



# Key Resources for Agriculture and Natural Resource Management Practitioners



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The Technical and Operational Performance Support (TOPS) Program is the USAID/Food for Peace-funded learning mechanism that generates, captures, disseminates, and applies the highest quality information, knowledge, and promising practices in development food assistance programming, to ensure that more communities and households benefit from the U.S. Government’s investment in fighting global hunger. Through technical capacity building, a small grants program to fund research, documentation and innovation, and an in-person and online community of practice (the Food Security and Nutrition [FSN] Network), The TOPS Program empowers food security implementers and the donor community to make lasting impact for millions of the world’s most vulnerable people.

Led by Save the Children, The TOPS Program draws on the expertise of its consortium partners: CORE Group (knowledge management), Food for the Hungry (social and behavioral change), Mercy Corps (agriculture and natural resource management), and TANGO International (monitoring and evaluation). Save the Children brings its experience and expertise in commodity management, gender, and nutrition and food technology, as well as the management of this 7-year (2010–2017) US\$30 million award.

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# Abbreviations and Acronyms

ANRM	Agriculture and Natural Resource Management
BEAM Exchange	Building Effective and Accessible Markets
CA	Conservation Agriculture
CaLP	Cash Learning Partnership
CIAT	International Center for Tropical Agriculture
CRS	Catholic Relief Services
DFID	United Kingdom Department for International Development
EDSM	environmentally sound design and management
FAO	Food and Agriculture Organization of the United Nations
FANTA III Project	Food and Nutrition Technical Assistance Project
FFP	USAID Office of Food for Peace
FSN Network	Food Security and Nutrition Network
HDRA	Henry Doubleday Research Association
HKI	Helen Keller International
ICARDA	International Center for Agricultural Research in the Dry Areas
ICRAF	The World Agroforestry Centre
IFPRI	International Food Policy Research Institute
IIRR	International Institute of Rural Reconstruction
ILRI	International Livestock Research Institute
INGENAES	Integrating Gender and Nutrition within Agricultural Extension Services
IRC	International Rescue Committee
M&E	monitoring and evaluation
MEAS	Modernizing Extension and Advisory Services
mSTAR	Mobile Solutions Technical Assistance and Research
PVO	private voluntary organization
SDC	Swiss Agency for Development and Cooperation
The TOPS Program	The Technical and Operational Performance Support Program
ToT	Training of Trainers
UC Davis	University of California - Davis
U.K.	United Kingdom
UNEP	United Nations Environmental Programme
U.S.	United States
USAID	United States Agency for International Development
USAID/E3	USAID//Economic Growth, Education, and Environment
VSL/A	Village Savings and Loans/Association

# Overview

This document lists key resources for seven different agriculture and natural resource management (ANRM) topic areas, specifically for:

1. ANRM Program Design and Development,
2. Technologies to Enhance Agro-Ecological Resilience,
3. Agriculture for Improved Nutrition,
4. Market Development,
5. ANRM Technical Extension Services,
6. ANRM Financial Services and Insurance, and
7. Measuring Impact and Using Data.

The list was developed both as a stand-alone reference document for development programs' ANRM staff, and as a compliment to The TOPS Program's [ANRM Core Competency Series](#), which intends to provide hiring managers, program managers, and program staff with explanations of the core skills and knowledge technical staff may need to possess to carry out their positions effectively.

Resources were collated with input from the FSN Network's ANRM Task Force, leading to a distilled set of resources that came from different organizations' experiences and expertise.<sup>1</sup> The list is not exhaustive, but is intended to provide a minimum set of useful resources to support program implementation under seven core ANRM topic areas.<sup>2</sup>

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<sup>1</sup> [The ANRM Task Force](#) is a group of ANRM practitioners who are dedicated to increasing the effectiveness and impact of agriculture, economic development, and natural resource management components of food security programs. It provides a forum for sharing experiences and lessons learned and for identifying, adapting, refining and disseminating state-of-the-art information, methodologies, and tools related to agricultural and economic development in order to improve the quality of field based programs.

<sup>2</sup> If you know of another valuable resource that has not been listed, please email Abby Love, Agriculture Officer for The TOPS Program, at [alove@mercy Corps.org](mailto:alove@mercy Corps.org). We value and welcome your feedback.

# How to Use this Resource List

This document is organized into seven key ANRM topic areas, which were defined and endorsed by The TOPS Program’s ANRM Task Force in the [ANRM Core Competency Series](#) in 2015.

## ANRM Core Competency Topic Areas

1. ANRM Program Design and Development
2. Technologies to Enhance Agro-Ecological Resilience
3. Agriculture for Improved Nutrition
4. Market Development
5. ANRM Technical Extension Services
6. ANRM Financial Services and Insurance
7. Measuring Impact and Using Data

For each ANRM topic area and its related core competencies, TOPS has identified a few key resources and included the following information: **resource name**, **resource type**, **organizations involved** in its creation, a **brief description**<sup>3</sup> of the resource, and its **citation**. If the resource is available online, the resource name is hyperlinked to the online source.<sup>4</sup> See below for an example table.

## I. ANRM Program Design and Development (*topic area*)

### 1.1 Understand and overcome barriers to change by conducting a formal barrier analysis, discovering key determinants of behavior, and developing plans to change behavior. (Core Competency)

	Resource	Description	Citation
Resource Type	<p><a href="#">Resource Name and Hyperlink</a></p> <p>Organization(s) Involved</p>	Brief description of the resource	Citation

The resources are organized into four main **resource types**:

- **Technical Resources:** These are “how-to” resources, including technical guides, manuals, toolkits, discussion papers, tip sheets, books, handbooks, literature review, comparative overviews, and briefs.
- **Web Resources:** These are resources that are housed on the internet, including webinars, online trainings, knowledge banks, and resource libraries.
- **Training Resources:** These resources include training manuals, training of trainers (ToT) manuals, facilitator guides, and curricula.
- **Policy-Related Resources:** These resources are related to U.S. policy, including USAID Office of Food for Peace indicators, Feed the Future indicators, and procedures to follow.

<sup>3</sup> Descriptions may contain original text written by authors of the resource.

<sup>4</sup> In the event a hyperlink is broken, please use the citation to locate the resource.



# ANRM Core Competencies

Below is the complete list of The TOPS Program's ANRM core competencies, categorized by the seven topic areas. *Click* on any core competency to move directly to the page containing the relevant resources.

## 1. ANRM Program Design and Development

1.1 Understand and overcome barriers to change by conducting a formal barrier analysis, discovering key determinants of behavior, and developing plans to change behavior.

1.2 Conduct market analysis to better understand complex market systems within emergency and development settings.

1.3 Conduct a gender analysis of ANRM activities (e.g., ownership and management of assets, access to extension and inputs, value chain activities, agricultural labor and time expenditure) to inform gender strategies for ANRM programming.

1.4 Conduct an environmental impact assessment to measure and mitigate the impact of interventions on the environment.

1.5 Ensure more effective asset transfer (seeds, fertilizers, and tools) by using and developing local supply systems.

## 2. Technologies to Enhance Agroecological Resilience

2.1 Know the key elements of resilient integrated seed systems, combining formal and informal, market and non-market channels for seed system solutions.

2.2 Understand technologies for more efficient and sustainable soil and water management (including irrigation) and watershed management approaches.

2.3 Know practices of conservation agriculture, i.e., techniques that can be applied by resource-poor farmers to sustainably increase food production without further depleting soil and water resources.

2.4 Apply agroforestry techniques for increased diversity and productivity, while maintaining the natural resource base.

2.5 Understand pastoralism and enclosed livestock techniques for limited land holdings, enhancing rangeland and grassland management, and practices such as zero-grazing and fodder production.

2.6 Apply integrated pest management techniques for fruits, vegetables, and field crops.

2.7 Know sustainable integrated aquaculture-agriculture farming systems to enhance income and nutrition options.

2.8 Understand sustainable horticultural techniques for small, urban and micro gardening.

2.9 Understand how to mitigate and adapt to climate change, including techniques for increasing farmers' and farming systems' resilience to climatic change and approaches to improve the capacity of systems to sequester carbon.

## 3. Agriculture for Improved Nutrition

3.1 Understand key nutrition concepts; the main causes of malnutrition; impacts of dietary protein, iron, and vitamin A gaps; the impact of poor nutritional knowledge and health on agricultural production; and opportunities for streamlining nutrition education through multiple stakeholders.

3.2 Implement agricultural strategies that can improve nutritional outcomes (e.g., diversified production, bio-fortification, and nutrient-dense food value chains), ensuring they are linked to market-based opportunities.

3.3 Understand post-harvest technologies, specifically how to reduce post-harvest and nutrient losses through improved handling and storage, including reducing mycotoxins.

#### 4. Market Development

4.1 Know how to conduct market-based engagement with the poor and to use market-based approaches (e.g., Making Markets Work for the Poor) to understand market systems and implement market development programs.

4.2 Identify the key drivers of value chain development, including nutrition-sensitive value chains, and opportunities for the poor to upgrade their positions within viable value chains.

4.3 Identify the impact of the enabling environment on value chains and options for improving it, e.g., addressing trade barriers, governance, and advocacy.

4.4 Engage more effectively with the public and private sectors to create opportunities for improved sector linkages, and identify how sector actors can be a force for sustainability.

4.5 Identify tools that help farmers with limited literature and numeracy skills to understand basic accounting, profit analysis, business planning, and marketing skills.

#### 5. ANRM Technical Extension Services

5.1 Improve access to technical information by using different technology transfer methods, including training, visit extension, agricultural cascade education, embedded services, information and communications technology (including mobile), farmer field schools, and on-farm trials. Know proper training techniques for farmer groups and implement strategies to address gender equity.

5.2 Identify the best combinations of extension or coverage approaches.

5.3 Improve skills in group facilitation and persuasion (e.g., interacting with different groups, methodologies for adult education methods).

#### 6. ANRM Financial Services and Insurance

6.1 Understand best practices for informal microfinance, such as village savings and loan associations.

6.2 Understand how to work with formal microfinance institutions and savings and credit cooperatives. Identify opportunities for enhancing agricultural microfinance through development of agricultural loan products.

6.3 Understand how to embed finance within value chains (e.g., sales on credit and contract farming).

6.4 Identify potential crop and livestock insurance options available to resource-poor farmers.

#### 7. Measuring ANRM Impact and Using Data

7.1 Identify indicators and tools for measuring and monitoring ANRM results, such as income indicators, profit and loss statements, impact on nutrition and gender.

7.2 Develop monitoring systems for operational research in ANRM.

7.3 Interpret and effectively use information generated through the monitoring and evaluation system to adjust ANRM program strategies, including mitigation of negative impacts.

## Key Resources for ANRM Practitioners

Click on the [blue hyperlinks](#) below to access the online version of the resource.

### 1. ANRM Program Design and Development

#### 1.1 Understand and overcome barriers to change by conducting a formal barrier analysis, discovering key determinants of behavior, and developing plans to change behavior.

	Resource	Description	Citation
Training	<a href="#">A Practical Guide to Conducting a Barrier Analysis</a> <i>The TOPS Program, CORE Group, Food for the Hungry, Helen Keller International, World Vision</i>	This is a training curriculum that builds skills to plan and carry out a Barrier Analysis survey. It uses a step-by-step approach starting with the definition of the behavior to be studied and development of the Barrier Analysis questionnaire.	Kittle, Bonnie. 2013. A Practical Guide to Conducting a Barrier Analysis. New York, NY: Helen Keller International.
Training	<a href="#">Designing for Behavior Change: For Agriculture, Natural Resource Management, and Gender</a> <i>The TOPS Program, CORE Group</i>	This field-tested, six-day curriculum gives field staff and managers the skills and tools to apply a behavioral approach to designing community development programs. The curriculum combines handouts and facilitator materials with easy-to-use training guidelines.	The FSN Network Social and Behavioral Change Task Force. 2013. Designing for Behavior Change For Agriculture, Natural Resource Management, and Gender. Washington, DC: The TOPS Program.
Training	<a href="#">Make Me a Change Agent: A Multisectoral SBC Resource for Community Workers and Field Staff</a> <i>The TOPS Program, CORE Group</i>	These lessons seek to build the skills of community-level workers so that they can be more effective behavior change promoters in their communities. The lessons are not sector specific, but are tried and true generic skills, such as communication and storytelling, which can help a development worker become more effective as a behavior change agent.	The FSN Network and CORE Group. 2015. Make Me a Change Agent: A Multisectoral SBC Resource for Community Workers and Field Staff. Washington, DC: The TOPS Program.

#### 1.2 Conduct market analysis to better understand complex market systems within emergency and development settings.

##### 1.2.a. Market Analysis Resources – Emergency Settings

	Resource	Description	Citation
Web	<a href="#">Markets Toolbox</a> <i>CaLP, Humanitarian Aid and Civil Protection</i>	This is a collation of various markets resources. It includes links to market analysis research, various markets trainings, toolkits, and general guidance for market assessments.	CaLP, Humanitarian Aid and Civil Protection. "Markets Toolbox."
Technical	<a href="#">Comparative Table of Humanitarian Market Analysis Tools</a> <i>CaLP, IRC</i>	This table compares nine different post-crisis market assessment tools. It gives a brief overview of each one, and contains a comparative matrix.	CaLP & International Rescue Committee. "Comparative Table of Humanitarian Market Analysis Tools."

	Resource	Description	Citation
Technical	<p><a href="#">Emergency Market Mapping and Analysis Toolkit (EMMA)</a></p> <p>IRC, Oxfam, InterAction, Practical Action</p>	This is a toolkit for humanitarian staff in post-emergency contexts that aims to improve emergency responses by encouraging and assisting relief agencies to better understand, support, and make use of local market systems.	© IRC, Oxfam, InterAction, Practical Action. Emergency Market Mapping and Analysis Toolkit.
Technical	<p><a href="#">Rapid Assessment for Markets (RAM)</a></p> <p>International Federation of Red Cross and Red Crescent Societies, ICRC</p>	This assessment is designed to provide a basic introduction to how markets operate immediately after a shock. It includes market data, which is essential for making informed decisions about how to respond and what transfer mechanisms to use.	ICRC and IFRC. "Rapid Assessment for Markets. Guidelines for an initial emergency market assessment." © ICRC and International Federation of Red Cross and Red Crescent Societies 2014.
Technical	<p><a href="#">Pre-Crisis Market Analysis (PCMA)</a></p> <p>IRC, Oxfam, USAID</p>	The PCMA provides guidance for practitioners on conducting market analysis before the onset of an anticipated crisis using an adaptation of existing post-crisis market assessment tools.	The International Rescue Committee, Inc. Pre-Crisis Market Analysis (PCMA). © Feb. 2016.

### 1.2.b. Market Analysis Resources – Development Settings

	Resource	Description	Citation
Web	<p><a href="#">BEAM Exchange Guidance: Market Analysis</a></p> <p>UKAID, SDC</p>	BEAM Exchange is a website for sharing knowledge and learning about how market systems approaches can be used to reduce poverty. The Market Analysis page has practical guidance and resources to uncover root causes of poor market performance.	Building Effective and Accessible Markets (BEAM) Exchange. "Market Analysis." UKAID, Swiss Agency for Development and Cooperation.
Technical	<p><a href="#">The Operational Guide for the Making Markets Work for the Poor (M4P) Approach, Part 2: Diagnosis</a></p> <p>The Springfield Centre</p>	The <i>Diagnosis</i> chapter of this guide is for program staff or others carrying out market analysis. It advises on the core principles and framework for diagnosing system constraints.	The Springfield Centre (2015). The Operational Guide for the Making Markets Work for the Poor (M4P) Approach, 2nd edition funded by SDC & DFID.
Technical	<p><a href="#">Market Analysis Framework</a></p> <p>World Food Programme</p>	This framework aims to enable staff to understand how market analysis links to food security analysis and decision making, and what purpose the various market analysis tools serve. Its aim is to help staff prioritize market information needs and select the appropriate market tool according to the context.	Market Analysis Framework © December 2011, World Food Programme Food Security Analysis Service (ODXF)
Web	<p><a href="#">Value Chain Development Wiki, Value Chain Analysis</a></p> <p>USAID/E3 team, ACDI/VOCA's Advancement Project-Business Development Services, Leveraging Economic Opportunities</p>	This page, as part of the Value Chain Development Wiki, discusses the four interconnected steps of value chain analysis: data collection and research, value chain mapping, analysis of opportunities and constraints, and vetting of findings with stakeholders and recommendations for future actions.	USAID Microlinks. "Value Chain Analysis." US Agency for International Development.

### 1.3 Conduct a gender analysis of ANRM activities (e.g., ownership and management of assets, access to extension and inputs, value chain activities, agricultural labor and time expenditure) to inform gender strategies for ANRM programming

	Resource	Description	Citation
Technical	<a href="#">Gender Analysis, Assessment, and Audit Manual &amp; Toolkit</a> ACDI/VOCA	This toolkit provides guidance on how to conduct gender analysis studies, assessments, and audits. It provides useful tools and methods for these studies, and guidance on how to operationalize a study from start to finish.	Meyers, Lis and Lindsay Jones. Gender Analysis, Assessment, and Audit Manual and Toolkit. ACDI/VOCA, Nov 2012.
Technical	<a href="#">Data Needs for Gender Analysis in Agriculture</a> IFPRI	This paper offers guidelines on how to improve data collection efforts to ensure that women and men farmers are interviewed in order to better capture gender specific control and ownership of agricultural resources such as male-owned, female-owned, and jointly-owned assets.	Doss, Cheryl. "Data Needs for Gender Analysis in Agriculture." IFPRI Discussion Paper 01261. Apr 2013.
Technical	<a href="#">A Toolkit on Collecting Gender &amp; Assets Data in Qualitative &amp; Quantitative Program Evaluations</a> IFPRI, ILRI	This toolkit is intended to help researchers and practitioners collect, measure, and analyze gender and assets data in qualitative and quantitative evaluations for current and future projects.	IFPRI and ILRI. "A Toolkit on Collecting Gender & Assets Data in Qualitative & Quantitative Program Evaluations." Gender, Agriculture, and Assets Project (GAAP). Sept 2014.
Technical	<a href="#">Review of gender and value chain analysis, development and evaluation toolkits</a> ILRI	This study constitutes a review of existing literature and tools on gender and value chain analysis. It is intended to inform researchers and practitioners undertaking gendered value chains analysis and development in crops and livestock on tools that have been used in gender and value chain analyses.	Mutua, E., Njuki, J. and Waithanji, E. Review of gender and value chain analysis, development and evaluation toolkits. Nairobi, Kenya: International Livestock Research Institute (ILRI). 2014.
Technical	<a href="#">Standards for collecting sex-disaggregated data for gender analysis: A guide for CGIAR researchers</a> IRC, Oxfam, USAID	This document spells out some simple and achievable steps for collecting relevant sex-disaggregated data for five broad research areas, including agriculture.	Doss, Cheryl and Caitlin Kieran. "Standards for collecting sex-disaggregated data for gender analysis: a guide for CGIAR researchers." CGIAR Research Program on Policies, Institutions, and Markets. 2011.

## 1.4 Conduct an environmental impact assessment to measure and mitigate the impact of interventions on the environment.

Resource		Description	Citation
Web	<a href="#">Life of Project Compliance &amp; ESDM</a>  <i>Global Environmental Management Support</i>	This site provides an overview of USAID's environmental procedures, including 22 CFR 216, which defines USAID's formal Environmental Impact Assessment (EIA) process. The website lays out USAID's requirements to enable organizations to comply with environmental regulations.	GEMS. "Life of Project Compliance & ESDM." Global Environmental Management Support.
Policy	<a href="#">22 CFR 216 Agency Environmental Procedures</a>  USAID	These are the environmental impact assessment procedures used by USAID. They have been promulgated as Title 22 of the Code of Federal Regulations, Part 216 (22 CFR 216). The procedures are used on every program, project, activity, and amendment USAID funds.	U.S. Agency for International Development. 22 CFR PART 216. ENVIRONMENTAL PROCEDURES. Authority: 42 U.S.C. 4332; 22 U.S.C. 2381. Source: 41 FR 26913, June 30, 1976.

## 1.5 Ensure more effective asset transfer (seeds, fertilizers, and tools) by using and developing local supply systems.

Resource		Description	Citation
Technical	<a href="#">Seed Aid for Seed Security: Advice for Practitioners</a>  <i>CIAT, CRS, CARE Norway, USAID</i>	These ten practice briefs offer advice on how to sustain and strengthen seed systems during disaster response and recovery periods.	Sperling, L., Remington, T., Haugen, J.M., 2006. Seed aid for seed security: advice for practitioners, practice briefs No. 1–10. International Center for Tropical Agriculture and Catholic Relief Services, Rome.
Technical	<a href="#">Vegetable Seed Supply and Selection in Humanitarian Response</a>  <i>CIAT, CRS</i>	This brief covers understanding crop choice and how seeds are sourced and supplied, and advice for selecting vegetable seeds for use in relief and recovery, as well as exit strategies.	Marks, Peter. 2014. Seed aid for seed security: advice for practitioners, practice brief No. 12. International Center for Tropical Agriculture and Catholic Relief Services, Rome.

## 2. Technologies to Enhance Agroecological Resilience

### 2.1 Know the key elements of resilient integrated seed systems, combining formal and informal, market and non-market channels for seed system solutions.

	Resource	Description	Citation
Technical	<a href="#">Seed System Security Assessments</a>  CIAT, USAID, CRS	This guide presents a seven-step method for assessing the security of farmers' seed systems in situations of acute or chronic stress and helping practitioners determine which seed-related assistance is needed.	Sperling, Louise. 2008. When Disaster Strikes: A Guide to Assessing Seed System Security. Cali, Colombia: International Center for Tropical Agriculture.
Technical	<a href="#">Seed Aid for Seed Security: Advice for Practitioners</a>  CIAT, CRS, CARE Norway, USAID	These ten practice briefs offer advice on how to sustain and strengthen seed systems during disaster response and recovery periods.	Sperling, L., Remington, T., Haugen, J.M., 2006. Seed aid for seed security: advice for practitioners, practice briefs No. 1–10. International Center for Tropical Agriculture and Catholic Relief Services, Rome.

### 2.2 Understand technologies for more efficient and sustainable soil and water management (including irrigation) and watershed management approaches.

	Resource	Description	Citation
Technical	<a href="#">TOPS Permagarden Toolkit</a>  The TOPS Program, Mercy Corps	This toolkit is intended for development practitioners working with farmers to incorporate permagardens into their farming systems. It includes step-by-step, clear instructions and visuals, adult education materials, as well as a training of trainers guide.	The Technical and Operational Performance Support (TOPS) Program. 2015. TOPS Permagarden Toolkit. Washington, DC: The TOPS Program.
Technical	<a href="#">Water Harvesting and Conservation</a>  HDRA/Garden Organic	This guide presents a number of water harvesting and water conservation techniques in a clear, concise manner.	HDRA. Water Harvesting and Conservation. International Development Programme at HDRA, Garden Organic.
Technical	<a href="#">Preparing Smallholder Farm Families to Adapt to Climate Change: Pocket Guide 3; Managing Water Resources</a>  CRS, MEAS	This pocket guide is written for field agents working in agricultural extension to support field agents' work with farm families and to help reduce their risks from weather changes.	Burpee, G., B.S. Janet & A. Schmidt. 2015. Preparing smallholder farm families to adapt to climate change: Pocket Guide 3; Managing water resources. Catholic Relief Services: Baltimore, MD, USA.

### 2.3 Know practices of conservation agriculture, i.e., techniques that can be applied by resource-poor farmers to sustainably increase food production without further depleting soil and water resources.

Resource		Description	Citation
Web	<a href="#">FAO Conservation Agriculture</a> FAO	This website explains the importance and benefits of conservation agriculture, as well as various CA techniques. It discusses cover crops, livestock interactions, tillage techniques, and more.	FAO 2015. Agriculture and Consumer Protection Department: Conservation Agriculture.
Technical	<a href="#">Conservation Agriculture: A Manual for Farmers and Extension Workers in Africa</a> IIRR, African Conservation Tillage Network	This manual explains what conservation agriculture (CA) is, why it is important, and highlights the issues farmers and extension workers may encounter when adopting CA. It is meant for farmers and extension workers in Africa.	IIRR and ACT. 2005. Conservation agriculture: A manual for farmers and extension workers in Africa. International Institute of Rural Reconstruction, Nairobi; African Conservation Tillage Network, Harare.
Technical	<a href="#">Conservation agriculture: opportunities for intensified farming and environmental conservation in dry areas</a> ICARDA	This report presents examples, approaches and evidence of conservation agriculture (CA) and its potential for use in low-income countries. It is designed to help policy makers and development partners appreciate the issues and evaluate how CA can contribute to rural development and food security goals.	Fredenburg, Peter. Conservation Agriculture: Opportunities for Intensified Farming and Environmental Conservation in Dry Areas. International Center for Agricultural Research in the Dry Areas (ICARDA), 2012.

### 2.4 Apply agroforestry techniques for increased diversity and productivity, while maintaining the natural resource base.

Resource		Description	Citation
Technical	<a href="#">Good Nursery Practices: A Simple Guide</a> ICRAF	This technical material is intended for tree nursery managers to establish and manager their nurseries. It covers information such as nursery location, size, and facilities.	Mbora A., Lillesø J-PB., Jamnadass R. 2008. Good Nursery Practices: A Simple Guide. Nairobi. The World Agroforestry Centre. 36 pp.
Technical	<a href="#">An Agroforestry Guide for Field Practitioners</a> ICRAF	This guide contains a set of technical illustrations that provide practical information for planning a variety of agroforestry practices. The main focus is sloping land management, and was originally written for use in Korea, but the techniques are applicable elsewhere.	Xu J, Mercado A, He J., Dawson I (eds.) (2013) An Agroforestry guide for field practitioners. The World Agroforestry Centre, East Asia, Kunming, China.
Training	<a href="#">Training Manual for Applied Agroforestry Practices</a> Center of Agroforestry, University of Michigan	This manual is designed for natural resources professionals and landowners and includes worksheets and exercises for use as an educational tool. It was created for Midwesterners in the US, but has generally valuable and applicable information.	University of Missouri Center for Agroforestry. "Training Manual for Applied Agroforestry Practices." The Center for Agroforestry. 2015.



## 2.5 Understand pastoralism and enclosed livestock techniques for limited land holdings, enhancing rangeland and grassland management, and practices such as zero-grazing and fodder production.

	Resource	Description	Citation
Technical	<p><a href="#">Livestock Emergency Guidelines and Standards (LEGS)</a></p> <p><i>Multiple</i></p>	This manual contains international guidelines and standards for designing, implementing, and evaluating livestock interventions to help people affected by humanitarian crises.	LEGS (2014) Livestock Emergency Guidelines and Standards, 2nd edition. Rugby, UK: Practical Action Publishing.
Technical	<p><a href="#">Good Practices Guide: Pastoralism, Nature Conservation, and Development</a></p> <p><i>Convention on Biological Diversity</i></p>	The guide focuses on the intersection of pastoralism, biodiversity, and development/poverty reduction. It talks about how each affects the other, discusses the challenges and best practices, and offers policy considerations.	Secretariat of the Convention on Biological Diversity. 2010. Pastoralism, Nature Conservation and Development: A Good Practice Guide. Montreal.
Technical	<p><a href="#">OrganicAfrica Module 5: Animal Husbandry</a></p> <p><i>Research Institute of Organic Agriculture</i></p>	This manual is designed for natural resources professionals and landowners and includes worksheets and exercises for use as an educational tool. It was created for Midwesterners in the US, but has generally valuable and applicable information.	FiBL (2011): African Organic Agriculture Training Manual. Version 1.0 June 2011. Research Institute of Organic Agriculture FiBL, Frick.

## 2.6 Apply integrated pest management techniques for fruits, vegetables, and field crops.

	Resource	Description	Citation
Technical	<p><a href="#">Natural Pest and Disease Control</a></p> <p><i>HDRA/Garden Organic</i></p>	This guide highlights factors that reduce pest and disease likelihood as well as methods of pest control.	HDRA. Natural Pest and Disease Control. International Development Programme at HDRA, Garden Organic.
Technical	<p><a href="#">Integrated pest management in vegetable production: A guide for extension workers in West Africa</a></p> <p><i>International Institute of Tropical Agriculture</i></p>	This guide aims to enable extension workers to develop and use integrated pest management technologies and techniques. It focuses on accurate pest identification and better understanding of biodiversity in the development and application of IPM for vegetable crops. It is targeted at West Africa, but the approaches are applicable elsewhere.	James, B. Atcha-Ahowe, C., Godonou, I., Baimey, H., Goergen, H., Sikirou, r., and Toko, M. 2010. Integrated pest management in vegetable production- A guide for extension workers in West Africa. International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria. 120 pp.
Technical	<p><a href="#">Natural crop protection in the tropics: letting information come to life</a></p> <p><i>Gabriele Stoll</i></p>	<p>This book is a practical guide for the protection of crops and stored crop products with natural resources, with an emphasis on curative measures. It contains recipes for organic pesticide recipes and linkages to other information.</p> <p><i>Full book not available online. Detailed summary available <a href="#">here</a>.</i></p>	Stoll, G. 2000. Natural crop protection in the tropics: letting information come to life. Margraf Verlag 387 pp.

## 2.7 Know sustainable integrated aquaculture-agriculture farming systems to enhance income and nutrition options.

	Resource	Description	Citation
Technical	<a href="#">Ecosystem approach to fisheries and aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries</a> FAO	This is a guide on how to implement the FAO Code of Conduct for Responsible Fisheries (CCRF) through an Ecosystem Approach to Fisheries and Aquaculture. It takes into account both human and ecological well-being.	Staples, D. and Funge-Smith, S. (2009) Ecosystem approach to fisheries and aquaculture: Implementing the FAO Code of Conduct for Responsible Fisheries. FAO Regional Office for Asia and the Pacific, Bangkok, Thailand. RAP Publication 2009/11, 48 pp.
Technical	<a href="#">Climate-smart fisheries and aquaculture, Module 10</a> FAO	This manual addresses fisheries' contributions to climate change, aquatic system resilience and greenhouse gas reductions. It provides concrete examples of climate change impacts and responses.	FAO 2013. Climate-Smart Agriculture Sourcebook.

## 2.8 Understand sustainable horticultural techniques for small, urban and micro gardening.

	Resource	Description	Citation
Technical	<a href="#">Homestead Gardening: A Manual for Program Managers, Implementers and Practitioners</a> Catholic Relief Services	This manual introduces approaches and concepts to home gardening. There is detail on potholing with good illustrations, simple approaches to planning and succession planting, and pesticide recipes.	Weimer, Adam. Homestead Gardening A Manual for Program Managers, Implementers, and Practitioners. Catholic Relief Services, 2008.
Web	<a href="#">Horticulture for Development – The Global Horticulture Knowledge Bank</a> UC Davis	The Global Horticulture Knowledge Bank provides practical crop information on fruits, nuts, flowers and vegetables to help extension and development workers diagnose crop problems, produce and handle crops, and more.	"Global Horticulture Knowledge Bank." E-Horticulture. College of Agricultural and Environmental Sciences at UC Davis.
Training	<a href="#">On-Farm Practices for the Safe Use of Wastewater in Urban and Peri-Urban Agriculture: A Training Handbook for Farmer Field Schools</a> FAO	This training handbook is a field guide for training urban and peri-urban vegetable farmers in safe practices when using wastewater in vegetable production.	FAO 2012. On-farm practices for the safe use of wastewater in urban and peri-urban horticulture. A training handbook for farmer field schools.
Training	<a href="#">Improving Nutrition Through Home Gardening: A Training Package for Preparing Field Workers in Southeast Asia</a> FAO	This is a training package for agricultural extension agents and other field workers involved in nutrition, home economics, health and community development. It covers technical, planning and management skills of homestead gardens.	FAO 2001. Improving Nutrition Through Home Gardening. A Training Package for Preparing Field Workers in Africa.

Resource		Description	Citation
Toolkit	<p><a href="#">TOPS Permagarden Toolkit</a></p> <p><i>The TOPS Program, Mercy Corps</i></p>	<p>This toolkit is intended for development practitioners working with farmers to incorporate permagardens into their farming systems. It includes step-by-step, clear instructions and visuals, adult education materials, as well as a training of trainers guide.</p>	<p>The Technical and Operational Performance Support (TOPS) Program. 2015. TOPS Permagarden Toolkit. Washington, DC: The TOPS Program.</p>
Technical	<p><a href="#">Urban Agriculture: growing vegetables in cities</a></p> <p><i>Agromisa</i></p>	<p>This document provides practical methods for small-scale urban farming, their safety issues, how to irrigate, and more.</p> <p><i>Resource not available online.</i></p>	<p>Boland, Jeroen, and Agromisa Foundation. Urban Agriculture: Growing Vegetables in Cities. 2nd ed. Wageningen, The Netherlands: Digigrafi, 2005. Print.</p>

## 2.9 Understand how to mitigate and adapt to climate change, including techniques for increasing farmers' and farming systems' resilience to climatic change and approaches to improve the capacity of systems to sequester carbon.

Resource		Description	Citation
Technical	<p><a href="#">Pocket Guide 1: Extension Practice for Agricultural Adaptation</a></p> <p><i>CRS</i></p>	<p>This guide focuses on designing and implementing responses to climate change to help reduce the vulnerability of small-scale farming systems. It has definitions of climate change and its effects on agriculture.</p>	<p>Simpson, Brent M. 2016. Preparing smallholder farm families to adapt to climate change. Pocket Guide 1: Extension practice for agricultural adaptation. Catholic Relief Services: Baltimore, MD, USA.</p>
Technical	<p><a href="#">Climate Change: From Concepts to Action</a></p> <p><i>CRS</i></p>	<p>This guide contains evidence, causes, and trends; strategies; and actions for climate change adaptation. It aims to enable practitioners to address the needs of the rural poor and to enable them to take advantage of the new opportunities that the impact of climate change sometimes presents.</p>	<p>Ashby, Jacqueline and Douglas Pachico. 2012. Climate Change: From Concepts to Action. Catholic Relief Services: Baltimore, MD, USA.</p>
Technical	<p><a href="#">Technologies for Climate Change Mitigation-Agriculture Sector</a></p> <p><i>UNEP</i></p>	<p>This guidebook supports developing countries to select technologies that can help mitigate greenhouse gas emissions from the agriculture sector and promote a sustainable agriculture sector.</p>	<p>UNEP Risø Centre on Energy, Climate and Sustainable Development. Technologies for Climate Change Mitigation - Agriculture Sector. New Delhi, India: Magnum Custom, 2012. Technology Needs Assessment. July 2012.</p>
Technical	<p><a href="#">Climate Vulnerability and Capacity Analysis (CVCA) handbook</a></p> <p><i>CARE International</i></p>	<p>The CVCA methodology provides a framework for analyzing vulnerability and capacity to adapt to climate change at the community level. The CVCA prioritizes local knowledge on climate risks and adaptation strategies in the data gathering and analysis process.</p>	<p>CARE International. "Climate Vulnerability and Capacity Analysis Handbook" © 2009 by CARE International. Used by permission.</p>

### 3. Agriculture for Improved Nutrition

**3.1 Understand key nutrition concepts; the main causes of malnutrition; impacts of dietary protein, iron, and vitamin A gaps; the impact of poor nutritional knowledge and health on agricultural production; and opportunities for streamlining nutrition education through multiple stakeholders.**

	Resource	Description	Citation
Training	<a href="#">Essential Nutrition Actions and Essential Hygiene Actions. Reference Materials on Key Practices: Community Workers</a>  <i>John Snow, Inc., HKI, CORE Group</i>	This resource contains both a handbook and training guide for community workers. The handbook contains an overview of nutrition and hygiene concepts, as well as homestead food production recommendations. The ToT guide has a detailed agenda and training plan.	Guyon A, Quinn V., Nielsen J., Stone-Jimenez, IBCLC4, Essential Nutrition Actions and Essential Hygiene Actions Reference Materials on Key Practices: Community Workers. 2015.
Technical	<a href="#">Maximising the Nutritional Impact of Food Security and Livelihoods Interventions: A Manual For Field Workers</a>  <i>Action Against Hunger</i>	This manual aims to provide practical guidance to field workers in order to maximize the nutritional impact of food security and livelihoods interventions by using a "nutrition lens" at each step of the project cycle. Guidance 6 is most relevant to agriculture. Targeted at AFC staff, but thorough and relevant to others.	Le Cuziat, Geraldine, and Hanna Mattinen. Maximising the Nutritional Impact of Food Security and Livelihoods Interventions: A Manual For Field Workers. ACF International, July 2011.
Web	<a href="#">Nutrition-Sensitive Agricultural Programming: Online Training Course</a>  <i>USAID</i>	This course introduces the principles of nutrition-sensitive agriculture and how those principles can be applied to existing and future agriculture and food security programs. The course is intended for individuals that do not have a nutrition or health background who are working on any facet of an agriculture project.	USAID. "Nutrition-Sensitive Agricultural Programming." Agrilinks. USAID, Feed the Future.

**3.2 Implement agricultural strategies that can improve nutritional outcomes (e.g., diversified production, bio-fortification, and nutrient-dense food value chains), ensuring they are linked to market-based opportunities.**

	Resource	Description	Citation
Technical	<a href="#">Nutrition-Sensitive Agriculture Programming: A nutrition-sensitive approach for market-based agricultural projects</a>  <i>Mercy Corps</i>	This guide contains a step-by-step approach to market-based agriculture programming. It's targeted at agriculturalists (non-nutrition specialists) working in market-based programs to avoid harming the nutritional status of target households and to boost nutrition whenever possible.	Chetail S, Bergman C, and Mottram A. (2015) Nutrition-sensitive agriculture programming. A nutrition-sensitive approach for market-based agricultural projects. Mercy Corps.
Technical	<a href="#">Designing nutrition-sensitive agriculture investments</a>  <i>FAO</i>	This resource lists ten key recommendations for improving nutrition through agriculture, then provides tips and guidance for program implementers aiming to apply these recommendations.	FAO 2015. Designing nutrition-sensitive agriculture investments. 64 pp.

	Resource	Description	Citation
Technical	<a href="#">Improving Nutrition with Agricultural Biodiversity</a> <i>Bioversity International</i>	This is a manual on implementing food systems field projects to assess and improve dietary diversity, and nutrition and health outcomes. It walks through seven phases of project design and implementation, and has a tools and techniques appendix including interview recommendations, how to sample, etc.	Fanzo, J.; Holmes, M.; Junega, P.; Musinguzi, E.; Smith, I.F.; Ekesa, B.; Bergamini, N. Improving Nutrition with Agricultural Biodiversity. 78 pp. Working paper. Rome: Bioversity International, 2011.
Technical	<a href="#">Biofortification Progress Briefs</a> <i>HarvestPlus</i>	This collection of briefs presents existing evidence on biofortification for various crops. The briefs are meant to be accessible to a variety of audiences, from researchers to practitioners working on the ground.	HarvestPlus. Biofortification Progress Briefs. HarvestPlus, August 2014.

### 3.3 Understand post-harvest technologies, specifically how to reduce post-harvest and nutrient losses through improved handling and storage, including reducing mycotoxins.

	Resource	Description	Citation
Training	<a href="#">Prevention of post-harvest food losses: a training manual</a> <i>FAO</i>	This manual presents material from a wide range of disciplines associated with the prevention of food losses in, particularly, cereals, pulses, roots, and tubers. It is directed at field staff, project supervisors and extension personnel involved in food-loss prevention programs.	© FAO 1985. Prevention of post-harvest food losses: a training manual.
Training	<a href="#">Training Manual for Improving Grain Post-harvest Handling and Storage</a> <i>World Food Programme</i>	This manual contains materials that can be used by trainers to help them facilitate farmers' post-harvest handling and storage learning. It is intended that the training will help farmers to build their problem-solving and decision-making skills around PHHS.	Hodges, Rick, and Tanya Stathers. Training Manual for Improving Grain Post-harvest Handling and Storage. World Food Programme and Natural Resources Institute, July 2012.
Technical	<a href="#">Small-Scale Postharvest Handling Practices: A Manual for Horticultural Crops (4th Edition)</a> <i>UC Davis</i>	This manual contains low-input post-harvest techniques for small-scale farmers all over the world. It details causes of post-harvest losses and ways to minimize the losses, protect food safety and help maintain quality of fruits, vegetables, and ornamental crops.	Kitinoja, Lisa, and Adel A. Kader. Small-Scale Postharvest Handling Practices: A Manual for Horticultural Crops. 4th ed. U of California, Davis, 2003.
Web	<a href="#">The Postharvest Education Foundation</a> <i>The Postharvest Education Foundation</i>	This website contains training information, links to resources, and other information related to post-harvest technologies and techniques. It serves as a portal for accessing other post-harvest resources as well.	Kitinoja, Lisa. "The Postharvest Education Foundation." The Postharvest Education Foundation. 2015. <a href="http://postharvest.org">http://postharvest.org</a> .

## 4. Market Development

### 4.1 Know how to conduct market-based engagement with the poor and to use market-based approaches (e.g., Making Markets Work for the Poor) to understand market systems and implement market development programs.

#### 4.1.a. General Market Development Resources

	Resource	Description	Citation
Web	<a href="#">Building Effective and Accessible Markets (BEAM) Exchange, Guidance</a>  UKAID, SDC	BEAM Exchange is a website for sharing knowledge and learning about how market systems approaches can be used to reduce poverty. The Guidance page has practical guidance and resources to help put the market systems approach into practice.	Building Effective and Accessible Markets (BEAM) Exchange. "Guidance." UKAID, Swiss Agency for Development and Cooperation.
Technical	<a href="#">The Operational Guide for the Making Markets Work for the Poor (M4P) Approach</a>  The Springfield Centre	This guide aims to provide an accessible operational resource to help practitioners put the market systems development approach into practice. It explains the key principles and frameworks that guide the process of effective intervention in—and development of—market systems, and addresses common challenges with examples of good practice based on practitioner experience.	The Springfield Centre (2015) The Operational Guide for the Making Markets Work for the Poor (M4P) Approach, 2nd edition funded by SDC & DFID.
Web	<a href="#">Market Systems Development Cartoon-Based Learning Tools</a>  Ecoventures International; ACDI/VOCA	This is a practical and experiential learning series comprised of comic-based storybooks depicting and comparing different approaches and tactics. The scenarios are based on real-life examples that represent a market development problem and compare different ways of solving it—a market facilitation approach, and a typical, or project-driven, approach.	Brand, Margie. Market Systems Development Cartoon-Based Learning Tools. Ecoventures International, ACDI/VOCA.
Technical	<a href="#">A Framework for Market Systems Development</a>  Leveraging Economic Opportunities	This framework defines market systems and provides general guidelines for interventions. The purpose of this brief paper is to describe this framework to USAID and implementers, promoting a common understanding of market systems, as well as some of the implications for project interventions.	Campbell, Ruth. A Framework for Market Systems Development. USAID, Leveraging Economic Opportunities. July 2014.
Technical	<a href="#">Labor Market Assessment Guidance and Tip Sheets</a>  Mercy Corps	These tip sheets were developed to guide field teams through the labor market assessment process, from creating the initial methodology to utilizing and sharing the data and final report.	Noronha, Tara. "Labor Market Assessment Guidance and Tip Sheets." Mercy Corps. June 2015.

#### 4.1.b. Emergency and Humanitarian Market Development Resources

	Resource	Description	Citation
Web	<p><a href="#">Markets Toolbox</a></p> <p><i>CaLP. Humanitarian Aid and Civil Protection</i></p>	This is a collation of various markets resources. It includes links to market analysis research, various markets trainings, toolkits, and general guidance for market assessments.	CaLP, Humanitarian Aid and Civil Protection. "Markets Toolbox."
Technical	<p><a href="#">Comparative Table of Humanitarian Market Analysis Tools</a></p> <p><i>CaLP</i></p>	This table compares nine different post-crisis market assessment tools. It gives a brief overview of each one, and contains a comparative matrix.	CaLP and International Rescue Committee. "Comparative Table of Humanitarian Market Analysis Tools."
Technical	<p><a href="#">Emergency Market Mapping and Analysis Toolkit (EMMA)</a></p> <p><i>IRC, Oxfam, InterAction, Practical Action</i></p>	This toolkit is for humanitarian staff in post-emergency contexts and aims to improve emergency responses by encouraging and assisting relief agencies to better understand, support, and make use of local market systems.	IRC, Oxfam, InterAction, Practical Action. Emergency Market Mapping and Analysis Toolkit.
Technical	<p><a href="#">Rapid Assessment for Markets (RAM)</a></p> <p><i>International Committee of the Red Cross</i></p>	This assessment is designed to provide a quick and basic introduction to how key markets operate immediately after a shock. It includes market data, which is essential for making informed decisions about how to respond and what transfer mechanisms to use.	ICRC and IFRC. "Rapid Assessment for Markets. Guidelines for an initial emergency market assessment. ICRC and International Federation of Red Cross and Red Crescent Societies 2014.
Technical	<p><a href="#">Pre-Crisis Market Analysis (PCMA)</a></p> <p><i>IRC, Oxfam, USAID</i></p>	The PCMA provides guidance for practitioners on conducting market analysis before the onset of an anticipated crisis using an adaptation of existing post-crisis market assessment tools.	The International Rescue Committee, Inc. Pre-Crisis Market Analysis (PCMA). Feb. 2016.

#### 4.2 Identify the key drivers of value chain development, including nutrition-sensitive value chains, and opportunities for the poor to upgrade their positions within viable value chains.

	Resource	Description	Citation
Technical	<p><a href="#">Integrating Extremely Poor Producers into Markets Field Guide</a></p> <p><i>World Vision, FHI 360</i></p>	This guide is intended to provide the field-level practitioner with tools and applications to impact extremely poor household through increased market engagement for extremely poor households, especially women, through enterprise development activities.	Norell, Dan, and Margie Brand. Integrating Extremely Poor Producers into Markets Field Guide. 3rd ed. World Vision, FHI 360, Sept 2014.
Web	<p><a href="#">Value Chain Development Wiki</a></p> <p><i>USAID/E3 team, ACDI/VOCA's Advancement Project-Business Development Services, Leveraging Economic Opportunities</i></p>	These wiki pages codify good practice in value chain development and emerging learning in inclusive market systems development, drawing from research conducted under the leadership of many contributing organizations, academics and institutions.	USAID Microlinks. "Value Chain Analysis." US Agency for International Development.

### 4.3 Identify the impact of the enabling environment on value chains and options for improving it, e.g., addressing trade barriers, governance, and advocacy.

	Resource	Description	Citation
Web	<p><a href="#">Value Chain Development Wiki, Business Enabling Environment - Overview</a></p> <p>USAID/E3 team, ACDI/VOCA's Advancement Project-Business Development Services, Leveraging Economic Opportunities</p>	<p>This page, as part of the Value Chain Development Wiki, gives a good overview of the business enabling environment and how this hinders or facilitates the movement of a product or service along a value chain.</p>	<p>USAID Microlinks. "Business Enabling Environment-Overview." US Agency for International Development.</p>

### 4.4 Engage more effectively with the public and private sectors to create opportunities for improved sector linkages, and identify how private sector actors can be a force for sustainability.

	Resource	Description	Citation
Technical	<p><a href="#">Private Sector Engagement Toolkit</a></p> <p>Mercy Corps</p>	<p>This toolkit defines private sector engagement and helps staff better recognize and prepare for private sector opportunities, improve the quality of private sector engagement, and make better decisions about when and how to engage private sector partners.</p>	<p>Volchok, Ted. Private Sector Engagement Toolkit. Mercy Corps. 2012.</p>
Web	<p><a href="#">Implementing Private Sector Development</a></p> <p>The Donor Committee for Enterprise Development</p>	<p>This portal contains the Donor Committee for Enterprise Development's knowledge pages on different Private Sector Development approaches, such as private sector partnerships, value chain development, inclusive business and more. It houses information on the most common approaches and the associated knowledge pages.</p>	<p>The Donor Committee for Enterprise Development. "Implementing Private Sector Development." Web. 03 June 2016.</p>
Web	<p><a href="#">Effective collaboration with the private sector</a></p> <p>BEAM Exchange</p>	<p>This webinar focused on how programs that use market systems approaches to reduce poverty work with businesses. It also looked at what ways market facilitation methods differ from other kinds of private-sector development initiatives.</p>	<p>Building Effective and Accessible Markets (BEAM) Exchange. "Effective collaboration with the private sector." Speakers: Daniel Roduner (Agridea), Susan Maina (Kenya Markets Trust), and Andrew Wilson (MarketMakers.) April 2015.</p>



#### 4.5 Identify tools that help farmers with limited literature and numeracy skills to understand basic accounting, profit analysis, business planning, and marketing skills.

	Resource	Description	Citation
Web	<p><a href="#">Field Numeracy: Uno How's Farm Visits</a></p> <p><i>AgriTechTalk International</i></p>	<p>This resource contains online learning courses in functional numeracy for professionals working in food and nutrition security to use with farmers. The modules are cartoon based farm visits of a fictional extension agent. The cartoons link to explanations, simple calculations and exercises, as well as lots of practical numeracy tips.</p>	<p>AgriTechTalk International. "Field Numeracy - Uno How's Farm Visits™." AgriTechTalk International, The TOPS Program, 2015.</p>
Technical	<p><a href="#">Financial Education</a></p> <p><i>CRS, MEAS, Microfinance Opportunities</i></p>	<p>This manual was created to help people learn about financial tools and money management and to help people teach financial and money management skills to farmers and others after learning it. Also available in French.</p>	<p>Catholic Relief Services. "Financial Education." Catholic Relief Services, Microfinance Opportunities, Modernizing Extension and Advisory Services, 2013.</p>

## 5. ANRM Technical Extension Services

**5.1 Improve access to technical information by using different technology transfer methods, including training, visit extension, agricultural cascade education, embedded services, information and communications technology (including mobile), farmer field schools, and on-farm trials. Know proper training techniques for farmer groups and implement strategies to address gender equity.**

	Resource	Description	Citation
Web	<p><a href="#">Modernizing Extension and Advisory Services (MEAS)</a></p> <p>USAID, University of Illinois at Urbana-Champaign</p>	This website contains numerous extension and advisory services-related resources such as methods and tools, training materials, pilot projects, case studies, and more.	"Modernizing Extension and Advisory Services." MEAS. USAID, Web. 12 May 2016.
Technical	<p><a href="#">Learning that Lasts: Technical Guidance for Farmer Field Schools</a></p> <p>The TOPS Program, Mercy Corps</p>	The short, concise guide provides an overview of farmer field schools, why they're important, and how to ensure they are effective. It also contains links to other key resources on this topic.	The Technical and Operational Performance Support (TOPS) Program. 2014. TOPS Technical Guidance for Farmer Field Schools. Washington, DC: TOPS.
Technical	<p><a href="#">Women in Agriculture: A Toolkit for Mobile Services Practitioners</a></p> <p>GSMA</p>	This is a toolkit for mobile-enabled agricultural service providers and development practitioners to reach women working in agriculture more effectively. It provides recommendations, insights, and examples of good practices and tools for each stage of the product development process, and covers a full range of mobile services.	O'Donnell, Megan. Women in Agriculture: A Toolkit for Mobile Services Practitioners. GSMA, 2014.
Technical	<p><a href="#">Reducing the Gender Gap in Agricultural Extension and Advisory Services</a></p> <p>MEAS</p>	This discussion paper highlights examples of gender equitable extension services and provides illustrative indicators and points for consideration in designing extension and advisory services for men and women.	Cristina Manfre, Deborah Rubin, Andrea Allen, Gale Summerfield, Kathleen Colverson, Mercy Akeredolu, and MEAS Project. Reducing the Gender Gap in Agricultural Extension and Advisory Services. Apr. 2013.
Training	<p><a href="#">Integrating Gender into Extension Services - Facilitator's Guide</a></p> <p>MEAS, USAID, University of Florida</p>	This resource contains both a Facilitator's Guide and Participant's Guide. The materials are intended for use by extension agents or others who wish to increase the awareness of gender issues related to agricultural production systems.	Colverson, Kathleen Earl. Integrating Gender into Extension Services: Facilitator's Guide. MEAS, 2012
Web	<p><a href="#">Information Communication Technology (ICT) in Extension</a></p> <p>UC Davis</p>	This website helps practitioners think through their extension approach and ensure they are using the most appropriate ICT channel to lead to behavior change. The site provides pros and cons of each method, as well as examples of use.	UC Davis College of Agricultural and Environmental Sciences International Programs. "ICT in Extension." Agricultural Extension: A Guide to Effective Extension. UC Davis.

	Resource	Description	Citation
Technical	<a href="#">ASK ME Extension Framework and TIGRS Keys for Success</a>  MEAS	These are easy-to-use fact sheets on classic and proven methods of extension delivery, with many practical tips. Topics include audience analysis, evaluating recommendations, key messages, extension options, evaluation, and more.	Bell, Mark, et. al. "ASK ME Extension Framework and TIGRS Keys for Success." MEAS. USAID, UC Davis College of Agricultural and Environmental Sciences International Programs.

## 5.2 Identify the best combinations of extension or coverage approaches.

	Resource	Description	Citation
Technical	<a href="#">What Every Extension Worker Should Know - Core Competency Handbook</a>  MEAS	This handbook is designed as a reference manual for front-line extension staff to use in their day-to-day work. It offers a set of tools for effective communication, program planning and evaluation.	Suvedi, Murari, and Michael Kaplowitz. What Every Extension Worker Should Know: Core Competency Handbook. Tech. MEAS Project, Feb. 2016.

## 5.3 Improve skills in group facilitation and persuasion (e.g., interacting with different groups, methodologies for adult education methods).

	Resource	Description	Citation
Technical	<a href="#">Organizing and managing farmers' groups: A SMART Skills manual</a>  CRS, MEAS	This guide is aimed at field agents who work with farmers, and teaches the characteristics of strong and cohesive farmers groups. Topics include group organization and management. Each lesson includes guidelines, field exercises to do with a group of farmers and quizzes to test understanding.	CRS and MEAS. 2015. Organizing and managing farmers' groups: A SMART Skills manual. Catholic Relief Services, Baltimore, MD, and Modernizing Extension and Advisory Services project, University of Illinois at Urbana-Champaign, IL.
Training	<a href="#">Participatory Training for Adult Learners: Activities and Examples</a>  USAID, University of Florida, INGENAES	This manual was created to complement training workshops related to participatory training of adult learners. It contains "generic" activities that can be modified to fit the subject matter, content, and needs of the trainer. An example of each activity is given within a gender and development training context.	Williams, Rebecca J. Participatory Training for Adult Learners. Tech. USAID, INGENAES, UF, Mar. 2015.
Technical	<a href="#">Permagarden: Adult Education Training Resources</a>  The TOPS Program, Mercy Corps	This document, which is complementary to the TOPS permagarden manual but relevant in other training contexts, discusses adult learning principles and rules for using a participatory approach to training. This is a resource for trainers on adult learning and participatory training that provides methods and tools to adjust adequately the training session plans.	The Technical and Operational Performance Support (TOPS) Program. 015. TOPS Permagarden Adult Education Training Resources. Washington, DC: The TOPS Program.

## 6. ANRM Financial Services and Insurance

### 6.1 Understand best practices for informal microfinance, such as village savings and loan associations.

Resource		Description	Citation
Training	<a href="#">Village Savings and Loans Association - Facilitator's Guide</a>  <i>IRC</i>	The VSLA Facilitator Guide is developed for staff supporting the implementation of VSLA activities. Users of this guide are ones who are creating independent groups, maintaining a training program and providing support to achieve success.	Bersabeh, Beyene. Village Savings and Loans Association -Facilitator's Guide. New York: International Rescue Committee, 2012.
Technical	<a href="#">Savings Groups: What Are They?</a>  <i>The SEEP Network</i>	This paper seeks to explore and explain the nature of savings groups and the varying approaches used by the most experienced facilitating agencies and projects, which mainly work in Africa.	Allen, Hugh, David Panetta, and The Savings-Led Financial Services Working Group. "Savings Groups: What Are They?" The SEEP Network. The SEEP Network, 2010.
Web	<a href="#">VSL Associates Project Planning Tools</a>  <i>VSL Associates</i>	This website contains a portal of guides and tools for implementing Savings Groups projects. Includes practical planning tools, training guides, and monitoring and evaluation spreadsheets.  <i>Must register for free in order to access.</i>	VSL Associates Ltd. "Project Planning." January 2016. <a href="http://www.vsla.net">www.vsla.net</a>

### 6.2 Understand how to work with formal microfinance institutions and savings and credit cooperatives. Identify opportunities for enhancing agricultural microfinance through development of agricultural loan products.

Resource		Description	Citation
Technical	<a href="#">Lending to the Agriculture Sector</a>  <i>USAID, Chemonics, ShoreBank International</i>	This toolkit is designed to support financial institutions in: (i) making a determination whether or not to get into or ramp up agricultural sector lending; (ii) and if so, to rapidly set-up an agricultural lending unit.	USAID, Chemonics International, and ShoreBank International. Financial Sector Knowledge Sharing Project. Lending to the Agriculture Sector. Dec 2012.
Technical	<a href="#">Agricultural Lending Tools</a>  <i>AgriFin</i>	The tools corner contains an assortment of lending tools and training materials to help fine-tune agricultural lending procedures, develop new products, adjust credit assessment processes, and train staff.	AgriFin: Agriculture Finance Support Facility. "Agricultural Lending Tools." AgriFin, 2014.

### 6.3 Understand how to embed finance within value chains (e.g., sales on credit and contract farming).

	Resource	Description	Citation
Web	<p><a href="#">Value Chain Development Wiki, Value Chain Finance</a></p> <p>USAID/E3 team, ACDI/VOCA's Advancement Project-Business Development Services, Leveraging Economic Opportunities</p>	This page, as part of the Microlinks Value Chain Development Wiki, gives an overview of value chain finance and links to more resources.	USAID Microlinks. "Value Chain Finance." USAID Microlinks. US Agency for International Development.
Technical	<p><a href="#">Guide to the Use of Digital Financial Services in Agriculture</a></p> <p>USAID, mSTAR</p>	This guide identifies specific challenges in value chains that can be addressed by improved payments or financial services, and then identifies corresponding digital financial services solutions to these specific challenges, with the aim of improving the ability of value chains to increase farmer incomes.	Martin, Christine, Nandini Harihareswara, Elizabeth Diebold, Harsha Kodali, and Carrie Averch. Guide to the Use of Digital Financial Services in Agriculture. USAID's Mobile Solutions Technical Assistance and Research, 2016.
Technical	<p><a href="#">Integrating Extremely Poor Producers into Markets Field Guide</a></p> <p>World Vision, FHI 360</p>	This guide is intended to provide the field-level practitioner with tools and applications to impact extremely poor household through increased market engagement for extremely poor households, especially women, through enterprise development activities.	Norell, Dan, and Margie Brand. Integrating Extremely Poor Producers into Markets Field Guide. 3rd ed. World Vision, FHI 360, Sept 2014.

### 6.4 Identify potential crop and livestock insurance options available to resource-poor farmers.

	Resource	Description	Citation
Technical	<p><a href="#">Weather index insurance for agriculture: Guidance for Development Practitioners</a></p> <p>The World Bank</p>	The purpose of this paper is to introduce task managers and development professionals, who are not insurance sector specialists, to weather index insurance. It contains an overview of the weather index insurance topic, and more specifically through the lens of World Bank findings.	The World Bank. Weather Index Insurance for Agriculture: Guidance for Development Practitioners. Washington, 2011.
Technical	<p><a href="#">Agriculture, Microinsurance, and Rural Development</a></p> <p>Microinsurance Network</p>	This paper explores the role insurance products could play within the landscape of constraints smallholders typically face. Smallholders engaged in crop production are the focal point of discussion.	Müller, Silvia, Gaby Ramm, and Roland Steinmann. Agriculture, Microinsurance, and Rural Development. Luxembourg: Microinsurance Network, 2014.
Technical	<p><a href="#">Insurance of crops in developing countries</a></p> <p>FAO</p>	This booklet provides an introductory overview of crop and forestry insurance and how to proceed with planning for crop insurance. It is intended to assist those interested in exploring and exploiting this financial mechanism to do so in a realistic and satisfactory manner.	Roberts, R.A.J. © FAO 2005. Agriculture and Consumer Protection Department: Insurance of crops in developing countries.

## 7. Measuring Impact and Using Data

### 7.1 Identify indicators and tools for measuring and monitoring ANRM results, such as income indicators, profit and loss statements, impact on nutrition and gender.

#### 7.1.a. USAID Indicators

	Resource	Description	Citation
Technical	<a href="#">Food for Peace Indicators Handbook Part I: Indicators for Baseline and Final Evaluation Surveys Module G: Agriculture</a>  FANTA III, FHI 360	This handbook is designed to provide third-party survey firms with the information necessary to collect and tabulate data on FFP indicators for baseline and final evaluation surveys. It provides the definitions, questionnaires, and tabulation instructions for each indicator.	FFP Indicators Handbook Part I: Indicators for Baseline and Final Evaluation Surveys. April 2015. Washington, DC: Food and Nutrition Technical Assistance III Project (FANTA III), 2015.
Technical	<a href="#">Food for Peace Indicators Handbook Part II: Annual Monitoring Indicators Module A: Agriculture &amp; Livelihoods</a>  FANTA III, FHI 360	This handbook is designed to provide FFP development food assistance projects with the information necessary to collect and tabulate data on FFP annual monitoring indicators.	FFP Indicators Handbook Part II: Annual Monitoring Indicators. April 2015. Washington, DC: Food and Nutrition Technical Assistance III Project (FANTA III), 2015.
Technical	<a href="#">USAID's Office of Food for Peace Indicators List</a>  USAID	This is a list of Food for Peace indicators from 2015. It contains the Project Objective or Result, Indicator Title, Who Collects, and more.	USAID Office of Food for Peace Indicators List. April 2015. Washington, DC.

## 7.1.b. Other Measurement Resources

	Resource	Description	Citation
Technical	<p><a href="#">Minimum Dietary Diversity for Women: A Guide to Measurement</a></p> <p>FAO, FHI 360</p>	<p>This guide describes a food group diversity indicator that has been shown to reflect one key dimension of diet quality: micronutrient adequacy. It provides users of the Minimum Dietary Diversity for Women indicator with detailed guidance on its use and application along with information on common-pitfalls.</p>	<p>FAO and FHI 360. 2016. Minimum Dietary Diversity for Women: A Guide for Measurement. Rome: FAO.</p>
Technical	<p><a href="#">Farmer's Field and Business School Toolkit: Monitoring, Evaluation, and Learning Tools</a></p> <p>CARE</p>	<p>This is a participatory self-assessment tool that allows farmers belonging to a particular group to monitor their progress against collectively set targets and recommended practices.</p>	<p>CARE. "6. Monitoring, Evaluation and Learning Tools." Farmer's Field and Business School Toolkit, 2015.</p>
Technical	<p><a href="#">Gender Issues in Monitoring and Evaluation in Agriculture</a></p> <p>The World Bank</p>	<p>This document contains two sections: Integrating Gender into Agricultural Development Projects - A Focus on Results-Based Monitoring and Evaluation; and Monitoring and Evaluation Examples from Agricultural Subsectors. Resources include questions to ask throughout the program cycle, illustrative indicators, and data collection, and analysis guidance.</p>	<p>International Bank for Reconstruction and Development. 2012 "Gender Issues in Monitoring and Evaluation in Agriculture." The World Bank.</p>
Technical	<p><a href="#">Sampling Guide for Beneficiary-Based Surveys for Select Feed the Future Agricultural Annual Monitoring Indicators</a></p> <p>FANTA III, FHI 360</p>	<p>This guide provides technical guidance on the design and use of beneficiary-based surveys (BBSs) to support the collection of data for agriculture-related annual monitoring indicators. The guide is intended for use mainly by USAID Feed the Future implementing partners (IPs), including FFP development food assistance project awardees.</p>	<p>Stukel, Diana Maria and Gregg Friedman. 2016. Sampling Guide for Beneficiary Based Surveys for Select Feed the Future Agricultural Annual Monitoring Indicators. Washington, DC: Food and Nutrition Technical Assistance Project, FHI 360.</p>
Technical	<p><a href="#">Instructional Guide on the Abbreviated Women's Empowerment in Agriculture Index (A-WEAI)</a></p> <p>IFPRI</p>	<p>The Women's Empowerment in Agriculture Index (WEAI) is a survey-based index designed to measure the empowerment, agency, and inclusion of women in the agricultural sector. The WEAI is used to assess the state of empowerment and gender parity in agriculture, to identify key areas in which empowerment needs to be strengthened, and to track progress over time.</p>	<p>Malapit, Hazel J.; Kovarik, Chiara; Sproule, Kathryn; Meinzen-Dick, Ruth Suseela; and Quisumbing, Agnes R. 2015. Instructional guide on the abbreviated Women's Empowerment in Agriculture Index (A-WEAI). Washington, D.C.: International Food Policy Research Institute (IFPRI).</p>

## 7.2 Develop monitoring and evaluation systems and effectively use information generated through these systems to adjust ANRM program strategies, including mitigation of negative impacts.

	Resource	Description	Citation
Technical	<p><a href="#">Using M&amp;E to Manage for Impact. Section 2.5: Ensuring Effective Operations</a></p> <p><i>International Fund for Agricultural Development</i></p>	<p>This guide discusses how M&amp;E can be used to manage projects in order to maximize their impact on poverty reduction. It was created to be useful for project managements, M&amp;E staff, and consultants.</p>	<p>"Using M&amp;E to Manage for Impact." Managing for Impact in Rural Development. A Guide for Project M&amp;E. International Fund for Agricultural Development. Rome 2002.</p>
Technical	<p><a href="#">Learning to Adapt: Monitoring and Evaluation Approaches in Climate Change Adaptation and Disaster Risk Reduction</a></p> <p><i>DFID, UK Institute of Development Studies, Christian Aid, Plan International</i></p>	<p>This working paper describes practical challenges for M&amp;E in the context of climate change and briefly explores the limitations of current disaster risk reduction M&amp;E efforts within this context, then follows with adaptive principles to facilitate development of M&amp;E frameworks that contribute to integrated adaptation processes.</p>	<p>Silva Villanueva, P. 2010. "Learning to ADAPT: monitoring and evaluation approaches in climate change adaptation and disaster risk reduction – challenges, gaps and ways forward." SCR Working Paper</p>
Web	<p><a href="#">Investment Learning Platform: Monitoring and Evaluation</a></p> <p><i>FAO</i></p>	<p>This web portal contains key resources related to M&amp;E, as well as an overview of M&amp;E for learning and performance improvement.</p>	<p>FAO, 2016. "Investment Learning Platform: Monitoring and Evaluation."</p>
Technical	<p><a href="#">The use of monitoring and evaluation in agriculture and rural development projects</a></p> <p><i>FAO, The World Bank</i></p>	<p>This paper reviews the use of M&amp;E in agricultural and rural development (ARD) projects. It assesses multiple M&amp;E systems and includes guiding principles for result-oriented project M&amp;E systems as a result of the review. Written for a World Bank audience, but generally applicable.</p>	<p>Muller–Praefcke, Dieter, K.C. Lai, and William Sorrenson. "The use of monitoring and evaluation in agriculture and rural development projects." FAO Investment Centre, 2010. FAO/World Bank Cooperative Programme.</p>
Technical	<p><a href="#">Unit Ten: Monitoring and Evaluation</a></p> <p><i>University of London</i></p>	<p>This document provides guidance to aid the design and implementation of effective project M&amp;E. It emphasizes the involvement of stakeholders in design and implementation and discusses how to create a learning environment for managers and for project implementation.</p>	<p>Centre for Development, Environment and Policy of SOAS, University of London. Course P534 Project Planning and Management. "Unit Ten: Monitoring and Evaluation. <a href="http://www.soas.ac.uk/cedep/">http://www.soas.ac.uk/cedep/</a></p>



