



Climate-Smart Agriculture in USAID Office of Food for Peace Funded Programs



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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

BINA	Bangladesh Institute of Nuclear Agriculture
BIRRI	Bangladesh Rice Research Institute
CGIAR	Consultative Group on International Agricultural Research
CRA	climate-resilient agriculture
CSA	climate-smart agriculture
CVCA	Climate Vulnerability and Capacity Assessment
FAO	Food and Agriculture Organization of the United Nations
FFP	USAID Office of Food for Peace
FSN	Food Security and Nutrition (as in the FSN Network)
GACSA	Global Alliance for Climate-Smart Agriculture
OFDA	USAID Office of Foreign Disaster Assistance
PROSHAR	Program for Strengthening Household Access to Resources
PVO	private voluntary organization
RFA	Request for Applications
SHOUHARDO II	Strengthening Household Ability to Respond to Development Opportunities II Program
TOPS	Technical and Operational Performance Support (as in The TOPS Program)
TOC	Theory of Change
U.K.	United Kingdom
U.S.	United States
USAID	U.S. Agency for International Development

Summary

As climate change progresses, its potential effects on food security become progressively clear. In response, food security programs are increasingly looking to climate-smart agriculture (CSA) as a way to address the twin challenges of food security and climate change.

As a USAID Office of Food for Peace (FFP)-funded learning and capacity-strengthening initiative, The Technical and Operational Performance Support (TOPS) Program funded an exploratory study of FFP programs' awareness, integration, and implementation of CSA practices to contribute to the body of knowledge around how CSA is used by the food security community. CSA is a rapidly evolving field of practice. This study was intended as a snapshot of the current state of CSA in FFP programs and implementing agencies that can be used to inform the work of TOPS and others going forward.

This report briefly reviews what CSA is and why it matters for development food assistance programs, discusses findings from the study, then provides suggestions going forward based on those findings.

Four themes emerged from interviews and conversations with implementing agency staff.

1. **Awareness, interpretation and practice of CSA are highly varied.** Implementers of FFP-funded programs alternately view CSA as a broad concept, a set of specific practices, and an ongoing process informing food security planning and programs.
2. **Opinions differed on the appropriate degree of change from current practice needed for effective CSA.** Some maintained that a focus on increased use of good development practices more generally would in and of itself increase resilience to climate change and variability. Others chose to focus on actions to reduce the vulnerability of existing work to current climate shocks and stressors, while still others felt that transformational changes were needed to address longer-term, larger-scale climatic changes and impacts.
3. **Competing priorities limit CSA implementation.** The immediacy and depth of need in many target communities made discussion of longer-term issues less of a priority for many staff. In addition, implementing agency staff, particularly at the program level, often felt overburdened by existing reporting requirements and cross-cutting issues.
4. **Awareness, agreement and capacity around climate change more broadly varied widely.** This includes the degree of climate-related technical capacity and tools within implementing agencies, participation in research partnerships to fill capacity or knowledge gaps, and use of qualitative climate change information.

It is too early to identify best practices for CSA, but this study presents some potential approaches for addressing the issues identified above.

1. **Clarifying the degree to which CSA should focus on process versus practices** could reduce confusion and support the development of effective capacity-building and implementation resources. Presenting CSA as a process for selecting or developing practices rather than as the practices themselves could increase the likelihood that climate vulnerabilities are

recognized and addressed, as well as reduce the need to distinguish between CSA and existing approaches.

2. **How much change from current practice is necessary for “good” CSA** depends on contextual variables such as program objectives, activities, and environmental setting. Helping implementing agency staff identify and apply these variables could further clarify what CSA looks like in practice.
3. **Providing implementing agency staff with the time and resources** to do the necessary climate vulnerability or risk assessment and adaptation planning, as well as requiring consideration of climate change in all programs, would increase the priority given to CSA.
4. **Capacity-strengthening activities should consider the differing needs of staff in different positions** (e.g., field staff versus headquarters staff). Depending on audience, time available, and level of need, capacity strengthening could range from comprehensive CSA training to targeted engagement of CSA experts with specific programs, either approach should ensure people learn through doing.

1. Introduction

The world's population continues to increase rapidly, particularly in developing countries, and achieving food security is a major challenge for many. Reaching a level of food security will require increasing the ability of smallholder farmers to produce and sell agricultural outputs in ways that are sustainable over the long term. This must happen not only in the face of increasing urbanization and environmental degradation, but also in the face of ongoing climate change, which is interdependent with many existing stressors. Climate-smart agriculture (CSA) is an approach to address the interlinked problems of food security and climate change, particularly the vulnerability of agricultural systems to climate change and the contribution of agriculture to that change.

CSA is gaining momentum in global food security planning and programming,¹ and recent climate-related Executive Orders² have raised its profile within the U.S. Agency for International Development (USAID)'s development food assistance programming. As such, implementing agencies need to understand what CSA is and how to implement it, and capacity-strengthening and other support organizations need to provide effective training, advice, and information to enable that to happen. USAID has a dedicated global climate change program, and the Agency's Feed the Future initiative has included climate change as a focus area since the initiative began in 2010. The USAID Office of Food for Peace (FFP) has not targeted climate change programming specifically, but this year, for the first time, FFP is requiring that proposals include a climate change analysis.

In light of this change to proposals and as part of learning around program implementation, The Technical and Operational Performance Support (TOPS) Program commissioned a study to assess the awareness, interpretation and implementation of CSA in FFP programs.

This report briefly reviews what CSA is and why it matters for development food assistance programs, discusses findings from the study, then provides suggestions going forward based on those findings. The goal is not to define CSA, but to provide insights into how to support its operationalization at the field level. The primary audience is individuals working in existing or new FFP programs and those that support them, but the findings are also useful for the wider food security implementing community.

¹ Global Alliance for Climate Smart Agriculture (<http://www.fao.org/gacsa/en/>)
Africa CSA Alliance (<http://africacsa.org/>)

Consultative Group on International Agriculture Research (CGIAR) Research Program on Climate Change, Agriculture and Food Security (www.ccafs.cgiar.org)

² Executive Order 13653, Preparing the United States for the Impacts of Climate Change, issued November 2013
Executive Order #13677, Climate-Resilient International Development, issued September 2014

2. Climate-Smart Agriculture: What and Why

The Food and Agricultural Organization of the United Nations (FAO) introduced the term “climate-smart agriculture” in a 2010 background paper³ prepared for the Hague Conference on Agriculture, Food Security, and Climate Change,⁴ a gathering of representatives of diverse organizations and sectors to develop a roadmap for addressing the twin challenges of food security and climate change. The key message of this conference was that meeting these challenges requires transforming agriculture and food systems in developing countries.

Since the release of the background paper, the concept of CSA has been further developed in the 2013 FAO *Climate-Smart Agriculture Sourcebook*,⁵ at three Global Science Conferences on CSA,⁶ and through the formation of the Global Alliance for Climate-Smart Agriculture (GACSA) and the Africa CSA Alliance, whose members represent national governments, multilateral organizations, private sector groups, and others. Individual organizations and agencies are also working to support CSA internally and with partners; USAID, for example, has created the Inter-Agency Working Group on Climate Smart Agriculture in International Development.

At its core, CSA is about integrating climate considerations into food security efforts in order to maximize the chances of increasing food security levels in a changing world. At the highest level, there is general agreement that CSA focuses on three interlinked objectives:

1. Sustainably increasing agricultural income and productivity
2. Building resilience to climate change (adaptation)
3. Reducing or removing greenhouse gas emissions (mitigation)

These objectives serve as a guide for developing and selecting actions needed to transform agricultural systems to meet development and food security goals in a changing climate.

Because agricultural development interventions take place at many scales and in many contexts, any one intervention need not focus on all three objectives.⁷ A small organization may not have the capacity to effectively target all three objectives with the same level of effort. Community-level programs targeting the poor and ultra-poor, for example, are likely to focus more on income, productivity, and resilience than on emissions reduction. A large international organization or national government developing CSA policies or strategies, on the other hand, should include in its portfolio programs that, taken together, do address all three objectives. At all levels, applying “climate-smart” thinking will ideally help to identify and manage synergies and tradeoffs among the objectives. Conservation tillage, for example, has been widely promoted to reduce erosion and runoff, but also has significant emissions reduction benefits.⁸

³ FAO 2010.

⁴ Conference information and summary available at <http://www.fao.org/climate-smart-agriculture/74789/en/>.

⁵ Available at <http://www.fao.org/docrep/018/i3325e/i3325e00.htm>.

⁶ The three conferences were held in 2011 in Wageningen, Germany, in 2013 in Davis, California, USA, and in 2015 in Montpellier, France.

⁷ FAO 2014b.

⁸ IPCC 2000 and Utomo 2014.

Conversely, the use of synthetic fertilizers to increase yield is a significant source of greenhouse gas emissions.⁹

Regardless of which of the objectives is addressed, what sets CSA apart from current practice is the explicit consideration of climate change. Even if the focus is sustainably increasing agricultural income and productivity, program proponents must at least “ask the climate question,” that is, consider how climate change may affect their work or vice versa.

Different interventions may have different levels of complexity. On one end of the spectrum are simple adjustments to current practice, such as changing when crops are planted or which varieties of a particular crop are planted. These types of changes typically can be accomplished within the existing social and policy context and generally require less funding and technical capacity. On the other end of the spectrum, larger-scale programs or those with longer time horizons may need to incorporate more significant changes to practice or policy, such as diversifying production and including livestock and trees into smallholder farm systems. **Box 1** provides examples of CSA in FFP-funded programs.

Box 1. In Practice: CSA Examples from Food for Peace Programs

In parts of **Zimbabwe**, increasingly dry conditions are making it harder for farmers to obtain reliable and sufficient yields from their crops. In response, a few farmers shifted their focus from only producing crops to include livestock in their systems, a less vulnerable source of food and income in dryland areas. Knowing the likelihood that climate change will lead to even dryer conditions in the future, program implementers took advantage of the momentum created by these early adopters and began to further promote this practice. Although the farmers had initially made changes in response to current climate variability, this created an opportunity to increase uptake of a climate-smart practices for the longer term.

Many of **Bangladesh's** poor are faced with the dual problem of not having much land to begin with and the salinization of what land they do have because of sea level rise and storm surges. WorldFish is training people to use vertical gardens that simultaneously address both issues. Using existing containers or building cheap, simple new ones out of plastic and bamboo, villagers can grow hundreds of kilograms of vegetables in areas where salty soil would have made that impossible

Just as climate change's influence can be seen throughout the food system, CSA encompasses more than just on-farm actions. CSA addresses climate change effects on the health and productivity of crops and livestock, the availability of food for purchase and access to that food, the ability to get to markets, and how much food is lost in storage. The world's poor, many of whom are already food insecure, are disproportionately vulnerable to these impacts and require support to overcome them. **Organizations engaged in development programs, such as those funded by FFP, should ask two questions of their programs:**

- How might climate change affect the program's ability to achieve its objectives?
- How might the program affect the vulnerability of human and natural systems to climate change?

⁹ Scialabba & Müller-Lindenlauf 2010.

Many geographies are already struggling with climate challenges, such as drought in the Horn of Africa or flooding in Bangladesh, and building resilience to those current challenges may also increase resilience to the near-term effects of climate change.¹⁰ For decisions with longer-term implications, such as whether to encourage pastoralists to settle in permanent villages or whether to upgrade seasonal roads to year-round roads, thinking about longer-term climatic changes and potential thresholds becomes increasingly important. In some cases, focusing only on resilience to current climate variability can relieve immediate pressures and reduce the motivation to enact more fundamental changes, potentially increasing the vulnerability of the very people programs are intended to help.¹¹

¹⁰ See, for example, FAO 2013, Howden et al. 2007, and Schiermeier 2015.

¹¹ Rickards & Howden 2012 and Marshall 2010.

3. Climate-Smart Agriculture in Food for Peace-Funded Programs

The growing focus on CSA within the international development and food security community, along with the new climate change analysis requirement in 2015 FFP requests for applications (RFAs), prompted The TOPS Program to ask how CSA is currently being implemented in FFP-funded programs.

The original intent of this investigation was to document CSA practices, locations, successes, and challenges and to use this information to create case studies that would be useful for FFP implementing agencies seeking to implement or improve CSA efforts. However, initial interviews revealed that the interpretation of CSA was so varied that such information was unlikely to add significant value over existing collections of CSA case studies.¹² In particular, it was not clear that the practice of CSA within FFP efforts would be categorically different from its practice in other types of programs.

In response, the focus of the study was adjusted to gather information on FFP programs' awareness, integration, and implementation of CSA practices to contribute to the body of knowledge around how CSA is used by the food security community, with the goal of understanding:

- The level of awareness FFP program implementing agencies have of CSA, particularly at the field level
- The extent to which CSA is a part of FFP development programs
- What is helping or hindering the implementation of CSA efforts in FFP development programs
- How TOPS could help interested parties increase the resilience of their food security work to climate change and related stressors

Based on these goals, the study developed a series of questions with varying levels of specificity, but all were built around five basic questions.

1. How do you/does your organization define CSA?
2. Have you or your organization done any CSA programs?
3. What made it easier to implement CSA programs?
4. What made it harder to implement CSA programs?
5. What could The TOPS Program do to strengthen knowledge and capacity on CSA?

TOPS staff put together an initial list of contacts at organizations that implement or support FFP development food assistance programs, and additional contacts were identified by the initial contacts, from FFP materials, and at workshops. Twenty-nine individuals representing seven

¹² For example, FAO 2014a and Neate 2013.

private voluntary organizations (PVO) and three partner organizations were interviewed via telephone or in person¹³.

Interviews were semi-structured, that is, there was a set of questions to guide the interview, but they were not followed rigidly and conversations were allowed to evolve based on interviewee responses. Some individuals participated in more structured interviews, while others were engaged via less formal discussions at The TOPS Program agroecology symposium in Washington, DC,¹⁴ and a knowledge-sharing conference in Dhaka, Bangladesh.¹⁵ Interviewees ranged from headquarter staff to Chiefs of Party to field staff. The goal was not to be comprehensive or to carry out a formal evaluation of programs; rather it was to talk with enough people in enough detail to get a sense of the awareness and implementation of CSA practices. Interview length and depth depended on experience, time available, and context (phone or in-person). Some respondents provided more general thoughts on resilience and adaptation, while others were able to provide specific field-level information.

¹³ Organizations included: ACDI/VOCA, CARE, Centre of Global Change, CNFA, REST, Mercy Corps, Save the Children, TANGO International, University of Colorado, USAID, World Fish, World Vision

¹⁴ Design for Resilience in Smallholder Farming Systems: Symposium and Consultation on Agroecological Principles, Design and Practice, January 21–22 2015, <http://www.fsnnetwork.org/design-resilience-smallholder-farming-systems-symposium-and-consultation-agroecological-principles-0>

¹⁵ TOPS Asia Regional Knowledge Sharing Meeting, March 2015, <http://www.fsnnetwork.org/topsfsn-network-asia-regional-knowledge-sharing-meeting-0>

4. Findings

Several themes emerged through interviews, discussions, and workshops, which are discussed below. Overall, findings show that:

1. Awareness, interpretation, and practice of CSA are highly varied
2. Opinions on the appropriate degree of change from current practice needed for effective CSA varied
3. Competing priorities limit CSA implementation
4. Awareness, agreement, and capacity around climate change more broadly are highly varied

4.1. Awareness, knowledge, and practice of CSA are highly varied

Awareness and interpretation of CSA varied widely among interviewees. Some talked about climate change and CSA explicitly and had clearly thought about the implications of climate change for their work. Others had heard of CSA but were unsure what it meant in practice. A handful of people were not familiar with the term at all. In general, higher-level staff were more comfortable discussing the concept, as were field staff that worked on CSA programs either as part of FFP-funded development food assistance programs or through other programs. Staff with less CSA experience struggled with what it meant in practice. Interviewee's conceptualization of CSA can be broken down into three major categories.

1. CSA as a concept: CSA is most useful as a broad concept encompassing a set of related ideas.
2. CSA as a set of practices: The actions people take are sufficient to define CSA.
3. CSA as a process: The core of CSA is how people choose actions rather than the actions themselves.

4.1.a. CSA as a Broad Concept

Some people, particularly those at higher levels within the organizations, were aware of FAO's formal definition, but this did not necessarily translate into an ability to describe what CSA should look like in practice. This is likely because, as one interviewee commented, CSA "seems to be more a general concept than anything concrete. There is no set number of activities that are considered climate smart, and what activities are considered climate smart can vary." **FAO refers to CSA as a "programmatically concept," a way to orient and ground policies and actions, rather than an actionable definition in and of itself.** This conceptual approach seemed to be more useful when interacting with donors at headquarters than at a field level.

Some that were aware of the formal concept of CSA chose not to include it in their programs, citing reasons such as not having the capacity to focus on cross-cutting issues beyond those their donors already required them to address. Others looked for ways to describe their current work in terms of CSA as an approach facilitated by FAO literature stating that it is not necessary to address all three pillars for a program to be considered climate smart. Because the first pillar (sustainably increasing agriculture income and productivity) does not refer specifically to climate change, many existing programs could technically be described as CSA without addressing

climate change in any explicit way. Some respondents were comfortable with this, feeling that using a sustainability lens removed the need to address climate change explicitly. Others expressed concern that simply defining existing sustainability work as “climate smart” without grappling with climate change directly runs the risk that critical vulnerabilities will be missed and opportunities for improvement will be lost.

Another outcome of this view is that some people that have been promoting conservation agriculture, agroecological practices, or related approaches for years rightly see significant overlap between their work and CSA. Some respondents seemed to hope the “new branding” will increase traction for and uptake of existing ideas.

4.1.b. CSA as a Set of Practices

At the other end of the spectrum, many people saw CSA as a set of specific practices. Some gave examples of specific practices that they considered climate smart, while others wanted examples of CSA practices they could promote. CSA as a set of practices appealed to field staff already overwhelmed with all they need to accomplish because it does not require significant time or resources for climate assessments, and they were often already part of program activities.

Examples of practices interviewees described as CSA included:

- Focusing on drought- or flood-tolerant crops or activities: In Africa, this included shifting from maize to smaller grains, such as sorghum and millet. In Asia, the use of floating gardens made from mats of water with hyacinth that rise and fall with the water enabled uninterrupted crop production.
- Changing from a focus on crops to livestock in drought-prone areas, or to more climate-appropriate livestock: A program in Bangladesh, for example, encouraged women to shift from raising chickens to raising ducks, which were better able to handle flooding. They also encouraged a shift from goats to sheep, as sheep are more cold- and flood-tolerant.
- Promoting farmer-managed natural regeneration of forests
- Promoting irrigation to limit the risk of losing an entire crop to drought
- Using check-dams to slow the flow of water through the landscape and increase infiltration
- Accessing weather- or climate-related informational updates via text, radio, or automated voicemail
- Linking agricultural insurance and extension services

Very few examples cited by interviewees included a mitigation component. Many of the individual interventions are similar to or the same as actions people are already taking based on a conservation agriculture or agroecological perspective. This may be because of the relatively short-term (from a climate change perspective) nature of many FFP programs (5 years) or because most interviewees had not done a program-specific **climate change vulnerability assessment that would support more nuanced adaptation.** Viewing CSA as a set of specific practices will certainly have some benefits, but some respondents worried that as with the “CSA as a concept” approach, there is a risk that key vulnerabilities will remain unidentified and unaddressed.

4.1.c. CSA as a Process

A few programs approached CSA as somewhere between a broad concept and a set of practices, seeing it as a process that leads to the selection of a suite of interventions. In some cases this reflected an organization-wide approach; in others it appeared to be more of an individual viewpoint. People who took this approach seemed less paralyzed by definitional confusion than others. In many cases the actions they ended up taking were similar to actions they might have taken anyway, but they were able to articulate the link between their choice of action and climate change. Some people saw a climate vulnerability or risk assessment as a distinct activity; others felt climate change could be wrapped into an overall community-level vulnerability or risk analysis. **The key is that a core element of CSA is the explicit assessment and incorporation of climate vulnerabilities and impacts into program work.**

An example of this approach that participants shared is the Strengthening Household Ability to Respond to Development Opportunities II (SHOUHARDO II) Program Bangladesh.¹⁶ Using CARE's Climate Vulnerability and Capacity Assessment process (CVCA),¹⁷ staff conducted an initial analysis of how community members experienced their vulnerability to climate-related shocks and stressors and their ability to respond or prepare effectively. Based on this analysis, staff recommended particular subsets of actions from a bigger menu of possible actions. They found that this process, namely using a structured analysis to identify preferred options, also promoted the generation and sharing of new ideas in communities they worked with. Interviewees stated that this example demystified CSA and helped them to see how they might apply it to their own work. Having a straightforward decision process to follow rather than a list of specific actions made CSA less intimidating and confusing.

4.2. Varied opinions on the appropriate degree of change

Another area in which respondents expressed divergent views was how much change from current practices was necessary or appropriate for CSA programming. Although the boundaries were blurry, responses sorted roughly into three categories (**Figure 1**):

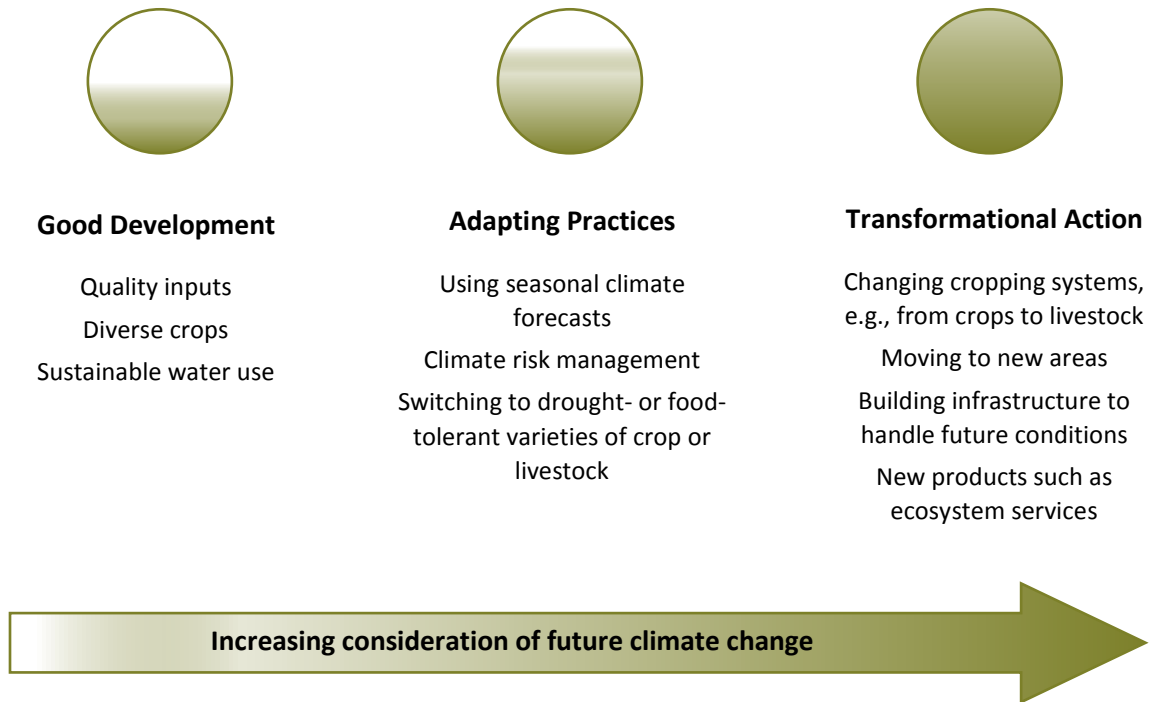
- a. **Incremental Action/Good Development** – general “raising the floor” practices to increase sustainable yield and overall resilience, focusing on improving development practices generally
- b. **Adapting existing practices** - adapting practices and interventions to reduce vulnerability to current climate shocks and stressors, such as drought, flooding, and climatic variability
- c. **Transformational Action** - transformational changes that address longer-term, larger-scale climatic changes

¹⁶ A related approach from FAO's Mitigation of Climate Change in Agriculture (MICCA) program was to work with communities to identify current agricultural practices, then to evaluate the benefits of those practices relative to the three CSA objectives. See Rosenstock et al. 2014 for details.

¹⁷ See more on CVCA at

http://www.careclimatechange.org/tk/integration/en/quick_links/tools/climate_vulnerability.html

Figure 1. Levels of CSA Action in Relation to the Focus on Future Climatic Changes, with Illustrative Examples



4.2.a. Incremental Actions: Good Development

In this view, there are so many enabling conditions that must be met before climate change can be addressed effectively that focusing on those enabling conditions is the most appropriate place to begin. These actions make sense regardless of future climate conditions. For example, staff from a program in Zimbabwe expressed their goal as getting communities to practice “climate appropriate” agriculture, given that people were still following agricultural calendars and climate zones established more than 50 years ago. Because of climatic changes and impacts, these calendars and climate zones no longer reflect reality. This group thought that focusing on the future when people had not even caught up to the present did not make sense. Other activities of this type that came up in interviews and discussions included improving seed quality and increasing access to markets.

4.2.b. Adapting Existing Practice: Addressing Current Climate Shocks

Other respondents felt that addressing climate considerations explicitly mattered, but that making small meaningful changes to the existing system was most appropriate and ultimately most effective. This view rested in part on the sense that a key effect of climate change will be intensification of existing climate shocks and stressors, so addressing existing shocks and stressors was in effect addressing climate change writ large. One participant gave the example of getting women to change from raising chickens to raising ducks in flood-prone Bangladesh. This built on existing skills and market connections and reduced vulnerability to flooding now and as climate change progresses. Other respondents brought up programs getting people to shift from larger to smaller livestock (e.g., from cows to sheep or goats) or in flood-prone areas to shift from goats to sheep, which are more tolerant of cold, wet conditions. Respondents felt that asking individuals to try something completely new would be seen as too risky and would take too much capacity strengthening and financing to be effective. Incremental changes such as the shift from chickens to ducks are more likely to provide immediate benefits and buy-in, a key factor for extremely food-insecure populations.

4.2.c. Transformational Action: Thinking Long-Term

Some respondents felt that the absence of interventions targeting longer-term climatic trends and vulnerabilities was problematic in that programs are not seeking to transform food security practices at a rate and scale that match the threats posed by climate change. In their view, climate change means that a “business as usual” approach is no longer enough and that CSA should attempt to transform the food system rather than make smaller changes around the edges of the system.

No interviewees described FFP activities that made specific use of medium- or longer-term climate projections or that were specifically designed to reduce vulnerability to longer-term or larger-scale climate change. One person whose work includes infrastructure programs, such as building year-round roads, said that he was aware of the need to consider future climate trends in infrastructure design, but lacked the technical, human, and financial resources to do so.

Some respondents expressed concern that the risk of unintended consequences is greater with programs seeking more significant changes from the norm. People may not learn new skills quickly enough to support or feed themselves and their families. Changing from a livestock-based to a crop-based lifestyle or vice versa could shift social dynamics in ways that weaken social safety nets. Approaches that work well when practiced by a smaller portion of a community may become unsustainable or less beneficial when taken up by an entire community (see example **Box 2**).

One illustration several interviewees raised as an example of interventions that may unintentionally increase longer-term vulnerability is the push to drill large numbers of wells to support irrigated agriculture as a means of reducing vulnerability to drought. While this may limit the impact of variable rainfall in the near term, respondents worried that if water withdrawals are not balanced with water supply, encouraging reliance on wells may result in greater vulnerability as the water supply becomes increasingly depleted. Respondents were also concerned that problems may arise if communities are not able to maintain their wells in functional condition or if communities lack effective governance structures to manage access to and use of communal water supplies. One respondent expressed particular concern about the practice of encouraging formerly nomadic people to settle around newly created wells, which in addition to creating a wholesale cultural shift reduces the ability of the community to move in response to changing conditions.

Box 2. An Example from Peru

The government responded to projections for particularly wet El Niño cycle in 1997/98 by promoting a shift from cotton to rice cultivation in agricultural region of Piura, seeking to decrease vulnerability of farmers to flooding. Conditions were indeed more favorable for rice, but the increased number of farmers growing rice led to a drastic drop in price, bankrupting many farmers. Thus, interventions must be “market smart” as well as climate smart. (From Trigo 2007.)

Box 3. The Value of Smaller-Scale versus Larger-Scale CSA Initiatives

The debate about the relative merits of or need for smaller-scale versus larger-scale CSA initiatives parallels a debate in the broader climate-change adaptation community. Yet what counts as large-scale or transformational is a matter of perspective. Depending on the cultural or personal significance of particular crops, places, or activities, for example, changing crops may be more disruptive of a community’s identity than moving to a new location where the preferred crop can still be grown. As Moser and Ekstrom (2010) point out, people who are more attached to a place will change what they do to stay where they are, and people who are more attached to what they do will change where they are to keep doing it.

Also, incremental change can be one step toward larger-scale changes. In a maize-growing area, for example, as temperatures increase and conditions become dryer it may be sufficient to shift to more drought- or heat-tolerant varieties of maize. As the trend continues, switching to new crops that are better-suited to a hotter and drier climate, such as millet or sorghum, may become increasingly necessary to support the needed level of productivity. Eventually, conditions may become unsuitable for crop production, necessitating a shift to livestock or even the migration of communities to different areas still capable of sustaining crops. Alternatively, rather than a sequential approach that responds to negative conditions over time, making simultaneous incremental changes within the agricultural system that incorporate different crops and varieties together with trees and livestock can rebuild the natural resource base and buffer larger changes in climate over time.

4.3. Competing priorities limit CSA understanding and implementation

A number of people felt that there are more urgent needs than climate change adaptation and that thinking about the effects of climate change was not particularly relevant to the communities targeted by FFP-funded programs. For these communities, they felt that the planning horizon is very short: their high vulnerability made it difficult to think about what will happen 20 or 50 years into the future and people are unlikely to think about climate change until basic needs such as food, sanitation, and shelter were being met.

This issue seemed to play out for some program staff as well, not just the beneficiary communities: if staff are overwhelmed trying to implement a complex program in diverse communities, they are less likely to take action to develop new skill or knowledge sets. Many interviewees mentioned feeling overwhelmed or confused by the variety of cross-cutting issues they were being asked to consider in the programs, as well as by the number of indicators they needed to track for FFP. Some interviewees mentioned that the issue of indicators was particularly challenging because different donors have different, often complicated, reporting requirements. This meant they had to track different indicators for different programs, even if the programs had similar foci.

In a related way, interviewees that were familiar with FAO's three CSA pillars felt that the mitigation pillar, while important at a global scale, was not as important as the first two pillars in programs focused on food security for the poor or ultrapoor. Not only are the emissions from these populations extremely small relative to people in the developed world, but some increase in emissions may be acceptable to bring people up to a minimum standard of living.

Nonetheless, most people felt that keeping mitigation in mind was important and that reduced emissions could be an important co-benefit of some practices. For example, one interviewee discussed concerns about the use of motorized pumps fueled by oil to increase water access to farming households. Not only are the pumps bad from a climate change perspective, but they also are expensive for farmers. He thought it would be worth exploring wind- or solar-powered pumps. This line of thinking is consistent with FAO's statements that not every CSA program needs to address all three pillars.

4.4. Awareness, engagement, and capacity around climate change are highly varied

In discussing factors that made it easier or more difficult to implement CSA programs, two primary drivers for engaging in CSA emerged: 1) donors making climate change integration a requirement for funding and 2) organizational commitment to climate change action. In addition to increasing implementation, these drivers made program staff more fluent in the language of climate change and CSA, increasing their comfort in discussing the topic. These drivers also seemed linked to three dimensions, along which organizations and programs varied:

- a. Organization technical capacity and tools
- b. Research partnerships
- c. Use of quantitative climate change information

4.3.a. Organizational Technical Capacity and Tools

Some organizations had little internal capacity in climate change, and staff requested more information on climate change itself. Others had dedicated climate change staff, although such staff were at the global or regional level rather than the field level. Staff from these organizations were more able than others to describe the link between their work and climate change and were more interested in how to translate knowledge about climate risks and vulnerability into climate-smart programs than in just acquiring knowledge about climate information. One interviewee said her organization is planning to hire resilience experts for each of its regions to provide greater support to field staff. At the field and headquarters level there were also some staff that had accumulated significant climate change experience, though they did not have formal roles as climate experts. Several interviewees expressed frustration that their organizations' program-based approach to funding field positions makes it difficult to keep such staff on board over the long term.

Very few interviewees had completed formal vulnerability assessments for programs, and most assessments did not differ significantly from existing broad-based community mapping and analysis programs that include discussion of community calendars and past and current vulnerabilities to climate-related problems. The only interviewees that had experience with formal climate change vulnerability assessments were those that had worked on programs focused specifically on climate change.¹⁸ One interviewee said that they had been trying to think more about climate change and where they might make changes to be more climate smart, but he felt that carrying out a more formal vulnerability or capacity assessment might help them to shift from a more reactionary approach to a more proactive approach.

The availability of a specific assessment tool seemed to be quite useful. For example, SHOUHARDO II staff used CARE's CVCA handbook¹⁹ to guide their incorporation of climate change into program activities. The CVCA handbook includes information about climate change, vulnerability, resilience, and adaptation, along with guidance on how to carry out a climate change assessment and analysis at different levels and use the results. One group commented that they felt limited in their ability to redesign public works programs (e.g., culverts, fords) for climate change, but that the availability of a vulnerability assessment methodology might help them be more proactive.

¹⁸ Examples of specific programs mentioned in interviews include Where The Rain Falls (<http://wheretherainfalls.org/>), USAID's African and Latin American Resilience to Climate Change (ARCC) Program (<http://community.eldis.org/.5b36f357/>), and the R4 Rural Resilience Initiative (<http://policy-practice.oxfamamerica.org/work/rural-resilience/r4/>)

¹⁹ Available at http://www.careclimatechange.org/tk/integration/en/quick_links/tools/climate_vulnerability.html. Related frameworks include Australian Agency for International Development (AusAID)/Oxfam's *Integrated disaster risk reduction and climate change: Participatory Capacity and Vulnerability Analysis*, available at http://unfccc.int/files/adaptation/cancun_adaptation_framework/adaptation_committee/application/pdf/pcva_toolkit_oxfam_australia.pdf and Practical Action's *Participatory Climate Risk Vulnerability and Capacity Analysis*, available at <http://www.preventionweb.net/english/professional/publications/v.php?id=17623>

4.3.b. Research Partnerships

A number of programs benefited from partnerships with agricultural research institutes. In Bangladesh, for example, both the Program for Strengthening Household Access to Resources (PROSHAR) and SHOUHARDO II partnered with the Bangladesh Rice Research Institute (BRRI) to test and promote the use of new rice varieties, including saline-tolerant, higher-yielding, and flood- and drought-tolerant varieties. PVOs also partnered with Bangladesh Institute of Nuclear Agriculture (BINA) on high-yield mustard varieties that allowed farmers to increase from two mustard harvests per year to three or four harvests per year. Some organizations mentioned partnerships with climate experts to lead vulnerability assessments or climate-focused program components.

A few people talked about the importance of turning farmers into researchers. One program funded by the USAID Office of Foreign Disaster Assistance (OFDA) in Zambia created simple weather stations to help improve local-scale weather forecasting. Farmers were able to document more localized but severe droughts or flooding to assist with claims for disaster relief, provide data to regional or national meteorological services to improve forecasting and climate modeling, and better understand and share local weather information with other farmers. The “farmer-as-researcher” approach also is manifested in the demonstration plot approach and in programs such as SHOUHARDO II, or WorldFish and others that support farmer-motivated innovation.

4.3.c. Use of Quantitative Climate Change Information

While several respondents had used broader climate change information to inform their program activities (e.g., that conditions are expected to become drier or that weather patterns are likely to become less predictable), none had used quantitative climate model projections. Some interviewees felt that this was appropriate, since most of the decisions were on a scale where long-term projections are not necessary. Others felt that climate change vulnerabilities could not adequately be addressed without modeled projections. Two participants from a program designed to integrate climate change science into agricultural development aid said the program convinced them that looking at climate change rather than just current climate stressors was important, but also that connecting projected futures to work with poor communities was difficult. Their concern with short-term solutions was that they saw a cycle repeated where low-cost solutions with near-term benefits were rapidly adopted but lost effectiveness when scaled up. They saw new crop varieties become less valuable in the markets as more people adopted them. Other interviewees expressed similar concerns about the push for irrigation systems.

5. Moving Forward

As discussed in the study findings, this investigation identified four key issues related to the implementation of CSA in FFP programs in the field: lack of clarity around what CSA is, varied awareness and capacity around climate change in general, disagreement over the scale of change needed, and balancing CSA with other needs and demands. Based on these challenges, as well as suggestions from interviews and discussions, possible options for improving CSA understanding and practice on the ground are:

1. Gaining clarity on CSA
2. Deciding on levels of change
3. Strengthening knowledge and capacity
4. Promoting climate-related effort

5.1. Gaining Clarity on CSA

Findings from this study suggest that a major impediment to CSA uptake is confusion as to what CSA is: a concept, a set of practices, or a process. This confusion likely stems from the highly context-specific nature of CSA that makes it difficult to balance guidance that is conceptual enough to apply broadly, with guidance that is specific enough to translate to action, as well as the newness of CSA.

One approach to addressing this is for the food security community to converge on a sense for **whether the core of CSA is the implemented practices or the process leading to the selection of those practices**. At least informally, a consensus seems to be building within the CSA community around the importance of process. A draft report on CSA in Feed the Future programs explicitly states that CSA is a process rather than a practice or a list of practices, and recent FAO literature likewise emphasizes that “CSA is not a new production system – it is a means of identifying which production systems and enabling institutions are best suited to respond to the challenges of climate change.”²⁰ Experience from the TOPS 2015 Asia Regional Knowledge Sharing Meeting also suggests that focusing on the assessment and decision-making process may be more effective at engaging and motivating practitioners.

While there will continue to be overlap of practices between CSA, agroecology, and conservation agriculture, if the focus is on CSA as a process leading to the selection of practices that also includes explicit consideration of longer-term climate change, that alone should be sufficient to distinguish CSA from related fields of practice.

Appendix 1 provides handouts from the CSA session at the TOPS 2015 Asia Regional Knowledge Sharing Meeting illustrating simple process for building climate change into program decision processes. **Box 4** provides a summary of the key steps in a CSA process, and **Box 5** provides a list of key resources on CSA.

²⁰ FAO 2014b.

Box 4. Key CSA Process Steps

Several relevant frameworks and guidance documents are provided in the resource list in **Box 5**, but there is no defined and generally accepted CSA process. In part this is because the field is so new, and in part this is because the process can look different depending on whether adaptation is the program focus or whether CSA is being integrated into other food aid programs. In brief, however, the process consists of asking and answering five questions.

1. What are the program's goals and objectives?
2. How is the program trying to achieve those goals and objectives?
3. How might climate change influence the effectiveness of program strategies and actions?
4. How might strategies and actions affect future vulnerability to climate change?
5. How can the program be adjusted to increase the likelihood of success and avoid maladaptation, given the answers to the above questions?

Box 5. Select CSA Reference and Guidance Documents

- CARE. 2009. *Climate Vulnerability and Capacity Analysis Handbook*. Available at <http://careclimatechange.org/tool-kits/cvca/>
- FAO. 2013. *Climate Smart Agriculture Sourcebook*. Available at <http://www.fao.org/docrep/018/i3325e/i3325e00.htm>
- FAO. 2014. *FAO Success Stories on Climate-Smart Agriculture*. Available at <http://www.fao.org/3/a-i3817e.pdf>
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- Rosenstock, T.S., et al. 2014. Science to support climate-smart agricultural development: Concepts and results from the MICCA pilot programs in East Africa. In *FAO's Mitigation of Climate Change in Agriculture* series, volume 10. Available at <http://www.fao.org/climatechange/micca/87906/en/>
- USAID. 2014. *Climate Resilient Development: A Framework for Understanding and Addressing Climate Change*. Available at <https://www.usaid.gov/climate/climate-resilient-development-framework>

5.1.a. CSA in a Broader Resilience Framework

Two interviewees said that they use the term “climate-resilient agriculture” to refer to efforts that focus on the first two pillars of FAO’s CSA definition (increased yield and adaptation). Although FAO states that not every CSA program must address all three pillars, they felt that having this distinct term and the connection to resilience it provides are useful.

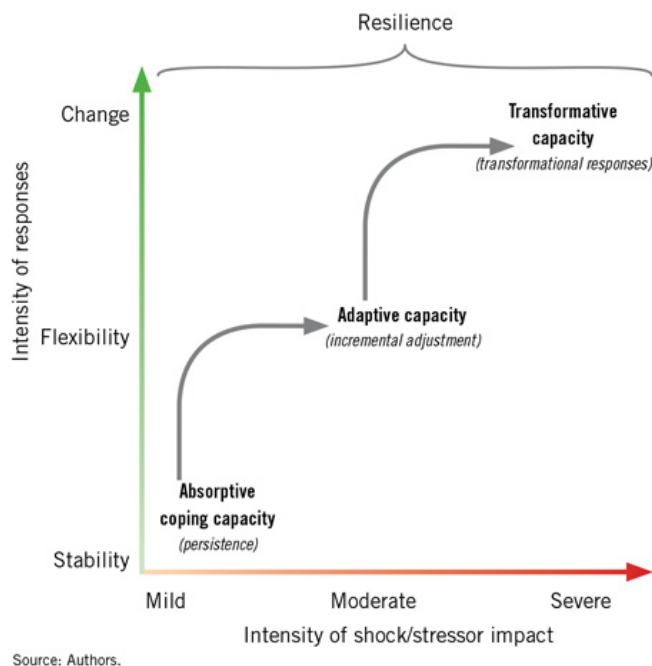
In this view, **climate-resilient agriculture (CRA) is simply an approach that focuses on the resilience OF agriculture TO climate change**. The concept and practice of resilience has been around longer and is more familiar than CSA, so it may be easier for staff to visualize what CRA looks like. At the TOPS 2015 Asia Regional Knowledge Sharing Meeting, resilience was clearly a familiar and important conceptual framework for many participants, and several participants

said the term CRA resonated with them. Those who are familiar with resilience do not have to learn yet another approach (CSA); they only have to integrate climate change into a concept they already work in. The three resilience capacities (absorptive, adaptive, and transformative²¹) harmonize in the framework for agricultural adaptation put forward by Rickards and Howden (2012), which, again, includes language with which people are already familiar. Many people brought up the importance of adaptive capacity in interviews, and many of the activities in which people were engaged that could be considered as CSA (or CRA) would fall into the category of general resilience-building.

Putting CSA into the broader resilience framework does not necessarily mean switching to the term CRA or ignoring mitigation; it simply provides a way for people to link CSA to an existing field of practice.

Putting climate change into a broader resilience framework emphasizes that it is one of many stressors or sources of vulnerability and that the intensity of response depends on the intensity of the impact (**Figure 2**). This makes it easier for people to understand that some level of climate change assessment is important and that the assessment may lead to the conclusion that climate change is not a major issue for their program.

Figure 2. Resilience as the Result of Absorptive, Adaptive, and Transformative Capacities²²



One concern several respondents expressed about putting climate change into a broader resilience framework is that it emphasizes activities that focus less on climate change *per se* and more on general capacity strengthening and overall sustainability. These activities do matter for

²¹ Defined, e.g., in Béné et al 2012.

²² Taken from von Grebmer et al. 2013. The shock or stressors could be environmental, social, economic, etc.

building resilience to climate change, but there is the risk that some climate change-specific issues or vulnerabilities may be overlooked.

5.1.b. CSA in a Broader Food Security Theory of Change

A related approach is to **incorporate climate change-related challenges, assumptions, and solutions into program-related Theories of Change (TOCs)**. This is particularly relevant in the FFP context because USAID has asked for TOCs and climate change analysis as part of its most recent FFP RFAs. Some interviewees asked explicitly for examples of how to integrate climate change into food security TOCs.

Putting CSA into a TOC context helps to clarify why some activities that may be part of a CSA program have apparently little to do with climate change or why programs that are not about CSA nonetheless facilitate CSA. This is because a complete TOC includes not just the key problem being addressed by a particular program, but also the underlying causes and contextual conditions that contribute to the problem and the necessary enabling conditions for actions to succeed. A program focused on vulnerability to climate change as the key problem, for example, might include actions related to good governance that had been identified as necessary enabling conditions for more climate-focused aspects of the program. A program focused on vulnerability to market fluctuations might include actions such as crop diversification that also contribute to CSA outcomes. A TOC can provide a visual framework for explicitly linking actions to CSA outcomes and for identifying synergies across efforts.

Other benefits to putting CSA into a broader food security TOC include the ability to bring many of the tools and approaches from the TOC world to bear on developing and evaluating CSA programs. The importance of Barrier Analysis came up in some interviews, for example, and the discipline of making assumptions explicit would go a long way to help people think about the possible vulnerability of their work to climate change. This also emphasizes that CSA is not just about on-farm practices; it encompasses the entire food system.

A TOC approach helps program staff think about interconnections across systems. For example, several interviewees mentioned the need for a greater focus on social aspects of vulnerability and adaptation. In many villages, poor or unreliable yields from smaller plots lead to a significant outmigration of men who seek work elsewhere to earn enough money to support their families back home, adding to the burden on women.

5.2. Deciding on Levels of Change

As with definitions of what CSA is, respondents differed in their perception of the degree of change from current practices required for “good” CSA, with views ranging from minimal change (continued focus on “raising the floor”) to transformational, systemic changes. There is no universal best answer to the question of how radical the changes associated with CSA should be; the answer depends on variables such as climate risks to program success, institutional culture, risk tolerance, and more. Framing CSA as a process rather than a set of practices addresses this issue by focusing on decision-making.

5.3. Strengthening Knowledge and Capacity

There is an abundance of resources on climatic changes and impacts, but much less is available on how to apply that information in food security programming. In part this is because information on the science of climate change, climate models, projected future changes, and implications of those changes for human and ecological systems is broadly applicable relative to the highly contextual nature of using that information in decisions. The former is the domain of science, while the latter incorporates values, objectives, cultural and regulatory context, and other non-scientific realities critical to effective decision-making. As identified in the interviews, there is an unmet need for examples and capacity-strengthening efforts that focus on processes by which people can integrate climate change information into food security programming and on how to make decisions about what actions to take. **Box 6** provides a handful of resources relevant to building knowledge and capacity around decision-making in general and climate-informed decision-making more specifically. **Sections 5.3.a. Training** and **5.3.b. Directed Engagement** provide some ideas on how to explain and enhance these materials for CSA purposes.

Box 6. Resources Related to Climate-Informed Decision Making

These resources do not focus on CSA or even on agriculture, but do contain information and approaches that are applicable.

- Gregory et al. 2012. *Structured Decision Making: A Practical Guide to Environmental Management Choices*. Wiley-Blackwell.
- Keeney, R. L. 2004. Making Better Decision Makers. *Decision Analysis* 1(4): 193–204
- National Research Council. 1996. *Understanding Risk: Informing Decisions in a Democratic Society*. Washington, DC: The National Academies Press. Available at <http://www.nap.edu/openbook.php?isbn=030905396X>
- National Research Council. 2009. *Informing Decisions in a Changing Climate*. Washington, DC: The National Academies Press. Available at http://www.nap.edu/openbook.php?record_id=12626
- Olhoff, A., & C. Schaer. 2010. *Screening Tools and Guidelines to Support the Mainstreaming of Climate Change Adaptation into Development Assistance – A Stocktaking Report*. New York: United Nations Development Program.

5.3.a. Training

Comprehensive CSA training is one option to strengthen capacity. The key will be ensuring that training does not focus only on climate change science and impacts, but also on climate-informed planning, decision-making, and implementation. Another option would be to provide training that is focused less on climate change and more on the skills needed for effective CSA. At all levels, training on behavior change, Barrier Analysis, decision analysis, and adoptability assessment could increase the effectiveness of CSA programming. Given that CSA programs often include many interventions similar to those already in use or recommended as part of

agroecological or conservation agriculture efforts, staff could assess past experiences to understand what makes particular interventions effective in which context.

- **Staff engaged in strategic planning** and longer-term organizational direction-setting might benefit from training on or templates for approaches to climate change vulnerability, risk, and resilience assessment. This could include, for example, scenario-based risk assessment or screening questions for TOCs.
- **Program designers** could benefit from training that helps them effectively include climate change vulnerability and adaptation language and actions into their proposals, creating a framework that supports the ability of field staff to identify and implement CSA programs and processes. This type of training could include information on topics such as enabling conditions for CSA, rapid climate screening approaches, evaluation methods for climate adaptation, and possible partnerships for deeper climate change assessments and research.
- **Field staff and partner organizations** could benefit from training on or support for translating climate change vulnerability and adaptation proposals into plans or on carrying out climate vulnerability and capacity assessments that lead directly to actionable plans. This group probably needs less training on longer-term, large-scale approaches and more on incremental changes, in particular how to make the link between climate vulnerabilities and the actions implemented. Because field staff can provide valuable insights into how communities experience climate vulnerability and what factors help or hinder the implementation of CSA activities, training in recognizing and sharing such information could increase organizational learning.

Many U.S. and international agencies and organizations provide CSA-related trainings and workshops; the utility of these and their applicability to the FFP audience could be assessed to avoid duplication. In particular, Feed the Future has sponsored several CSA-focused events, including a 2011 workshop on opportunities for integrating climate considerations into the design of agricultural programs in-country and regional investment plans in Africa²³ and a 2014 workshop on Climate-Smart Agriculture/Best Management Practices Workshop for Latin American and Caribbean Region.²⁴ Also, the U.S. Fish and Wildlife Service has developed a range of climate-related trainings²⁵ that could be adapted to the FFP context.

5.3.b. Directed Engagement

Given that most field staff are pressed for time and have limited travel and training budgets, it may make sense to consider capacity-strengthening options beyond trainings. These types of

²³ For more information on this workshop, see <http://feedthefuture.gov/article/feed-future-promotes-climate-smart-agriculture-through-caadp-workshop>.

²⁴ For more information on this workshop, see <http://rmportal.net/groups/csa/library-1/csa-honduras-conference>.

²⁵ Trainings include climate change vulnerability assessment, climate-smart conservation, decision analysis in a changing climate, and scenario planning. Further information can be found at <http://nctc.fws.gov/courses/programs/climate-change/> and <http://nctc.fws.gov/courses/programs/decision-analysis/resources.html>.

directed engagement approaches, such as those listed below, also support an ongoing dialogue between climate experts and in country.

- Provide a CSA “help desk” service. Climate experts could work with program staff directly to resolve problems as they arise. This would serve the twin purposes of ensuring that climate change is taken into account in program design and implementation and of providing implementing agency staff the opportunity to build climate change knowledge and capacity by working side by side with experts. For example, experts might perform climate change vulnerability, risk, or resilience screening of funded proposals to inform program planning. This would be particularly relevant should FFP adopt the new RFA approach that gives implementers a full year for planning.
- A less intensive version of the “help desk” would be for CSA experts to read funded proposals and provide a short report highlighting key risks or vulnerabilities, as well as resources for further assessment. Program staff would not get hands-on experience with screening, but they would have a targeted assessment to inform program design.
- Create CSA-focused knowledge-sharing exchanges, either in-person or through facilitated online communities of practice. Many interviewees expressed interest in hearing from and communicating with others in “similar situations” about what they did and how they did it, and one listed the Monitoring and Evaluation Task Force page on the TOPS’s Food Security and Nutrition (FSN) Network website as an example of a useful platform. To maximize the utility of such exchanges, it would be important to figure out what “similar situations” means to program staff.

5.4. Promoting Climate-Related Effort

As mentioned, staff feel overwhelmed by the very immediate needs of the communities with which they work, the number of indicators required by funders, and the variety of cross-cutting issues they are asked to think about. Yet they are also invested in maximizing the success of their efforts and would generally be interested in incorporating climate change into their programs if they knew it mattered for program success. Helping staff figure out the appropriate level of attention to devote to climate change for their particular programs might ease their burden and increase CSA implementation.

5.4.a. Provide time and support for climate vulnerability and risk assessment.

The idea of **adding a year at the beginning of each program to allow time for thoughtful planning and assessment** came up in several interviews and discussions. Although this suggestion was not always about targeting climate change per se, this approach could increase the likelihood that climate change would be appropriately integrated into programs. Programs that were building on previous FFP efforts (e.g., SHOUHARDO II) were often better able to address climate change because they were not trying to simultaneously establish a program from scratch. The proposed change in the FFP RFA approach allowing implementers an initial planning year with no requirement for implementation would address this need.

One interviewee suggested brief handouts describing key climate vulnerabilities relevant to food security work for countries with FFP-funded programs. These could be included as part of or as supplements to the country-specific information pieces USAID distributes with its RFAs, as was included for example in the Country Specific Information for Mali in fiscal year 2015.

5.4.b. Take a development-first approach.

A common instinct when discussing climate change adaptation is to take a “science-first” approach that begins with a focus on climate models and impacts, then moves on to options for responding to those impacts. Yet not all target communities or program staff may need detailed information about climate change. A context-driven, bottom-up approach—also called mainstreaming—can be more effective in incorporating science into on-the-ground decisions.²⁶

USAID is championing a “development-first” approach.²⁷ In this approach, **clarifying program goals and objectives first, and then looking at how climate change might affect program success** or how the program might affect future climate risk, can prevent excessive investment in gathering climate science when it is not needed, or make it clear to program staff why such investments matter when they are needed.

Within the context of FFP, there is a continuum of interventions that ranges from interventions addressing issues completely unaffected by climate change (e.g., promoting breastfeeding), to interventions addressing issues where climate change matters but is not a primary factor (e.g., improving the ability to recognize and select quality seed), to interventions addressing issues where climate change is a primary stressor or vulnerability and needs to be explicitly incorporated (e.g., developing irrigation systems for crops). One approach to helping PVOs understand where their programs fall along this continuum and how much attention to devote to climate change would be to create a coarse screening tool that indicates whether a program can ignore climate change or should do further screening to assess climate risks. Such an approach has been applied to major infrastructure programs.²⁸ Organizations with sufficient internal capacity could conduct the screening themselves; those with less capacity could request assistance from others to conduct the screening, which also could serve as a capacity-building opportunity. Another option might to “pre-screen” interventions common in FFP programs and group them into low-, medium-, and high-sensitivity categories with accompanying “climate questions” that should be asked.

6. Final Thoughts

Interviews and discussions revealed a strong interest in CSA among those engaged in development food aid efforts and a desire for guidance that would help program staff implement CSA in their own work. As has been noted elsewhere,²⁹ much of the existing CSA

²⁶ Reeder & Ranger 2010 and Ranger 2011.

²⁷ USAID 2014.

²⁸ For example Ray & Brown 2015.

²⁹ Downing 2013.

guidance provides information and advice applicable at broader scales but lacks the contextual details needed for program development and decision-making.

This study also highlighted an ongoing tension between acknowledging CSA's overlap with existing fields of practice while emphasizing what makes climate adaptation different from other challenges. In terms of moving forward with mainstreaming, it is worth asking what lessons we can take from the areas of overlap rather than focusing on differences. What has been learned from efforts to mainstream other cross-cutting issues that can be applied to CSA? What difficulties can be avoided or reduced, and which may be simply the nature of working with challenging issues?

For example, many people commented on the overlap between CSA and approaches and practices related to agroecology and conservation agriculture, such as farmer-managed natural regeneration, no-till agriculture, and various water harvesting techniques. Given that efforts to promote these other practices go back decades, what evidence is there related to uptake and effectiveness that we might apply in CSA work?

This brings us back to the initial goal of this study: FFP-funded programs' awareness, integration, and implementation of CSA practices. Given that the implemented CSA practices in FFP-funded programs do not seem to be categorically different from those in similar programs funded by other donors, much of the existing guidance and case studies are applicable to FFP work as well. However, it is worth asking whether there are aspects of the FFP planning and decision-making processes for which targeted guidance beyond what exists would be useful. For example, the worksheets in **Appendix 1** are broadly applicable but fairly generic. Would screening tools or worksheets targeting specific FFP contexts and activities help take CSA to the next level?³⁰

CSA is a rapidly developing field and concept. Implementing agency staff at all levels will need support in clarifying and applying CSA, and active efforts to evaluate, share, and integrate lessons learned are essential to moving the practice forward. Helping people learn how to think clearly about CSA and addressing the needs and concerns expressed by practitioners is where TOPS and other programs focused on technical support and capacity strengthening can be particularly helpful. It may be possible to identify some set of "contexts" somewhere between the conceptual and the program-specific that can be used to create targeted communities of practice or knowledge-sharing opportunities that provide people in the field with the information, tools, and support they need to tackle this challenge.

³⁰ Examples of climate change program screening tools from other fields are provided in **Appendix 2**.

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Appendix I. Worksheets from the CSA Session at the TOPS/FSN Network Asia Regional Knowledge Sharing Meeting (Dhaka, Bangladesh: Mar 3-5, 2015)

Climate Impacts

This worksheet³¹ allows people to quickly assess at a coarse level which aspects of climate change they might need to worry about.

Climate Impacts Worksheet

Observed changes	What this means for ecosystems and people	What this means for your work
 Less predictable monsoons		
 Sea level rise		
 Drought		
 Flood		
 Higher temperatures		
 Salinization		

³¹ Worksheet developed by Jennie Hoffman for the TOPS Asia Regional Knowledge Sharing Meeting, March 2015

Is Your Program Climate Smart?

This worksheet³² takes users beyond assessing how climate change might affect people and programs to what they could do about it. The worksheet is simplistic, but the complexity of assessment can be scaled to program needs, vulnerability, and resources.

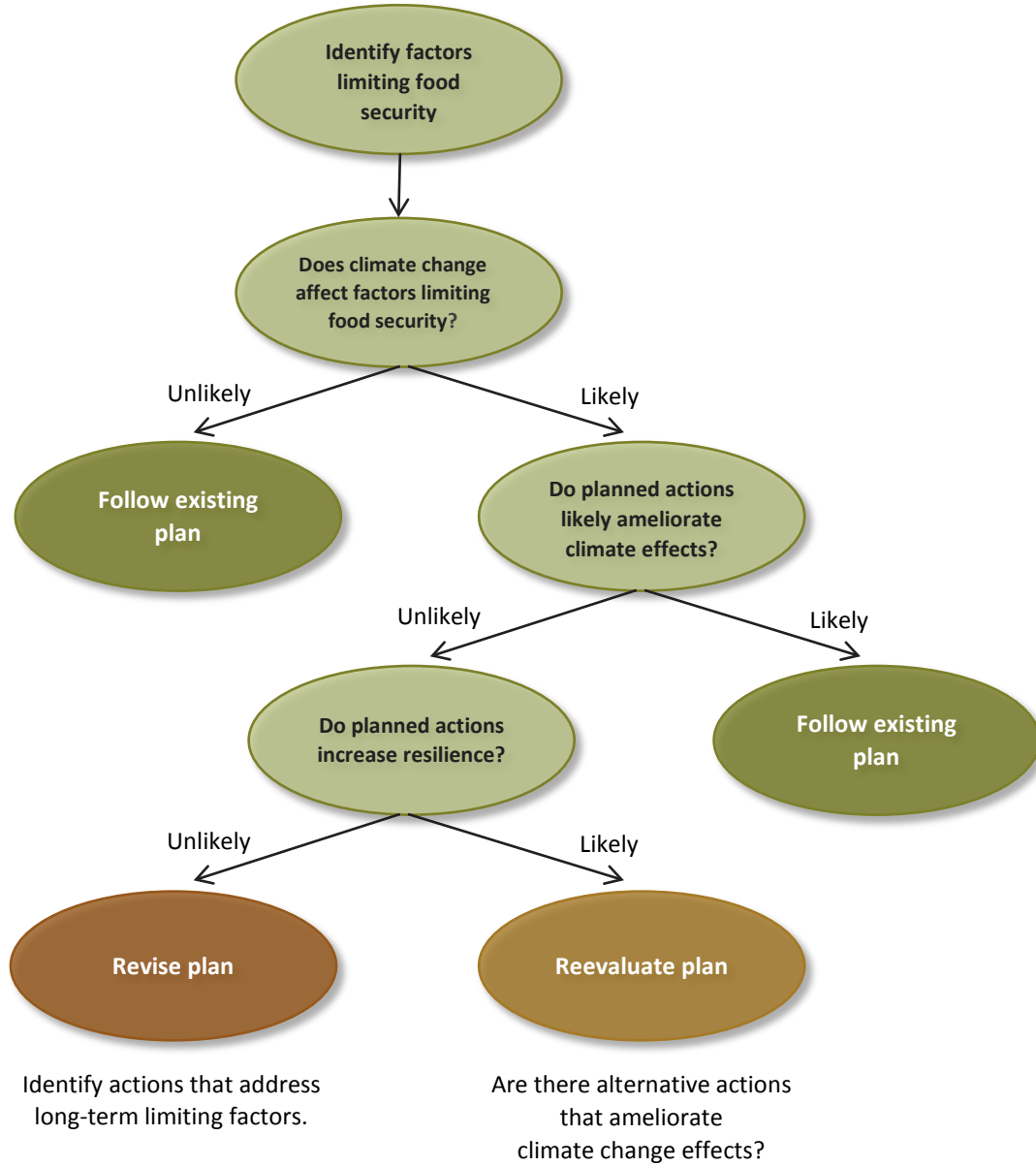
This worksheet, “Is your program climate smart?” is based on one created by EcoAdapt.

<p>1 What is the goal of your program or organization? <i>What are you trying to do?</i></p>	<p>3a How might climate change affect your likelihood of success in the near term (2–5 years)? <i>You can use the Climate Impacts Worksheet or Vulnerability Assessment cheat-sheet to help with this.</i></p>	<p>4 What could you do to increase your likelihood of success given these climate change effects?</p>
<p>2 How are you trying to achieve this goal? <i>(Strategies, approaches, activities)</i></p>	<p>3b How might climate change influence the effectiveness of your interventions over the longer term (10–20 years)?</p>	

³² This worksheet was adapted by Jennie Hoffman from a worksheets used in EcoAdapt’s Awareness to Action workshop <http://www.ecoadapt.org/programs/awareness-to-action>

Decision Tree Screening Tool

This final worksheet³³ is an example of a decision tree approach to adapting existing work. It serves as a coarse screening tool.



³³ Tool developed by Jennie Hoffman for the TOPS Asia Regional Knowledge Sharing Meeting, March 2015

Appendix 2. Examples of Climate Change Program Screening Tools for Resource Management Program Activities

For a specific resource management program activities (e.g. meadow restoration), the tool below provides a brief summary of climate trends and impacts for managers to consider and a set of questions managers should ask themselves about the implications of climate change for their programs. Managers then decided whether to continue with their programs and provide an explanation of their reasoning. This example is taken from the US, but the same tool could be applied to food security development work.

This example is reformatted from: Morelli, T. L., S. Yeh, N. M. Smith, M. B. Hennessy, & C. I. Millar. 2012. "Table 2 – Climate Project Screening Tool." *Climate project screening tool: an aid for climate change adaptation*. Res. Pap. PSW-RP-263. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. page 29.

Project Activity	Climate Change Trends and Local Impacts	Key Questions for Managers	Response Narrative (please complete, include references where possible)	Continue with the program?
Thinning for fuels management	<p>Trends:</p> <ul style="list-style-type: none"> • Increased fuel buildup and risk of uncharacteristically severe and widespread forest fire • Longer fire seasons • Higher elevation • Insect, disease, and wildfire events • Increased interannual variability in precipitation, leading to fuels buildup and causing additional forest stress • Increased water temperature in rivers and lakes and lower water levels in late summer • Increased stress to forests during periodic multi-year droughts • Decrease in water quality from increased sedimentation <p>Local impacts:</p> <ul style="list-style-type: none"> • Increased risk for erratic fire behavior • Decreased window of opportunity for prescribed fire conditions • Increased risk of fire spread in high-elevation areas • Flashier, drier fuels • Decreased water storage in soils 	<ul style="list-style-type: none"> • How will the programed density of the stand after it has been thinned respond to erratic and severe wildfire events, given the programed increase in forest stress and mortality? How does the spacing between trees need to increase, if at all? • At what interval should stands be thinned to mitigate for increased forest stress and fire susceptibility or for changed growth patterns? • How does the program area include anticipated future fire-prone areas (i.e., higher elevation sites or riparian areas)? • How will the season of harvesting need to change given the reduced snowpack and extreme flood events to mitigate for ground disturbance, if at all? Will it need to change given shortening and less reliable winters? • How will the programed program help offset the programed impacts resulting from climate change? 		<ul style="list-style-type: none"> • Yes without modification • No • Yes with modification:

This tool uses a suite of general adaptation strategies to generate specific management options. Program proponents then generate a set of climate-smart design considerations (similar to “key questions for managers” from the previous example) specific to each option and use those considerations to improve or discard the action option. This approach is in the process of being further refined. This example is taken for the US, but the same tool could be applied to food security development work.

This example was taken from (and reformatted): Stein, B. A., P. Glick, N. Edelson, & A. Staudt 2014. “Table 8.5. Ecosystem-level example of adaptation options and climate-smart considerations: U.S. East Coast salt marshes.” *Climate-Smart Conservation: Putting Adaptation Principles Into Practice*. National Wildlife Federation, Washington, D.C.

Target, goal, and key vulnerabilities	General adaptation strategy	Specific management options (example)	Key climate-smart design considerations
<p>Conservation target: East coast salt marshes</p> <p>Conservation goal: Maintain healthy, functioning, East coast salt marsh ecosystems</p> <p>Key climate-related vulnerabilities:</p> <ul style="list-style-type: none"> • Sea level rise <ul style="list-style-type: none"> – Marsh drowning – Saltwater infiltration • Altered hydrology <ul style="list-style-type: none"> – Increased nutrient runoff – Altered inundation regimes 	<p>Reduce non-climate stressors</p>	<p>Work with watershed coalitions to reduce non-point sources of pollution that favor invasive <i>Phragmites</i></p>	<p>How will climate change affect inputs of non-point source pollution (e.g., through effects on timing and flashiness of precipitation)? Given the nature of these effects, what are the best options (e.g., permeable pavements, rain catchers, sewer system upgrades) for reducing runoff of pollutants onto the marsh?</p>