of trainers for the farmers. Some cases demonstrate that capacity development is more than skills development and includes the use of information and learning - especially peer to peer.

8. The initiatives also differ in terms of the implementers and include donors, farmers’ organisations (at national and regional levels), NGOs and formal education institutions such as universities. However, the common features in terms of key success factors include institutionalizing holistic ARM at all levels of government, from national to local governments, including a multi stakeholder vision that support this. Forming effective local partnerships to implement ARM initiatives is in fact another key success factor. This requires the involvement of other actors apart from the main drivers/implementers and, as noted above, need to be transparent and responsive. How to build that is of course something to be investigated and it is not covered in this publication. The role of the private sector emerged as important and so is the role of national and international technical experts, in sharing relevant cross-country experiences as well as customizing generic material to suit the context of the target audience of farmers. All the stakeholders involved in providing advisory services and support should undergo to training and mentoring, and international technical experts may be needed to kick start such programs. The need for long-term funding is more evident from these cases as funding constraints have often proved to be significant impediments in scaling up or scaling out such programs even where success has been achieved.

9. From the review of the roles of different actors in ARM initiatives, it is evident that government has an important lead role, especially in creating and sustaining a supportive policy framework in which ARM is mainstreamed. However, partnerships in which the different actors play to their strength is what has emerged as most crucial in ensuring success.

10. Policymakers and other decision-makers, development partners and civil society active in the overall agri-food system of a region or country must equally take farm-level to system-wide-level risk into account when making decisions about long-term strategies for the development of the sector. These strategies should include the use of innovative extension methods, incorporation of ARM training programmes in formal education programmes, preparing relevant and targeted training and extension materials, and networking, linking and creating synergies between stakeholders for a well-tested program strategy. Much of the decisions to be made should focus on mitigation and even potential relief strategies as well as on creating the social, economic and physical infrastructure and human capacity (at all levels in the system) to respond to, prepare for, or ward off potential risks. Especially for infrastructure investments, the role of the private sector through public-private partnerships is essential.


1. In the context of risk management, vulnerability refers to the ability of the farmers, producers and other actors in the value chain to manage risks and the potential losses from the occurrence of some unfavourable event. PARM, 2019.


## List of participants

<table>
<thead>
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<th>Organisation</th>
<th>Name</th>
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<td>Sustainable Agribusiness Solutions</td>
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<td>Mlotha Damaseke</td>
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<td>WFP</td>
<td>Stanley NDHLOVU</td>
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<td>WFP</td>
<td>Olipa Zulu</td>
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<td>WORLD BANK</td>
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Key success factors in strengthening the capacity to manage risks at farm level: emerging lessons learned

Publication March 2019

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