9 steps to scale climate-smart agriculture

Lessons and experiences from the Climate-Smart Villages in My Loi, Vietnam and Guinayangan, Philippines

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Photo by: Leo Sebastian

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Acknowledgements

Glossary

CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security
CIF	Community innovation Fund - a kick -start fund to support farmer learning/interest groups or individuals to implement CSA practices. The fund can be in-kind, money, or technical training. Provision of innovation fund aims to (1) encourage local efforts to experiment and innovate to address both current and future climate change impacts, (2) tap the small-holder farmers as beneficiaries; and (3) reduce these risks by providing funds in a cost-sharing arrangement with self-identified farmer groups willing to adopt new technologies
CSA	Climate-smart agriculture. In this guide, "CSA practices" refer to climate-smart technologies and components of farming systems intended to lead to livelihoods adaptation and mitigation co-benefits, described in Participatory Identification of Climate-smart Agriculture Priority (Duong et al., 2016).
CSV	Climate-Smart Village
CSA interest group	A group of farmers who share the same interests in agricultural production and aim to cultivate their crops or raise livestock in a "climate-smart" way. By participating in the group, farmers can learn and share their agricultural experiences and information, as well as exchange labour during planting, managing, and harvesting periods.
DARD	Department of Agriculture and Rural Development, Vietnam
DA-AMIA	Department of Agriculture-Adaptation and Mitigation Initiative in Agriculture, Philippines
DONRE	Department of Natural Resources and Environment, Vietnam
DA-BAR	Department of Agriculture-Bureau of Agricultural Research, Philippines
DA-SWCCO	Department of Agriculture-Systems-Wide Climate Change Office, Philippines
DPI	Department of Planning and Investment, Vietnam
IEC	information, education and communication
LGU	Local Government Unit
MAO	Municipal Agriculture Office, Philippines
NGO	Non-government organization
NRDP	New Rural Development program, Vietnam
Farmer learning group	A learning group with no formal structures and works best in small number—around 10-12 persons in a group. Learning agenda function as the core foundation of the group. Famer-to-farmer sharing sustain knowledge generation, which is directly linked to scaling-out of tested technology. A learning group also serves as a mechanism to develop human resource for local extension systems. Farmers sharing the same interest and learning agenda are identified by local extension workers.
Facilitator	Facilitators take a lead in supporting a participatory process. The facilitator can be a project staff, trained extension officers, civil service organization staff, village leaders, or farmer leader.
FGD	Focus group discussion
Scaling	The process of replicating and/or adapting CSA practices across large geographies and populations for transformational impact
Scaling pathway	The route that is followed to increase the reach of an innovation through different partnerships and approaches
Scaling agents	Organizations/ institutions/ people/ farmers who can scale out/up CSA practices
VSLA	Village Saving and Loan Association - a group of 10-25 people who save money collectively and take small loans from those savings. The activities of the group run in cycles of one year, after which the accumulated savings and the loan profits are distributed back to members.The purpose of a VSLA is to provide simple savings and loan facilities in a community with limited access to formal financial services. It is also known as a farmer learning platform for information learning and sharing.

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NOTES FOR USERS

Some key information to include in the narrative:

- The CSV approach is a CCAFS agricultural research for development (AR4D) strategy for stimulating the scaling of CSA. CSVs are established in Southeast Asia through the CCAFS program to serve as sites for "testing, through participatory methods, technological and institutional options for generating evidence of CSA effectiveness as well as drawing out scaling lessons for policy makers from local to global levels (CCAFS, 2016)[1].
- The CSVs in My Loi in Vietnam and Guinayangan in the Philippines were established following this strategy starting 2014 by ICRAF Vietnam and IIRR, respectively. Both CSVs have since developed AR4D outputs and generated outcomes that facilitated CSA scaling at subnational and national levels.
- The CSV experiences of IIRR and ICRAF are expectedly varying considering the wide difference in geo-ecological and socio-political contexts of the sites. There are, however, common interventions facilitated by both organizations in developing the My Loi and Guinayangan CSVs. These experiences are captured in this document to serve as guide for others.
- The common experiences of IIRR and ICRAF in the Philippine and Vietnam CSVs are outlined in 5 major stages and broken into 9 steps:

Figure 1: Nine steps of scaling Climate-smart Agriculture

- These 9 steps also reflect the CCAFS' outline of steps in a typical CSV AR4D site (see below).

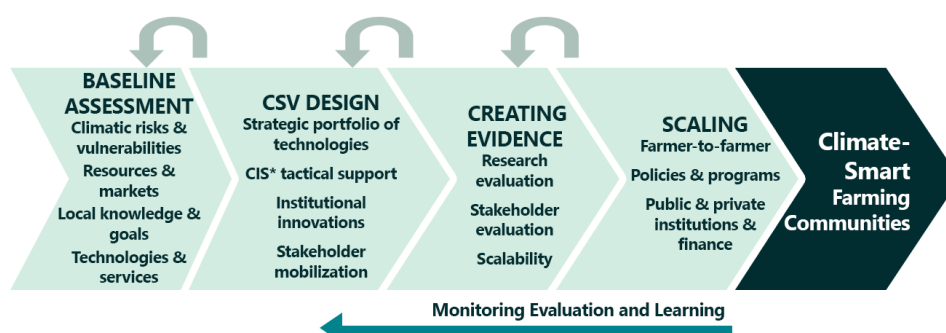**Figure 2: Outline of the steps in a typical CSV AR4D site. Steps are based on stakeholder engagement and seldom follow a simple linear model.** Source: Aggarwal et al. 2018

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[1]Climate-Smart Villages. An AR4D approach to scale up climate-smart agriculture. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.

Step 1: Engage stakeholders

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• The main purpose is to establish linkage with local partners who will be engaged in the development of the CSV and secure their commitment in the various associated activities and on-the-ground interventions for implementing the CSV approach. • Identify stakeholders and the links related to natural resources management, food security, and climatic stress. • Listen to all problems and solutions shared by the stakeholders to identify what types of activities they engage in, who are the members, and who benefits from those activities. • Identify and understand the roles and interests of stakeholders in implementing or scaling CSA to determine potential partners that will be involved (1) in ground activities at CSVs/ action researches and (2) scaling (this can support step 9 in identifying scaling partners and pathway). • Establish forums/advisory groups for the regular meeting, learning, and sharing with local governments, if necessary (this is the case in My Loi).	

Participants	• Representatives of different government departments/ programs/ mass organizations, and NGOs related to agriculture, agroforestry, forestry, climate change, natural resource management, and farmer livelihoods
	
	• Key value chain actors or entrepreneurs who can expand markets for agricultural products
	
	• Farmers and farmer groups in the targeted community
	
	• Local research stations and State Universities and Colleges (SUCs) that can provide research assistance to farmers and local governments in conducting action researches during the stage of generating CSA evidences
	
	• Government-recognized farmer leaders or farmer-scientists who serve as technical resource persons on a specific technology/practice
		• Partners involved in ground activities
		
		  ○ **My Loi**: representatives from the Department of Agriculture and Rural Development (DARD), extension offices, meteorological center, New Rural Development Program (NRDP), mass organizations (Women's Union, Farmers' Association, Youth Union) from commune to provincial levels, CARE, existing farmers groups/ cooperatives, representatives of local farmers, village leader
		
		  ○ **Guinayangan**: Guinayangan Local Government Unit (LGU), Municipal Agriculture Office (MAO) and barangay (village) LGUs are the crucial stakeholders for this step. Other local partners engaged are local research stations (Bureau of Animal Industry-National Swine and Poultry Research and Development Center, PhilRice, PhilRootcrops, Southern Tagalog Integrated Agricultural Research Center, IRRI); national government agencies involved in the CSV (Department of Environment and Natural Resources [DENR], Department of Agriculture [DA], Philippine Coconut Authority [PCA]); and state universities and colleges (e.g., Southern Luzon State University, University of the Philippines Los Baños, Cavite State University, Central Luzon State University)

		• Scaling partners or partners influencing scaling
		
		   ○ **My Loi**: representatives of the Department of Agriculture and Rural Development (DARD), extension offices, Department of planning and investment (DPI), Department of Natural Resources and Environment (DONRE), meteorological center, NRDP, mass organizations (Women's Union, Farmers' Association, Youth Union) from commune to provincial levels, development and research NGOs, farmer cooperatives, cassava and tea company, representatives of local farmers, village leader
		
		   ○ **Guinayangan**: government agencies, local government units, NGOs

Facilitators	Project staff, potential project partners, (e.g., CSOs, extension workers)	
Methods	• Workshop with various stakeholders • Informal meeting/key informant interviews with different stakeholders • FGDs with local farmers • Feedback session with farmers and local governments • Roving workshops	
Tools and references	• Net Map tool (Schiffer and Waale 2008) • Venn diagram (CARE, 2014)	• Tools and results are described in the: organizational baseline report (Duong et al. 2014) and village baseline studies (Le et al. 2014). See sections 2 and 4.2. • Roving workshop as a social learning approach: to be discussed in an info note about social learning (forthcoming output)
Note	• Engaging stakeholders is vital throughout the CSA identification, implementation, and scaling process, although the specific stakeholders, their degree of involvement, or their roles may change. Some new stakeholders can be identified during project activities through our network and meetings. Field visit or technical exchange can be conducted with those stakeholders. • Stakeholder engagement can also be conducted into two main stages: (1) During the phase of CSA evidence generation (action researches) – these are local partners who are involved in ground activities at CSV; and (2) during scaling phase - scaling partners at subnational and national levels engaged for scaling purposes. • Mutual understanding of what is needed and what CSA can offer help setting realistic expectations and mobilize the relevant actors. Also, needs and wishes can quickly change. We stress that CSA is not a set of static practices that can meet all needs. It can improve livelihoods and adaptative capacities to certain extreme weather situations if CSA practices are constantly adapted in pace with new environmental and economic conditions. In other words, "CSA is about living with change." • Ensure that all steps are about how to engage, listen to, and support gender-based needs of farmers.	

Step 2: Determine needs and strategies

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• Multi-scale analysis of the contexts: biophysical exposures, socioeconomic vulnerabilities, policies, limitations, and feasibility for testing and scaling • Review of local land use, land use plans, policies, and support programs; understanding of the basis of existing land use plans, whether the plans are realistic, and what CSA practices are supported by policy. • Understanding of the landscape characterization, including identifying biophysical exposures, limitations, and feasibility in testing and scaling areas • Understanding of community-scale characterization, which include assessing the socioeconomic situation and consequences of the biophysical assessments and understanding the local climate-related risks and vulnerabilities that enable them to arrive at viable options to address impacts. • Identify farming system characterization; what farming system components and practices to target for CSA.	
Participants	• Representatives of different government departments/ programs/ mass organizations, and NGOs related to agriculture, agroforestry, forestry, climate change, natural resource management, and farmer livelihoods • Key value chain actors or entrepreneurs who can expand markets for agricultural products • Farmers and farmer groups in the target community	• **My Loi:** representatives of DARD, extension offices, DPI, DONRE, meteorological center, NRDP, mass organizations (Women's Union, Farmers' Association, Youth Union) from commune to provincial levels, cassava and tea company, existing farmers groups/ cooperatives, representatives of local farmers, village leaders • **Guinayangan:** Guinayangan LGU, MAO, and barangay (village) LGUs are the crucial stakeholders for this step. Other local partners engaged are local research stations: Bureau of Animal Industry - National Swine and Poultry Research and Development Center (BAI-NSPRDC), Philippine Root Crop Research and Training Center (PhiRootcrops), Philippine Rice Research Institute (PhilRice), Southern Tagalog Integrated Agricultural Research Center (STIARC), Department of Environment and Natural Resources (DENR), Department of Agriculture (DA), Philippine Coconut Authority (PCA); State University and Colleges (SUCs): Southern Luzon State University (SLSU), Central Luzon State University (CLSU), Institute of Plant Breeding – University of the Philippines Los Baños (UPLB), Cavite State University (CvSU).
Facilitators	Project staff, potential project partners (e.g. CSOs, extension workers)	

Methods	- Desk review of secondary data - FGDs with local government and farmers - Transect walk - Informal/formal key informant interviews - Participatory Vulnerability Assessments - Roving workshop
Tools and references	- Review policies: tapping points include (1) what existing rural development programs or projects are there to tap into? (2) Are there gaps or missing policies? (3) are there any evidences to compel policy makers to propose new policies? For approaches to conduct policy reviews, see Simelton et al. (2016a) - Review land use plans: (1) What area is already planted with crop(s)/ tree(s)? (2) What area expansion is planned? (3) Is it a realistic plan given biophysical suitability, market demand, and environmental pressures? - Review socioeconomic statistics for the potential scaling area(s); can be seen in situational analysis and needs assessment (Le et al. 2015) - Roving workshop as social learning approach: see in info note about social learning (Vidallo et al, forthcoming) <table><tr><td> - Landscape and community-scale characterization: Different tools can be used to identify exposure, impacts, and adaptation. These include participatory hazard mapping, resource mapping, historical timeline, problem tree, and seasonal calendar. See The Talking Toolkit (Simelton et al. 2013), Transect Walk (Geilfus, 2008) </td><td> - Landscape and community-scale characterization is explained in village baseline studies (Le et al. 2014) and participatory vulnerability assessment methodology (Simelton et al. 2017a), which include participatory hazard mapping, community resource mapping, historical timeline, seasonal calendar, matrix of livelihood, 24-hour clock, problem tree, perceptions on vulnerability, and mapping of vulnerable sectors. </td></tr></table> - Farming system characterization: This is to identify what farming system components and practices must be targeted for CSA. See Chapter 1 of Duong et al. (2016), and commodity profiling in Learning Groups and Knowledge Generation on Climate-Resilient Agriculture (Vidallo et al. 2018)
Note	- Gender dimension should be considered. FGDs can be done on gender-segregated groups to identify gender-based similarities and differences in terms of perceptions on livelihood exposures, impacts, and solutions - Results of local governments and farmers can be compared or combined to get more holistic view and comprehensive results

Step 3: Determine scalable CSA practices

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• List CSA options through understanding what farmers grow now, the main challenges farmers would like to address, what the farmers want to grow in the future and why. • Identify factors limiting them to implement (start-up capital, technical know-how or equipment, labour, market links, or something else?). This information also supports step 6 to identify start-up of CSA. • Identify perception of other stakeholders (e.g., policy makers, businessmen, extension workers, middle men, existing and potential consumers) on limitations for farmers to implement farming options and what they would like to see.	
Participants	See step 2	
Facilitators	• Project staff, potential project partners, (e.g., CSOs, extension workers)	
Methods	• Informal meeting/key informant interviews with policy makers, local government officers (e.g., extension, farmer association, commune leader) and businessmen • FGDs with local farmers • Field reconnaissance of farming system • Roving workshop	
Tools and references	• Working with women and men farmers: To identify the main challenges farmers would like to address, see longlist of CSA indicators in Duong et al. 2016, longlist of CSA practices in Chapter 3 of Duong et al. 2016. • Field reconnaissance of farming system (for topic guide, see Duong et al. 2016) • Topic guide to ask policy makers: What agriculture products is planned, and what would they (do not) like to see (Can be done together with step 2 when reviewing local land use, land use plans, policies, and support programs). • Topic guide to ask businesses and middlemen: What are the weak and strong points in the market value chain? How can quality be ensured through the steps of the market chain? Can 'climate-smart' products be branded, and quality guaranteed in some way? • Topic guide to ask women and men consumers: What products are they asking for? How much are they prepared to pay and under what conditions? How do they understand the term 'climate-smart'? Is it important to them? • Roving workshop as a social learning approach: see in info note about social learning (forthcoming output)	
Note	• In implementing and scaling agricultural practices, one key challenge is to avoid the oversupply of 'scaled out' products or have risk strategies for the event of unstable market prices.	

Step 4: Prioritize best options

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• Determine shortlist of CSA options • Inform communities and members of communities about the options • Identify with men and women what CSA interventions have a potential to be scaled out? Where can they be scaled out? What policy support exists and what will the farmers need to contribute?	
Participants	• Farmers and farmer groups in the target community	
Facilitators	• Project staff, potential project partners (e.g., CSOs, extension)	
Methods	• FGDs with local farmers • CSA fair/workshop in open place • Feedback session with farmers and local governments • Roving workshop	
Tools and references	• The prioritization can be done in an open workshop with a range of suitable practices described with the farmers signing up for practices that they are interested in. See Chapter 3 of Duong et al. (2016) for more information. • Roving workshop as social learning approach to learn existing best practices with scaling potential: see in info note about social learning (forthcoming output)	
Note	• Given the policy review, the farmers' prioritization, cost-and-benefits, and feasibility at landscape level (Steps 2-3) must be considered. • This may be achieved through community action plans, as part of development projects, or extension initiatives. • Potential farmer interest/learning groups can be identified through this step by grouping farmers who shared the same interest of CSA options (support to step 6 for establishing farmers' groups)	

Step 5: Test, monitor, and assess CSA practices

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	- This is when farmers and local governments are heavily engaged in conducting participatory action researches to generate knowledge on specific CSA practices, particularly their relevance in addressing specific risks and vulnerabilities. - Implement CSA options on field/farm with consideration of: - establishing farmer learning groups (interest group, VSLA, saving groups, etc.) and creating fora for regular farmer meetings and - identifying how to support farmers to start CSA implementation (e.g through community innovation fund which can be in-kind, co-investment, supporting micro-credit scheme, bank loan, technical support and services; farmer learning groups to complement extension and labour contribution) - Provide direct guidance and technical manual if needed (together with step 6 on capacity building and training) - Conduct field monitoring, management, and evaluation. The practices are tested on-farm, some of which with controls; others without. Also, the impacts can be compared between the project site and non-project site for the same cultivation period - Generate CSA portfolio for scaling	
Participants	Farmers, farmer groups, and project partners (e.g., extension, farmer associations)	
Facilitators	Project field staff and technical partners, e.g., extension, farmer association	
Methods	- Establishing farmer groups - participatory action researches - Community Innovation Fund - On-site trials - Actual field monitoring and evaluation by farmers and research field staff	
Tools and references	- Facilitate meeting with farmers and local government to establish farmer groups (can be based on existing farmer groups; a new group can also be established; results in step 4 can support in identifying farmers who share the same interest) - Ask farmers: What do they need/what are the challenges to implement their chosen CSA options? (refer to step 3 to identify appropriate ways to start-up CSA implementation)	- Guideline to establish farmer learning groups and the kick-start fund can be seen in CIF implementation guide (Le et al. 2018a) and learning groups and knowledge generation on climate-resilient agriculture (CRA) (Vidallo et al. 2018) - Direct guidance and/or CSA technical manuals and agro-advisories bulletin - Learning and sharing sessions through farmer learning group meetings and fora; participatory scenario planning workshops; feedback meetings with forecasters, agricultural advisors, and male and female farmers

13	• Direct guidance and/or provide technical manuals as needed to establish on-site trials (discuss with extension and local government on which one can be synthesized with their current activities and what else need support) • Forum for knowledge learning and sharing through farmer learning group meeting, community meeting, and civil society organization meetings • Field monitoring and evaluation through field staff, extension or farmers' observation, notebook, and focus group discussion (FGD) on chosen CSA indicators	• Field monitoring and evaluation • For extension workers and other facilitators, they may use a logbook to document specific CSA indicators of a CSA practice (Le et al. 2017b, Le et al. 2017c), field note (appendix A) • For farmers: Logbooks for individual farmers and groups to be used to document management, inputs and outputs (Le et al. 2017b, Le et al. 2017c) or group monitoring broad (appendix B) • Evaluate: Cost-Benefit Assessments of practices (Duong et al. 2016, chapter 2) • Produce a portfolio of scalable CSA practices (Le at al. 2018b, Mendez et al. 2018): technologies and components explained, risk and benefits tested, and scaling potential assessed for a context or location. The scaling potential for each practice includes a policy, market, and biophysical potentials, as well as investment and training needs. The portfolio can guide decision makers and practitioners to identify, innovate, and implement CSA. In addition to the policy review (see Step 2), it can present the background research or scoping studies characterizing farming systems and cost-benefits, as well as hazard assessment justifying the need for an adaptive farming system
Note	• To identify needs-based approaches, IIRR and Office of the Municipal Agriculturist (OMA) staff used several tools, particularly the participatory varietal tool • Assessment and commodity profiling: Initial learning agenda were commodity-based but was expected to be modified as the learning process proceed. Participatory action research is designed based on the generated learning agenda. Specific action research is planned and validated prior to implementation (Vidallo et al. 2018)	

Step 6: Build capacities for CSA adoption and promotion

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• Provide trainings needed for the targeted community, including extension workers and farmers who intend to adopt CSA practices. • Ensure that farmers and other stakeholders understand CSA and how to determine their CSA options to cope with their respective challenges.	
Participants	• Farmers, local extension workers, local authority staff, and farmer association staff	
Facilitators	• Project staff (e.g., field research staff) or local partners with experience on working with agriculture (e.g., extension, farmer association and women's union)	
Methods	• Training on CSA: indoor and field visit of CSA practices • Farmer field days • Impact sites development • Farmer-to-farmer exchanges and Farmer Field Schools (FFS).	
Tools and references	• Materials were produced, which can be used or modified as required. These include primers on CSA and climate change (Gonsalves et al. 2015) and technical manuals and posters on various topics such as vermiculture (Le at al. 2017a), composting, pests and diseases management, general agro-advisories to cope with extreme weather events, and seasonal agro-advisories bulletin. Sharing examples (posters, photos, and case studies) of successful demonstration models from other areas in the training will motivate farmers to implement CIF for CSA purposes. • Social learning as a method for scaling • Impact sites as platforms for scaling	
Note	• Conduct informal or formal trainings/capacity needs assessments to fit in the local and emerging needs. • For farmers: Technical training can be organized in different time scale during CSA implementation (planting, pest and disease management, pruning and thinning, harvesting) so that it can be done before, during, and after step 5. • Our experience was that farmers generally wanted technical training from experts and extension workers but would ask fellow farmers for clarification. Providing diverse types of learning is then important. Other forms of learning include farmer-to-farmer exchanges, field visits, and FFS. • Extension officers may lack technical skills, but also need a budget to do their job. In our experience, aside from the technical aspects, extension workers were mainly interested in 'how to innovate' what already exists and how to make it 'smarter'. This involves field and market visits with practical exercises with a facilitator. • Decision makers want to see CSA benefits in an integrated scale, i.e., relating CSA with policy, funding, planning and implementation. Capacity building can be arranged as community events. • Gender and social consideration: While men had little objections about mixed gender groups or about the gender of the trainer, women preferred woman-only groups and female trainers. We catered to their preferences (Tran et al. 2017).	

Step 7: Organize internal scaling events (farmer-to-farmer)

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• To facilitate internal scaling of proven CSA practices and technologies through farmer-to-farmer approaches; • To establish learning sites that will facilitate farmer-to-farmer knowledge sharing events on CSA practices and the social learning strategies used; • To raise awareness on CSA among neighbouring communities and other stakeholders • To engage farmers and their networks; • To create a forum for knowledge learning and sharing, as well as networking among farmers and with others; • To share approaches, initial results and impacts of CSA implication process with target audience (e.g., farmers in other area, local government, NGOs, private sectors); and • To document drivers for adoption to advise related stakeholders on attributes that facilitate adoption or identify scaling pathways in step 9.	
Participants	• Farmer leaders within CSVs who are identified as technical resource persons on scalable CSA practices • Farmers in different places where scaling out CSA is possible, as well as "outreach farmers" or those outside the CSV who are potential CSA adopters • Representatives of government offices, NGOs, and private sectors	
Facilitators	• Project staff and local partners	
Methods	• Events and activities can take place where CSA already exists, such as a CSV or a demonstration farm. This is to show progress and let farmers interact with their fellow farmers. They can also be organized where consumers live, typically in the cities or markets, to make them understand what CSA is, what they can get from it, and what happens if they support local CSA farmers. For instance, they can be displayed during IEC activities such as photovoice, farmer field day, awareness raising campaigns and competitions, information in local media (radio, TV), local markets, websites, and CSA marketing events and fairs. • Impact areas or learning site: These are geographic locations within CSV that provide proof-of-concept of scalable CSA (technologies and practices). Impact areas are technically CSA "proof-of-concept sites," and thus provide evidences of CSA benefits at farm levels, as well as evidences to scale out/up. Impact areas are established purposively as learning sites on CSA/climate-resilient agriculture (CRA) and as a component of the CSV approach. Specifically, it is utilized for knowledge sharing about scaling out CSA (horizontal scaling through farmer-to-farmer spread of knowledge and production assets/materials). It is also utilized in scaling up (vertical scaling, wherein lessons and methodological approaches are shared to local governments, agriculture agencies, NGOs, and other development organizations. • Farmer Field Days: These are organized in impact areas/learning sites wherein farmer groups share knowledge to fellow farmers following a uniform process of: a) defining the purpose of the group (what issues and concerns they are addressing); b) sharing the strategies they have tested to address these issues (what the farmers thought would work to address the issues); c) sharing the results and learnings from the testing process; and d) distributing production materials and farming inputs they have produced as part of a 'pay-it-forward" scheme.	

Tools and references	• PowerPoint presentations, brochures, photos, video clips, posters, 3-D models, technical manuals, and on-site demonstration models translated for local farmers	• Brochures to introduce the project • Photovoice (Duong at el. 2018) to allow local people to tell their stories and provide their own evidence to policy makers through photos. • Cooking competition to show and raise awareness about local produce, nutrition, and home gardens or school gardens for a diverse dietary intake. We organized a cooking competition, deliberately for men, to raise awareness about gender roles on Women's Day. This bilateral cookbook (Simelton et al. 2016b) shows the diversity of food that exist already. • Awareness raising campaigns and competitions: Local farmers build miniature 3D models of how they would like to see their landscapes in the future. • Demonstrations or marketing campaigns for local produce is another activity to promote CSA products and catch the interest of private and other sectors. • Information in local media (radio, TV), local markets, loud speakers, and screens on alerting on specific needs (pest control, early warning systems) or weather updates (weather, events, farming practices and general advices). These were proved useful as a vermiculture farmer in My Loi CSV reached new markets after being interviewed on local TV. • Videoclips can be posted on YouTube explaining certain practices or seasonal agro-advisories. • Engage the youth and future farmers. • In the Philippines, schools and kindergartens manage seed banks for crop museums and bio-intensive gardens (BIG). This inspired leaders and teachers in Ky Son Commune to set up two school vegetable gardens in the commune. The gardens supply school children with lunch, saving hundreds of dollars per month, while providing a hands-on learning ground about the environment. • The synthesis of lessons learned in the establishment of impact areas and learning sites in the Guinayangan CSV is captured in the forthcoming document: Impact areas as platforms for scaling out in the Philippine CSV • IEC materials were translated in local languages and were used in various educational activities for the farmers.
Note	• Events must be organized, especially when necessary • Mass organizations, such as farmer associations, youth union, and women's union can reach the grassroots in almost all villages. • In illiterate or ethnic households, children may be the ones reading or translating agricultural information for their parent(s).	

STAGE 5: SCALE UP AND OUT

Step 8: Evaluate outcomes and impacts

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• Synthesize scalable practices and document implementation processes and drivers that facilitate or hinder the uptake of innovations • Keep local policy makers informed. Invite them to the events and share with them the results of the activities. Moreover, maintain a continuous dialogue on what evidence they need to integrate CSA practices into local plans and support programs such as the socio-economic development plan of communes, the New Rural Development plan of the commune, district agricultural plan, and district agriculture-related policies.	
Participants	• Government departments, NGOs, private sectors, and farmers in other areas	
Facilitators	• Project staff and local partners such as provincial leaders, local government, and civil social organizations	
Methods	• Project documentation, meetings, workshops, field visits, and interviews	
Tools and references	• Document project implementation process, results, outcomes, impacts and lessons learned • Organize meetings with related stakeholders • Provincial leaders who have specific targets, for example, for their Rural Development plans can monitor and report back on initiatives. Guidelines for local implementation may be made to contribute to national policies • What are the conventions, programs, policies, and support programs that CSA can contribute to? Are they being implemented at subnational levels? If not, what is missing? Are there opportunities for synergies between different monitoring and evaluation systems?	• Outputs can be represented in different formats: brochures, photos, photovoice (Duong at el. 2018), video clips, posters, 3-D models, technical manuals on vermiculture (Le at al. 2017a), composting, pests and diseases management, general agro-advisories to cope with extreme weather events, seasonal agro-advisories bulletin, on-site demonstration models, cookbook (Simelton et al. 2016b), CSA portfolio for scaling (Le et al. 2018b, Mendez et al. 2018), research results on drivers of CSA adoption, and documentation of social learning and sharing (Tran et al. 2017) • All outcomes and impacts can be documented in successful case stories, news, video clip, TV media, policy documents • In Ky Son Commune where My Loi Village is located, the local government often asks for the income (vermiculture, water melon in My Loi CSV) and market linkage evidence aside from the capacity to cope with extreme weather events and the ensuing environmental benefits. The best evidence is the one observed by the locals or in other cases, it can be the estimated or seen in other communes or places • Knowledge and learning on CSA and social learning generated by farmers, local governments, local research stations and IIRR in Guinayangan CSV were synthesized into a training for the Department of Agriculture Regional Teams and local governments who were piloting the implementation of the AMIA Program
Note	• Consider a 5- to 10-year investment plan, and identify if financial interventions (e.g., support programs, Payment for Forest Ecosystem Services (PFES) – mechanisms, carbon credits, loans) can help cover the establishment phase (Duong et al. 2016). Ways to shorten the establishment phase or increase the cash-flow during this period include grafting fruit trees, intercropping short-term annual crops and/or integrating animals • CSA practices can contribute to Sustainable Development Goals, REDD+, Nationally Determined Contributions, and payment for ecosystem services. They may be mentioned in national adaptation strategies and serve in the GCF and GEF applications for adaptation and mitigation initiatives. It is therefore important to document the areas under CSA and their impacts and encourage the implementation at sub-national levels.	

Step 9: Scale up/out through target scaling partners

Components	General implementation	The case of My Loi and Guinayangan CSVs
Purpose	• To scale out good CSA practices to larger geographies and population by identifying scaling areas, pathways, scaling agents • To determine how to follow up and support scaling agents to implement CSA	
Participants	• Farmers in different places where scaling out CSA is possible • Representatives of government offices, NGOs, and private sectors • 4 categories of scaling partners: national government agencies (Agriculture ministries and its attached bureaus/institutes), subnational governments (local government units, farmers unions), partner NGOs (CARE, IDRC, Caritas, IFAD, CRS, etc.), and local media networks	• **My Loi:** Department of Agriculture and Rural Development (DARD), extension workers, New Rural Development Program, mass organizations (farmer association, women's union, youth union) from commune to provincial levels, NGOs and international organizations, cassava and tea company, existing farmers groups/cooperatives, representatives of local farmers, village leader • **Guinayangan:** DA-BAR, DA-SWCCO, Quezon Provincial LGU, Ivisan LGU, Panay Province Office of the Provincial Agriculturist, Caritas Typhoon Haiyan Program in Panay Island, Philippines, local media networks • Myanmar through IIRR Myanmar Country Program: Ministry of Agriculture, Livestock and Irrigation (MOALI), Yezin Agriculture University (YAU), Radanar Ayar
Facilitators	Project staff, potential project partners	
Methods	• Experiential learning and sharing workshops to share evidences generated through piloting of CSAs • Consultation with other stakeholders (government, private sector, NGOs, CSOs, etc.) • Policy dialogues and reviews (step 2) • FGDs, meetings • Capacity building events for target scaling partners • Roving workshops and site visits	
Tools and references	What to share • Share all materials, outputs, outcomes, and impacts (products used in internal scaling also will complement to the scale up/out process) Determine scaling area: The general rules are: • CSA practices can be applied in areas with similar biophysical, socio-economic and cultural conditions. Also, the political aspect needs to be considered since it influences the scaling agents' choice of species and farming system, as well as the investment capacity of farmers/scaling agents.	What to share • Share all materials, outputs, outcomes, impacts produced and documented from the project. Scaling area: CSA portfolio refers to a collection of CSA practices that can be scaled out in certain areas (such as village, commune, province) with given conditions for scaling (Le et al, 2018b, Mendez et al. 2018)

	• CSA practices can be scaled out from the field, farm, landscape or commune, district, provincial, and national levels depending on the social, physical, market, political, and cultural influences (See step 2 to understand context of area). Some practices can be scaled out in certain areas but technologies to implement CSA can be replicated in a wider context. Determine Scaling pathway: This depends on the context, different scaling pathways and the best channels/ organizations/institutions to work with to reach the target beneficiaries. Multiple pathways can be established to reach out various audience groups. Some common scaling pathways and the corresponding methods to implement them include: • Scaling out (Horizontal scaling): refers to an increase in the reach of an innovation by expansion or replication, within or across jurisdictions. Horizontal scaling can expand impacts through replication by others like farmers, mass organizations, and farmer groups. • Scaling up (Vertical scaling): refers to an expansion of the impact of an innovation through policy, regulatory or institutional reform at a higher organizational level. • Public pathway: expands project impacts through the government and often suited for scaling at a population/national level • Commercial pathway: scaling activities through the private sector and often about innovations with potentials on commercial sustainability • Hybrid pathway: leveraging both government and market actors • Autonomous scale: through events, which are not controlled by the project Determine pre-conditions for scaling agents to scale: What support do scaling agents (institutions/ organisations) need to scale out CSA practices in terms of resources, partnerships, local contexts, and knowledge management such as trainings on CSA and training materials, among others.	CSA technologies and practices (livestock and crop residue management, soil management, integrated home garden, and organic farming, among others) can be scaled out in wider areas to align with government programs/ policies on food security, and climate change adaptation and mitigation (See Simelton et al, 2017b for the method to determine scaling area and what to scale). CSA prioritization methodology (Duong et al. 2016) can be applied to identify scalable CSA in other areas. Determine Scaling pathway: The target scaling agent's number and indirect targeting of local agents of change in My Loi and Guinayangan CSVs can be seen in Figure 2. Scaling pathways in My Loi and Guinayangan CSVs • Scaling out through NGOs/institutions by organizing different activities, including IEC, on-site and off-site learning sharing event, CIF, and CSA portfolio with CBA; establishing farmer groups and media support (also see step 7).

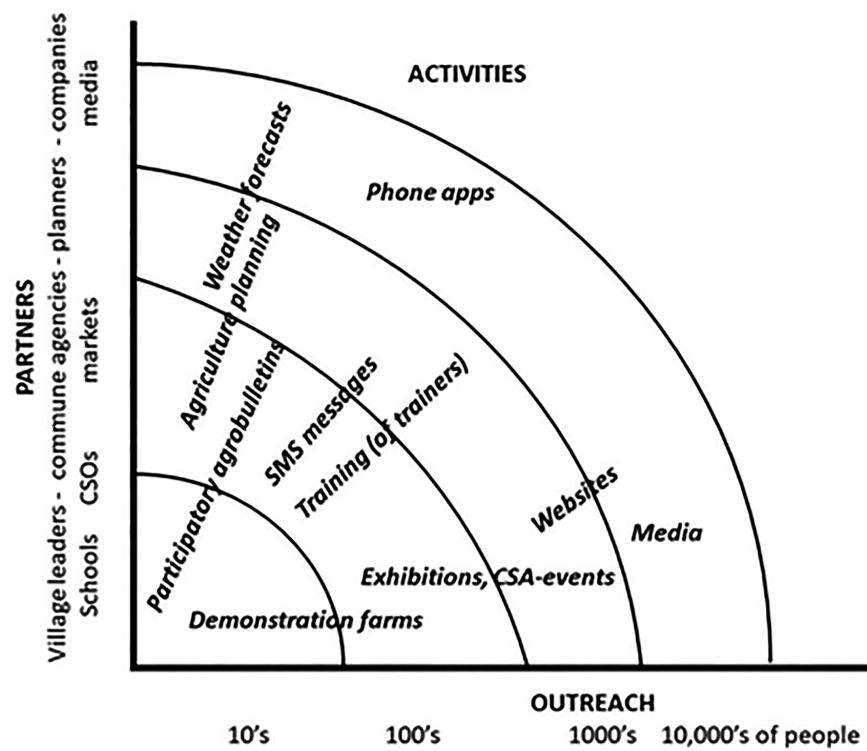|		
	Manage and follow up scaling process: Maintain contact and discussions with scaling agents to see opportunities for collaboration and to determine if support is necessary. Furthermore, CSA practices can be best improved with the aid of climate information services to make CSA smarter and more adaptive to the changing weather and climate conditions	- DA-AMIA program and local agricultural and rural development plans of MAO and MPDO in Guinayangan, Philippines.
		- 5-year action plan of Ha Tinh Provincial FU, New Rural Development Program (NRDP) of the DARD office of Ky Anh District, 5-year action plan of Ky Anh FU, and the Socio-economic Development Plan and NRD plan of Ky Son Commune, Vietnam
		Determine pre-condition for scaling agents to scale:
		• Capacity building events for key scaling partners: Capacity building events on the concept of CSA, how to determine CSA practices, and implement them on the ground were provided to farmer unions and extension offices (achieved in step 5 in My Loi). In the Philippines, the design and implementation of AMIA's Phase 2, particularly the establishment of 17 AMIA Villages (adoption of CSV approach), was guided by a series of training programs facilitated by IIRR. The training is dedicated for the 17 regional DA teams and their counterpart local government units.
		• Knowledge sharing events on CSA were also organized. Guinayangan CSV was utilized to capacitate AMIA teams as a result of the two fora led by IIRR. These events promoted CSA-related interventions to DA. They also enabled IIRR to enter the network of NGO partners of DA-SWCCO.
		• Manage and follow up scaling process if possible: Support scaling agents to make more concrete annual action plans and make changes based on various factors. Always introduce CSA and agro-climate information services together.
Note	• The scaling up process generally consists of a sequence of steps and intermediate stages, which usually extends over a long period, and must be framed to consider the changing impacts of various factors.	
	• Learning and adapting are key aspects of the concept of the scaling pathway, which involves an iterative process of innovation-learning-scaling.	
	• Many scaling pathways will require horizontal and vertical scaling in a parallel and iterative process. They are always subject to policy and regulatory forces, which should be considered and changed if necessary.	

Figure 3. Scaling strategies – example of partners who can reach where

Appendices

Appendix A: Field note sample

Field note
Page 1

Author	Date of visit (DD-MMM-YY)

Purpose(s) of visit/meeting – WHY -   *If feasible, map to Flagship CSV □1.1 □ 1.3   2 □ 3*
                                          □ other project _____
- *Follow up activities in CSV*

Others joining

People visited –WHO -	Place –WHERE-
Issues/things discussed –WHAT, WHY, HOW MUCH/MANY, WHEN-	Recommendations - WHAT, HOW, WHEN, WHO

√ Action points

□ Good examples

√ (Research) ideas

□ Challenges

√ Observations, comments
□ Lessons learned
PHOTOS stored in

Appendix B: Group monitoring board sample

FLG GROUP
LOCATION
DESCRIPTION
FLG OBJECTIVE

1. FLG MEMBER & ATTENDANCE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.1 No of FLG members												
1.2 No of Attendees												

2. STATUS OF COMMUNITY ADAPTATION STRATEGY
2.1 Adatation Strategy

2.2 Adaptation techniques and No. of adopters	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

3. STATUS OF PARTICIPATORY ACTION RESEARCH

3.1 Name of Participatory Action Research/ CSA Technology Tested	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

4. STATUS OF COMMUNITY SUPPORT FACILITY

4.1 Name of CSF:..	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

    Number of Beneficiary
    Activities
OTHER FLG ACTIVITIES
5.1 Name of Activity
    Date
    Number oof Attendees
    Topic
    Materials distributed
    Learnings
5.2 Name of Activity
    Date
    Number oof Attendees
    Topic
    Materials distributed
    Learnings

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