Kaalamang Pagsasaka sa Himpapawid

School-on-the-Air on Climate Smart Agriculture (SOA-CSA) in Cagayan Valley

Manual of Operations

April 2018

Prepared by:
- Department of Agriculture Regional Field Office (DA RFO) 02
- Philippine Federation of Rural Broadcasters (PFRB)
- Philippine Rice Research Institute (PhilRice)
- CGIAR Research Program on Climate Change, Agriculture and Food Security in Southeast Asia (CCAFS SEA)

TABLE OF CONTENTS

C. SOA Graduation Activities
   1. Preparation for the graduation
   2. The graduation program
   3. Certificates

D. Follow-up Activities
   1. Course evaluation and impact assessment
   2. Alumni organization and homecoming
   3. Field visits

Chapter 4. Logistical Requirements

A. Premises
B. Necessities
C. Equipment
D. Human resources
E. Funding requirement
F. Resource generation

Chapter 5. Reporting Procedures

A. Purpose of reporting
B. Content of report
C. Frequency of reporting

Attachment 01 – Modules, Lessons and Resource Persons of the SOA–CSA

Attachment 02 – Memorandum of Agreement on the SOA–CSA

Attachment 03 – Directory of Heads of Partner Agencies

Attachment 04 – Pictorials

Tribute to Ka Louie Tabing

KEY ABBREVIATIONS AND ACRONYMS

AWD	Alternate Wetting and Drying
CAT	Community Audio Tower
CCAFS SEA	CGIAR Research Program Climate Change, Agriculture and Food Security in Southeast Asia
CIAT	International Center for Tropical Agriculture
CSA	Climate Smart Agriculture
CSU	Cagayan State University
CVAARRD	Cagayan Valley Agricultural and Aquatic Resources Research and Development
CVARRD	Cagayan Valley Agriculture and Resources Research and Development
DA	Department of Agriculture
DA–ATI	DA Agricultural Training Institute
DA–RFO2	DA Regional Field Office 2
DOST	Department of Science and Technology
GO	Government Organization
GUMIL	Gunglo Dagiti Mannurat nga Ilokano
IRRI	International Rice Research Institute
ISU	Isabela State University
LGU	Local Government Unit
MOA	Memorandum of Agreement
MOET	Minus-One Element Technique
NGO	Non-Government Organization
NIA	National Irrigation Administration
NVSU	Nueva Vizcaya State University
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PAJ	Philippine Agricultural Journalists, Inc.
PBS	Philippine Broadcasting Service
PFRB	Philippine Federation of Rural Broadcasters
PhilMech	Philippine Center for Post-harvest Development and Mechanization
PhilRice	Philippine Rice Research Institute
PRISM	Philippine Rice Information System
QSU	Quirino State University
RAFIS	Regional Agriculture and Fisheries Information System
SMS	Subject Matter Specialist
SOA–CSA	School-on-the-Air project on Climate Smart Agriculture
SUC	State University and College
TV	Television
TWG	Technical Working Group
UNESCO	United Nations Education, Scientific and Cultural Organization

PREFACE

To operationalize and showcase the power of radio in sharing improved agriculture technologies, the Department of Agriculture-Regional Field Office No. 02, DA Regional Office 02 (DA-RFO2) in collaboration with the Philippine Federation of Rural Broadcasters (PFRB), Philippine Agriculture Journalists, Inc. (PAJ), Philippine Rice Research Institute (PhilRice), CGIAR Research Program Climate Change, Agriculture and Food Security in Southeast Asia (CCAFS SEA) and national agencies under the Cagayan Valley Agriculture and Resources Research and Development (CVAARRD) Consortium launched "*Kaalamang Pagsasaka sa Himpapawid,*" a School-on-the-Air project on Climate Smart Agriculture (SOA–CSA) in Cagayan Valley in February 2018.

This manual serves as a guide for all partners involved in the SOA–CSA project. It has five chapters: (1) Introduction, (2) Implementation scheme, (3) Organizing and conducting the SOA, (4) Logistical requirements, and (5) Reporting procedures. It is an updated adaptation of an earlier SOA handbook produced by the DA-Agricultural Training Institute (DA–ATI) with the PFRB for the *Agrikulturang Makamasa* program in 1998.

With more than 10,000 initial enrollees, the SOA–CSA project is being aired in the region's major food producing provinces (Cagayan, Isabela, Nueva Vizcaya and Quirino) by DWDA (a DA owned and controlled radio station), DWPE *Radyo Pilipinas* and other partner carrier stations. Subject matter content initially focuses on climate smart rice agriculture. Subject matter is clustered into modules and delivered in lessons. The overall message treatment is mainly 'edutainment' while the format is a combination of a radio magazine, public affairs and a formal school-on-the air program. The magazine component is reinforced by news, ready-to-air scripts and canned interviews, as well as interaction with listeners through text. Each lesson is made as entertaining and popular as possible interspersed with spots, plugs and music.

The expected outcome of *Kaalamang Pagsasaka sa Himpapawid* is the enhanced awareness, understanding and widescale application of improved and climate smart agriculture technologies and various agricultural services among farmers and their communities. Its projected impact is sustained food and nutrition security in the region and enhanced livelihoods of farmers under climate change. It will also bring about the stronger engagement among public-private institutions, providing vigorous support services to agriculture programs in Cagayan Valley.

We would like to thank DA–RFO2–Regional Agriculture and Fisheries Information Section (RAFIS) Chief Hector U. Tabbun and his staff, PFRB President Rogelio Matalang and his colleagues, PhilRice Isabela Director Leo Javier and his staff, PAJ–Cagayan Valley President Domingo Fugaban and IRRI–CCAFS–SEA Consultant Rex Navarro for spearheading this initiative.

LORENZO M. CARAGUIAN

OIC-Regional Executive Director
Dept. of Agriculture Regional Field Office No. 02

FOREWORD

Despite the prevalence of high-speed Internet and television in today's world, radio is still a very important and relevant medium especially in developing nations. According to United Nations Educational, Scientific and Cultural Organization (UNESCO), more than 95% of the world's population uses radio. This is compared to roughly one-third of the global population having access to Internet. In the Philippines, radio reaches 85% to 90 % of the population, while TV reaches less than 60%. As a result, radio is considered the most reliable medium for sharing news in the countryside.

Radio is indeed a very powerful tool for national development; it is the most pervasive medium which reaches a large number of people at the least cost. It transcends literacy and geographical barriers and being in audio mode, elicits strong emotional impact among listeners. Along with this, the CGIAR Research Program on Climate Change, Agriculture and Food Security in Southeast Asia (CGIAR CCAFS SEA) partnered with the DA–RFO2, PFRB, PAJ, CVAARRD Consortium and other national and regional agencies launched "*Kaalamang Pagsasaka sa Himpapawid,*" a radio-based distance learning program for climate smart agriculture in Cagayan Valley.

Knowledge sharing through the mass media is critical in helping catalyze behavior change towards the utilization of climate smart agriculture technologies among farmers. CCAFS aspires to help bring about behavior change among millions of farmers in Southeast Asia, and radio is one of the best and most cost-effective medium to achieve this. Being the most pervasive medium of mass communication, radio substantially contributes to behavior change by raising the level of awareness and understanding of farmers on climate smart agriculture.

The active involvement of research and extension organizations, State Universities and Colleges (SUCs) and other local partner institutions adds another dimension to the "*Kaalamang Pagsasaka sa Himpapawid"* program. We will attempt a massive enrollment in the program by collaborating with various organizations in Cagayan Valley.

This manual will surely help rural broadcasters, partner agencies and other development organizations in organizing and implementing SOA programs. Also outlined are the various activities from the pre-broadcast to the post-broadcast phase as well as the roles and responsibilities of partners involved in the project.

We hope that through the "*Kaalamang Pagsasaka sa Himpapawid*" program, farmers in Cagayan Valley will learn and practice climate smart rice technologies, thereby contributing to the attainment of food security and improved livelihoods in the region.

LEOCADIO S. SEBASTIAN

Regional Program Leader
CGIAR Research Program on Climate Change,
Agriculture and Food Security in Southeast Asia

CHAPTER 1
Background and Rationale

Overview

In most capacity building programs for farmers, the usual approach is through classroom lectures and discussions, season–long training–workshops and technology demonstration. These methods allow person-to-person contact among trainors and learners which is an important requisite of the teaching-learning process. However, these approaches have very limited reach and are quite expensive.

The print media, on the other hand, also serves as an effective learning medium since it is permanent and can be repeatedly used and passed on among users. However, it is dependent on the ability of learners to read and understand written modules. Moreover, the limited circulation of print media cannot reach a critical mass of intended learners especially in far flung areas.

On the other hand, radio is the mass medium reaching the widest audiences in the world. For instance in the Philippines, it reaches 85 to 90 percent of the population with over 25 million sets nationwide. Scanning the style of radio programs explains why this medium remains as the most popular channel among Filipinos especially in the grassroots. Radio content and formats are quite diversified, hence, there is always a program catering to almost every sector – farmers, fisherfolk, rural women and youth, religious groups, sports enthusiasts, etc.

Radio is an effective and low cost learning medium, reaching people irrespective of their educational level. It is acknowledged as the primary source of news and the most pervasive, persuasive, and credible communication channel, specifically suited to reach remote communities and vulnerable people – the illiterate, disabled, rural women and the youth. It has a unique advantage – the quick capacity of sharing information and technology from research institutions to millions of end users. Of particular importance in reaching a critical mass is the School-on-the-Air (SOA) program. SOAs are relatively inexpensive and, if properly planned, carefully implemented and adequately supported, are equally effective compared to other conventional approaches of teaching farmers.

Similar to the classroom's teaching-learning process, the SOA is a series of radio programs, presenting the subject matter systematically and in a progressive manner. It has the following elements:

1. A series of lessons is specially designed and aired successively in a radio program over a certain period of time.

2. A specific subject matter area is covered.

3. Daily lessons on the air usually last from 15 to 30 minutes.

4. There are enrolled listeners.

5. Quizzes are given after every lesson or set of lessons.

6. A pretest is given before the airing of lessons to determine the level of knowledge of learners about the subject matter. A post-test is administered after all the lessons have been aired to determine the knowledge gain of learners.

7. At the end of the course, a graduation is held where certificates and awards are given out to learners who have met all course requirements.

8. Research is conducted to determine the information needs and characteristics of learners and evaluate their acceptance and impact of the SOA.

9. The whole course is usually conducted over a fixed period. Some SOAs may last for a month covering a single subject matter; others may last for six months with various subjects.

The School-on-the-Air on Climate Smart Agriculture

In February 2018, the DA Regional Office 02 (DA- RFO2) in collaboration with Philippine Federation of Rural Broadcasters (PFRB), Philippine Agriculture Journalists Inc. (PAJ), Philippine Rice Research Institute (PhilRice), CVARRD Consortium, CGIAR Regional Research Program on Climate Change, Agriculture and Food Security in Southeast Asia (CCAFS –SEA) and other national and regional agencies launched "*Kaalamang Pagsasaka sa Himpapawid,*" a School–on–the–Air on climate smart agriculture (SOA–CSA).

Airing of modules consisting of 68 lessons started on 05 March 2018 over 14 carrier radio stations and is expected to end in August 2018.

The SOA–CSA project harnesses the power of radio in sharing climate smart rice agriculture technologies and support services to a critical mass of farmers in Cagayan Valley. Being handy, portable and cheap, radio is a practical and creative solution to the massive information and educational needs of poor farmers, many of who are largely unreached by government capacity building programs. *Kaalamang Pagsasaka sa Himpapawid* aims to:

1. Facilitate the massive and sustained education of smallholder farmers on climate smart agriculture in Cagayan Valley through radio.

2. Link smallholder farmers with knowledge, technology and other support providers in the region.

3. Heighten awareness and mobilize strong support and involvement of the rural populace in agriculture programs.

4. Engage government agencies, local government units, civil society organizations and the private sector in regional agriculture programs.

5. Serve as a quick feedback mechanism and venue for dialogue among agriculture stakeholders in Cagayan Valley.

At the core of this project are Schools–on–the–Air (SOA) on climate smart agriculture which are conducted in the region's major food producing provinces (Cagayan, Isabela, Nueva Vizcaya and Quirino) through DWDA (a DA owned and controlled radio station), DWPE *Radio Pilipinas,* other community radio and privately owned radio stations in Cagayan Valley and members of the Philippine Federation of Rural Broadcasters (PFRB).

Likewise, involved radio stations and rural broadcasters are provided with radio plugs, canned interviews and ready-to-be-aired scripts and CDs in Ilocano produced through the CCAFS SEA–PFRB project titled "*Climate Change: i-Broadkas Mo.*" Subject matter content initially focuses on climate smart rice agriculture and later on to other subject matter areas. The SOAs will be continuing and has an initial enrolment of more than 10,000 farmers.

Our approach

1. SOA-CSA is a sustained information and educational radio program targeting a huge number of listeners.
2. SOA programs will be simultaneously conducted by DWDA, *Radio Pilipinas* and PFRB.
3. Broadcasters will be provided with ready-to-be-aired scripts (in modular format), radio plugs and canned interviews.
4. Content will be provided and packaged by partner agencies spearheaded by DA-RFO2, PhilRice, SUCs, DOST-PAGASA and IRRI-CCAFS,.
5. SOA-CSA will be outscaled and upscaled after the Cagayan Valley model.

Subject matter content covers the whole rice value chain (i.e., production, post production, processing and marketing technologies) with emphasis on climate smart agriculture. The content is clustered into modules and delivered in lessons. Each lesson is delivered per session. Content is localized and delivered in Ilocano in short lessons which are grouped into bigger modules. The overall message treatment is mainly 'edutainment' while the format is a combination of a radio magazine, public affairs and a formal school-on-the air program.

To identify and troubleshoot issues and problems observed on the early stages of implementation, a Coordinators Meeting was conducted by DA-RFO2. It was attended by fifty seven (57) municipal coordinators from Cagayan, Isabela, Nueva Vizcaya and Quirino provinces.

Objectives of the manual

This manual was produced to provide a ready reference and guide to SOA–CSA project implementors. Moreover, it also serves as a sourcebook, offering concepts, strategies, and best practices in conducting SOA programs which are of interest among development communication practitioners and the academe.

The original write–up from which this updated manual was adapted was an output of a two–day conference–workshop conducted by DA –ATI and PFRB on conducting SOA, attended by veteran broadcast practitioners and experts from the academe.

CHAPTER 2
Implementation Scheme

Content and carrier stations

All modules of the SOA–CSA are pre-produced and written in Tagalog and Ilokano. As previously mentioned, the SOA covers the whole value chain of climate smart rice agriculture from the selection of climate resilient varieties, climate smart crop management, post–harvest practices, marketing and processing. (Attachment 01).

These programs are made available to carrier radio stations and their broadcasters for airing in their respective areas of coverage. The fourteen (14) carrier radio stations listed below were chosen mainly on the basis of their strategic reach, credibility, availability of free air time and willingness to be a partner of the SOA–CSA project.

1	DWDA –Tuguegarao City	8	DWRL – Gonzaga, Cagayan
2	DWPE – Tuguegarao City	9	DWTG – Cabagan, Isabela
3	UFM – Nueva Vizcaya	10	DWRA – Echague, Isabela
4	DWTS – Sta. Teresita, Cagayan	11	DWRE – Sanchez, Mira, Cagayan
5	DWQP – Quirino	12	DWSM – San Mateo, Isabela
6	Radyo Kalugaran – Claveria	13	DWSM – DWSI, Santiago City
7	Lal-lo, Cagayan	14	Radyo Natin – Aparri, Cagayan

The SOA–CSA has a national and global reach for non-enrolees and other listeners through livestreaming on Facebook at https://www.facebook.com/DARFO2105.3fm/ . Listeners can also send instant feedback through text at: 0906 932 5788 / 0929 567 6502 (Cagayan); 0906 932 5790 / 0929 567 6502 (Isabela); and 0906 932 25793 / 0929 567 6478 (Nueva Vizcaya/Quirino). The SOA–CSA project harnesses the tremendous power of new media as a multiplier in reaching big audiences on climate smart agriculture.

Partner agencies and their roles and responsibilities

The SOA–CSA is propelled by partnerships as climate change cuts across many sectors. Towards this, the DA – RFO2 established an inter – agency coalition by signing a Memorandum of Agreement (MOA) with more than 20 organizations in the region (Attachment 02). Agency roles and responsibilities are listed below.

A. DA–RFO2

1. Pre-broadcast Phase

   a) Allocate funds for the conduct of the SOA–CSA.

   b) Organize, promote and implement the project with partners.

   c) Conduct need analysis in tandem with LGUs.

d) Provide Subject Matter Specialists (SMS) and lead, in tandem with PhilRice, in content development.

e) Coordinate with Local Government Units (LGUs), local broadcasters and carrier stations for the airing of the SOA–CSA program.

f) Coordinate with LGU's and farmers' organizations for their members to be officially enrolled in the SOA–CSA.

g) Ensure the master listing of enrollees forms and make them available to farmers and intended learners.

h) Organize meetings of SOA–CSA partners to discuss operational and other issues.

i) Help broadcasters campaign for enrollment and design effective strategies to maximize the SOA–CSA's reach.

j) Spearhead the organization of a Technical Working Group (TWG) to oversee and discuss issues and recommend solutions to ensure successful implementation of SOA.

k) Prepare a list of potential carrier radio stations in the area and sign MOA with them, selecting radio stations where the SOA–CSA can be aired.

2. Broadcast Phase

a) Provide airtime slots and program anchors through DWDA 105.3 FM *Radyo Pangkaunlaran.*

b) Produce and provide complementary multi-media knowledge products for participants.

c) Collate, process and respond to feedback and queries from participants.

d) Help check the quizzes and exams.

e) Lead and monitor the airing of the SOA–CSA programs in the carrier stations and determine the:

➢ timeliness of materials
➢ relevance of content
➢ appropriate response to the listeners' queries and complaints
➢ problems of airing and their corresponding solutions

f) Decide and plan graduation activities in coordination with broadcasters and partner agencies.

g) Help broadcasters secure logistical support from local government officials, private companies, (e.g., on the needs of the SOA–CSA graduation, venue, prizes, food, etc.).

h) Organize mass graduation of learners in tandem with partners.

3. Post-broadcast Phase

a) Evaluate the SOA–CSA with partner institutions.

b) Lead the conduct of formal research and coordinate with SUCs offering development communication courses which can help undertake this.

c) Plan and pursue follow-up activities.

d) Package the SOA modules into print and audio form for distribution to LGU's and farmers for ready references

B. Media organizations (PFRB, DWPE, *Radyo Pilipinas*, PAJ, GUMIL)

1. Pre-broadcast Phase

a) Assist in the production of broadcast materials.

b) Coordinate with the DA –RFO2, PFRB, PhilRice and other partner institutions for the availability of the SOA–CSA modules.

c) Discuss the mechanics of the SOA–CSA implementation, enrolment campaign, research, forms, correction of answer sheets, prizes, graduation, inviting guests, sourcing out logistical support, etc.

d) Coordinate with rural-based organizations for massive enrollment, such as:

   ➢ Farmers' Associations
   ➢ Irrigators' Associations
   ➢ Federation of Irrigators' Associations
   ➢ Farmers' Cooperatives

d) Campaign for the SOA–CSA through existing radio programs:

   ➢ Prepare regular promotional plugs/announcements.
   ➢ Involve other broadcasters in the carrier stations.
   ➢ Devise measures to get the most number of enrollees.
   ➢ Provide instructions on enrollment.
   ➢ Start enrollment campaign at least one month before the actual airing of SOA.

e) Participate in the pretest in coordination with DA–RFO2 to determine the level of knowledge of SOA–CSA learners.

e) Coordinate with local experts for supplementary discussions and interviews.

f) Plan the airing of the SOA–CSA program.

g) Participate in the Technical Working Group (TWG).

h) Help promote the SOA–CSA program.

2. Broadcast Phase

a) Provide program anchors and free airtime for the SOA–CSA program.

b) Air the SOA–CSA modules according to sequence. Start with programs corresponding to the farmers' activities and timely concerns.

c) Provide supplementary discussion in the SOA–CSA program by:

   ➢ Inviting experts/farmers.
   ➢ Conducting field interviews.
   ➢ Giving timely local news and announcements.

c) Encourage learners to write/send their questions and get them answered by experts.

d) Ask learners to answer the quizzes at the end of every lesson and let the field workers gather their answers.

e) Secure the answers' guide from DA–RFO2, PhilRice or PFRB and correct the learners' answers or coordinate with the DA–RFO2 for the correction of answer sheets.

3. Post-broadcast Phase

a) Coordinate with the DA–RFO2 to:

- ➢ determine the graduates.
- ➢ decide and plan the graduation — where, when, how, prizes, awards, logistics, etc.

b. Conduct a post-test to measure knowledge gain among SOA–CSA learners.

c. Organize and hold graduation, in coordination with farmers' organizations, DA–RFO2 and other partner agencies.

d. Conduct evaluative research; evaluate the SOA–CSA together with partners such as:

- ➢ DA–RFO2
- ➢ DA–PhilRice
- ➢ SUCs
- ➢ DA–ATI
- ➢ Carrier radio stations

f) Plan follow–up activities.

g) Prepare a documentation report and send it to DA–RFO2.

C. PhilRice and IRRI-CCAFS SEA

1. Generate location-specific, climate-smart rice technologies.

2. Provide Subject Matter Specialists (SMS) and, together with DA–RFO2, lead in module content development.

3. Provide multimedia knowledge products to participants.

4. Share pilot radio campaign materials.

5. Participate in project development and management through the Technical Working Group (TWG).

6. Link the project with international partners.

D. Other partner agencies (CVAARRD, SUCs, DA–ATI, DOST–PAG-ASA):

1. Pre-broadcast Phase

a) Provide Subject Matter Specialists (SMS) and help develop and deliver module content.

b) Help ensure the massive enrollment of farmers in the SOA–CSA.

c) Make announcements on SOA–CSA and enrollment through meetings, circulars, and radio plugs.

d) Ensure that the announcements are done on time.

e) Send the accomplished enrollment forms to the DA–RFO2 before the start of the broadcast period.

2. Broadcast Phase

a) Provide multimedia knowledge products to participants.

b) Localize and adapt broadcast materials.

c) Share pilot radio campaign materials.

d) Participate in project development and management through the TWG.

e) Co-facilitate the project with DA–RFO2.

f) Help collate answers of the learners.

g) Help correct the answer sheets.

h) Identify and regularly provide competent farmer resource persons and interactor for the live portion of the SOA–CSA program.

i) Help monitor the SOA–CSA program and gather feedback from learners and listeners; send feedback to the broadcasters and DA–RFO2.

3. Post-broadcast Phase

a) Help determine the graduates.

b) Help decide and plan the graduation, secure logistical needs, etc.

c) Help evaluate the SOA–CSA.

d) Help plan follow-up activities.

E. Local Government Units (LGUs

1. Pre-broadcast Phase

a) Mobilize farmers to enroll and promote the SOA–CSA in their respective areas

b) Conduct needs assessment with DA–RFO2.

2. Broadcast Phase

a) Provide climate-smart rice extension services in participating communities;

b) Regularly monitor participation of learners.

c) Conduct pre-test and post-test for learners.

d) Solicit feedback and comments from learners.

e) Organize mass graduation of learners with DA–RFO2 and other partners.

3. Post-broadcast Phase

a) Help evaluate the SOA–CSA.

b) Help plan follow–up activities.

To ensure smooth implementation, the DA –RFO2, PFRB, partner agencies and LGUs shall continue to conduct regular coordination through meetings, online chats and provision of techniques to have the episodes be heard and the scripts read by the enrollees for better learning.

CHAPTER 3
Organizing and Conducting the SOA–CSA

A. Preparatory activities

1. Planning the SOA–CSA

The conceptualization of SOA projects can be initiated by the development agency (e.g., DA–RFO2), lead radio station or a farmers' group. The information officer, development broadcaster or leader of a farmers' organization are the main catalysts for SOA projects. Support may come from higher officials of development agencies, radio station management and top leadership of farmers' groups.

In the case of *Kaalamang Pagsasaka sa Himpapawid,* the project was initiated by the DA–RFO2 in partnership with PFRB and CCAFS –SEA.

a) ***Setting the objectives.*** The SOA objectives should be clearly defined at the outset of the project. In the case of the SOA–CSA, the objectives, as previously mentioned, are to:

> ➢ Facilitate the massive and sustained education of smallholder farmers on climate smart rice agriculture in Cagayan Valley through radio.

> ➢ Link smallholder farmers with knowledge, technology and other support providers in the region.

> ➢ Heighten awareness and mobilize strong support and involvement of the rural populace in agriculture programs.

> ➢ Engage government agencies, local government units, civil society organizations and the private sector in regional agriculture programs.

> ➢ Serve as a quick feedback mechanism and venue for dialogue among agriculture stakeholders in Cagayan Valley.

b. ***Preparing the project document.*** The whole project rationale, objectives, implementation mechanics, timelines, budgets and institutional arrangements must be put in writing. Copies of the same should be distributed to all concerned partners. To formalize the project, a Memorandum of Agreement (MOA) should be signed by all parties as in the case of the SOA–CSA. Minutes of meetings must always be taken and copies sent to all partners. All project-related communication should also be recorded for documentation purposes. While some may find the paper work tedious, it is worth the effort. Documents are good reminders for people of their responsibilities which are often forgotten if not written. These are quite valuable for purposes of reporting, documentation and evaluation of the SOA project.

c) ***Establishing partnerships and institutional arrangements***. A wide array of partners should be identified and mobilized for the SOA project. In the case of the SOA–CSA, more than 20 agencies belonging to the DA, DOST, regional SUCs, media and LGUs

were mobilized for partnership. The DA–RFO2, PhilRice, DOST–PAGASA, DA–ATI, PhilMech, CSU and PFRB constitute the Technical Working Group (TWG). A diagram showing the institutional arrangement for the project is shown below.
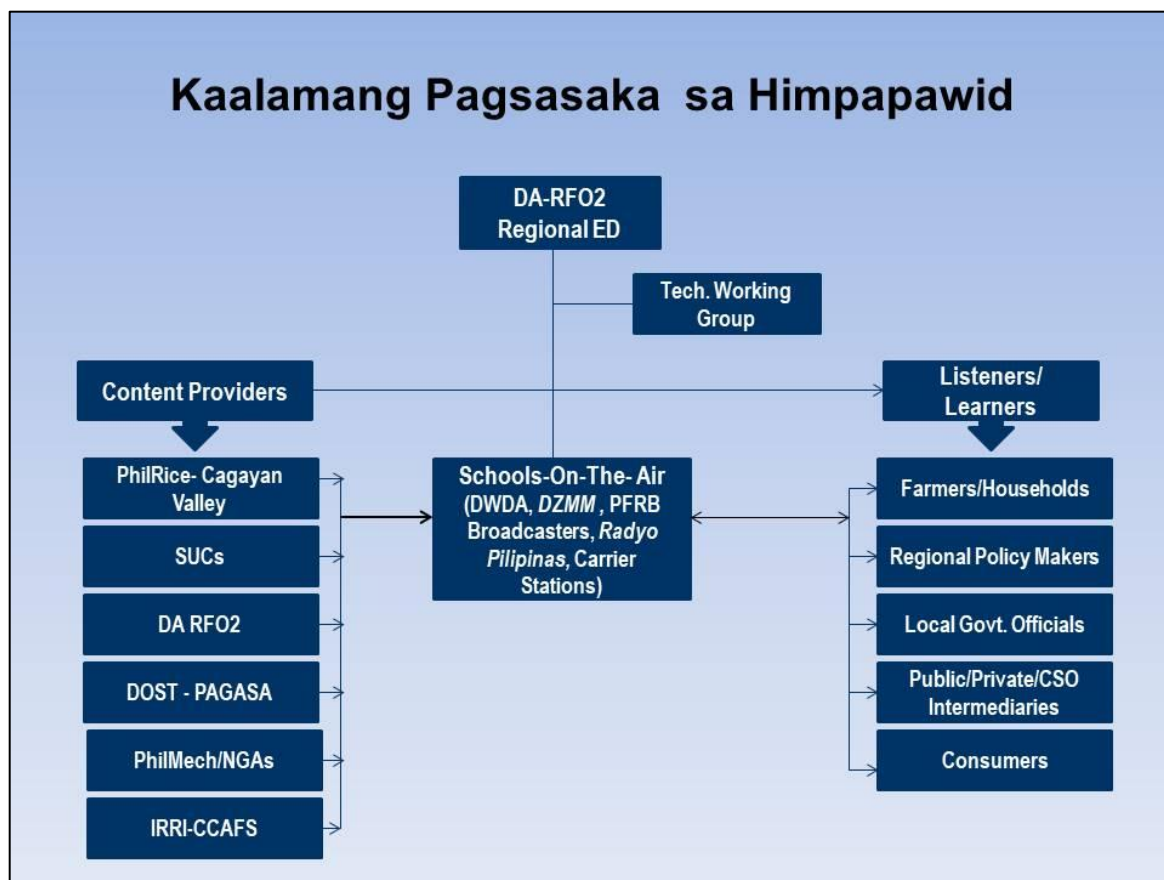
Farmer leaders, local government officials, higher educational institutions, (i.e., SCUs) and agricultural extension workers should be involved in the project by:

- ➢ promoting enrollment in the SOA.
- ➢ serving as resource person/subject matter specialists.
- ➢ assisting in feedback gathering.

Letters of invitation should come from the lead agency (e.g., DA–RFO2) to get the involvement of partner organizations. They can help the SOA program in various ways by establishing linkages with their stakeholders especially in remote areas, and advice them to participate/enroll in the SOA. Likewise, they can mobilize subject matter specialists who are experts on the topics to be covered by the SOA. A systematic procedure for stakeholder engagement and partnerships should be established for the project. In the case of the SOA–CSA, a series of meetings were conducted by the DA–RFO2 to firm up linkages and involvement of partner agencies.

d) **Making the SOA participatory**. A participatory approach should be practiced by anyone interested in making the SOA a success. Through participation, the intended learners such as farmer organizations should not get the impression that they are mere objects or recipients of the project. To achieve this, they should be involved as early as in the

planning of the whole SOA project and in the pre- and post-broadcast phases. Other organizations involved in helping a learner group or promoting a subject matter area could share resources (e.g., manpower, funds, equipment, supplies, etc.). Local talents may also be featured (e.g., their songs, poems, etc.).

e) *Conducting research for the SOA*. Research is a very important tool for the SOA as it provides:

> ➢ basic information about individual learners.

> ➢ baseline socio-economic information of learner communities.

> ➢ a sense of involvement and engagement among stakeholders.

The basic information about individual learners for the SOA are: age, sources of income, number of household members, educational attainment, preferred radio programs and stations, preferred listening time, sources of agricultural information, subjects to be included in the SOA, etc.

Research on the SOA should be conducted with higher education institutions (i.e., SUCs) or research organizations (i.e., PhilRice). Simple participatory research could be conducted for the SOA even without a separate budget.

> ➢ Appropriate research methodologies should be used such as interview schedule, key informant interviews, or focus-group discussion (FGD) to gather information from intended learners.

> ➢ Results of research could serve as a baseline survey or for impact evaluation.

> ➢ Organized farmers' groups could also be tapped to participate in research activities, e.g., as field interviewers.

f) *Selecting carrier radio stations.* Tapping radio stations which will broadcast the SOA must take into consideration their potential coverage, credibility, listeners' rating, availability of time slot and free air-time charges.

Commercial radio stations are not usually inclined to devote free air time for developmental programs. To them, the best programs are those that rate highly and have commercial viability. Nevertheless, some commercial stations also air developmental programs. It should be noted that religious stations are also semi-commercial in nature and operate as business enterprises. In the case of the SOA–CSA, only stations that offer free air time were selected.

Commercial stations usually fear that SOA programs are dull and boring. Hence, the SOA proposal should ensure that the program will be well-produced and that a big number of learners are expected to enroll. A strong selling point of SOA programs to commercial stations is the improvement of their ratings.

For regular SOA programs, non-commercial government radio stations are the most common outlets. The usually poor listeners' rating of these stations could be compensated by an intensified listeners' enrollment campaign, coordinated by grassroots organizations.

2. Preparation of the syllabus

The syllabus of the whole SOA should be prepared as an overall reference for the course. This should be written in popular language and in a style that elicits sustained interest among learners. In the case of the SOA–CSA, the overall message treatment is 'edutainment' with a combination of a magazine, public affairs and a formal School– on–the Air program. The magazine component is reinforced by news, ready-to–air scripts and canned interviews, as well as interaction with learners through text. Each lesson is made as entertaining and popular as possible interspersed with spots and plugs. Hence, "what" and "how-to" information are presented in attractive and entertaining formats (e.g., drama, interviews with popular personalities, and music recordings combined with voice).

a) *Content.* Topics should be comprehensive so as to share a wide array of information and knowledge about the subject matter. In the case of the SOA–CSA, the content initially focuses on improved CSA practices encapsulated by the diagram below.
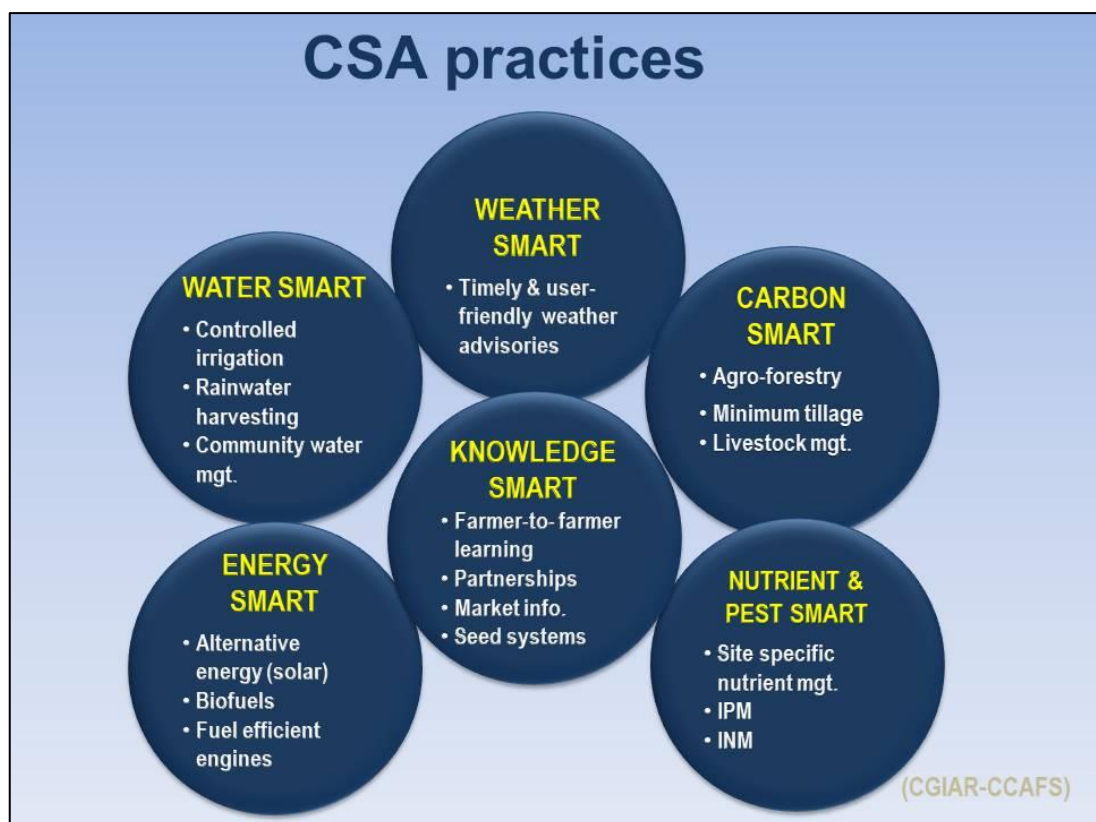
b) Aside from the foregoing, SOA content could be any or a combination of the following:

- ➢ Values formation and education
- ➢ Support services to agriculture (e.g., credit, insurance, marketing)
- ➢ Community mobilization
- ➢ Institutional development
- ➢ Program updates

Technical content should be based on the information needs of learners. If possible, the delivery of topics should coincide with actual activities in the field and the community.

b) *Format*. The usual format for SOA programs is a lecture-discussion session where a subject-matter specialist delivers the topic, assisted by a host. Various perspectives can also be introduced through interviews, invited guests, dialogues, testimonials or panel discussions.

Besides lectures, SOAs should add variety and entertainment value to the program such as music, drama, radio spots, musical jingles, documentaries or live field reports. Rural folks usually love to laugh so hosts should employ techniques such as situation comedies. While learners are partly captive, the SOA program should be made interesting since radio is basically an entertainment medium. It should be noted that a big segment of listeners are not usually enrolled in the SOA.

c) **Course duration**. Most SOA programs last from two to six months, where programs are aired either daily, every other day, twice a week, or weekly In some cases, advance courses are given after the initial course is taken up. In others, a series of SOA programs on related topics are conducted by the station.

d) *Main players*. The lecturer (subject matter specialist) and the program host (broadcaster/announcer) are the main personalities in the SOA. The lecturer should have mastery of the subject matter and a good rapport with learners. Host announcers, on the other hand, should have the qualities of a good radio broadcaster, with a good and credible standing in the community. They must be able to carry a lively and candid-sounding conversations with the lecturer. Finally, they should conduct discussions clearly and in the language which learners can identify with and understand.

In some cases, subject matter specialists act as the main host of the SOA program without a station announcer participating. In other cases, representatives of the listeners act as the anchor or host of the program with subject matter specialists and other related personalities invariably coming in.

3. Program promotion and advertising

The following are some means, outside of actual radio broadcast, that can help promote the SOA project:

a) Streamers
b) Posters/Flyers
c) Radio plugs —Use voice clips from local personalities.
d) TV announcements
e) Print ads
f) Mobile loud speaker announcements
g) Meetings
h) Movie house announcements

4. Production

a) ***Scriptwriting.*** Techniques should follow the basic rules of radio that call for clarity and simplicity. The script should be conversational, rather than lecture in form. It should be basically written for hearing and not for reading. Progression of ideas should not be too fast. Aside from the subject matter, the following should be indicated in the script:

> ➢ Radio station ID
> ➢ Program title
> ➢ Lesson number
> ➢ Title of lesson
> ➢ Resource person/Subject Matter Specialist
> ➢ Writer/s
> ➢ Broadcaster
> ➢ Date of airing
> ➢ Time of airing

b) ***Choosing the Lecturers***. The subject matter specialists who act as lecturers in the SOA should:

> ➢ Have a voice which must be authoritative, lively, and full of enthusiasm.
>
> ➢ Speaks the language which listeners could understand and easily identify with.
>
> ➢ Be a recognized authority on the subject matter and must exude confidence in dealing with assigned topics.
>
> ➢ Broadcast in a conversational and entertaining manner.
>
> ➢ Be able to utilize story-telling, quips, anecdotes, examples, analogies, and other appropriate speakers' techniques to keep the audience listening.
>
> ➢ Deliver lessons at a pace which learners could easily keep up with. In radio, messages are delivered in a quick and transient manner, hence, there is no way for the learners to ask immediate questions. Repetition of main ideas must therefore be employed.

c) ***Sample SOA program sequence:***

> ➢ Review of previous lesson

- ➢ Answer/s to quizzes/feedback after each lesson
- ➢ Lesson of the day (duration — 15 minutes)
  - Experts' discussions
  - Interviews
  - Announcements
  - Quiz
  - Summary
  - Teaser for next lesson

c) ***Language/dialect*** . The language used should be the one being spoken in the area where the SOA is aired. Broadcast materials that have been centrally produced in English or Tagalog should be translated into the local dialect.

d) ***Taping the SOA program.*** Interviews, testimonials, plugs, and other program elements should be produced with the best technical quality and not too strenuous for learners. Where it is possible, the taped lessons should be pretested with learners before these are mass-produced. Pretesting ensures that learners are able to understand and appreciate the lessons.

e) ***Live show***. SOA programs should be done live for dynamism. Taped programs, however, ensure quality and minimum of blunders. Where a telephone line is available, guests who cannot make it to the live program can be interviewed via the telephone patch.

5. Enrollment

In order to maximize the reach of the SOA, there should be a massive campaign for enrollment. There are various ways to achieve the most number of enrollees.

a) Work with existing organizations that can motivate their members to register.

b) Prepare promotional radio plugs and announcements for regular and frequent airing.

c) Produce enrollment forms for distribution to prospective enrollees.

d) Get the partner agencies to help in the campaign. Make the enrollment process a big event, and campaign vigorously towards it.

e) Arrange with field workers to campaign in the communities.

f) Prepare and distribute flyers, posters, handouts.

g) Talk in meetings about the SOA.

h) Tap the services of schools, students, and teachers for enrollment campaign.

i) Discuss about the SOA and the other programs of the carrier radio stations.

To facilitate the enrollment process, the forms must be easy to fill up. Among the items that must be asked are the following: name, address, age, occupation, crops, formal educational attainment, family members, etc. Each enrollee must sign the form.

The deadline for the submission of the forms to the carrier stations should be fixed. Normally, the ultimate deadline is just a few days before the start of the SOA.

If it is possible, a formal acceptance of enrollment should be sent to the enrollees. Their names must be announced to inform them that their forms have been received by the SOA organizer. A master list should be posted at the barangay or town halls or at various conspicuous places.

6. Pretest

In all training activities, the conduct of the pretest is important in order to determine the level of knowledge of the enrollees.

B. Conducting the SOA

1. **Airing of lessons.** In delivering the lessons, the basic techniques of radio broadcasting should be followed like using simple words and conversational language, clear delivery, uncomplicated ideas, etc. Do not use straight talk or the lecture type most of the time. Innovative broadcast formats should be employed to give the program variety, appeal, and entertainment value. For instance, use folk media, (e.g., *Balagtasan),* short dramatization, music, interviews, and panel discussions involving farmers. Likewise, attractive sound effects should also be used from time to time. Encourage learners to send in feedback regularly through letters, personal visits to the station and telephone calls. Avoid gimmicks that will make the program sound cheap or flimsy, like using corny and green jokes.

   In the SOA–CSA, a different module is aired each week with one lesson discussed per schedule day. Before the actual SOA program, a five–minute preparation and warm–up session is done by the hosts. During the warm up session, learners are invited to tune in to the program and call on others to join. Feedback from participants are then aired, which may include birthday greetings or information on specific CSA issues faced by learners.

   The program proper starts with an input on the lesson for the day. A discussion about the input follows. Whenever possible, resource persons are invited to the radio station to contribute their knowledge and experience to the lesson being delivered. Following the discussion, the co-facilitators elicit and process questions to be answered by the resource persons. The questions are relevant to the lesson being discussed. A quiz is administered towards the end of the program with a summary of lessons learned before the closing.

2. **Giving quizzes and exams.** Quizzes on the lesson for the day are usually given to assess the knowledge gained by learners. It also aims to ensure a high rate of listenership among those who are enrolled. In some SOA, the performance in quizzes is a basis for the selection of outstanding graduates.

On-the-air quizzes are done either daily or every other day.. Some SOAs give examination only after every two weeks or every month. With a six-month-long SOA, only four exams are given. Fifteen days are allowed for the mailing time of the answer sheets. Some require enrollees to actually take the examination in a designated center.

For frequent quizzes that are given after every lesson or set of lessons, some broadcasters prefer to give the question at the beginning as a teaser. It can be repeated at the end of the lesson of the day.

In formulating quizzes, it is important to give easy, simple questions, like those answerable with yes or no, essay, matching type, true or false, enumeration, and multiple choice. The main purpose of the quiz is to motivate learners to listen intently. It will also be a means to gauge their comprehension and knowledge increase. Some stations limit their quizzes once a month or three times during the whole course.

What the daily SOA quiz may not ascertain is whether the persons answering the questions are the learners themselves. Nevertheless, if this happens, at least somebody in the family or community has gained valuable information.

The answer sheets also serve as a venue for getting feedback from learners . Clear and repeated instructions on how to get the answer sheets to the radio station should be broadcast frequently. Answer sheets may be sent to the station in any of the following manner:

a) Mailing them to the carrier station or the sponsoring agency every week or every month.

b) Submitting them to the DA-RFO staff or field worker.

c) Designating drop boxes where the enrollees could bring the answer sheets.

When personnel and logistical resources permit, oral examinations and visits to learners are done to check on their performance. These may be done where there are not too many learners and for localized situations.

3. **Conduct of reinforcement activities.** Ocular evaluation are done to assess whether learners apply or adopt the technologies covered in the SOA. Visits of experts and SOA organizers may be part of the graduation requirements They may also be part of the follow-up activities after the SOA

Ocular visits are necessary if the SOA objective for the learners is to apply the learned skills and technology.

It is best to provide relevant reading materials to supplement the lectures Literature, leaflets, books, flyers or the whole SOA syllabus may be distributed for free, at a discounted price, or at cost.

Field workers may also be encouraged to organize community meetings among learners at designated locations. This will provide learners the opportunity to raise

questions, discuss their particular situation and share ideas and practices. This event could also be used for actual demonstrations of technologies or skills that are difficult to discuss on radio.

The following are the other activities that will spice up the SOA program:

a) Acknowledgment of participants greetings during birthdays and other important occasions.

b) Contests and awards (e.g., SOA Golden Listener of the Year, SOA *Dangal* Award).

c) Field visits and ocular evaluation.

d) Involvement of farmers/local talents during the broadcast phase.

4. **Post-test.** Like pretest, post-test conducted after the SOA course helps determine the extent of the knowledge gained by learners.

C. SOA graduation activities

A standard set of criteria for determining which of the learners will graduate is usually set for each SOA. It is normally based on the percentage of correct answers to the given questions. A standard is kept at a certain level that should not discourage enrollment in future SOAs or for the learners to take for granted their responsibility in acquiring substantial knowledge. It is best to consult technical people for details on what could be the reasonable passing mark or what other performance standards that should be required for graduation and for the selection of outstanding graduates.

Graduation gives importance to the achievement of the learners. It is a means of conferring unschooled listeners an academic and social status. Hence, graduation is the culmination of the SOA, something all learners look forward to. Hence, it is generally regarded as a grand affair.

In a more massive SOA enrollment or where logistical considerations would not allow it, a formal graduation is foregone since the activity will be too complicated and expensive to organize. An equivalent closing ceremony and conferment of graduates could instead be done on the air. This decision, however, should first be cleared with the graduates. If the learners have the interest and resources to hold a graduation ceremony, then this should be pursued at all costs.

1. Preparation for the graduation

a) Invite guests/resource speakers.
b) Announce the graduation activities.
c) Prepare souvenir items certificates tokens, etc, for sponsors, beneficiaries, and partner agencies.
d) Identify and arrange the venue.
e) Prepare the program, food and awards.
f) Prepare SOA Agri-Fair Exhibits, where applicable.

2. The graduation program

  a) For SOAs with massive enrollment, the graduation should be held locally.

  b) The graduation event may be integrated with other related activities (e.g., town fiesta agri-fair, etc.).

  c) Recognize sponsors, benefactors, cooperating agencies.

3. Certificates

  a) Certificates of graduation (diploma) are usually artistically printed on high-quality paper and signed by the heads of lead agencies. The certificate is likely to find itself framed and hung prominently in the living rooms of learners.

  b) The certificates are normally given to those who satisfy a certain standard of performance with respect to:

   ➢ Attendance
   ➢ Performance in examinations and quizzes
   ➢ Farm demonstration
   ➢ Other requirements

D. Follow-up activities

After the SOA, there is a need to conduct follow-up activities for the farmer – graduates and community in order to maintain the momentum of the program. The development agency should be able to determine how much the information has been used, enhanced, shared or stored among learners.

  1. **Course evaluation and impact assessment** – the SOA must be evaluated in terms of the attainment of course objectives.

  2. **Alumni organization and homecoming** – Organize the graduates into alumni associations, cooperatives, etc., that can venture into income-generating activities, such as mushroom production, coop bank, etc., where they can apply lessons learned from the SOA.

  3. **Field visits** — Visit farmer – graduates, especially the outstanding ones, to check if climate smart rice the technologies shared by the SOA—CSA are being applied. Field activities as well as coordination with the carrier radio station must continue even after the completion of the SOA.

CHAPTER 4
Logistical Requirements

A. Premises

1. If there are adequate resources, then more materials should be produced to support SOA graduates.

2. Procurement of the needs and necessities for the SOA should be prioritized.

    a) For SOA learners who do not own radio sets, lessons can be taped and replayed to them in a group-listening situation. Those who can tape lessons have the advantage over those who cannot, especially so if there are contests for honors among learners. In this case, group listening is recommended.

    b) Taped lessons, manuals, and handouts should be given after the SOA. Handouts may be paid for by the enrollees themselves (for a minimal amount only).

    c) Barangay amplifier may be used for more listeners.

    d) Existing community audio towers (CATs) may also be tapped.

    e) Conduct exchange visits among farmer – graduates as part of follow-up activities.

B. Necessities

1. Materials for the promotion, production, handouts (supplementary reading materials) and documentation activities:

    a) Papers for certificates, notebooks for learners, bond paper for enrollment forms, cartolina for posters, etc.
    b) Ballpens
    d) Batteries

2. Materials for the graduation ceremonies:

    a) Prizes for outstanding graduates and other awards (planting materials, farm animals, organic fertilizer, radio sets, farm implements, etc.)

    b) Corsage, leis, ribbon for graduates

    c) Streamers

    d) Certificates of appreciation for those who participated in the SOA, other than the enrollees, e.g., resource persons, benefactors, sponsors, etc.

    e) Food for the graduates, SOA partner agencies and guests.

C. Equipment

1. Smart phone
2. Digital video/still camera
3. Laptop/desktop computers
4. Audio production equipment
5. Public address system

D. Human resources

1. Project coordinator
2. Field coordinator
3. Farmcaster/development broadcaster
4. Scriptwriters
5. Subject matter specialist/lecturer
6. Translators
7. Agricultural technicians
8. Program production staff

E. Funding requirement

1. Honoraria of lecturers and broadcasters
2. Per diem of field coordinators
3. Transportation, food and accommodation
4. Printing of handouts, certificates and other materials
5. Production supplies and materials
6. Graduation activities

F. Resource generation

Resource generation should be conducted per area to augment operational funds for the SOA. The following are potential sources of funds:

1. DA Central and Regional Field Offices
2. Government agencies (e.g., DAR, DOST, DENR)
3. Provincial LGUs
4. Foreign donors
5. Foundations
6. Agricultural input enterprises
7. Fund-raising activities (e.g., SOA raffles)

CHAPTER 5
Reporting Procedures

Purpose of reporting

Report writing is a very important requisite of the SOA for several reasons:

1. Inform management and partners what is being done in the project.

2. Communicate to donors on the accomplishments of the project.

3. Appraise community members and stakeholders about the developments of the project.

4. Help researchers extract knowledge from the project.

5. Evaluate and determine opportunities further action.

6. Share insights on the project's successes and challenges.

Content of report

The SOA report should include the following (include pictures):

1. Enrollees/number of graduates

2. Major accomplishments and progress of the project

3. Challenges (e.g., dropouts, logistics, etc.)

4. Initial outcomes

5. Insights and recommendations

Frequency of reporting

Reports will be done quarterly from the start of the project.

Reporting centers

The DA-RFO 2 will write quarterly reports while CCAFS SEA will write the terminal report to be sent to all partners.

ooo

SUMMARY OF SOA TOPICS & BROADCAST DATES

Preliminary 5 episodes, Module 1- 8 episodes, Module 2- 23 episodes, Module 3- 32 episodes = Total = 68 episodes (5 months and 2 weeks)

PRELIMINARY TOPIC

I. Overall objectives:

After listening to the lessons the listeners will be able to:

- Discuss the rationale, objectives and methodologies of the Rice Model Cluster program implemented by the Department of Agriculture – Regional Field Office 02 (DA-RFO2);

- Cite the rationale behind the implementation of the School-On-the-Air (SOA) Climate Smart Agriculture in Cagayan Valley and how will it complement the Rice Model Cluster program of DA-RFO2;

- Explain the operational scheme of the SOA-CSA and how different agencies work together to realize its goals

II. Content Summary: Preliminary 5 episodes

PRELIMINARY TOPIC – Episodes

Episode No.	Topic	Topic Content	Resource Person/ Agency	Broadcast Date (2018)
1	Rice Industry Situation in Region 02	Discuss the Rice Industry Roadmap for Development 2017-2022 and brief overview of the SOA on Climate Smart Agriculture cum Rice Production dubbed as *"Kaalamang Pagsasaka sa Himpapawid"*.	DA RFO2 Regional Executive Director (RED) Lorenzo M. Caranguian 2 episodes	March 5 & 7 (Mon & Wed)
2.	Getting to know the Rice Model Cluster (Part I): Rationale and objectives	Discuss the program, its objectives and overview of the methods to be used in the implementation of the program. This also include discussion of regional concerns and challenges on rice production	Dr. Ernesto D. Guzman, Ph.D./LI.B. 1 episode	March 9 (Friday)
3.	Getting to know the Rice Model Cluster (Part II): Methodologies	Discuss in detail the interventions from the DA-RFO II and other agencies. Discuss the program methodologies such as selection of program site, farmer cooperators, briefings, and trainings.	Dr. Ernesto D. Guzman, Ph.D./LI.B. DA RFO2 1 episode	March 12 (Mon)
4.	School-On-the-Air (SOA) Climate Smart Agriculture in Cagayan Valley: Rationale	Discuss the rationale of the program and how it will complement the Model Rice Cluster program of the DA-RFO II.	Dr. Rex L. Navarro, Consultant, CCAFS-SEA 1 episode	March 14 (Wed)
5	School-On-the-Air (SOA) Climate Smart Agriculture in Cagayan Valley: Introduction of the project implementers	Discuss the operational scheme of the project and how different agencies work together to realize the goals of the project.	Dr. Rex L. Navarro 1 episode	March 16 (Friday)

01 MODULE CLIMATE-SMART AGRICULTURE

I. Overall objectives:

After listening to the lessons the listeners will be able to:

- Discuss the concept of climate change – how and why it happens.
- Explain the impact of climate change on agriculture and food security.
- Enumerate the three pillars of Climate-Smart Agriculture: Productivity, Adaptation and Mitigation

II. Content Summary: 8 episodes

Episode No.	Topic	Topic Content	Resource Person/ Agency	Broadcast Date (2018)
1	Climate Change 101	Define concepts such as Climate Change, El Nino, La Nina, Global warming, greenhouse effect, among others. Provide overview of the impact of climate change to agriculture and food security Climate variability in Region 2.	DOST-PAGASA/ IRRI-CCAFS SEA 2 episodes Mr. Romeo B. Ganal Weather Specialist I	March 19 & 21 (Monday & Wed)
2	Impact of climate change on rice production	Discuss the effect of sea-level rise, flooding and salinity to rice production Discuss the effect of increased carbon dioxide levels and higher temperatures, water scarcity and pests, diseases and weeds	Dr. Ernesto D. Guzman, Ll.B./Ph.D. 1 episode	
3	Mainstreaming the effects of Climate Change in Rice Production	Relationship of climate change to farmer's productivity as per study result	Dr. Felino P. Lansigan, Dean of College of Arts and Sciences, UPLB 1 episode	July 30 (Mon)
4	Climate-Smart Agriculture: Adaptation	Present the importance of crop insurance in case of calamities (drought or flood)	PCIC 2 episodes	April 25 & 27 – Wed & Fri)
5	Financing	Discuss production loans	ACPC 2 episodes	July 25 & 27

02 MODULE CLIMATE-SMART RICE PRODUCTION TECHNOLOGIES

I. Overall objectives:

After listening to the lessons the listeners will be able to apply climate-smart technologies from variety selection, land preparation, crop establishment, integrated nutrient management, water management, and integrated pests and diseases management.

II. Content Summary: 23 episodes

Episode No.	Topic	Topic Content	Resource Person/Agency	Broadcast Date (2018)
1	Use of high quality seed of preferred varieties	Impact advantages of high quality, certified, registered & foundation Specific variety for region 2- (5 varieties national level & 3 regional level	PhilRice Isabela	May 7 (Wed)

2	Varieties for adverse ecosystem (upland, drought, saline, submergence, cool elevated, include sample varieties & sources)	Discuss and introduce rice varieties with some resistance to climate-related stresses (drought-tolerant)	PhilRice Isabela	May 9 (Wed)
3	Land Preparation	Introduce the Reduced Tillage Technologies (RTT) as cost-efficient land preparation option (decomposition, soil tilth, dryland preparation)	PhilRice Isabela	May 11 (Fri)
4	Seedling management	Discuss seed soaking, incubation, seedbed preparation and sowing	Dr. Ernesto Guzman 1 episode	May 14 (Mon)
5	Crop Establishment	Discuss cost-efficient crop establishment strategies and research results (Mechanical direct seeded rice (DSR) technology, transplanter & seeder, etc.)	Engr. Generoso Oli 2 episodes	May 16 & 18 (Wed & Fri)
6	Aerobic Rice Technology (ART)	Discuss the use of Aerobic Rice Technology (ART) not only for rainfed areas but also for tail-end irrigated areas	Dr. Junel Soriano, ISU Echague (2 episodes)	May 21 & 23 (Mon & Wed)
7	Integrated Nutrient Management (INM) (Part I)	Define Integrated Nutrient Management (INM), its importance and essential elements of rice and application technique.	PhilRice Isabela 2 episodes	May 25 & 28 (Fri & Mon)
8	Integrated Nutrient Management (INM) (Part II)	Discuss the concept of Minus-One Element Technique (MOET) to aid farmers in nutrient management & LCC	PhilRice Isabela	May 30 (Wed)
9	Integrated Nutrient Management (INM) (Part III)	Provide information on Laboratory Soil Analysis, Proper Collection of Samples and other Plant Nutrition concern	DA-RFO II (Ms. Margaret Aguinaldo) 2 - episodes	June 1 & 4 (Fri & Mon)
	RCM	Overview of the RCM	DA-RFO II Ms. Jovy Chua 1 episode	August 6 (Mon)
10	Water Management	Discuss the basic water management concepts, principles, and irrigation water-saving tips & water releases	NIA – 1000/ha 2 episodes NIA-MARIIS 1 episode	June 6, 8, 11 (Wed, Fri, Mon)
11	Alternate Wetting and Drying (AWD)	Discuss the concept of Alternate Wetting and Drying (AWD) as a climate-friendly water-saving technology that farmers can adopt	PhilRice Isabela 1 episode	June 13 (Wed)
12	Integrated Pest Management (IPM)	Define Integrated Pest Management (IPM) and differentiate organisms found in rice plant	PhilRice Isabela 3 episodes	June 15, 18, 20 (Fri, Mon, Wed)
13	Integrated Pest Management (IPM) Part II	Discuss management options for common pests and diseases and pest surveilance	RCPC – Ms. Mindaflor Aquino1 episode	June 22 (Fri)

03 MODULE POST-PRODUCTION TECHNOLOGIES

I. Overall objectives:

After listening to the lessons the listeners will be able to:

- Explain the importance of timely harvesting and the use of mechanical harvesting for efficiency and cost reduction.
- Perform post-harvest operations and operate appropriate machines to be used in each operation.
- Discuss different marketing strategies that farmers can adopt to increase their income.

(Testimonies from farmers are needed in this lesson).

II. Content Summary: 32 episodes

Episode No.	Topic	Topic Content	Resource Person/ Agency	Broadcast Date 2018
1	Harvest Management	Harvesting tips suited for different ecosystem/environment Mechanization (use of combine harvester, stripper, walk behind, riding type, etc.)	Philmech 2 episodes	March 23 & 26 (Friday & Mon)
2	Harvesting	Conventional vs. mechanical as per research result, Proper handling operation and maintenance of combine harvester	Engr. Eva Eslava DA RFO 2 2 episodes	April 2 &4 (Mon & Wed)
3	Post-harvest Operations	Discuss techniques on threshing, drying, piling, cleaning, milling, storage	Philmech 6 episodes	(April 6, 9, 11, 13, 16 & 18) – Friday, Mon, Wed, Fri, Mon, Wed)
4	Marketing and trading	Discuss marketing/trading strategies, grain quality standard, tips on good warehousing practices, buffer stocking and business opportunities for rice	NFA Region 2 2 Episodes	April 20 & 23 (Friday & Mon)
	Marketing	Marketing Strategies (AMAD)	AMAD 1 episode	August 9 (Mon)
5	Rice-based technologies	Discuss Palayamanan System	PhilRice 2 episodes	June 25 & 27 (Mon & Wed)
7		Mushroom production	Cherrybel Cubero DA SCRC 2 episodes	June 29 & July 2 (Fri & Mon)
8		Rice-mungbean cropping	Vanessa Fortin Calderon DA CVRC 1 episodes	July 4 (Wed)
9	Seed quality	Importance of seed certification	Dr. Henry Carpiso BPI-SNQCS 2 episodes	April 30- May 2 (Mon & Wed)

10	Seed system	DA RFO 02 seed production and distribution	Corazon Cardenas DA RFO 02 1 episode	May 4 (Fri)
	Principles of Cooperatives	Discuss the role of cooperatives in mainstreaming agriculture CDA (testimonies of successful …)	CDA 2 episodes	July 6 & 9 (Fri & Mon)
11	Institutional Development and knowledge management	Discuss the importance of organizational development and values formation	ATI RTC 02 1 episode	July 11 & 13 (Wed & Fri)
		Discuss knowledge management processes	1 episode	
12	Record keeping	Discus the importance of proper recording	Dr. Ernesto Guzman 1 episode	July 16 & 18 ((Mon & Wed)
		Record keeping (farmer's sharing)	Dr. Rex Navarro 1 episode	
13	Value adding	Discuss processing techniques for rice-based products	DOST/CSU 1 episode	July 20 (Fri)
14	Rice wastage advocacy	Discuss the Be Riceponsible Campaign	PhilRice 1 episode	July 23 (Mon)
15	Rice Achievers Testimonies	Relate success stories	DA RFO 02 2 episodes	August 6& 8 (Mon & Wed)
16	Wrap - up			August 10 (Fri)
17	Graduation			September 2018

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This **MEMORANDUM OF AGREEMENT (MOA)** is entered into by and between:

The **DEPARTMENT OF AGRICULTURE – REGIONAL FIELD OFFICE NO. 02 (DA-RFO 02)**, a government office created under the laws of the Republic of the Philippines, with office address at San Gabriel, Tuguegarao City, Cagayan, represented herein by **Regional Executive Director LORENZO M. CARANGUIAN** and referred to as the "**DA-RFO 02**";

- and -

The **PHILIPPINE RICE RESEARCH INSTITUTE (PHILRICE)**, a government corporation attached to the Department of Agriculture, the lead agency in the country's rice research and development with branch office at Malasin, San Mateo, Isabela represented herein by its Acting Branch Director, ENGR. **LEO C. JAVIER** herein referred to as "**PHILRICE**";

The **PHILIPPINE FEDERATION OF RURAL BROADCASTERS (PFRB),** a non-government organization made up of a network of rural broadcasters nationwide, with office address at Quezon City, represented herein by its National President, **DR. ROGELIO P. MATALANG,** herein referred to as "**PFRB**";

The **PHILLIPPINE AGRICULTURAL JOURNALISTS, INC. (PAJ)**, Cagayan Valley Chapter, a non-government organization made up of development-oriented journalists with office address at Tuguegarao City, Cagayan represented herein by its Regional President, **MR. DOMINGO T. FUGABAN** herein referred to as "**PAJ**";

The **GUNGLO DAGITI MANNURAT NGA ILOCANO (GUMIL)**, an organization of Ilocano writers with office address at Tuguegarao City, Cagayan represented herein by its **President, VILMER V. VILORIA** herein referred to as "**GUMIL**";

The **PHILIPPINE BROADCASTING SERVICE (PBS) RADYO PILIPINAS**, a government radio station with office address at Tuguegarao City, Cagayan represented herein by its Manager, **SANY M. LOPEZ** herein referred to as "**PBS-RADYO PILIPINAS**";

The **AGRICULTURAL TRAINING INSTITUTE (ATI),** the government's apex agency in agricultural and fisheries extension services with regional office address at San Mateo, Isabela represented herein by its Center Superintendent, **RENATO M. MAGUIGAD** herein referred to as "**ATI**";

The **DEPARTMENT OF SCIENCE AND TECHNOLOGY - PHILIPPINE ATMOSPHERIC GEOPHYSICAL AND ASTRONOMICAL SERVICES ADMINISTRATION (DOST-PAGASA),** a government office responsible in providing weather related information with regional office address at Tuguegarao City, Cagayan represented herein by its Regional Officer, **ENGR. FREDOLINA B. BALDONADO** herein referred to as "**DOST-PAGASA**";

The **CAGAYAN STATE UNIVERSITY (CSU)**, a public higher education institution committed to transform the lives of people through high quality instruction and innovative research, development and extension with office address at Tuguegarao City, Cagayan represented herein by its President, **DR. URDUJAH A. TEJADA** herein referred to as "**CSU**";

The **ISABELA STATE UNIVERSITY (ISU)**, a state academic institution supportive to the region's agricultural research, development and extension with office address at San Fabian, Echague, Isabela represented herein by its President, **DR. RICMAR P. AQUINO** herein referred to as "**ISU**";

The **NUEVA VIZCAYA STATE UNIVERSITY (NVSU)**, a state academic institution mandated to provide advanced instruction and professional training in agriculture, arts, sciences, technology, education and other related fields with office address at Bayombong, Nueva Vizcaya represented herein by its President, **DR. ANDRES Z. TAGUIAM** herein referred to as "**NVSU"**; and

The **QUIRINO STATE UNIVERSITY (QSU)**, a state academic institution mandated to provide higher education and training in the arts and sciences, education, agriculture, industrial technologies and other related fields with office address at Diffun, Quirino represented herein by its President, **DR. SAMUEL O. BENIGNO** herein referred to as "**QSU"**;

The **CAGAYAN VALLEY AGRICULTURAL AND AQUATIC RESOURCES RESEARCH AND DEVELOPMENT (CVAARRD)**, a consortium of academic, research and development agencies providing research, development and management undertakings in agriculture, aquatics and natural resources in the region with office address at ISU, San Fabian, Echague, Isabela represented herein by its Executive Director, **DR. WILLIAM C. MEDRANO** herein referred to as "**CVAARRD"**; and

WITNESSETH:

WHEREAS, the Department of Agriculture-Regional Field Office No. 02 (DA-RFO 02) is the principal agency responsible for the promotion of agricultural and fisheries development in Cagayan Valley;

WHEREAS, the DA-RFO 02 envisions a modernized and inclusive agricultural and fisheries sector; a diversified rural economy that is dynamic, technologically advanced and internationally competitive;

WHEREAS, the DA-RFO 02 aims to empower the farming and fishing communities and the private sector to produce sufficient, safe, accessible and affordable food for every Filipino and a decent income for all;

WHEREAS, the DA-RFO 02 has been promoting high yielding and climate resilient varieties in the past years;

WHEREAS, the DA-RFO 02 considers radio-based distance learning through Schools-On-the-Air (SOA) as an effective medium in technology sharing particularly in the rural areas;

WHEREAS, the DA-RFO 02 and partners agreed that to conduct a SOA on Climate Smart Agriculture in Cagayan Valley featuring the utilization of hybrid rice;

WHEREAS, the DA-RFO 02 is implementing the Rice Model Farm Program which aimed to maximize the use of hybrid rice in Region 02;

WHEREAS, the Rice Model Farm Program had a target of 10,000 farmer-cooperators for the dry season;

WHEREAS, the DA-RFO 02 and partners identified the cooperators in the Rice Model Farm Program as mandatory enrollees in the SOA;

NOW THEREFORE, for and in consideration of the foregoing premises, the parties hereby agree as follows:

The "**DA-RFO 02"** shall:

1. Allocate funds for the conduct of the SOA on Climate Smart Agriculture (SOA-CSA);

2. Organize, promote and implement the project with partners;
3. Conduct need analysis in tandem with LGUs;
4. Provide Subject Matter Specialists (SMS) and lead, in tandem with PhilRice in content development;
5. Collate, process and respond to feedback and queries from participants;
6. Produce and provide complementary multi-media knowledge products for participants;
7. Provide airtime slots and program anchors through DWDA 105.3 FM Radyo Pankaunlaran; and
8. Organize mass graduation in tandem with partners.

The "**ATI"** shall:
1. Provide Subject Matter Specialists (SMS) and develop module content;
2. Provide multimedia knowledge products to participants;
3. Share pilot radio campaign materials; and
4. Participate in project development and management through the TWG.

The "**CSU"**, "**ISU"**, "**NVSU"** and "**QSU"** shall:

1. Provide Subject Matter Specialists (SMS) and anchors;
2. Provide free time slots;
3. Assist in the production of broadcast and print materials;
4. Participate in the technical working group; and
5. Help promote the project.

The "**CVARRD"** shall:

1. Provide Subject Matter Specialists (SMS) and develop module content;
2. Provide multimedia knowledge products to participants; and
3. Participate in project development and management through the TWG.

The "**DOST-PAGASA"** shall:

1. Provide Subject Matter Specialists (SMS) and develop module content;
2. Provide multimedia knowledge products to participants;
3. Share pilot radio campaign materials; and
4. Participate in project development and management through the TWG.

The "**GUMIL"** shall:

1. Lead in the localization and adaptation of broadcast materials;
2. Co-facilitate the project with DA-RFO 02 and partners;
3. Participate in the technical working group; and
4. Help promote the project.

The "**LGUs"** shall:

2. Mobilize farmers to enroll and promote the SOA-CSA in their respective areas;
3. Provide climate-smart rice extension services in participating communities;
4. Regularly monitor participation of enrollees;
5. Conduct needs assessment with DA-RFO 02;
6. Conduct pre-test and post-test for enrollees;
7. Solicit feedback and comments from enrollees; and
8. Organize mass graduation with DA-RFO 02 and partners.

The "**PAJ",** and "**PFRB"** shall:

1. Provide program anchors;
2. Co-facilitate the project with DA-RFO 02 and partners;
3. Assist in the production of broadcast materials;
4. Participate in the technical working group; and
5. Help promote the project.

The "**PBS RADYO FILIPINAS"** shall

1. Provide program anchors;
2. Co-facilitate the project with DA-RFO 02 and partners;
3. Assist in the production of broadcast materials;
4. Participate in the technical working group;
5. Provide free airtime; and
6. Help promote the project.

"**PHILRICE"** shall:

7. Generate location-specific, climate-smart rice technologies
8. Provide Subject Matter Specialists (SMS) and, together with DA-RFO02, lead in module content development;
9. Provide multimedia knowledge products to participants;
10. Share pilot radio campaign materials; and
11. Participate in project development and management through the Technical Working Group (TWG).

The "**IRRI-CCAFS"** shall:

1. Generate and share cutting-edge climate-smart rice technologies
2. Help develop module content;
3. Provide multimedia knowledge products to participants;
4. Share pilot radio campaign materials;
5. Participate in project development and management through the TWG; and
6. Link the project with international partners.

   IN WITNESS WHEREOF, the parties have hereunto affixed their signatures on this _____
day of _____ at _____.

ABOUT THE SPONSORS

Department of Agriculture Regional Field Office 02

http://rfo02.da.gov.ph/

The Department of Agriculture is a government agency responsible for the promotion of agricultural development by providing framework, public investments, and support services needed for domestic and export-oriented business enterprises.

In the fulfillment of this mandate, it shall be the primary concern of the Department to improve farm income and generate work opportunities for farmers, fishermen and other rural workers. It shall encourage people's participation in agricultural development through sectoral representation in agricultural policy-making bodies so that the policies, plans and programs of the Department are formulated and executed to satisfy their needs.

It shall also use a bottom-up self-reliant farm system approach that will emphasize social justice, equity, productivity and sustainability in the use of agricultural resources.

The DA envisions a modernized smallholder agriculture and fisheries for the countgry; a diversified rural economy that is dynamic, technologically advanced and internationally competitive. Its transformation is guided by the sound practices of resource sustainability, the principles of social justice, and a strong private sector participation.

Philippine Federation of Rural Broadcasters (PFRB)

https://www.facebook.com/PFRuralBroadcasters/

The PFRB is a private, non-stock, and non-profit foundation established in 1981. It uses the broadcast media as the primary vehicle for development, information, education, and linkage between the government and the people in the countryside.

PFRB uses the broadcast media principally as pipeline for development, information and education, as well as link between the government and the countryside people. PFRB's primary role is to use broadcasting (1) to stimulate people to be agents of their own development, (2) to increase people's awareness of the technical and financial assistance provided by various institutions, (3) to elicit involvement and participation of people in carrying out countryside projects that are meaningful to themselves and their families, and generally, (4) to help people gain access to relevant information as well as the means of communication. The organization also takes a stand on salient issues as well as carries its crusades on matters that are decidedly for the good or protection of the rural people.

The foundation has over 200 members nationwide, whose program thrusts revolve around rural development and people empowerment. It also helps both government and nongovernment organizations in bringing relevant information to the rural masses.

The PFRB has received numerous citations and honors from prestigious organizations. Among these are the Global 500 Laureate Award of the United Nations Environment Program, the HAMIS Silver Award by the Department of Health, and the Likes Yaman Award of the Department of Environment and Natural Resources.

CGIAR Research Program on Climate Change, Agriculture and Food Security in Southeast Asia (CGIAR CCAFS-SEA)

https://ccafs.cgiar.org/regions/southeast-asia

Led by the International Center for Tropical Agriculture (CIAT), CCAFS is a collaboration among all 15 CGIAR research centers and coordinates with the other CGIAR research programs. Centers have a stake in CCAFS, and numerous Centers have considerable climate change expertise and activities. In addition, there is an on-going commitment to a major international partner (Future Earth). CGIAR is a global research partnership for a food-secure future. Its science is carried out by 15 Research Centers in close collaboration with hundreds of partners across the globe.

CCAFS brings together some of the world's best researchers in agricultural science, climate science, environmental and social sciences to identify and address the most important interactions, synergies and trade-offs between climate change and agriculture. Learn more about our partners.

The program is carried out with funding support from governments and aid agencies, both through the CGIAR Fund and bilaterally.

CCAFS will define and implement a uniquely innovative and transformative research program that addresses agriculture in the context of climate variability, climate change and uncertainty about future climate conditions

A TRIBUTE TO KA LOUIE TABING:
THE DEAN OF FILIPINO RURAL BROADCASTERS

Born to a very poor farming family in Bgy. Santor, Tanauan, Batangas Ka Louie's struggle to success in his chosen endeavor is almost a fairy tale. Ka Louie literally labored his way to finish his BS in Agriculture major in agricultural communication at UPLB in 1970. He entered the University in 1960 but had to stop schooling due to financial challenges. For four years, he had to take odd jobs as water carrier, shoe shine boy and farm worker if only to survive and help his family.

When he returned to school in 1967, he worked as a Student Assistant and served as a janitor, clerk and errand boy for senior staff members. He diligently took every assignment including being an announcer in the campus radio station DZLB. With the station, Ka Louie learned the rudiments of broadcasting before he was harnessed in professional work at Radio Veritas where he quickly gained popularity in his agriculture program. More than his own discussion, he brought into the radio show the voices of the farmers and fisherfolk His program became the sounding board of rural people's grievances. He said, "*I learned a lot by listening to marginalized people --- poor people. In no time, I became part of their struggle.*"

Ka Louie's advocacy and defending the cause of small tenants were legendary. For years, he fought alongside the tenants of Jala-jala Rizal that they may rightfully regain their land. He espoused the cause of the fisherfolk of Laguna Lake who lost their fishing rights to big and powerful fishpen operators that encroached their traditional fishing grounds.

In 1982, he organized the Philippine Foundation (Federation) of Rural Broadcasters (PFRB), a professional association of over 150 radio announcers. With PFRB, Ka Louie inspired rural broadcasters to involve themselves and get dedicated in uplifting the plight of the poor. Under his tutelage, PFRB was awarded the prestigious Global 500 Laureate in 1999 by the United Nations Environment Program.

In 1991, Louie Tabing was appointed by UNESCO Paris to head the Tambuli Project, a Danida-UNESCO-Philippine government joint undertaking. The pioneering project sought to present an alternative communication model through people-operated community radio stations focused on development and empowerment.

In 1998 towards the end of Project Tambuli, Ka Louie was invited by DZMM to host the development program *Sa Kabukiran, a* top rated and multi-awarded program aired over DZMM every Saturday and Sunday 4-6 AM. His program was recipient of the 2009 and 2011 KBP Golden Dove Award as Best Program on Science and Technology as well as the 2008 Best Agricultural Program by the Philip Morris International Bright Leaf Award.

Before he passed away, Ka Louie helped organize *Kaalamang Pagsasaka sa Himpapawid.*

Ka Louie is the laureate of dozens of awards and citations. Yet, he said, "*The real reward of service is service itself. I am less motivated by formal awards but more by the feeling that I have become part of poor people's lives – their struggles and their achievements, their failures and their triumphs . I guess that is the real role that God expects from me.*"