SWMnet Training Report

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Scaling-Up and uptake Promotion of Soil and Water Management Research Outputs in East and Central Africa (SWMnet R8381)

Training of Trainers

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ICRISAT

SWMnet
Turning Knowledge into Action

ASARECA

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ABBREVIATIONS AND ACRONYMS

A-AARNET	ASARECA Animal Agriculture Research Network
AATF	African Agricultural Technology Foundation
AHI	African Highlands Initiative
AKST	Agricultural Knowledge Science and Technology
ASARECA	Association for strengthening Agricultural Research in Eastern and Central Africa
ASARECA-NRM	ASARECA's Natural Resource Management
CAADP	Comprehensive African Agricultural Development Program
CBOs	Community Based Organizations
CDE	Centre for Development and Environment
CGIAR	Consultative Group for international Agricultural Research
CGS	Competitive grants system
COMESA	Common Market for Eastern and Southern Africa
DFID	Department for International development
DLD	Department of Land Development
ECA	East and Central Africa
EAPGREN	East Africa Plant Genetic Resources Network
FAO	Food and Agriculture Organization
FARA	Forum for Agricultural
GEF	Global Environmental Facility
GIS	Geographic Information Systems
GPS	Global Positioning System
IAASTD	International Assessment of agricultural science and Technology for Development
IARCs	International Agricultural Research Centers
IAR4D	Integrated Agricultural Research for Development
ICT	Information and Communication Technology
ICT/ICM	Information and Agricultural technology/Information Communication Management
IPR	Intellectual Property Rights
INRM	Integrated Natural Research Management
IPG	International Public Good
ISRIC	International soil reference and information centre
KM	Knowledge management
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MTP	Medium Term Plan
NARES	National Agricultural Research and Extension system
NARI	National Agricultural Research Institute
NARO	National Agricultural Research Organization
NARS	National Agricultural Research Systems
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
NR	Natural resources
NRM	National resource management
NRM-NPs	National resource management networks and programs
NSRA	National Strategy for Revitalizing Agriculture
PDC	Professional Development Course
PDC-ToT	Professionals Development Course-Training of Trainers

PLSs	Pilot Learning Sites
PLTs	Pilot Learning Teams
PMA	Program for the Modernization of Agriculture
PRSPs	Poverty Reduction Strategic Papers
PVP	Plant Variety Protection
RAIN	Regional Agricultural Information Network
RELMA	Regional Land Management Unit
R&D	Research and Development
R4D	Research for Development
SOTER	Soil and terrain database
S&T	Science and Technology
SSA-CP	Sub-Saharan Africa Challenge Program
SWOT	Strengths, Weaknesses, Opportunities and Threats
SWMnet	Soil and Water
THP	Traditional Health Practitioners
TOFNET	Trees-on-Farm Network
TRIPS	Trade Related aspects of Intellectual Property
UN	United Nations
USAID	United States Aid for International Development
USAID-SAKSS Analysis	United States Aid for International Development-Strategic and Knowledge Support System
WCT	WIPO Copyright Treaty
WOCAT	World overview of conservation approaches and techniques
WPPT	WIPO performance and phonograms Treaty
WEHAB	Water, Energy, Health, Agriculture and Biodiversity
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

The purpose of the Professional Development Course and Training of Trainers (PDC/ToT) was to develop and institutionalize a culture of promoting uptake, scaling-up and effective use of results form soil and water management research in East and Central Africa. Specific aim of the course was to build the capacity for providing training and skills development in communication planning and up-take promotion among the SWMnet stakeholders in ECA. The training was designed to equip the participants with skills and confidence to:
? Respond to, while influencing existing policies in relation to knowledge management,
? Assess knowledge products chain and articulate the role of research systems,
? Develop KMS strategies for organizations, programmes and projects,
? Select and use of the most appropriate knowledge sharing means, and
? Develop and implement similar courses for others.

The Professional Development Course targeted scientists form institutions that are involved in research, capacity building and provision of data on S&WM in the countries that are members of ASARECA. It brought together 40 participants form over 10 countries in eastern, central and southern Africa (See Table 1). The counties represented were: Burundi, DR Congo, Ethiopia, Kenya, Lesotho, Malawi, Rwanda, Sudan, Tanzania, Uganda, The organizations represented included government institutions, national research institutions, universities, and non-governmental organizations.

The training covered many areas of knowledge management and scaling-up and was delivered in five modules:
? **Module I:** Policy and Institutional Arrangements for Knowledge Management.
Module 2: Different aspects of knowledge management and the science of scaling up
? **Module 3:** Knowledge management strategies for organizations and projects
? **Module 4:** Integrating best practices with best available tools for effective scaling-out
? **Module 5:** training others to champion knowledge management, sharing and scaling up.

The training was participatory emphasizing experiential, adult and participatory learning. Lectures were limited to two hours session for each module. Most of the time was therefore spent in group work sessions where the participants reflected on the information, relate the new information to real issues on the ground and draw their own conclusions. They then given identified different ways of doing things as a result of the information and knowledge they had acquired. Each group reported to seminars where participants freely shared their ideas and gave inputs to group reports. What was discussed in the seminars was included in the subsequent group discussions and therefore enriched the group outputs.

Through the end-of-course evaluation, the participants ranked the overall course and each of the modules at the level of very good and excellent. They made the following recommendations to themselves, their organizations and ASARECA:

i) Identify and critically analyse its strategic stakeholders in the region with respect to knowledge needs in aspects of:

> ✍ Productivity,
> ✍ Competitiveness, and
> ✍ Value addition.

ii) Develop its own strategy and its own guidelines for communication and knowledge management.
iii) Facilitate the compilation of an inventory of successful innovations in the region and identify those of regional relevance and ensure their scaling-up.
iv) Facilitate capacity building for its key stakeholders in communication and knowledge management so as to accelerate the pace of scaling-up.
v) Champion, facilitate and monitor the institutionalisation of knowledge management by the NARS that are its members.

The main conclusions are that:

1. Some policies support knowledge management and scaling up while others do not. Every institution needs to assess its policies, and address those that do not support knowledge management and scaling up.
2. Knowledge management and scaling-up of research in Soil and Water Management is vital if research findings are to benefit the end user.
3. A Communication and Knowledge Sharing (CKS) plan needs to be factored in every research project design, and in every institutional strategic plan.
4. Training in KM needs to be scaled out to researchers, extensions, universities and colleges, and awareness of its importance in the agricultural development scaled-up to policy makers.
5. ASARECA needs to look at the recommendations that the participants came up with to enhance its development of KM and also the development of KM in the entire ASARECA network.

1. INTRODUCTION

The SWMnet training reports are designed to capture the process and outputs of its training activities. This particular report is about the training of trainers organized in early July 2005. This training was part on the implementation of the SWMnet/ICRISAT project supported of DFID-NRSP, being implemented by a consortium of national agricultural research institutes (NARIs) of Ethiopia, Kenya, Tanzania and Sudan. One of the outputs of the project was to build capacity in the eastern and central Africa for providing training and skills development in communication planning and up-take promotion. The overall project was driven by the realization that given the long term it takes to obtain impact form NRM research and the small and limited capacity of NARS in Sub-Saharan Africa, results form every research effort must be utilized to the most optimum extent. SWMnet is already committed to this thrust through its mission which is stated as: *to assist stakeholders in the ECA sub-region to gain access and effectively utilize the best, locally and globally generated knowledge, information and technologies (K.I.T) on soil and water management, through effective networking and collaboration between national, regional and international organizations*. Therefore, purpose of the overall project was to ignite a process towards the institutionalization of a culture of promoting uptake, scaling-up and effective use of results form research on soil and water management in East and Central Africa.

The training was designed to respond to findings of the appraisal of barriers and constraints to uptake promotion and scaling-up of results form soil and water management in the region. One of these findings showed that the majority of researchers are not adequately trained for communication and uptake promotion. The survey results show that more than 50% of researchers claim to have not been trained in communication and uptake promotion, and consider this to be the main reason for the little communication and uptake promotion currently being implemented by researchers. This was confirmed by the findings that more often then not training programmes in universities and other agricultural colleges do not include communication and uptake promotion as part of training programmes for future researchers. The training course described in this report was therefore designed to deal with these shortcomings.

This report provides a detailed description of the design, content, implementation methodology and assessment of the course. It has five sections supported by four Annexes. In chapter 2 the report describes the methodology and the learning outcomes as identified by the participants are presented in chapter 3. In chapter four the evaluation made by participants is presented and discussed. Synthesis and conclusions on lessons are given in chapter 5. The slides used in course lectures are presented in full in Annex III while Annex IV contains the rich outputs form group work of the participants.

2. METHODOLOGY

2.1   Participant Analysis

2.1.1   Represented countries and organizations

The course brought together 40 participants form over 10 countries in eastern, central and southern Africa Table 1). The counties represented were: Burundi, DR Congo, Ethiopia, Kenya, Lesotho, Malawi, Rwanda, Sudan, Tanzania, Uganda, The organizations represented included government institutions, national research institutions, universities, and non-governmental organizations. One participant form Tanzania came form the media. There were two occasional participants; one included for the USAID regional office for east and southern Africa, and a consultant for ASARECA on the re-orientation of the technology transfer project.

Table 1: Distribution of participants across countries and organizations

Country	Government Departments	NARI	University/ Institutes	NGOs and projects	ASARECA and Media	Total
Burundi				1		1
DR Congo		1	1			2
Ethiopia		8		1		9
Kenya		4	1	1		5
Lesotho	1					1
Malawi				1		1
Rwanda			1			1
Sudan		4	3			7
Tanzania	1	2	4		1	8
Uganda		1		2	1	4
Totals	2	20	10	6	2	40

2.1.2   Gender, positions and qualifications of participants

Table 2 shows that the gender representation was not balance since there were only eight women, that is, 20 percent. The table also shows that more than 50% of the participants were senior staff form the represented organizations. Furthermore, thirteen participants were PhD holders while 21 had MSCc. degrees.

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Table 2: Gender and position of participants

	Participants positions in their organizations	Female	Male	Total
1	Research Planners and Managers	4	10	14
2	Senior Researchers and Trainers		3	3
3	Professors and Senior Lecturers	2	6	8
4	Researchers and trainers	1	10	11
5	Scaling-up/ promotion (information and communication)	1	2	3
6	Media		1	1
	Total	**8**	**32**	**40**

2.1.3 Participants' expectations

Participants came to the training with various expectations, and plans of what they intended to do in their organizations/institutions/projects after the training. These are summarized in Table 3.

Table 3: Summary of participants' expectations and post training plans

Expectations	Post training Plans
? Build networks with fellow participants ? Improve skills for knowledge management and scaling-up ? Increase ability to communicate with the various stakeholder linked to projects and institutions ? Increased ability to lobby and advocate for favorable polices at country and organizational levels ? Acquire skills to train others in knowledge management ? Acquire skills to prepare a knowledge management plan, and link it with the organization's/projects strategic plans	? Extend knowledge gained to the different stakeholders in my area of expertise ? Incorporate the ideas learnt into my future projects and programmes ? Be a Trainer of Trainers (ToT) in knowledge management and initiate trainings in knowledge management and scaling up of technologies ? Support fellow researchers change their minds and include knowledge management and scaling-up strategies in their research designs so as to enhance promotion/uptake of their research findings ? Review projects/institutions activities in the light of knowledge management ? Help my organization in developing a communication and a knowledge management strategy ? Lobby for policy changes at organizational level to incorporate knowledge management ? Allocate adequate resources to knowledge management

2.2   Course Content and Process

2.2.1   Purpose of the course

The PDC was the Output 3 of Project R8381: **"Institutionalized Scaling-up and Uptake Promotion of Outputs form Soil and Water Management Research in East and Central Africa Project".** It states: **Capacity for providing training and skills development in communication planning and up-take promotion, developed among SWMnet stakeholders in ECA.**

Therefore, the Goal of the PDC course was to build a culture of promoting uptake and scaling-up. Its purpose was to raise the capacity and to create a community of champions of knowledge management in the region. It was expected to equip participants with skills and confidence to:

? Respond to, while influencing existing policies in relation to knowledge management

? Assess knowledge products chain and articulate the role of research systems

? Develop KM&S strategies for organizations, programmes and projects

? Select and use of the most appropriate knowledge sharing means

? Develop and implement similar courses for others

The course took five days and was delivered in five modules. Following is the structure of each module.

2.2.2   Course structure and modules

The modules were designed to flow logically, and also give participants time to reflect and apply what they were learning. Each module presented the underlying principles, and then the practical aspects of the area it dealt on. Following are the module covered in the training.

? **Module I:** Policy and Institutional Arrangements for Knowledge Management.
? **Module 2:** Different aspects of knowledge management and the science of scaling up
? **Module 3:** Knowledge management strategies for organizations and projects
? **Module 4:** Integrating best practices with best available tools for effective scaling-out
? **Module 5:** training others to champion knowledge management, sharing and scaling up

MODULE I: Policy and Institutional Arrangements for Knowledge Management

The aim was to enable participants to critically analyze existing policies and institutional frameworks that determine effectiveness in the management and scaling-up of knowledge and technologies form research and development organizations dealing with soil and water management in eastern and central Africa. It is designed to enable the participants to become champions and advocates of change in policies and strategies in their organizations, and other higher policy making bodies.

This module is based on a number of factors:
? Many policies already exist and they are good descriptions of what needs to be done.

? There is a general failure to turn "good" intentions into tangible actions and results.

? There are endless reviews of policies while the situation on the ground, especially for the very poor, remains unchanged.

Hence, the module is designed to enable the participant to:

? Critically analyze existing policies and institutional frameworks,

? Become a champion and advocate of change in policies and strategies of governments and relevant organizations, and

? Have an appreciation of the existing policies, which could be put into use through robust strategies and programmes.

To achieve the above the module presents a recap of some current global polices and highlighted the increasing demand for impact form research. The presentation emphasized that the focus of these policies has shifted to scaling-up and promotion of what already exists, especially to deal with agriculture and rural stagnation in sub-Saharan Africa. The module also deals with issues of Intellectual Property Rights (IPR).

Polices at pan African and sub-regional levels are also presented and discussed in terms of that support or lack of support for management and scaling up of knowledge and technologies. Finally, the module addresses the utilization of international public good knowledge bases to support development in general and land and water management in particular.

MODULE II: Different Aspects of Knowledge Management and the Science of Scaling-up

Knowledge has become the major asset for development in the world today. Therefore, the ECA sub-region needs to manage the available knowledge and ensure its wider utilization to support a vibrant innovation system. This module is designed to increase the understanding of participants in aspects related to the science of sharing, scaling-up and general management of knowledge. Various terminologies found in the subject of knowledge management (KM) and in the science of scaling-up are defined and elaborated with examples, where applicable. Some of the concepts addressed by the module include the science of managing and scaling up knowledge, data and data usage, and information. It also addresses innovations, the knowledge cycle. The module deals at length with the whole concept of scaling-up and uptake promotion. It defines scaling-up and uptake promotion, and addresses the various types of the process. The factors that facilitate or limit scaling up are also addressed.

This module also gives the principles and approaches of a successful scaling up process and the role of NARS in scaling up. It concludes by addressing the institutional capacity and partnerships necessary for an effective KM cycle. After this module, the participants are expected to be able to make a clear account of the different stages in KM and define the common concepts in the science of scaling-up. They would also be in a position to provide policy recommendations for overcoming existing weaknesses and mitigating effects of threats in the scaling-up of research outputs in soil and water management.

MODULE III: Knowledge Management (KM) Strategies
This module aims to build the capacity of the participant to develop a strategy for managing, sharing and scaling-up knowledge at institutional or project level. Most of the agricultural research systems in ECA and indeed the whole of sub-Saharan Africa are not putting the knowledge they generate or access, into good uses for the benefit of their stakeholders or even themselves.

This module is designed to help participants to see knowledge as an asset that requires strategy as well as adequate investment of time and resources to manage. Participants are expected to develop a strategy to manage knowledge acquisition, packaging and sharing.

The module covers such areas as the institutionalization of the Knowledge Management, and gives the main components of knowledge management as vision, mission, products, and innovativeness.

Participants are then shown how to formulate a knowledge management strategy and also, how to build a knowledge management community. Participants are then given a guideline on how to develop a communication plan.

MODULE IV: Integrating Best Practices with Best Available Tools for Effective Scaling-up and Scaling-out

This module aims to strengthen the capacity of participants to select the most appropriate tools and activities that can effectively be used in developing and implementing a communication strategy. It also aims to provide participants with options by giving the various merits and limitation of the tools used in scaling-up and scaling-out.

The module differentiates tools form activities. It deals with tools as those equipment instruments or technology necessary to perform a specific activity. On the other hand, activities refer to functions or actions that are performed by an individual or a group of people to achieve certain objectives.

The module handles four main best practices that may be followed to facilitate decisions when selecting the appropriate communication tool or activity. These are: matching communication products with target stakeholders, ensuring availability of skilled manpower and adequate budget, planning and pre-testing and how to monitor and evaluate the effectiveness of a communication strategy and activities.

The module also deals with the various media for effective sharing of knowledge and experiences, and gives the advantages and disadvantages of each medium.

MODULE V: Training Others to Championing Knowledge Management, Sharing and Scaling-Up

This module is designed to help participants identify the characteristics and principles of adult learning and help them to apply them in planning their training activities. It also aims at equipping the participants with training techniques. The participants were expected to not only be able to champion communication and knowledge management in their projects, they were also expected to train others to be champions of the process. The module discusses such areas as: the principles of adult learning, designing and developing training activities, delivery methods and tools, and

organizational logistics. It also covers how to monitor and evaluate a training programme.

2.3   Implementation

2.3.1   Philosophy

The course emphasis was on experiential, adult and participatory learning. The general information was delivered through lectures. There was a two-hour lectures session for each module delivered though a PowerPoint presentations. This formed the basis for the subsequent sessions where the participants reflected on the information, and asked questions that were answered by the resource person and the other participants.

Based on the lectures and the discussions, participants were able to relate the new information to real issues on the ground and draw their conclusions. They then were given the opportunity to work in groups and identify different ways of doing things as a result of the information and knowledge they had acquired.

Every afternoon, participants went to their groups to actively think, reflect, discuss, and practice the learned skills. Participants were divided onto four groups of about 10 members. Eventually another group was formed form members of the four groups, to go through the other groups' work and develop a draft of recommendations that it later presented to plenary. All participants then developed the final recommendations.

The training employed various tools to deliver content. These included:
? PowerPoint presentations,
? Materials on Video/DVD/CDs,
? Flip charts, and
? Various publications that included brochures and books.

2.3.2   Group work

Each module comprised a group work session of at least 3 hours, guided by specific ToRs. Each group was allocated about half an hour to present its outputs to a plenary seminar for discussions with all the participants. The group reports are presented in **Appendix IV** in their original forms.

Group 1 dealt at length with issues to do with policy frameworks on knowledge management. It looked at the supportive and the unsupportive elements in global, regional, national and institutional levels. The group also suggested remedial measures. The group looked at the needs of ASARECA, did a SWOT Analysis and developed a KM strategy for ASARECA. Finally, the group developed an awareness plan for policy makers, university professors and senior managers.

Group 2 did a SWOT Analysis for the various KM Cycle (acquisition, brokering, packaging, sharing, piloting, and scaling up). The group also recommended various mans of addressing the weaknesses in evident in the analysis. Next, the group developed a CKS plan for the NRM Governance and farmer-market linkages. It also developed an awareness-raising plan in KMS for policy makers and donors, to help them change their attitude towards KMS. Finally, the group developed a guideline that can be used to train university level students in KM.

Group 3 did a SWOT analysis of institutions engaged in research and gave recommendations on how to address the threats and weaknesses. The group also

developed the CKS plans for IMAWESA. The group finally did the training plan for people in NARS, those in extension and NGOs.

Group 4 analyzed the stages of Knowledge Management and sharing, and explored the role of research systems in knowledge management. The group also did an SWOT analysis of organizations involved in the "**Making best of climate: adapting agriculture to climate variability"** project, and discussed how the organizations can achieve each step of the KM cycle. Next the group formulated a KM strategy for the project, and finally, it developed a training design for the KM scaling up in the project.

2.3.3   Seminars

The groups presented their work in seminars for plenary discussions. These gave the participants the opportunity to exchange ideas and to receive and feedback form one another. The input was included in the next step of individual group discussions, and eventually, each group produced an output that had the input form all the seminar sessions.

2.3.4   Special workshop on ASARECA's technology transfer project

This was organized to provide an opportunity for a consultant hired by ASARECA to review its technology transfer project, to discuss with the participants. The consultant presented a concept note whose purpose was to outline some boundaries, purpose, expected outputs and important assumptions in developing a technology uptake and up-scaling facility. The concept note emphasized the need for work to start in the technology uptake and up-scaling facility (TUUF) as a matter of urgency. This workshop provided the course participants with an opportunity to discuss pertinent issues on knowledge management and scaling-up of technologies. The participants made commendations for consideration by the consultant and eventually by ASARECA.

3   LEARNING OUTCOMES

3.1   In Plenary, in Seminars and in Group Work

The training produced practical outputs that are useful in the development of KMS in ASARECA in general and at institutional level in particular. In group discussions, plenary and in seminars, participants showed the impact the training was beginning to have in their knowledge and practice regarding KM.

They looked at policies that support and those that do not support Knowledge Management and gave their recommendations. One expected outcome of the training is that participants were ready to go back to their institutions and projects with at resolve to influence policies that have to do with KM. Another outcome is that new projects and in the ongoing projects will benefit because participants went away with a resolve to train their colleagues in how to develop and implement communication plans.

And finally, ASARECA network has a team of champions of KM that will train others in their countries, organizations and institutions.

3.2   Participants recommendations to ASARECA

Participants interacted with a lot of information, and they developed recommendations of how to mainstream knowledge management and scale-up research findings in the region. A group was formed to look at the week's deliberations and come up with recommendations that were discussed in plenary. The main recommendations were directed to ASARECA. The participants recommended that ASARECA and its member NARS should do the following:

vi)   Identify and critically analyse its strategic stakeholders in the region with respect to knowledge needs in aspects of:
   - Productivity,
   - Competitiveness, and
   - Value addition.
vii) Develop its own strategy and its own guidelines for communication and knowledge management.
viii) Facilitate the compilation of an inventory of successful innovations in the region and identify those of regional relevance and ensure their scaling-up.
ix)   Facilitate capacity building for its key stakeholders in communication and knowledge management so as to accelerate the pace of scaling-up.
x)   Champion, facilitate and monitor the institutionalisation of knowledge management by the NARS that are its members.

4   COURSE EVALUATION

4.1   Meeting expectations

The participants were given a chance to evaluate the training. They filled an evaluation form and their responses were analyzed using the Statistical Package for Social Scientists (SPSS). This was to help the coordinator to know what the participants felt, and what suggestions they had, to help in future trainings. Thirty-eight (38) participants filled the evaluation form. Following are their responses.

Overall, majority of the participants indicated that the training was Very Good (50%) and Excellent (42.0%). See Table 1

Participants initial expectations were met by the training as can be seen on Table 2. 18 of them (47.0%) indicated Very Good, and 15 (39.0%) indicated Excellent. One indicated poor and satisfactory respectively. 3 said it was good.

Table 4: Overall assessment of the PDC/TOT

	Frequency	Percent
Satisfactory	2	5.0
Good	1	3.0
Very Good	19	50.0
Excellent	16	42.0
Total	38	100.0

Table 5: The extent to which initial expectations were met?

	Frequency	Percent
Poor	1	3.0
Satisfactory	1	3.0
Good	3	8.0
Very Good	18	47.0
Excellent	15	39.0
Total	38	100.0

4.2 Relevance

Participants indicated that they had acquired a lot of useful and new knowledge form the training. 19 of them (50%) indicated Very Good and 14 (36.8%) indicated Excellent.

Table 6: The extent to which you have acquired new and useful knowledge

	Frequency	Percent
Poor	1	3.0
Satisfactory	1	3.0
Good	3	8.0
Very Good	19	50.0
Excellent	14	36.0
Total	38	100.0

On the most useful aspects of the training, participants cited the following.

? Knowledge management.

? The knowledge management cycle

? Developing communication strategies

Many did not respond to this question about the aspects of the training that they felt were least useful. The few who did gave the following responses.

? Consultancy for ASARECA

? Tight time schedules

? Participants teaching others

Overall, participants were satisfied with the programme as can be seen in their responses below. In all cases majority of the participants stated that the sessions were Very Good and Excellent.

Table 7: Overall

Session		Poor	Satisfactory	Good	Very Good	Excellent	Total
Introduction	Freq	0	2	3	12	21	38
	%	0	5.0	8.0	32.0	55.0	100
Policy and Institutional Arrangements	Freq	0	1	7	19	11	38
	%	0	3.0	18.0	50.0	29.0	100
Different aspects of KM and the science of Scaling up	Freq	1	0	2	21	14	38
	%	3.0	0	5.0	55.0	37.0	100
KM Strategies for organizations	Freq	0	2	4	16	15	37
	%	0	5.0	10.0	42.0	40.0	97.0
Integrating best practices with best available tools	Freq	0	2	6	21	8	37
	%	0	5.0	15.0	56.0	21.0	97.0
Training others to champion KM	Freq	0	2	5	21	9	37

	%	0	5.0	13.0	55.0	24.0	97.0
Special ASARECA workshop	Freq	5	8	13	6	3	35
	%	13.0	21.0	34.0	16.0	8.0	92.0
Lecture Sessions	Freq	1	2	5	14	16	38
	%	3.0	5.0	13.0	37.0	42.0	100
Working Group Sessions	Freq	1	2	6	12	17	38
	%	3.0	5.0	16.0	31.0	45.0	100
Seminar Session	Freq	2	1	7	16	12	38
	%	5.0	3.0	18.0	42.0	32.0	100

4.3   Comments on Methodology and logistics

The following are the views on what aspects of the training needed to be improved.

?   Provide more resource persons

?   Allocate more time for the training

?   Provide more reference materials in soft copies

Participants suggested the following to improve the working group sessions

?   Have smaller working groups

?   Allocate more time

?   Discourage working late into the night

?   Provide more details on the Terms of Reference

The following were suggestions on how to improve the seminar sessions.

?   The sessions should have more materials

?   Allocate more time

On the methods used to deliver content, majority of the participants stated that the sessions were Very Good and Excellent.

Table 5: Methodology

Methodology		Poor	Satisfactory	Good	Very Good	Excellent	Total
Course materials and references	Freq	0	1	3	17	17	38
	%	0	3.0	8.0	45.0	44.0	100
Presentations in lecture sessions	Freq	1	1	1	16	19	38
	%	3.0	3.0	3.0	41.0	50.0	100
Presentations in seminar sessions	Freq	1	0	10	22	5	38
	%	3.0	0	26.0	58.0	13.0	100
Pace and intensity	Freq	2	1	10	18	7	38
	%	5.0	3.0	27.0	47.0	18.0	100

On logistics, participants had the following to say.

Table 6: Logistics

Aspect		Poor	Satisfactory	Good	Very Good	Excellent	Total
Pre-course announcement and publicity	Freq	0	1	6	19	12	38
	%	0	3.0	16.0	50.0	31.0	100
Timeliness and sufficiency of invitation information	Freq	0	3	3	18	13	37
	%	0	8.0	8.0	47.0	34.0	97.0
SWMnet's input into your travel organization	Freq	1	0	2	18	17	38
	%	2.0	3.0	4.0	47.0	44.0	100
Quality of the venue	Freq	0	2	2	15	19	38
	%	0	5.0	5.0	40.0	50.0	100
General working atmosphere	Freq	0	4	2	12	19	37
	%	0	10.0	5.0	32.0	50.0	97.0
Catering services	Freq	1	2	9	12	14	38
	%	3.0	5.0	24.0	32.0	36.0	100

Participants indicated that the following aspects of the logistics were impressive.

? Transport/travel to and form the training

? The environment was interactive and conducive for learning

? Quality of accommodation

? Training materials

5 SYNTHESIS AND CONCLUSION

The purpose of the Professionals Development Course was to develop and institutionalize a culture of promoting uptake, scaling-up and effective use of results form soil and water management research in East and Central Africa. One of the main ways of achieving this is to build the capacity for providing training and skills development in communication planning and up-take promotion among the SWMnet stakeholders in ECA.

The Participants who attended the training received information and skills to help them in their projects. They developed specific actions that they would implement in their organizations. And finally, they came up with recommendations for ASARECA.

Overall, the training was a success, and Output 3 Project R8381: "Institutionalized Scaling-up and Uptake Promotion of Outputs form Soil and Water Management Research in East and Central Africa Project", was achieved. The capacity for providing training and skills development in communication planning and up-take promotion was developed among SWMnet stakeholders in ECA.

The group discussions and the group outputs show that the training created champions of enhanced uptake promotion among the participants.

What remains now is to follow up the training with in-country trainings, to train others to champion the cause. At the policy level, participants, the NARS, are expected to create awareness and influence policy on issues to do with knowledge management and the science of scaling up.

Regionally, ASARECA has the responsibility to champion the cause among the regional and international stakeholders.

Participant said they would use the existing mechanism to monitor and evaluate what will happen in project and institutions as a result of the training. Where there is no such mechanism, they were ready to develop one.

APPENDIX I: COURSE PROGRAMME

Timing	08:30 – 10:30 Seminars	Break	11:00 – 13:00 Lectures	Break	14:00 – 18:00 Group Work
Sunday 03/07/2005	ARRIVALS	TEA	ARRIVALS	LUNCH	**Participants** - Review of Documents **Resource Persons** – Planning Meeting
Monday 04/07/2005	**Opening Session – 0.5 hours** **Introduction:** Overview Introduction to the Project Development Course **Lecture Module 1:** Policy and Institutional Arrangements for Knowledge Management	COFFEE TEA	**Lecture Module 2:** Different Aspects of Knowledge Management and the Science of Scaling-Up	LUNCH LUNCH	**Working Group Session1:** Four Groups with: ? Two working on - Policy and Institutional Arrangements for Knowledge Management; and ? Two working on - Different Aspects of Knowledge Management and the Science of Scaling-Up
Tuesday 05/07/2005	**Seminar Session 1:** Presentation and Discussion of Group Reports **0.5 hours each group**	COFFEE TEA	**Lecture Module 3:** Knowledge Management (KM) Strategy for Organizations and Projects Working on Soil and Water Management Research and Development	LUNCH LUNCH	**Working Group Session2:** Four Groups with: ? One working on - Institutional Strategies for Knowledge Management; and ? Three working on – Uptake promotion and scaling-up strategies for research projects

5

Timing	08:30 – 10:30 Seminars	Break	11:00 – 13:00 Lectures	Break	14:00 – 18:00 Group Work
Wednesday 06/07/2005	**Seminar Session 2:** Presentation and Discussion of Group Reports **0.5 hours each group**		**Lecture Module 4:** Integrating Best Practices with Best Available Tools for Effective Scaling-up and Scaling-out of Knowledge and Technologies		**Working Group Session3:** Three Groups to finalize the Uptake promotion and scaling-up strategies for research projects, started in working groups session
Thursday 07/07/2005	**Seminar Session 3:** Presentation and Discussion of Group Reports **1 hour each group x 2 groups**		**Seminar Session 3:** 3rd group **Lecture Mo 5:** Training others to championing Knowledge management, sharing and scaling up		**Working Group Session4:** Four Groups with: ? Two working on – Awareness raising and Sensitization at makers level; and ? Two working on – Training and capacity building for Technical Staff
Friday 08/07/2005	**Seminar Session 4:** Presentation and Discussion of Group Reports **0.5 hours each group**		**Special ASARECA Workshop:** Consultation with ASARECA Consultant on - Technology Uptake and Scaling-up Facility (TUUF)		PDC/TOT Evaluation by Participants **CLOSING SESSION** – by 1500 hours
Saturday 09/07/2005	**DEPARTURES**		**DEPARTURES**		**DEPARTURES**

APPENDIX II: LIST OF PARTICIPANTS

Country	Participant	
Burundi	**Mr. Sezikeye Sylvestre** P.O. Box 7442, Bujumbura, Burundi Location: Bujumbura, Burundi Tel: General: 243096 Direct: 243096 Fax: 242337 Email: pdrdmr@cbinf.com **Organization:** PRDMR **Position:** Socio-Economic Infrastructure Components & Socio Component Swamps Management and Lands Irrigation	
D.R. Congo	**Prof. Dr. Poto Thomas Mondjalis** P.O. Box 2037 Kinshasa I, DR Congo Location: 13 Avenue des Cliniques Tel: +243 81813796 or +243 8972128 Email: mondjalis@yahoo.fr or inera_dg@yahoo.com **Organization:** INERA (National Institute for Agricultural research) **Position:** Scientific Advisor of the Administrator General Director of INERA (NARS)	**Mr. Kasongo Lenge Mukonzo Emery** P.O. Box 1825 Lumbubashi, DR Congo Location: Lumbubashi University Tel: +243 810360989 Email: Kasongo.lenge@unilu.ac.cd **Organization:** University of Lumbubashi (Faculty of Agriculture) **Position:** Lecturer
Ethiopia	**Mr. Habtamu Admassu Ayana** P.O. Box 436, Postal code 436 Nazareth, Ethiopia Location: Ethiopia Tel: Gen: 251-02-112186 Direct 251-02-128195 Mobile: 251-9-842079, Fax: 251-114623/114622 Email: h_admassu2004@yahoo.com **Organization**: Ethiopian Agricultural Research Organization (EARO) **Position:** Associate research Officer I, National Dry Land Farming Cropping Systems and Crop Ecology Project Coordinator **Dr. Daniel Kassahun Waktola** P.O. Box 25864, Postal code 1000 Addis Ababa, Ethiopia Location: Forum For Social Studies Tel: Gen: 251-1-572990	**Mr. Takele Mitiku Dinka** P.O. Box 1882,Nazareth, Ethiopia Location: Ethiopia Tel: General: 251 2 112186 Direct: 251 2 112186 Fax: 251 2 114623, Email: takele2004@yahoo.com **Organization**: Ethiopian Agricultural Research Organization (EARO) **Position:** Researcher & Division Head **Mr. Tadele Amare** P.O. Box 08, Bahir Dar, Ethiopia Location Adet Agricultural Research Centre Tel: General: 251 (0)8 380237 Direct: 251 (0)8 380592 Fax: 251 (0)8 380235, Email: tadele17b@yahoo.com **Organization:** Adet Agricultural Research Centre **Position:** Researcher in Soil, Water Management & Department head of Natural Resources Management

Country	Participant	
	Mobile: 251-9-608030, Fax: 251-1-572979 Email: envres@fssethiopia.org.et **Organization**: Forum For Social Studies (FSS) **Position**: Geographic Information System (GIS) and Remote Sensing **Dr. Michael Menker Girma,** P.O. Box 32, Debre Zeit, Ethiopia Location: Debre Zeit Tel: General: 251-1-338555 Direct: 251-1-562335 Mobile: 251-9-660461, Fax: 251-1-338061 Email: michaelmenker@yahoo.com **Organization**: Ethiopian Agricultural Research Organization (EARO) **Position**: Irrigation Researcher, Former Head Soil & Water Management research **Mr. Amare Molla** P.O. Box 2003 Addis Ababa, Ethiopia Location: Addis Ababa Tel: +251 1 460137 Fax: +251 1 461294 Email: webmaster@earo.org.et or amaremola@yahoo.com **Organization**: Ethiopian Agricultural Research Organization (EARO) **Position:** Information and Communication Management Senior Expert	**Mr. Kelsa Kena Shamena** P.O. Box 6 Awasa, Ethiopia Location: Awasa Ethiopia Tel: +251 06 211320 Fax: +251 06 204521 Email: "SARI" arc@ethionet.et **Organization:** South Agricultural Research Institute (SARI) **Position:** **Mr. Shenkut Ayele Tegenaw** P.O. Box 2003 Addis Ababa/Holetta, Ethiopia Location: Ethiopia Tel: +251 9 489487 Fax: +251 9 370377 Email: shenkutayele@yahoo.com **Organization**: Ethiopian Agricultural Research Organization (EARO) / HARC **Position:** Assistant Researcher III
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Madagacar	**Mr. Belindo do Cêrtimo Manhiça** P.O. Box 73 Lichinga, Mozambique Location: Niassa, Mozambique Tel: +258 71 20646 Email: belindom@yahoo.com **Organization:** NIASSA Agriculture Development Project **Position:** Technology Officer	

Country	Participant	
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Country	Participant	

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		Dr. Osman Abdel Rahman Suliman Alfadni
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Country	Participant	
	Mr. Zakaria Juma Mkoga P.O. Box 3003 Morogoro, Tanzania Location: Sokoine University of Agriculture Tel: +0744 015022 Email: mkogazj@yahoo.co.uk **Organization:** Sokoine University of Agriculture **Position:** Research Associate and PhD. Student **Prof. Henry Fatael Mahoo** P.O. Box 3003 Morogoro, Tanzania Location: Sokoine University of Agriculture Tel: +255 023230 1206 Fax: +255 023 4649 Email: hmahoo10@yahoo.co.uk **Organization:** Soil Water Management Research Group **Position:** Team Leader, Soil-Water Management Research Group **Mrs. Mary H. Lutkamu** P.O. Box 2066 Dar es Salaam, Tanzania Location: Tanzania Tel: +255 22 2860326 Fax: +255 22 2865312 Email: lutkamu@yahoo.om **Organization:** Tanzania Department of Research & Development (DRD) **Position:** Assistant Director (Soil and Water Management)	**Mr. Andrew Kaggwa Kabanza** P.O. Box 509 Mtwapa, Tanzania Location: Naliendele Mtwapa Tel: +255 23 2333836 Fax: +255 23 2334023 Email: kkaggwa@yahoo.co.uk **Organization:** Naliendele Agricultural Research Institute **Position:** Agricultural Research Officer **Ms. Nyambilila Abdallah Amuri** P.O. Box 3008 Morogoro, Tanzania Location: Tanzania Tel: +255 23 2603999 Fax: +255 23 2603259 Email: amurnyambilila@hotmail.com **Organization:** Sokoine University of Agriculture **Position:** Assistant Lecture **Mr. Judicate Rumishael Shoo** P.O. Box 31042 Dar Es Salaam, Tanzania Location: Tanzania Tel: 022700736 / 9 Cellphone: 0744 369316 Fax: 022700146 / 022773783 Email: jrshoo2000@yahoo.com **Organization:** The Guardian Limited
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Country	Participant	
SWMnet Secretariat **Kenya**	**Prof. Nuhu Hatibu** P.O. Box 39063, 00623 Nairobi Kenya Location: ICRAF Complex, UN Avenue Gigiri Tel: +254 (0)722 4565 / 54 Fax: +254 (0)722 4001 Email: n.hatibu@cgiar.org **Organization:** ASARECA / ICRISAT Nairobi Kenya **Position:** SWMnet Regional Coordinator	
Facilitators / Resource Persons **Kenya**	**Sospeter K. Gatobu** P.O. Box 66873 Nairobi 00800 Tel: +254 20 4440991/4442610 Fax: +254 20 4448148 E-mail: Sospeter@iirr-africa.org, soskaai@yahoo.com **Organization:** International Institute of Rural Reconstruction Africa Region **Position:** Communication Officer	

APPENDIX III: SLIDE PRESENTATIONS

Slide 1

Professional Development Course &
Training of Trainers
MANAGING AND SCALING-UP OF KNOWLEDGE
IN SOIL AND WATER MANAGEMENT

Lecture Module 1:
Policy Framework

Slide 2

Why this Module?

Because:
- Many policies already exist and are good at describing convincingly of what needs to be done, but
- There is a general failure to turn "good" intentions into tangible actions and results; and we have
- Endless review of policies while the situation on the ground, especially for the very poor is unchanged.

The module will enable the participant to:
- **Critically analyze existing policies and institutional frameworks**
- ***Become a champion and advocate of change in policies and strategies* of governments and relevant organizations**
- **Have an appreciation of the existing policies which could be put into use through robust strategies and programmes.**

Slide 3

LINKAGES - Institutionally

Global	UN System – UNDP, WB, FAO, IFAD, GEF, CGIAR
Regional	AU – NEPAD - FARA
Sub-Regional	COMESA, Nile Basin Initiative ASARECA
National	National government and institutions

Slide 4

Good-will and Increased Demand for Impact from Research

- Increased cal for a serious focus on up-take promotion and scaling-up of what is already known,
- The UN Secretary General has made a call for uniquely Africa's Green Revolution, and observed that: ***knowledge is not lacking …, what is lacking, as ever, is the will to turn this knowledge into practice***

Slide 5

Elements of Global Strategies for KM&S

WEHAB:
- *Strengthen national capacities in developing countries*;
- *Promote cross-boundary partnerships and alliances related to the generations, adaptation and dissemination of technologies*;
- *Design national policies that facilitate the establishment of functional linkages among research, extension, education and communications*; and
- *Promote information exchange, networking and technology generation and dissemination related to best practices in agriculture.*

Slide 6

Elements of Global Strategies for KM&S

MDG – Millennium Development Project:
- *Financing scaling-up in order to reach large proportions of the populations;*
- *Africa's uptake of high-yielding varieties was the lowest in the developing world;*
- *Tropical Sub-Saharan Africa produces roughly a twentieth of the average patents per capita in the rest of the developing world; and*
- *It has only 18 scientists and engineers per million population compared with 69 in South Asia, 76 in the Middle East, 273 in Latin America, and 903 in East Asia; and*
- *Therefore, major investments in national innovation systems are urgently called for.*

Slide 7

The World Bank Rural Development Strategy Calls for:

The scaling-up good practices to become an integral part of development strategies, through:

- *Identification and scaling-up of good practices within country, between countries, and between regions.*
- *Increased emphasis on piloting new and innovative approaches that reflect the dynamic economic, social, environmental and institutional contexts.*
- *Strategic leveraging of projects to a larger scale or broader coverage to increase efficiency and impact.*

Slide 8

Donors' Support Strategies

DFID:

Strongly committed to *focusing a greater proportion of its development funding to promote much greater use and uptake of the research that it and the international community has funded in the recent past.*

Slide 9

Donors' Support Strategies

USAID, through SAKSS:

Strategic Analysis and Knowledge Support System (SAKSS) - Designed to:

- **Institutionalize KM within national agencies to enable African policymakers to have access to up-to-date analysis and knowledge**

Outputs

- **Capture and consolidate scattered data and information on Africa's agriculture; Improved access and utilization of existing data, information, experiences, and knowledge systems;**
- **A robust framework for global compilation, synthesis and access to data, information and knowledge for meeting the MDGs.**
- **Increased investments in gaining new knowledge where gaps currently exist**

Slide 10

Africa's Own Strategies

NEPAD-CAADP Calls for:

- Acceleration of the adoption of the most promising available technologies;
- Technology delivery systems that quickly bring innovations to farmers and agribusiness;
- Mechanism that reduce the cost and risks of adopting new technologies; and
- Renewing the ability of agricultural research systems to efficiently and effectively generate and adapt new knowledge and technologies.

Slide 11

Other African Organizations

- FARA and the Sub-Saharan Challenge Programme

- The African Agricultural Technology Foundation

- The Nile Basin Initiative

- ASARECA

Slide 12

National Strategies also Supportive

The case of Uganda:

Known for its recent very bold re-organization of its research and extension system - NARO's current MTP calls for improved efficiency of technology development and transfer by:

- Establishing stronger linkages with all source of knowledge;
- Ensuring that research action plans have strong components for dissemination;
- Maintaining interactions with clients at all stages of research;
- Building viable partnerships with service providers and other stakeholders – not just extension and farmers; and
- Developing and testing extensive technology transfer methods and systems.

Slide 13

Similar Emphasis is Seen in Kenya

The National Strategy for Revitalization of Agriculture identifies low absorption of modern technologies as one of the main constraints to agriculture growth in Kenya and thus calls for the creation of an agricultural innovation system as a means of consistently providing appropriate technology, knowledge and information to the agricultural sector.

Slide 14

SO
WHAT
IS
THE
PROBLEM?

Slide 15

SWMnet Study in Ethiopia, Kenya, Sudan and Tanzania show that:

The good will stated in policy documents has not been exploited and converted into action, because of:

- **Confinement to the uni-directional dissemination (R-E-F).**
- **Researchers still believe that their role is to generate technologies.**
- **Only a limited amount of time and budget allocated to communication and uptake promotion**
- **Poor targeting of farmers, input suppliers, extension service, policy makers and other clients.**
- **Moreover, most researchers are not adequately trained for communication and uptake promotion.**
- **Lack of assessment of uptake, utilization and impact**
- **The reward and incentive systems do not demand evidence of utilization and impact.**

Slide 16

**Failure to Exploit Global Knowledge Base
Such as:**

- AEZ systems database
- Soil databases
- Soil and Terrain (SOTER) database
- Digitized map of the world
- Soil and Terrain Database for East African countries (7 ASARECA countries included)
- Land Use database

? WOCAT,

? CROPWAT,

? CLIMWAT,

? SIMIS,

? AQUASTAT

? Database Tool for Integrated Plant Nutrition Systems

Slide 17

In Summary and to Para-Phrase HE Kofi Annan

Good Policies are in place, and the *knowledge itself, is not lacking …, what is lacking, as ever, is the will to turn the policies and knowledge into practice.*

This is why we are here!

Slide 18

ToR for Group Work

To enable you to:

- Evaluate supportive & unsupportive elements from the global, regional, national and institutional policy documents with respect to knowledge management, sharing & scaling-up;
- Specify urgent actions to be taken by countries, organizations and individuals to improve the situation; and
- Produce a concise report of no more than 5 pages in word, wrt:
  - ✍ Lessons from global and regional policy
  - ✍ Lessons from national and institutional policy review
  - ✍ What will you champion in your country and organization?
  - ✍ What will you do differently yourself?

Slide 1

SWMnet

*Professional Development Course &
Training of Trainers*
**MANAGING AND SCALING-UP OF KNOWLEDGE
IN SOIL AND WATER MANAGEMENT**

Lecture Module 2:
KM and the Science of Scaling-up

Slide 2

Why this Module?

Because:
- We are in the Knowledge Era
- Knowledge has become the most important factor in economic life.
- It is the chief ingredient of what we buy and sell
- It is the raw material with which we work.
- Intellectual capital - not natural resources, machinery, or even financial capital - has become the one indispensable asset of this generation
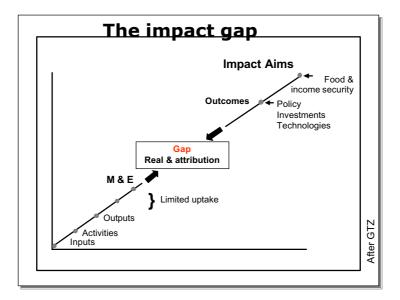
Slide 3

Why this Module?

Because:
- Therefore, ability of a nation to create, store and apply knowledge is a critical success factor in its survival and growth.

- Only problem is the finishing line is moving away faster!

- **This module is designed to enhance understanding of knowledge and innovation systems – turning knowledge into action**

Slide 4

The impact gap

Impact Aims

← Food & income security

Outcomes

← Policy
Investments
Technologies

Gap
Real & attribution

M & E

} Limited uptake

Outputs

Activities
Inputs

After GTZ

Slide 5
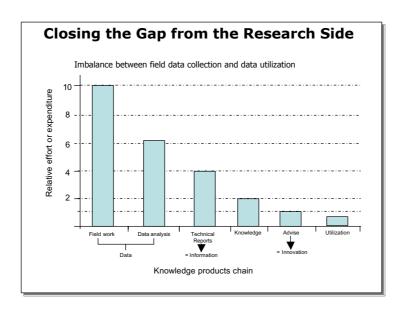
Urgent Need 2 Close the Gap between Knowledge and Action

1. Start by narrowing the gap between what is demanded and what is developed

2. Increase understand why the gap persists and what actions are required to close it… from both sides!

3. *This is the purpose of the SWMnet-DFID-ICRISAT project on institutionalizing a culture of Knowledge Management, Sharing and Scaling-up*

Slide 6

Closing the Gap from the Research Side

Imbalance between field data collection and data utilization

Relative effort or expenditure

| Field work | Data analysis | Technical Reports | Knowledge | Advise | Utilization |

Data

▼ = Information

= Innovation

Knowledge products chain

Slide 7

AS A RESULT

- Researchers blame policy makers, extension and even farmers for not seeing, valuing and utilizing their research work
- Policy makers, planners and the private sector are starved of good knowledge for decision making and see researchers as problem-raisers who never recommend solutions
- Farmers and other agro-entrepreneurs pay the price by being involved in wasteful poorly planned projects promoting half-cooked technologies!
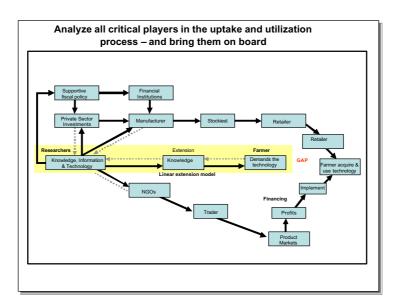
Slide 8

Knowledge Management is:

the act of c*onnecting people to the best practices, knowledge, and expertise they need to create value* - by supporting:

- the creation or acquisition of knowledge relevant to opportunities and constraints,
- the synthesis and learning from such knowledge,
- the sharing through better communication and networking, and
- the utilization through scaling-up and promotion of uptake by the right people at the right time in the right place

Slide 9

Analyze all critical players in the uptake and utilization process – and bring them on board

Slide 10

Therefore, R4D should …

Focus on an expanded sector with stakeholders to include:
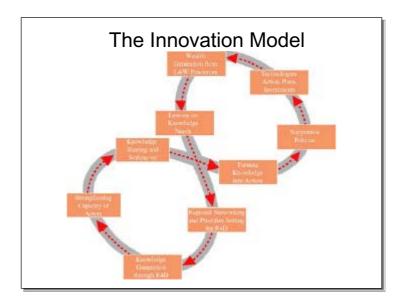
- Policy makers, planners and investors
- The inputs manufacturing and supply sub-sector
- The "resource – consumption chain", with Post-harvest operators, traders and consumers brought into the equation
- Producers and their support systems (e.g. extension)

Slide 11
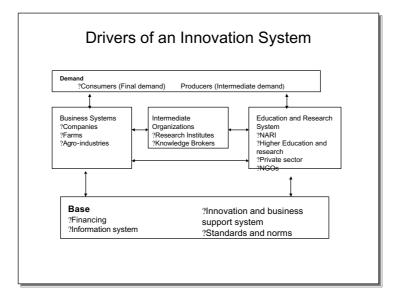
From data to Wealth Creation

Data	Wind speed, Clod Cover, humidity
Information	Visibility down to 1 Km
Knowledge	**Explicit** **Tacit**
Innovation	What to do
Action	*Change landing plan or a/p*
Wealth	*Safe landing*

Slide 12

The Innovation Model

Slide 13

Drivers of an Innovation System

Demand
?Consumers (Final demand)   Producers (Intermediate demand)

Business Systems
?Companies
?Farms
?Agro-industries

Intermediate
Organizations
?Research Institutes
?Knowledge Brokers

Education and Research
System
?NARI
?Higher Education and
research
?Private sector
?NGOs

Base
?Financing
?Information system

?Innovation and business
support system
?Standards and norms

Slide 14

What Makes Knowledge Management Successful?

1. If designed as a system for active learning rather than static knowing;
2. If the knowledge workers acknowledge ignorance and embrace failure so as to learn quickly and adapt
3. BUT this need an appropriate reward, incentive systems for risk-taking knowledge workers and leaders

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Slide 15
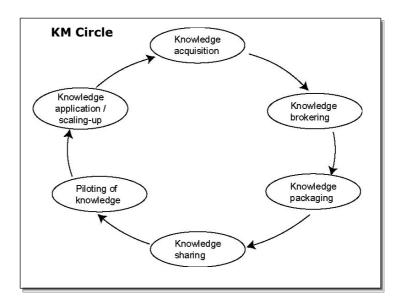
Knowledge Base Drives Innovations

- Competitiveness and quality of a country's economy are determined by the size and density of the country's "knowledge cloud"
- If many people posses a lot of good knowledge, then the "cloud" is dense.
- A dense cloud would lead to "rain" in the form of innovations in the areas of:
  – Technologies and processes,
  – new industries,
  – better policies and strategies, and
  – Better targeting of markets – local, national, regional and international

Slide 16
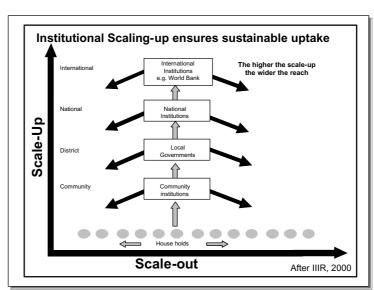
What is Innovation?
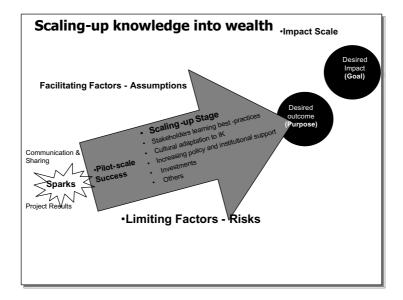
- Is the ability and process of coupling knowledge and possibilities with opportunities, to create policies, strategies, technologies and practices.
- Therefore technology is just on a form of innovation - the technical part. Also innovation is the act of combining tacit and explicit knowledge.
- If the tacit component is dominating it is more difficult to transfer innovation from one place to another.

Slide 17

KM Circle

Knowledge acquisition

Knowledge application / scaling-up

Knowledge brokering

Piloting of knowledge

Knowledge packaging

Knowledge sharing

Slide 18

Institutional Scaling-up ensures sustainable uptake

The higher the scale-up the wider the reach

International — International Institutions e.g. World Bank

National — National Institutions

District — Local Governments

Community — Community institutions

House holds

Scale-Up

Scale-out

After IIIR, 2000

Slide 19

Slide 20

Design Research with the Use & User in Mind

- For example - We need fertilizer regime to raise productivity to 5t/ha while limiting production costs to 30 $/ton;
- Rather than searching for general understanding of maize response to P;
- This requires dynamic projects designed for achieving such use-driven goals and targets; thus
- Avoid the current pre-occupation with studying problems rather than creating solutions.

Slide 21

Key Factors

- Empower the stakeholders by increasing "knowledge cloud"
- Put the local knowledge and priorities of the community at the core
- Target opportunities available
- Focus on binding constraints
- Address needs in the implementation
- Evaluate progress and review

Slide 22

Generally:

1. Successful scaling-up requires dialogue and cooperation between those who know things and those who do things.
2. Both the problem to be solved and the knowledge needed to solve it are defined collaboratively
3. The collaborative dialogue is maintained from start2finish.
4. New institutions and procedures for sustaining this dialogues is critical

Slide 23

Hence, knowledge management focus on **knowing**:

- *what* needs to be done to solve problems or to exploit opportunities, then
- *how* it can be done and the source of *knowledge* needed to succeed, and finally
- *who* can do it, followed by employment of the networking mechanism to assemble the best expertise needed to implement the necessary tasks.

Slide 24

In Summary

It is all about systematic connection of stakeholders to best knowledge they need, by supporting:

- ✍the creation or acquisition of knowledge relevant to opportunities and constraints,
- ✍the synthesis and learning from such knowledge,
- ✍the sharing through better communication and networking, and
- ✍the utilization through scaling-up and promotion of uptake by the right people at the right time in the right place.

Slide 25

T o R   f o r   G r o u p   W o r k

To enable you to:

- **Analyze** different stages of knowledge management and sharing and role of the research system:
- Undertake SWOT analysis of different categories of organizations (NARS, Univ., Extension, data institutions and NGOs) with respect to achieving each step.
- Provide policy recommendations for overcoming existing weaknesses and mitigating effects of threats.
- Articulate the role of the research system in overcoming the existing constraints and threats.; and
- Produce a concise report of no more than 5 pages in word, wrt:
  - ✍ Lessons from new thinking
  - ✍ Lessons from the SWOT analysis
  - ✍ What will you champion in your country and organization?
  - ✍ What will you do differently yourself?

Slide 1

SWMnet

*Professional Development Course &
Training of Trainers*
**MANAGING AND SCALING-UP OF KNOWLEDGE
IN SOIL AND WATER MANAGEMENT**

Lecture Module 3:
KM Strategies at Organization and
Project Levels

Slide 2

Why this Module?

To:

Build capacity and confidence to
develop a strategy for managing,
sharing and scaling-up knowledge at
Organization and project level

Slide 3

From Module 2 We Saw That:

The ability of a
nation to create,
store and apply
knowledge is a
critical success
factor in its survival
and growth – this
apply equally to an
organization

- For an agricultural
research
organization,
knowledge is the raw
material and the
product of its work

- Therefore, knowledge
needs a strategy as well
as adequate investment
of time and resources to
manage

Slide 4

**Robust knowledge management strategy
is needed to:**

- Enhance the capacity of an organization to leverage more benefits from the wealth of knowledge it has or can acquire, by
- Directing more resources (time and money) to turning knowledge into benefits for the organization and its clients

Slide 5

First, what is a strategy?

- A statement of goals and targets and how to attain them.
- An in-depth analysis of the current situation in relation to the desired situation
- A trade-off analysis of different options for moving from current to future situation
- A plan of action to implement the most viable option

Slide 6

Key Consideration in establishing a KM Strategy -1

1. A good understanding of:
   - the knowledge needs of clients and organization's staff, and
   - potential sources of such knowledge.
2. Plan for putting the necessary knowledge in the hands of clients and staff in the most accessible form – this is what is called "communication and knowledge sharing plan" – which requires:
   - Strong communities of practice (CoPs) to ensure intra-disciplinary knowledge sharing among professionals from within and outside the organization,
   - Human resource practices, rewards and recognition systems that help knowledge sharing, promotion and utilization, and
   - Ability of the organization to tap into its own diverse knowledge

Slide 7

Key Consideration in establishing a KM Strategy - 2

3. Plan for continuous learning process to build both organizational and client capacities to innovate.
4. Up-to-date ICT infrastructure and management structure which support, guides, and links all knowledge sources and centers.

Slide 8

Main Components of a KM Strategy

- What do we want to see happen – Vision
- Understanding the demand and responding to it – defining the mission
- How important is KM for us? – motivation
- Knowledge products – establishing a niche in responding to the demand:
  - Ensuring innovation in products
  - Valuation of the knowledge produced, leveraged and held by the organization – and then deciding how to convert it into value.

Slide 9

The Formulation Process
Driven by overall goal of the organization

- KM Strategy is a component of the overall goal of the organization, it therefore,
- Focuses strongly on supporting the achievement of the overall goal or mission.
- Therefore the overall mission of the organization will constitute the vision of the KM strategy

Slide 10

For Example SWMnet

Overall Mission: to assist stakeholders in the ECA sub-region to gain access and effectively utilize the best, locally or globally generated knowledge, information and technologies on soil and water management

=

KM Vision: S&W stakeholders in the ECA sub-region have access and effectively utilize the best, locally or globally generated knowledge, on soil and water management

Slide 11
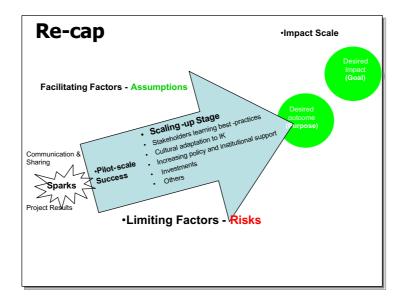
In Summary- There are Three major steps:

1. Identify the knowledge needs of clients, staff and management, by:
   - Participatory and holistic needs analysis, and
   - Review of relevant policy and strategic documents of governments etc.
2. Evaluate different option for addressing the identified issues and needs – based on SWOT analysis of the organization.
   - Describe each option
   - List advantages & disadvantages of each
   - Assess the cost of each option
3. Negotiated selection of strategic actions that fit with the demand and the organization set-up, with respect to:
   - Products
   - Human resource development
   - Technology, techniques and approaches
   - Action plan
   - M&E plan

Slide 12

At Project Level

COMMUNICATION AND KNOWLEDGE SHARING PLAN

Slide 13

Slide 14

NRSP's TEN Guiding Questions

1. Aim
2. Responsibility
3. Stakeholders
4. Products
5. KAP
6. Expected outcome of CKS
7. Media channels
8. Materials and activities
9. Budget
10. M&E

Slide 15

Q1

- What is the aim of the project's CKS plan with respect to the project purpose?
- *The answer will depend on what is expected of critical actors outside the project wrt to turning project outputs to deliver the purpose*
- In general the AIM is to promote uptake, scaling-up and utilization of research results – CKS plan links (project outputs) to the Purpose and Goal

Slide 16

Q1 – Climate Variability Project

PURPOSE: *Innovative strategies for enhancing mitigation of, recovery from, and resilience to climate-induced crises affecting smallholder farmers in arid and semi-arid areas availed to the small holders themselves and their supportive agents*

Outputs

- Understanding and awareness about the impacts of climate variability on key food production to consumption chains increased among key stakeholders
- Response options to reduce the impacts of climate variability on key food production to consumption chains verified with stakeholders.
- Prototype climate information products to support adaptive decision making by relevant stakeholders, developed and tested
- Capacity for improved application of climate information in agricultural decision making by relevant stakeholders increased.
- Guidelines for sustained institutional framework for developing, updating and scaling up climate information products produced

Slide 17

Q2

Who within the project will be responsible for implementation of the CKS Plan?

This requires a person with demonstrated skills and experiences in CKS – the person can be a full time member of the team or consultant.

Slide 18

Q3
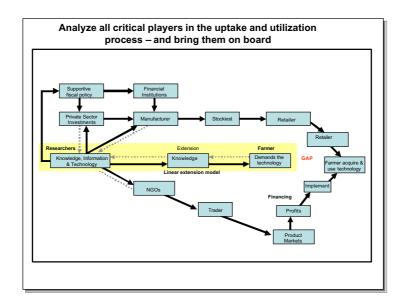
- Who are the communication stakeholders for CKS?

- In other words: who needs your results?

- *These are the critical players who must take action to obtain the expected project outcome*

- *Therefore, the project results/products must be communicated to them*

- *The project team need to:*
  - *Conduct stakeholders analysis (clients, supporters and opponents)*
  - *Identify those to whom the results must be communicated -*

Slide 19
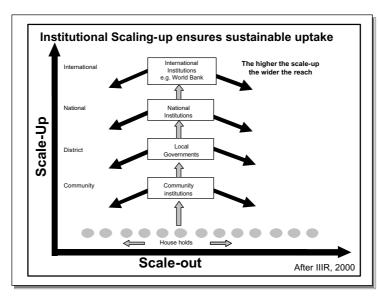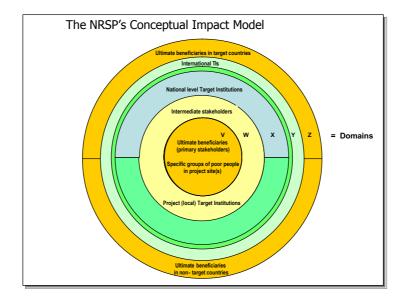
Slide 20

Slide 21

Slide 22

The NRSP's Conceptual Impact Model

Slide 23

EXAMPLES

BASED ON RWH PROJECTS OF SWMRG

Slide 24

Domain V Stakeholders – WHO?
- Ward and Village Councils
- Ward and Village leaders
- Sub-village leaders
- Ward and village extension workers
- Community & Farmers' Groups
- Households (headed by Male, Female and Youth)
- Schools

Slide 25

Domain V Stakeholders – HOW?

- Locally located field experiments that changed to advisory centres
- Participatory approaches:
  - Planning, assessment and learning
  - Open field days
  - Training needs assessment
  - Awareness raising
- Training workshops and feed back meetings
- Advice and back-stopping – *underwriting the technical risk*
- Organize and Support study tours – local, national & International
- Extension materials – booklets and leaflets

Slide 26

Domain W Stakeholders – WHO?

- District Councils
  - Local MPs
  - Elected Council
  - Executive Officers
  - SMS
  - Extension
- NGOs and CBOs
- Development Projects
- Input suppliers and stockists

Slide 27

Domain W Stakeholders –HOW?

- Awareness raising - PMS
- Promotional Video
- Support to district level planning
- Training of Trainers
- Supply of training and extension materials
- Support to NGOs and CBOs Planning
- Consultancy to development projects
- Organize and Support study tours – local, national & International

Slide 28

Domain X Stakeholders

WHO?
Policy Makers – *Parliament, VP, PM*
Agricultural Sector Ministries
Other Ministries
National Level NGOs
Development Programmes
Development partners
HOW?
Seminar to parliament
Briefing notes for supportive MPs
Meetings with VP, PM and ministers – as guest of
honours to workshops and events – e.g PT launch
Policy briefing papers and publicity
Direct involvement in policy and strategy formulation
Consultancy to projects of Gov't and NGOs

Slide 29

LESSONS - Communication and knowledge Sharing
(CKS) Plan - **WHY?**

- For benefits of the research to reach beyond those communities directly participating in the Research
- Researchers themselves need to be active in knowledge dissemination, diffusion and capacity building to ensure utilization
- Necessary to link and engage higher level institutions (districts, national, regional and international) – scaling-up leading to effective out-scaling

Slide 30

Q6: What action do you want to influence the stakeholders to take?
This is determined by what we want to achieve?
An example from climate forecasting

	Input Supply Chain	Farmers	Product Chains	Finance Systems
If Good Season is Forecasted	Timely supply of HYVs + Fertilizers	Intensive Strategy	Make Plans for Exports	Credit facilities for inputs and Exports
If Poor Season is Forecasted	Timely supply of DRVs	Minimize inputs	Make Plans for Imports	Credit facilities for Imports

Slide 31

Q5

What are the current knowledge, attitudes and practices (KAP) of the CKS stakeholders?

- *To achieve outcomes and impact a project must enhance knowledge, change attitudes and improve practices.*
- *An understanding of KAP helps to determine what should be communicated and shared with the target stakeholder*

Slide 32

Q4

What are the issues on which communication should be made – and what products should be used?

- *Answer to this question is driven by the KAP analysis (q 5)*

Slide 33

Success requires the engagement of the CKS Stakeholders throughout

- Successful applications of research results depend more on the social, economic and political factors then results themselves
- People and institutions adopt results which they understand where they came from
- The research process and concepts – rather than final results find much wide application and adoption

Slide 34

> # In Short, Make CKS PLAN central to the project
>
> - Include a communication specialists in the project team
> - Ensure communication and knowledge sharing is well captured
>   in the project LF, OVI, MoV and Milestones
> - Provide adequate budget for the CKSS

Slide 35

> # ToR for Group Work
> **To enable you to develop knowledge management strategies for organizations and projects**:
> - One group will work on the KM strategy for ASARECA (use slide 11), and
> - Three groups will works on one actual project each, answering Qs 1 to 6
> - Produce a concise report of no more than 5 pages in word, wrt:
>   - Lessons the strategy formulation
>   - How does this relate to your current practices?
>   - What will you champion in your organization wrt KM strategy or project CKS Plans?
>   - What will you do differently yourself?

Slide 1

MODULE IV

- **INTEGRATING BEST PRACTICES WITH BEST AVAILABLE TOOLS FOR EFFECTIVE SCALING-UP AND SCALING-OUT**

Slide 2

Why this module?

- To strengthen the capacity of participants in selecting the most appropriate tools and activities that can effectively be used in developing and implementing a communication strategy
- To provide participants with a basket of options and the merits and limitation of tools for scaling-up and scaling-out

Slide 3

Best practices

- Tools and activities are sometimes used interchangeably
- **Tools** - equipment, instruments, or pieces of technology that are used in the performance of specific activities - camera, computer, radio, TV etc
- **Activity** - any function or actions that are performed by an individual, group or community to achieve certain objectives - field day, agricultural show, training etc

Slide 4

Matching communication products with stakeholders

- Appropriate communication products and activities can be arrived at when the current perception and knowledge of the clients are well known to you : examples
- **Raise awareness when**: knowledge of the people about the activity is ranked low
- **Use exchange visits when**: knowledge and importance of the topic is ranked high
- **Use English** as a medium of instruction when 75%+ of the audience understand English

Slide 5

Manpower and budgets

- Look for personnel with skills that are needed for effective delivery of the communication strategies and products
- In the short run one can use part time or full time consultants.
- In the medium- and long- term run however, short- and long-term training can be taken advantage of.

Slide 6

Budgets

- Researchers seldom budget for communication activities in current practices
- Establish time and financial budgets for communication plans.
- The financial budget should be about 8-15% of the total project budget
- Review the budget periodically to allow for any positive inclusions in the plan

Slide 7

Planning and pre-testing

- Test the communication product (*poster, leaflet, radio program, newspaper article etc*) with a sample of your end users to check on its acceptability, relevance, clarity and suitability

- Pre-testing helps in removing spelling mistakes, wrong interpretations, misunderstandings before doing mass production

Slide 8

Monitoring and evaluation - M&E

- To understand how a project is performing it is advised to conduct baseline studies before implementation. These will provide you with information on the current attitudes, knowledge and practices of the people you will be implementing the project with.

- M&E can be performed through: questionnaires, interviews, consultations etc. Use of any means will depend on intended use of the information and available resources.

Slide 9

Factors for consideration in M&E

- Nature of the project for increased chances of scaling up
- Implementation status and problems of the Communication strategy
- Stakeholders identification and their involvement in the project
- Available communication skills *vs* those that have been used in the project
- Adequacy of the budget

Slide 1
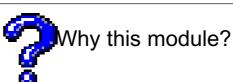
Professional Development Course on:

Managing and Scaling-up of Knowledge in Soil and Water Management

Module 5:

Training others to champion
Knowledge Management
Scaling-up

Slide 2

? Why this module?

- To help participants identify the characteristics of adult learning

- To help the participants apply the principles of adult learning in planning their training activities.

- To equip the participants with training techniques

Slide 3

Principles of adult learning

- It is self directed: Responsible for their own learning because they know their needs

- It fills an immediate need: Motivation to learn highest when it meets the immediate need

- It is participative: Participation in the learning process is active…not passive

- It is experiential: Learning is form shared experiences; learns form each other. The trainer can learn a lot form the learners

- It is reflective: Learners reflect, draw conclusions and derive principles for application to similar experiences in the future

Slide 4

Principles of adult learning
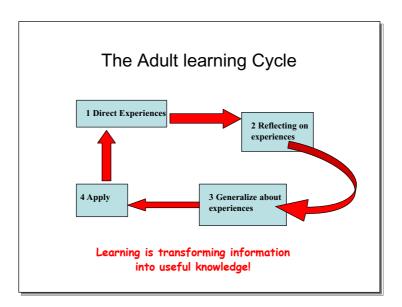
- It shows respect to the learner: Mutual respect between learner and trainer helps in the learning process.

- It provides a safe atmosphere: A cheerful relaxed person learns more easily than a fearful, embarrassed or angry one.

- It occurs in a comfortable environment: An uncomfortable person cannot learn effectively. Most of them have left behind very comfortable abodes…

- It provides feedback: Provides and requires feedback that is corrective but supportive.

Slide 5

Pedagogy and Andragogy

	Pedagogy (Classroom, formal)	Andragogy (Adult, non-formal)
Learner's role	•Follow instructions •Passive reception •Little responsibility for learning process	•Offer ideas based on experience •Interdependent •Active participation •Responsible for learning process
Motivation for learning	•External (family, etc) •Sees no immediate benefit	•Within •Sees immediate application
Choice of content	•Teacher-controlled •Little or no choice	•Centered on life or workplace problems
Method focus	•Gain facts, information	•Share and build on knowledge and experiences

Slide 6

The Adult learning Cycle

Learning is transforming information into useful knowledge!

Slide 7

Phase 1: The Direct Experience

The learner
- Learner uncovers new information that requires a response on his or her part

The trainer
- The trainer plays the role of a structurer
  - Presents objectives of the activity
  - Clarifies norms, rules and time limits
  - Presents information in a stimulating way

Slide 8

Phase 2: Reflecting on Experiences

The learner
- Sorts out the information learnt in phase 1

- Uses this information to develop key "learnings" about the subject matter in the next phase

- Analyzes the experiences

- Shares ideas and reactions with other learners

The trainer
- Helps the learner reflect on what he/she learnt in phase 1 and what it meant.

- Ensures that important aspects are not ignored

Slide 9

Phase 3: Generalizing about experiences

The learner
- Interprets what was discussed in phase 2
- Determines what it means and what lessons can be learned
- Draws principles

The trainer
- Guides the learner (he/she must be knowledgeable on the subject matter and be a credible information source. However, he/she should NOT provide all the answers!)
- Helps the learner focus on Phase 1 and 2 so that the learner can acknowledge learning something new.

Slide 10

Phase 4: Application

The learner

- Relates the learning to his/her own life situation

- Makes the connection between the training setting and the real world

The trainer

- Guides the learner (he/she must be knowledgeable on the subject matter and be a credible information source. However, he/she should NOT provide all the answers!)

- Helps the learner focus on Phase 1 and 2 so that the learner can acknowledge learning something new.

Slide 11

Learning styles

Learning Role	Learners Need	Trainer Behaviour
A: Dependent: Occurs in introductory courses, new situations etc. Learner has little or no prior information about the course	• Structure • Direction • External reinforcement • Encouragement • Esteem form authority	Lecturing, Demonstrating, Assigning, Checking, Testing, Reinforcing, Grading, designing materials, Transmitting content
B: Collaborative: Learner has some knowledge, information, ideas, and would like to share them or try them out.	•Introspection •Interaction •Practice •Observation •Participation •Experimentation	Collaborating, Questioning Modeling, Feedback Evaluating, Managing Coordinating
C: Independent: The learner is knowledgeable, and wants to continue to learn on his/her own in a new situation.	•Internal awareness •Experimentation •Non-judgmental support	Providing requested feedback, Providing resources, Consulting, Listening Negotiating, Delegating, Encouraging…

Slide 12

Barriers to adult learning

- Social responsibilities
- Lack of money
- Lack of time
- Not being aware of opportunities
- Organization red tape
- Lack of interest…I am too old!

Slide 13

What motivates the adult learner?

- Social relationships
- External expectations
- Social welfare
- Personal advancement
- Escape/stimulation
- Cognitive interest

Slide 14

Motivating the adult learner

- The subject must be relevant to their lives

- Set a friendly atmosphere

- Set an appropriate level of stress: The more important the subject the higher the level of tension. E.g., life threatening issues. However people learn best under low or moderate stress.
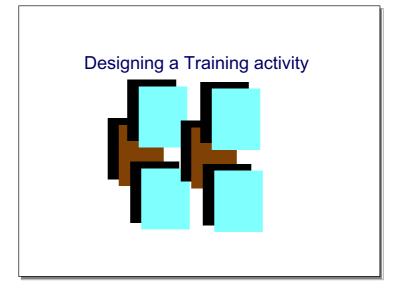
Slide 15

Motivating the adult learner

- Set appropriate level of difficulty: High level abstraction could discourage the learner; very low level abstraction could disappoint the learner!

- Give feedback, but do not patronize!

- Reward the learner: Give a certificate, where possible

Slide 16

Designing a Training activity

Slide 17

The Training Design

- The Training Design is the plan for implementing a training
- The effectiveness of a training programme depends on:
  - Training Needs Analysis (TNA)
  - Training Needs Assessment (TNA)

Slide 18

The Training Design
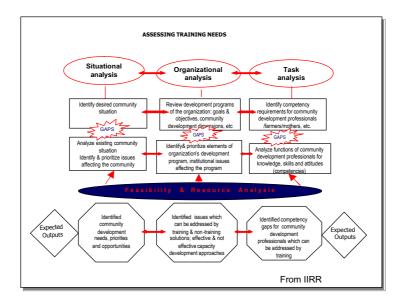
Training Needs Analysis
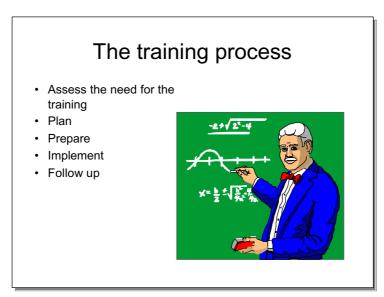
- This investigates performance discrepancies /gaps and the reasons for the discrepancies/gaps.
- Helps identify the best means of overcoming them

Training Needs Assessment

- Identifying the training interventions to address the performance problem

Slide 19

Slide 20

The training process

- Assess the need for the training
- Plan
- Prepare
- Implement
- Follow up

Slide 21

The training process

- Assess the need for the training
    - Obtain job descriptions
    - Identify relevant learner needs
    - Determine whether the training is the solution
    - Formulate the goal of the training

- Plan
    - Identify subject/content area
    - Construct a training plan
    - Formulate objectives
    - Design detailed sessions indicating training techniques
    - Design evaluation plan and tools
    - Determine follow-up activities

Slide 22
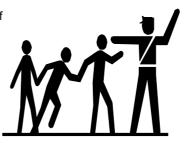
The training process

- Prepare
  – Prepare training materials
  – Prepare training logistics (venue, travels etc)
  – Specify roles

- Implement
  – Conduct the training event
  – Meet trainers/facilitators daily to monitor the training
  – Provide feedback to trainers/facilitators
  – Evaluate the training

Slide 23

The training process

- Evaluate the training
  – This helps you to assess the success of the training

  – It also helps in planning for future training

  – It helps when writing the report

Slide 24

The training process

- Follow-up
  – Plan supervision and follow-up activities wi time limits

  – Determine additional training needs

Slide 25

Writing objectives for different kinds of learning

✍ For learning Knowledge/Information/Facts use words like:

List, name, tell, explain, describe

✍ For Skills use words like:

Apply, Use List, Differentiate, Compare, Evaluate, Analyze, Construct, Develop, Do, Create, Generate, Decide, Plan, Examine, Implement

Slide 26

Writing Objectives for different kinds of learning

✍ Attitudes: This is the hardest to teach or evaluate. Learning is measured indirectly by observing behaviour. Use phrases like:

Demonstrate by… (e.g., demonstrate respect understanding by explaining the cause of hard pans on the farms…)

✍ Attitudes taught and evaluated include:
• Confidence in applying new knowledge/skills
• Patience
• Accuracy
• Thoroughness
• Tolerance for opposing views, etc

Slide 27

The training session

• Set the learning Climate
– Gain the learners' attention and interest
– Create informal rapport
– Recall relevant previous experience

• Present the objectives
– Link the session to previous ones (where relevant)
– Present objectives and check understanding
– Clarify expectations

Slide 28

The training session

- **Initiate the learning**
  - Introduce an activity in which the learners "experience" a situation relevant to the goal of the training (role play, case,)
  - Let the learners discuss the experience

- **Reflect on the experience**
  - Guide the discussion
  - Let learners react to the experience
  - Learners participate in problem solving
  - Give feedback

Slide 29

The training session

- **Discuss lessons learnt**
  - Learners identify key points that have come out of the experience and discussions
  - Help the learner draw general conclusions form experience and reflection

- **Discuss application**
  - How will they use the information/knowledge gained?
  - What problems do they anticipate as they apply what they have learnt?
  - What will they do to overcome the problems?

Slide 30

The training session

- **Close the session**
  - Summarize the events of the training session
  - Refer to the objectives to see whether they were achieved
  - Discuss how they can retain the what they learnt
  - Link the session to the rest of the programme
  - Make them feel positive about the session.

Slide 31

Training techniques

Kinds of learning	Training activities	Evaluation Activities
Facts/Information	Readings, songs, lectures, brainstorming, TV, Radio	Written exams, oral exams
Skills (Manual, thinking, planning etc)	Demonstrations or instructions followed by practice with feedback	Observations on the job, role playing, practicum etc
Attitudes/values	Discussions, role play, role modeling, values, clarification exercises	Indirectly, by observing behaviours, especially on job

Slide 32

Training techniques

- Presentation: Conducted by the resource person to convey information, theories or principles
- Demonstration: This is a presentation of a method for doing something; shows how something is done
- Case study: A written description of an hypothetical situation for analysis and discussion
- Role playing: Two or more people enact parts in a scenario related to a training topic
- Simulation: An enactment of a real life situation
- Small group discussions: Allows learners to share experiences and ideas or to solve a problem

Slide 33

Module 5: TOR

- Group 1&2
  - Design a training plan for awareness raising to change attitudes among donors, policy makers to raise awareness on CKM
  - Develop a programme for university level training
- Group 3&4
  - Make a Training plan for people in the NARS, extensions and NGOs …

APPENDIX IV: GROUP REPORTS

The PDC was rich in-group interactions. Participants were divided into four groups, according and provided with terms of reference for the discussions. After each lecture sessions, the groups took time to discuss the issues that were raised. Later, they presented the results of their discussions in plenary and got the input of the other participants. This section of the training report has put together all the groups' outputs as they are very valuable

1. GROUP 1

1.1. Policy issues on Knowledge Management at various levels

The first task for group 1 was to assess polices at various levels and identified those that support knowledge management and those that do not support it. The terms of reference for this task were as follows:

- ? Look at policy issues on Knowledge Management at Global, Regional, National and Institutional levels, and:
  - o Identify elements of those policies that are supportive and those that are not supportive to knowledge management and scaling up.
  - o Recommend what should be done a to scale up KM at the various levels.
  - o Indicate what they as group members would champion in their individual institution and projects.
  - o Show what they would do differently as a result of the training.
- ? Develop a KM Strategy for ASARECA
- ? Formulate an awareness plan for policy makers, university professors and senior level managers.

1.1.1. Examples form global levels

a) WSSD's WEHAB Strategy
- ? Strengthen national capacities in developing countries to address and to benefit form appropriate technology development related to agricultural services
- ? Promote cross-boundary partnerships and alliances related to generation, adaptation and dissemination of technologies
- ? Design national policies that facilitate the establishment of functional linkages among research, extension, education and communications
- ? Promote information exchange, networking and technology generation and dissemination related to best practices in agriculture

b) The UN Millennium Project task force
Greater emphasis on increasing the capacities of national governments and international organizations to utilize advice form the scientific community in a world increasingly marked by rapid technological change

c) The World Bank Rural development strategy
? Identification and scaling-up of good practices within country, between countries and between regions
? Increased emphasis on piloting new and innovative approaches that reflect the dynamic economic, social, environmental and institutional aspects
? Strategic leveraging of projects to a larger scale or broader coverage to increase efficiency and impact

d) Donors
DFID has provided funding for programmes that focus on use and uptake of research results, while USAID (SAKSS) encourages the institutionalization of KM within national agencies so that African policy makers have access to up-to-date analysis and knowledge.

1.1.2. Supportive policies at regional level – examples
NEPAD –CAADP focuses on enhancing rate of adoption of technologies, institutionalizing delivery and promotion of systems that quickly bring innovations to farmers and agribusiness; and renewing ability of research systems to efficiently and effectively generate and adapt new knowledge and technologies.

The **AATF** creates enabling environment for royalty free providers to resource poor farmers while the **NBI** provides forum for discussion on best practices, documentation and dissemination of best practices. Similarly ASARECA: Encourages utilization of information for research and development through the networks. This is done through: capacity building, mechanisms for harmonization of information systems, enhancing generation of and access to information.

ASARECA NRM Strategy: Increased effectiveness in knowledge management brokering and knowledge sharing.

1.1.3. Unsupportive elements at regional level

The following elements of polices at Regional level were identified as not supporting KM.

? Lack of coordination and synergies (complementarities) among networks and institutional roles in KM and KS.
? New systems coming up without learning form past experiences
? Sudden changes in donor interest and policies
? Globalization e.g subsidies etc.
? Apart form DIFD , most other statements do not translate into actions (DIFD has a guideline for communication strategy)
? IPR knowledge /information not easily accessible
? Sectoral and networks overlapping and conflicting interests (mandates)
? Inadequate capacity for policy implementation
? Poor sharing, exchange and documentation of information and knowledge among ECA countries
? Inadequate and expensive communication infrastructure
? Institutions involved in up scaling have inadequate capacity to deliver all demands (thin on ground)

?   Underdeveloped mechanisms for funding regional programmes which restrict resource mobilization
?   Inadequate capacity in knowledge management (strategies, HR, Institutions, infrastructure)
?   Fixed mindset on linear extension model
?   Inadequate support for private sector involvement in information and knowledge management
?

1.1.4. Remedial measures needed at global and regional levels

After looking at the policy issues at the regional level, the group came up with the following recommendations.

?   Define clear roles, and institutional re-arrangement and coordination
?   Mandatory analysis and use of available knowledge before setting up new systems
?   Define our own priorities, be flexible on donor funding (e.g. work with several partners, be diplomatic etc.)
?   Understanding and analyze our situation we respect to global trends and opportunities and package it into knowledge and recommendations for the right people (decision makers)
?   Lobby for action /implementation with relevant organizations
?   Increase negotiation power by creating consortia to reduce costs of some patented
?   Need to create awareness on existing policies: Develop capacity for analysis and implementation of policies
?   Support and improve networking among organizations and countries in the ECA ,
?   Create and share inventories /database portals of existing information resources
?   Provide access to global information resources
?   Packaging and targeting existing information (e.g. policy briefs, Farmer leaflets, radio and television broadcast)
?   Increase capacity of these institutions to deliver
?   Improve mechanisms for funding regional resources
?   Sensitization and awareness creation among scientists on need to change 'mindset'
?   Encourage graduate studies to include communication studies
?   Actively include private sector involvement in information and knowledge management at all stages

1.1.5. Supportive policies at national and institutional levels

Assessment of Uganda's Programme for Modernization of Agriculture showed that there was a general and increased focus on holistic uptake promotion and scaling up policy framework. In Kenya there was an institutionalization of the NARS approach to provide appropriate technology knowledge and information to the agricultural sector by transforming subsistence farming into commercial agriculture. In Sudan, up-take promotion is central to the foundation of the agricultural technology transfer and extension administration. In Tanzania the new strategy for agricultural development supports public and private sector partnership towards commercialization of agriculture.

1.1.6. Unsupportive policies at national and institutional levels

The following were identified as elements of policies that do not support KM at national and institution levels.

? Institutional setup and frameworks complicated e.g. in some countries extension in different ministry guided by different policies; as well as inadequate synergies (complementarities) among institutional roles in KM and KS.
? Inadequate capacity for policy implementation
? Poor sharing, exchange and documentation of information and knowledge among organizations
? Inadequate incentives for up-scaling for scientists
? Inadequate and expensive communication infrastructure
? Inequitable distribution of resources between urban and rural settings
? Institutions involved in up scaling have inadequate capacity to deliver all demands (thin on ground)
? Bias towards urban areas rather than rural areas
? Inadequate capacity in knowledge managements (strategies, HR, Institutions, infrastructure)
? Fixed mindset on linear extension model
? Inadequate support for private sector involvement in information and knowledge management

1.1.7. Remedial measures needed at national levels

The group suggested the following remedies to address the unsupportive policy elements
? Define clear roles, and institutional re-arrangement and coordination)
? Need to create awareness on existing policies: Develop capacity for analysis and implementation of policies
? Support and improve networking among organizations and countries in the ECA
? Create and share inventories /database portals of existing information resources
? Provide access to global information resources
? Packaging and targeting existing information (e.g. policy briefs, Farmer leaflets, radio and television broadcast)
? Create an ward system for KS
? Ensuring that projects are impact oriented
? Lobby for favourable policies form government (ICT, etc)
? Lobby for incentives for rural development
? Increase capacity of these institutions to deliver
? Improve mechanisms for funding regional resources
? Sensitization and awareness creation among scientists on need to change 'mindset'
? Encourage graduate studies to include communication
? Actively include private sector involvement in information and knowledge management at all stages

1.1.8. Recommended actions by group members

1.1.8.1. What to champion

The individual group participants would champion the following in their organizations and projects.
? Research projects should include in their design communication strategy to enhance uptake
? Provide training in KM and uptake promotion /up scaling
? Create awareness among policy and decision makers and newspaper articles

?   Encourage graduate studies to include communication
?   Need for a KM and scaling strategy

1.1.8.2.What to do differently

In this part, participants were to show the impact the training would have on their knowledge and practice regarding KM. They said that they would ensure that a communication strategy was incorporated into the on-going projects. They would also document and share with others ensure that what they had learnt**.**

1.2. Knowledge Management Strategy for ASARECA

As part of hands-on exercise, the group developed elements of a Knowledge Management Strategy for ASARECA. The terms of reference for this assignment were as follows:
?   Identify knowledge needs of clients, staff and management
?   Evaluate different options for addressing identified issues and needs based on SWOT analysis
?   Select strategic actions that fit with demand and organization set up

1.2.1.   Knowledge needs of ASARECA stakeholders

The table below shows the knowledge needs of the ASARECA stakeholders. This information is necessary when designing a communication and knowledge sharing strategy.

Stakeholders	Comparative Advantage	Productivity	Value added	Competitiveness	Consumer needs
NARS & universities	Regional analysis of NR -Existing local and global knowledge base	S & T information Indigenous knowledge -Grey literature	Market demands (local & global)	Information about what other players do -Research management information -Information on modern	Consumer profile and preferences
Farmers	Land & water, climate, financial inst., subsidies, technical support	Improved varieties, inputs, husbandry, implements , S&W management	Post harvest tech.	Market information - Product quality	Consumer profiles and preferences
Extension	Information on client communities	R & D information	Post harvest tech	Market information -Product	Consumer profiles and preferences
NGOs	Information on client communities	R & D information	Information on client communities	Market information -Product	Consumer profiles and preferences

Stakeholders	Comparative Advantage	Productivity	Value added	Competitiveness	Consumer needs
Government	Natural resources analysis	? R& D Information ? Policy analysis	? Investments strategies and opportunities ? Policy Analysis	? Global and regional market ? Policy analysis ? Analysis of agricultural sector	Global, Regional and local consumer profiles and preferences
Agribusiness/service providers	Product and producers	? S&T information ? Grey literature	? Post-harvest technology ? S&T information	? Information about what other competitors do ? -Product quality ? -Market info.	Consumer profiles and preferences
Donors	Profile of beneficiaries	Reputable strategic plans	Market demands (local, global)	Reputable strategic plans	Consumer profiles and preferences and environmental impacts
General public	Land and water climate, financial institutions, subsidies, technical support	? Improved product development technologies	Post-harvest technology	Market information Product quality	? Market information ? Product quality
Media		S&T information, IK expertise	? Post-harvest technology ? Market information ? Product quality		

1.2.2. SWOT analysis for ASARECA

The group did a SWOT analysis to identify the main areas that the CKM strategy would address, as presented below

Strengths	Opportunities	Weaknesses	Threats
Networking	Regional support policy	Unsustainable funding	Dependency on donor funding
Mechanisms to solicit funds	Gaining international recognition	Poor infrastructure maintenance	Political instability in member countries
Regional coverage	Institutions e.g. NARS, NGOs, etc.	Poor incentives for scientists	Globalization
Governments support	Governments support	Inadequate capacity	Climate change
Trained human resource base	Linkage with centers of excellence	Limited communication	Degradation of natural resources and biodiversity
Non- Political			

1.2.3. Stakeholder actions

Apart form identifying the different stakeholder necessary for effective scaling up, it is important to determine in advance what action is expected form them. The table below show the actions expected form each stakeholder.

Stakeholders	Actions
Farmers	Market oriented production, Improved productivity, product quality, conserve natural resources and biodiversity, reduce post harvest losses, quick and wide adoption of technologies and innovations
Extension	Transfer innovations, best practices and be market oriented, improve collaboration with NARS
NGOs	Facilitate scaling out, lobby for appropriate policies, linking farmers to market, creating awareness
Agribusiness (food processors, input suppliers, service providers, manufacturers	Provide market and market information to farmers, provide quality services to farmers, provide inputs and implements timely, increase and broaden the investment base
Financial Institutions	Provide credit, business entrepreneurship and financial advice
Governments	Ensure conducive policies exists, linkage to markets, increase investment and commitment to agriculture research and development, ensure natural resources and biodiversity conservation
NARS	Market oriented and demand driven Research, capacity development, regional collaborative research
Universities and training institutions	Incorporate relevant (market, KM, CKS) modules in curricula, mainstream research towards problem solving, develop capacity towards entrepreneurship
General public	Demand for quality goods, services and environment. Demand for favourable policies
Donors	Increase support for R&D, gain trust for regional R&D
Media	Improve collaboration between media and R&D to produce attractive programs, popularising R&D products, provide reliable market information

1.2.4. Stakeholders' KAP

The stakeholders Knowledge, Attitude and Practices are necessary to identify the information they need. It is also necessary to know what they feel about a certain technology, and what they are currently doing with or without it, as to determine the means of reaching them. The following is the KAP of ASARECA stakeholders.

Stakeholders	Knowledge	Attitudes	Practices
Farmers	Rich in IK, Inadequate knowledge in market oriented agriculture, inadequate knowledge on technologies and best bet practices	Conservative attitude of farmers, sceptical to adopt new technologies	Traditional farming
Extension	Informed on farmers' needs and attitudes, local environment, some knowledge of technologies and best practices	Research is not generating relevant technologies for farmers, feel neglected	Limited transfer of technologies, linear extension model
NGOs	Better informed on farmers' needs and attitudes, local environment, some knowledge of technologies and best practices.	Sceptical about NARS, government is not doing enough	Limited consultation with NARS, tend to work in isolation, spread thin on ground, project oriented,
Agribusiness (food processors, input suppliers, service providers, manufacturers)	Financial sources, markets, some knowledge of technologies	Agriculture is a risky business and less profitable	Run alternative business, exploit farmers/consumers to ensure profit
Financial institutions	Investment environment	Agriculture is risky business	Give loans, charge higher interest rate
GOVERNMENT	Policies and development programs, limited knowledge on global agreements	R&D is not doing enough, NGOs are not trust worthy, agriculture sector in burdening the national budget	Less investment in agriculture, limited expert consultation with R&D
NARS	S&T information, best practices and innovations, limited knowledge on market orientation, limited knowledge management and sharing	knowledge dissemination is not their mandate, extension is not doing enough, policies are not favourable, government is not providing enough funds	Linear dissemination model, do not read and analyse policies
Universities and training institutions and sharing	S&T information, best practices and innovations, limited knowledge on market orientation, limited knowledge management	Research for academic is not appealing	Graduate research to fulfil academic objectives, tendency to do consultancy

1.2.5. Issues to communicate

If the CKM strategy is to be effective, the strategy designer must gather form the KAP the information needs of the stakeholder, and determine the means of communication wit them. The table below identifies the information needs of the stakeholders and the mean of passing information to them.

Stakeholders	Issues to Communicate	Means
Farmers	1. Market information 2. Product quality 3. Financial institutions and sources 4. technical support 5. Post harvest tech. 6. Land & water, climate, improved varieties, inputs, husbandry, implements, s&w mgt. **7.** Consumer profiles and preferences	1. Radio, bulletins, leaflets, mobile phones, web site 2. Leaflets, training, agriculture shows, demonstrations, posters 3. Meetings, radio, leaflets 4. Manuals, training, bulletins, extension service provider, video 5. Demos, leaflets, training, posters, radio, video 6. Training, field days, demos, radios, exchange visits, video, leaflets, extension agents 7. Radio, bulletins, leaflets, web site, directory, meetings, exchange visits
Extension	1. Information on client communities 2. R & D information, Post harvest tech 3. Market information 4. Product quality **5.** Consumer profiles and preferences	1. Meetings, visits, video, 2. Leaflets, training, agriculture shows, demonstrations, posters, manuals, telecenters, web sites, CD-ROMS, e-mail, Q&A 3. Radio, bulletins, leaflets, newspapers, TV, web sites 4. Manuals, training, bulletin, video **5.** Training, trade shows, radios, market visits, video, leaflets, e-mail,
NARS	1. Regional analysis of NR, Existing local and global knowledge base, S & T information 2. Indigenous knowledge 3. Grey literature 4. Market demands (local & global) 5. Information about what other players do 6. Research management information 7. Information on modern technology Tools and methods **8.** Consumer profile and preferences	1. Databases, website Scientific and technical publications, CD-ROMS, GIS products, seminars, conferences, workshops, training 2. Technical reports on IK, TV&video documentaries, field visits 3. Website, databases, technical report, theses 4. Market bulletins, email, websites, visits, newsletters 5. Websites, publications 6. MIS, DSS, technical reports, performance reports, M&E reports, work plans and budgets reports 7. Newsletters, website Scientific and technical publications, manuals, seminars, conferences, workshops, training, email alerts 8. Trade shows, radios, market visits, videoleaflets, e-mail, stakeholders workshops, field days

Stakeholders	Issues to Communicate	Means
NGOs	1. Information on client communities 2. R & D information, post harvest technologies 3. Market information 4. Product quality 5. Consumer profiles and preferences	1. Meetings, visits, video, 2. Leaflets, training, agriculture shows, demonstrations, posters, manuals, tele-centres, web sites, CD-ROMS, e-mail, Q&A 3. Radio, bulletins, leaflets, newspapers, TV, web sites 4. Manuals, training, bulletin, video 5. raining, trade shows, radios, market visits, video, leaflets, e-mail
Agribusiness	1. Products and producers 2. S & T information 3. Grey literature 4. Post harvest tech 5. Info about what other competitors do 6. Product quality 7. Market info. **8.** Consumer profile and preferences	1. Databases, website, seminars, leaflets, newsletters, posters, trade shows, magazines, demos 2. Website, leaflets, newsletters, magazines 3. Website, databases, technical report, theses 4. Leaflets, agriculture shows, demonstrations, posters, manuals, web sites
Government	1. Natural resources analysis 2. R & D information 3. Policy analysis 4. Investment strategies and opportunities 5. Policy analysis 6. Global and regional market info. 7. Policy analysis 8. Strategies analysis of agric sector 9. Global, regional and local Consumer profiles and preferences	Policy briefs & briefing, newsletters, newspapers, seminars, trade shows, field visits, exchange visits, the news on TV and radio, website
Donors	1. Profile of beneficiaries 2. Reputable Strategic plans 3. Market demands (local & global) **4.** Consumer profile and preferences &Environmental impacts	Websites, technical reports, M&E reports, email, newsletters
Media	1. Regional cooperation to poverty alleviation 2. S & T information, IK, expertise 3. Post harvest tech. 4. Market information **5.** Product quality	Press releases, policy briefs, interviews, meeting, leaflets, website, newsletters
General Public	1. NRM issues 2. Improved product development technologies 3. Post harvest tech. 4. Market information -Product quality **5.** Market information -Product quality	Magazines, radio, TV and video documentaries, news papers and leaflets, calendars

1.2.6. Lessons learnt

The group conclude that an effective strategy takes long hours of planning, and a clear understanding of the stakeholders. The stakeholders are very important and they must

be involved at all levels. Therefore, the overall organisational strategy and the Knowledge Management Strategy should be done at the same time.

1.3. An Awareness Plan for Policy Makers and High Level Managers

The group came up with plan to create awareness on knowledge management among policy makers, university professors, and senior managers.

Objectives
? Understand CKMS
? Change of attitude
? Initiate set-up of institutionalization of CKMS (i.e. become champions)

Characteristics of High level policy makers		
Knowledge	**Attitude**	**Practices**
May have little or biased knowledge about what is to be communicated	Belief that CKM is other peoples responsibility	They have limited time to do what is not their normal duty
Aware that knowledge is important but have little or no knowledge on the value of for CKMS planning	KM is not a priority for them	Adhoc KM practice, no budget and structure

The plan
Prepare content. This could be:
? Presentation (e.g. Module III of this workshop)
? CD ROM – useful resources for CKMS
? Demo – videos of successful stories/failures
? Plan to take advantage of several workshops to give a 15 – 30 min of presentation or demo, distribute policy briefs, CD ROMS and business cards
? Arrange for face-to-face discussions or demonstration of a success or failure knowledge management stories
? When you have a workshop on CKMS invite TV media to give you few minutes news flash

2. GROUP 2

The group's discussions for the entire training period centered on the following Terms of Reference (ToR)
1. Do a SWOT analysis of the knowledge management cycle steps in their institutions
2. Formulate a communication and knowledge sharing (CKS) for ASARECA funded project on: *Natural Resource, Governance and Farmer-Market Linkages*
3. Formulate an awareness raising plan in KMS for policy makers and donors
4. Design a training plan for universities.

2.1. SWOT Analysis of Key Institutions for the Various KM Cycle Steps
2.1.1. Strengths and Weaknesses
The group looked at the KM cycle with reference to their institutions and did a SWOT analysis. The Table below shows the Strengths and Weaknesses for different organizations.

KM Cycle steps	The sources of acquisition	Organizations				
		PVO	NGOs	NARS	University	Extension
Knowledge acquisition	Access to knowledge and technologies	Strong	Strong	Strong	Strong	Strong
	Institutional networking					
	Trainable manpower in knowledge management					
	Access to mass media and ICT					
	Increases demand for knowledge form stakeholders					
Brokering	Institutionalization	Strong	Strong	Weak	Very weak	Strong
	Communicating					
	Publishing					
	Mass media					
	Linkages					
Packaging	Attractiveness	Strong	Weak	Weak	Fairly strong	Strong
	Usefulness					
	Contents					
	Format					
	Language					
	The clientele					
	Integration with other scientists					
	Limited /lack of knowledge					

KM Cycle steps	The sources of acquisition	Organizations				
		PVO	NGOs	NARS	University	Extension
	Design					
Sharing	Conferences, seminars	Very weak	Weak	Weak	Weak	Weak
	Scientific papers; journals					
	Dialogue					
	Inter regional/institutional					
	Data base management					
	ICT					
	Agricultural shows					
	Willingness					
	Incentives					
	Policy					
Piloting	Analysis	Strong	Strong	Fairly strong	Weak	Weak
	Consideration					
	Methodology					
	Motivation					
	Participation					
	Site selection					
	Adoption					
Scaling up	Impact	Strong	Weak	Very weak	Very weak	Weak
	Resources					
	Stakeholders & partners					
	Policy					
	Infrastructure					
	Markets					
	Collaboration & partnerships					

2.1.2. Opportunities

In spite of the weaknesses, the group identified some key opportunities that can be seized to develop an effective KM system for institutions and projects.

KM cycle steps	The Opportunities	Organizations				
		PVO	NGOs	NARS	University	Extension
Knowledge acquisition	Access to knowledge and technologies	Strong	Strong	Strong	Strong	Strong
	Institutional networking					
	Trainable manpower in knowledge management					
	Access to mass media and ICT					
	Increasing Demand for knowledge form stakeholders					
Brokering	ICT & Mass media	Strong	Strong	Weak	Very weak	Strong
	Linkages					
Packaging	Available knowledge	Strong	Weak	weak	Fairly strong	Strong
	Mass media/ICT					
	Language					
	Networking					
	Competitiveness					
	Markets					
Sharing	Mass media	Very weak	Weak	Weak	Weak	Weak
	ICT					
	Publications					
	Growing culture					
	Conferences					
	Motivation for sharing					
	Conditionality by donors					
	Good will by policy makers					
Piloting	Growing culture for PRA	Strong	Strong	Fairly strong	Weak	Weak
	Funds form donors					
	Result oriented research					
Scaling up	Governments will	Strong	Weak	Very weak	Very weak	Weak
	Donors conditions					
	Markets					
	Active participation by stakeholders					

KM cycle steps	The Opportunities	Organizations				
		PVO	NGOs	NARS	University	Extension
	Increased number of financial institutions					
	Increased collaboration					

2.1.3. Threats

Various threats in the KM Cycle were identified as shown on the Table below.

Acquisition	Copyrights
	Limited funds in agriculture compared to other sectors
	Donor interests
	Inappropriate policies
Brokering	Too much information flow in the countries
	Competition
	Lack of vision
	Globalization
Packaging	Language complexity
	Loss of message – over simplification
	Costs
Sharing	Control of market segments
	Language
	Copyrights
	Control of media
Piloting	Funding
	Immediate results
	Shortsightedness of strategies
	Instability of policies
Scaling up	Funds
	Heterogeneity of the stakeholders
	Uncooperative attitudes of some stakeholders
	Shortsightedness of researchers, research managers
	Security/ instability

2.1.4. Recommendations

The following table shows the recommendation that the group came up with to address the weaknesses.

Recommendations for solving the weaknesses	
Weakness	Recommendations
Acquisition	Expand and promote ICT at research institutions by training more people and reducing taxes on ICT
	Reduce dependency on foreign knowledge and instead concentrate on demand and client problems
	Draw agreements with the developed world to use appropriate knowledge developed by them with limited or no restrictions
	Develop and support appropriate laws for effective IP management
Brokering	National policies should strengthen and promote institutional capacity for dialogue
Packaging	Institutions should be support the packaging of knowledge
Sharing	Provision for incentives that will encourage sharing of knowledge
Piloting	Build sustainability in pilot
Scaling	Strengthen and support institutional communication plans and strategies for effective vertical and horizontal collaboration
Threats	
Acquisition	Provision for material and financial support to the promotion of intellectual property of researchers
	Ensure that research is geared more towards the needs of the clients
Brokering	Increased facilitation for positive interaction between researchers, policy makers and other stakeholders for enhanced brokering in knowledge
Packaging	Attract investments in packaging to stimulate a better utilization of knowledge
Sharing	Consider the diversity of culture and language to promote knowledge sharing.
	Protect intellectual property rights of regional scientists
	Strengthen and develop the utilization of different communication channels
Piloting	Provide for effective screening and adequate time for testing new products before scaling up
Scaling up	Provide an enabling environment (locally, regionally and globally) for effective scaling up such as security of the people.
	Promote consensus building amongst stakeholders for effective scaling up

2.1.5. The roles of research institution
Research institutions have a vital role to play in the development of KM. The group identified some of them as follows.
- ? Identifying stakeholders, establishing effective linkages and increasing the cloud density for effective utilization and uptake of research outputs.
- ? Providing adequate training in communication skills and planning to all researchers regardless of discipline.
- ? Providing adequate incentives and rewards to enhance KM.

? Producing quality innovations that portray a good image of the institution/organization.

Useful definitions and descriptions

The group looked at the different definitions of some key terms and came up with the following to fit their context.

? **Knowledge:** The combination of information processes to achieve desired goals.
? **Innovation:** The ability to coupling knowledge and possibilities with opportunities to create solutions to existing problems.
? **Cloud density:** An increase in appropriate technologies.

Link between the definitions and current KAP of S&WM

Most researchers and research managers are not unaware that communication is one of their roles. A gap exists between the roles that they perform and what is expected of them.

2.1.6. What the Group would champion

The training was meant to equip the participants and help change their attitude and practices towards KM. They indicated that they would champion KM in the following areas.

? Increase awareness of knowledge sharing and management amongst stakeholders through workshops and seminars.
? Advocate and lobby for policies and a change in attitude and practices to promote knowledge management.
? Turn knowledge with action to generate wealth through putting in place measures that address KM and scaling up.

2.2. Communication and Knowledge-Sharing (CKS) Plan for the Natural Resources Management, Governance and Farmer-Market Linkages Project

The group was asked to develop a CKS plan for the NRM. They came up with the following plan.

2.2.1. Project goal and purpose

The goal of the project is the utilization of market-oriented approaches for NRM to increase productivity, profitability and nutrition security form farming and other nr-based enterprises. The purpose of the project is to develop and promote product chains, investment, partnership arrangements and desirable governance mechanisms that effectively link NRM interventions to markets. **Output 2 of the project** deals with the development of strategies for linking smallholders' investments in NRM to local, national and regional market opportunities developed.

2.2.2. The CKS aim

The aim of the CKS plan is to empower smallholders to promote, utilize and scale-up strategies that link profitable NRM- based enterprises to markets.

2.2.3. Responsible person for CKS

To be effective, an officer should be held accountable for the implementation of the CKS Plan. For this group, one member of the project management team (Sarah or George) will take the lead and will be backed up by a part-time consultant.

2.2.4. The communication stakeholders

For effectiveness, a project must identify it CKS stakeholders. These are the people that must be kept informed at any given time. The NRM project identified the following stakeholders.

? Smallholder farmers
? Local leaders
? NGOs and society organizations
? Private sector – Traders, Transporters, Input suppliers, Exporters
? Research institutes
? Donors
? Policy makers – ministries of agriculture and trade
? Extension
? Other related projects and programmes
? Financial institutions

2.2.5. Issues on which communication should be made

After analyzing the stakeholders, the group discussed the information needs of the stakeholders. These included:

? Profitable NRM-based enterprises
? Desirable governance mechanisms
? Appropriate market chains
? Building strategic partnerships

2.2.6. Current KAP of stakeholders

The following are the current Knowledge, Attitude and Practice (KAP) of the various stakeholders of the NRM project.

Stakeholder	Knowledge	Attitude	Practice
Farmers	Inadequate knowledge in identification of profitable enterprises and the other project outputs.	Positive towards all project outputs	Low level of profitability in production
Local leaders	Same as for the farmers	Same as for the farmers	Same as for the farmers
NGOs	Adequate in output 1,2 & 3 but inadequate in 4 &5	Positive in all outputs	Moderate in outputs 1,2, & 4 but weak in 5

Private sector	Fairly adequate in output 1; inadequate in 2 & adequate in 3,4, &5	Positive for all outputs	High practice in output 1, low in 2 and moderate in 3,4 &5
NARS	Inadequate for all outputs	Positive for all outputs	Low for all outputs
Extension	Inadequate for all outputs	Positive for all outputs	Low for all outputs
Policy makers	Inadequate for all outputs	Positive for all outputs	Low for all outputs
Donors	Adequate for all outputs	Positive for all outputs	Not applicable

2.2.7. Actions for the stakeholders

Stakeholders are expected to respond in a given way as a result of the information they receive. The Group identified the following as the response they expect after communicating the NRM stakeholders.

- ? Profitable NRM-based enterprises identified and initiated
- ? Desirable governance mechanisms /strategies streamlined
- ? Production and marketing groups formed
- ? Appropriate market chain for NRM-based enterprises functional/ established
- ? Participation in agricultural shows and trade fairs to promote their products

2.2.8. Lessons learnt

The group identified the following as the keys issues they had learnt for the session.
Communication plans are essential tools for achieving project outcomes
The development of an effective communication plan requires a multidisciplinary team of people; it is not a one-person job. The Group was determined to be advocates for communication plans in new projects and in the ongoing projects, if funds and time allowed it. As a result of the training, the group said that they would train colleagues in the development of communication plans. The project team in the 3 project countries will do a stakeholders' analysis to determine the actual clients' KAP.

2.3. Awareness Raising Plan in KMS for Policy Makers and Donors

Rationale

Currently, there is a growing importance of CKM to scale up available and emerging technologies, and generally, there is serious lack of awareness and knowledge of CKM by policy makers and donors. The objectives are:

- ? To raise the awareness of planners and donors with respect to CKM
- ? To bring about attitudinal changes in the mindset of planners and donors on CKM

2.3.1. Criteria for awareness raising and attitudinal change

The criteria for awareness raising and attitudinal change will be Knowledge on CKM, the mode of delivery of the various information packages and the expected action form the target group.

Mode of delivery to raise awareness	
Target groups	Mode of delivery
Ministers	Petition, radio, print media, news paper, policy briefings, organize periodic fair days, granting them honorary position in professional associations, involvement in professional associations
Directors	>>
Managers	Petition, radio, print media, news paper, policy briefings, organize periodic fair days, granting of honorary position in professional associations, involvement in professional associations; report, seminars, workshop, proceedings
Policy makers	Petition, radio, print media, news paper, policy briefings, organize periodic fair days, granting of honorary position in professional associations, involvement in professional associations; organization policy debates,
Planners	Petition, radio, print media, news paper, policy briefings, organize periodic fair days, granting them honorary position in professional associations, involvement in professional associations, conference, seminar, workshop, CD ROM,
Commissionaires	Seminar, workshop, Petition, radio, print media, news paper, policy briefings, organize periodic fair days, granting them honorary position in professional associations, involving them in professional associations

2.3.2. Contents of awareness creation plan

The following will form the content of the CKM awareness-raising plan.

? Introduction on **CKM** and scaling up
? Global, continental, national status of KCM
? The science of managing and scaling up of knowledge
? Innovations
? Knowledge management cycles

2.3.3. Means of reaching the identified stakeholders

Appropriate media will be used to reach the different categories of stakeholders. The following is a list of the various tools to pick form according to the stakeholder.

? Handouts
? Presentations
? Case studies
? Experience sharing
? Discussion
? Reference materials
? Stories

The programme will be implemented along the following activities.

? Regular programs
? TV and Radio broadcast on a weakly bases for 1 month
? Newspaper based broadcast on a weekly bases
? Poster and calendar production and dissemination
? There will also be special programs that will involve at least 10 events every year, and 1-3- days training, three times in a year

To ensure effective implementation and to monitor success, a monitoring mechanism will be built into the plan. There will be a pre-evaluation/bench mark evaluation and a final evaluation of the process.

2.4. Developing a Training in Knowledge Management for Universities
Course title: Knowledge Management Strategies

Rationale and expectations
Graduate students form universities have limited knowledge in communication and knowledge sharing thus finding it difficult to effectively deliver their assigned tasks. After the training, participants will be expected to understand the concepts of KM, communication, knowledge sharing. They will also learn how to develop a communication and knowledge-sharing plan.

The objectives of the training will be:
? To equip the graduates with knowledge and skills of communication and knowledge sharing
? To facilitate students to effectively use the various approaches of CKM
? To facilitate the students to identify appropriate communication media and channels for different stakeholders
? To train students in monitoring and evaluation of communication and knowledge sharing activities.

Methodology and content
The learning activities will include presentations, group discussions, plenary discussions, group exercises and workshops/seminars. In all, practical learning will be emphasized.

The group developed the following draft programme for the training.

Module	Content	Time required
Knowledge, knowledge sharing and communication	Science of managing and scaling up knowledge	1 hours lecture, 1 hour group work & 1 hour seminar
	Definition of key concepts in CKM	1 hours lecture, 1 hour group work & 1 hour seminar
	Knowledge management cycle	1 hours lecture, 1 hour group work & 1 hour seminar
Approaches to CKM	Knowledge management strategies for organizations	1 hours lecture, 1 hour group work & 1 hour seminar
	Different practices for knowledge sharing and communication	1 hours lecture, 1 hour group work & 1 hour seminar
	Tools and activities for effective knowledge sharing	1 hours lecture, 1 hour group work & 1 hour seminar
Appropriate communication media and channels for different stakeholders	Identification of different stakeholders to communicate to	1 hours lecture, 1 hour group work & 1 hour seminar
	Communication media and channels	1 hours lecture, 1 hour group work & 1 hour seminar
	Development of communication products	½ hr. lecture 2 hours practical
4. Monitoring and evaluation of	Definition of monitoring and evaluation	1 hours lecture, 1 hour group work & 1 hour seminar

Module	Content	Time required
communication and knowledge sharing	Approaches to monitoring and evaluation	1 hours lecture, 1 hour group work & 1 hour seminar
	Monitoring and evaluation tools	1 hours lecture, 1 hour group work & 1 hour seminar
5. Examination		2.5 hours
Total	1 semester unit	40 hours

3. Group 3

The following were the group's Terms of Reference (ToR)
1. Do a SWOT analysis for institutions engaged in Research
2. Formulate a Communication and Knowledge Sharing (CKS) plan for IMAWESA
3. Design a training plan for people in NARS, Extension and NGOs

3.1. SWOT Analysis for Institutions Engaged in Research

The table below is the SWOT Analysis for institutions involved in research in East and Central Africa

Knowledge Acquisition	
Strengths	**Weaknesses**
? Trained Manpower. ? Technology development; ? Availability of technology; ? Existence of R-E-F linkages; ? Availability of Networking;	? Inadequate funding; ? Poor/inadequate facilities (ICT, labs, office space and equipment, transport, etc); ? Under-exploitation of scientists; ? Poor training in data acquisition and managements/storage ? Inability to continue with data acquisition upon donor exit ? Inadequate consideration of ITK.
Opportunities	**Threats**
? Conducive policy environment; ? Partial financial support; ? Avenue for donor support; ? Availability of communication technologies; ? Existence of competitive grants schemes;	? Untimely project discontinuity; ? Changes in government policies.
Knowledge brokering	
Strengths	**Weaknesses**
? Policy briefing newsletters; ? Existence of mechanisms to communicate (newsletters, agric shows, RSLO, field days; CRAC, Research extension advisory councils; etc.)	? Inadequate funding; ? Inadequate capacity in communication; ? Unwillingness to share; ? Lack of trained manpower in brokering
Opportunities	**Threats**
? Increasing realization of the importance of	? Danger of disseminating wrong messages;
Knowledge Packaging	
Strengths	**Weaknesses**
? Trained manpower; ? Availability of technologies	? Delay in approval of ready technologies; ? Lack of patent policies; ? Lack of mechanisms for rewarding researchers; ? Commodity orientation of research discourages integrated packaging; ? Scattered availability of knowledge.
Opportunities	**Threats**
? Conducive policies for AEZ based research;	? Too much red-taping ? Too much fragmented efforts weaken processes of packaging

Knowledge Sharing	
Strengths	**Weaknesses**
? Forums creation; ? Networking/sharing experiences; ? Encouraging publications.	? Lack of sharing (internalizing knowledge) ? Poor writing or communication skills/dynamisms ? Open sharing culture ? Government red tape in sharing documents ? Mistrust
Opportunities	**Threats**
Professional recognition	Loss of property right
Piloting Knowledge	
Strenths	Weaknesses
? When NARS takes lead; ? Reduce widespread risk failure.	? Lack of initiative/indecisiveness; ? Lack of deliberate mechanisms for piloting.
Opportunities	**Threats**
? Avenue for donor support;	? Frustration to scientists; ? Poor scaling-out/up.
Knowledge Application (Scaling Up)	
Strengths	**Weaknesses**
? Availability of technologies (tacit knowledge); ? Conducive political and policy environment;	Limited financial resources;
Opportunities	**Threats**
? Avenue for donor support; ? Avenue for private sector support; ? Avenue for CBO's support.	Possibility of pilot failing when replicated on a larger scale

3.1.1. Recommendations

After doing the SWOT analysis, the group discussed and came up with recommendations to address the weaknesses

Curbing weaknesses in knowledge acquisition
? National budgets to accommodate the whole process of knowledge acquisition.
? Emphasize demand-driven research.
? Better curriculum to address data management

Mitigating threats in knowledge acquisition
? National budgets for research should be increased.
? Empower end-users (usually farmers) to influence policies
? Curbing weaknesses in knowledge brokering
? Establishing a framework for knowledge brokering.
? Training NARs specialists in marketing end-products.

Mitigating threats in knowledge packaging
? Establishment of technology/knowledge release committees;
? Encourage end-users' brokering.

Curbing weaknesses in knowledge packaging

? Enhance technology/knowledge release mechanisms;
? Development of patent policy.
? Rewarding of innovative packages.
? Holistic approach to be encouraged

Up-scaling
This will ensure "More benefits, more quickly to more people" and
"Wider geographical area, more equitably, more lastingly."
To achieve this, the group recommended the following.
? Constantly keep policy makers and planners informed about research findings.
? Actively involve end-users and all other stakeholders form the beginning.
? ASARECA AND SWMnet to influence policy makers and planners.
? Provide information in a simplified language and form.
? Translate information into local languages
? Institutionalize KM in ASARECA
? Grant schemes to include link person for scaling up.
? Factor uptake and promotion of research findings at the design stage.

3.2. Communication and Knowledge Sharing Plans for IMAWESA

Goal and purpose
The goal of the IMAWESA is to contribute to Poverty reduction through improved
policy, institutions, practices and performance of smallholder management agricultural
water in ESA.
The project's purpose is to strengthen the capacity of stakeholders to plan and utilize
best options and enabling framework for smallholder management of agricultural water
in ESA.

The group was guided by the following questions to formulate the CKS plan
Q1 What are the aims of the project's Communication Plan in relation to the
project's purpose?
Q2 Who within the project team will be responsible for the implementation of the
Communication Plan?
Q3 Who are the communication stake- holders for the project?
Q4. What are the research products and other issues that the project needs to
communicate about with the communication stakeholders?
Q5 What are the current knowledge, attitudes and practices (KAP) of the
communication stakeholders in relation to the products to be promoted?
Q6 What are the objectives of communicating about the research products to the
communication stakeholders?

**Q1: What are the aims of the project's Communication Plan in relation to the
project's purpose?**

The aim of the IMAWESA communication plan is to raise awareness of the
stakeholders on key issues and practices affecting agricultural water management
(AWM), and to convince stakeholders to change their attitudes and policies on AWM.

Q2: Who within the project team will be responsible for the implementation of the Communication Plan?

The country Project Coordinator will take the lead while the Regional Facilitator will do the backstopping.

Q3: Who are the communication stakeholders for the project?

? **Policymakers:**

- o Ministry of water resources;
- o Ministry of Agriculture (incl. Irrigation Departments);
- o Environmental protection authority
- o Meteorological services
- o Regional water Resources Initiatives (Zambezi River basin Authority).

? **NARES:**

- o National Agricultural Research Organizations/Institutions;
- o Universities;
- o National extension systems;
- o NGO's

? **International Agricultural Research Centres (IARCs)**

- o International Water Management Institute (IWMI)
- o Global Water Partnerships - Southern Africa (GWP-SA)
- o ICRISAT

? Community Based Organizations (CBO's)

? Agricultural Finance Agencies

? Agricultural implements manufacturers;

? Agricultural inputs suppliers

? Importers

? Exporters.

Q4: What issues does the project need to communicate about with the stakeholders?

The table shows the information that the project needs to communicate to its stakeholders.

STAKEHOLDER	COMMUNICATION PRODUCT
? Ministry of water resources; ? Ministers ? Deputy/Assistant Ministers ? Permanent/Principal Secretaries	Policy briefs on AWM.
Ministry of Agriculture	Policy briefs on AWM.
Ministry of Natural Resources	Policy briefs on AWM..
National River Basin Offices	Policy briefs on AWM.
Department of Water Resources	Policy briefs on AWM.
Department of Irrigation	Improved AWM technologies
Department of Crop Production	Improved AWM technologies
Department of Environment	Improved AWM technologies
NAROS/NARI	? Capacity building ? Improved AWM technologies
Universities	Capacity building
National agricultural extension	Improved AWM technologies
NGO's	? Improved AWM technologies ? Policy briefs on AWM.
AGRICULTURE FINANCE AGENCIES	? Market information. ? Financing channels.
? IARCs ? IWMI ? ICRASAT GWP-SA	? Policy briefs on AWM. ? Improved AWM technologies
CBO's	? -Market info. ? -Technical advice
SMALL HOLDER FARMERS	? -Proper management of water. ? -Market info. ? -Technical advice.

Q5:   What are the current knowledge, attitudes and practices (KAP) of the stakeholders in relation to the products to be promoted?

Stakeholders	Knowledge	Attitudes	Practices
Ministry of water resources; ? Ministers ? Deputy/Assistant Ministers ? Permanent/Principal *Secretaries*	? Sufficient knowledge on broad policies issues ? They don't have enough knowledge on specific issues concerning AWM	? "We know it all" ? The policies are right but there are a no mechanisms to implement the polices	? They mainly depend on consulting others ? They normally blame professionals ? There is no political commitment to implement the polices ? They concentrate on activities related to domestic waters
Ministry of Agriculture	Same as above	Same as above	Same as above
Ministry of Natural Resources	Same as above	Same as above	Same as above
Regional (trans-boundary) Water Resource Initiatives (River Basin Offices, National Initiatives, etc.) ? a) Technocrats ? b) Ministers ? Deputy/Assistant Ministers ? Permanent/PS	? Very strong knowledge ? Limited knowledge on T/B policy issues	? They have a tendency to rely on policy makers and force ? Generally believe their country's policies are correct	? To much concentration on blue water ? The over reliance on political directions of member countries ? Normally consult technocrats on technical issues
National River Basin Offices	Strong knowledge on AWR and basins	Positive thinking on river basin dev.	Develop the basin sustainably; also manage conflicts, doc best bet practices, contin. M&E progress
Department of Water Resources	Knowledgeable in AWM	Ambitious, but there's not enough funding	? Regularly review policies, ? **Develop guidelines and implement manuals** ? No implementation on the ground

Stakeholders	Knowledge	Attitudes	Practices
Department of Irrigation	? Generally knowledgeable or irrigation engineering ? Engineers are not knowledgeable on the concept of productivity of water	? Believe that irrig. Is about hardcore civil eng/erection of structures, etc ? Fail to manage and integrate rainfed of systems	? Ignore software aspects of irrigation (AWM). Productivity of water less addressed
Department of Crop Production	Knowledgeable on rainfed systems	Accept the policies for grant.	Effective in field activities
Department of Environment			
Department of Meteorology			
RESEARCH INSTITUTIONS:			
NARES/NARI			
Universities			
National agricultural extension			
NGO's			
Agriculture Finance Agencies			
Agriculture Implements Manufacturers			
Agriculture Inputs Suppliers			
Importers			
Exporters			
? IARCs ? IWMI ? ICRASAT ? GWP-SA			
CBO's			

Q6:   What are the objectives of communicating about the research products to the communication stakeholders?

STAKEHOLDER	ACTION

1. POLICY MAKERS:
1.1 Ministry of Water Resources
   ? *Ministers*
   ? *Deputy/Assistant Ministers*
   ? *Permanent/Principal Secretaries*
	? Policy formulation;
	? Continually review and revise policies with the view of removing barriers of AWM.
	? Same as above.
	? Same as above.
	?

1.2 Ministry of Agriculture	? Development of master plan for river basin;
1.3 Ministry of Natural Resources	? Conflict resolution; ? Management of water resources;
1.4 Regional (trans-boundary) Water Resource Initiatives (River Basin Offices, National	? Provision of platform for harmonization of different WR policies.

STAKEHOLDER	ACTION
Initiatives, etc.) 1.5 National River Basin Offices	? ? Implement regional water resources master plan; ? Conflict mgt. within the national river basin. ? Develop national WR master plan. ?
1.1.1 Department of Water Resources 1.1.2 Department of Irrigation 2.1 Department of Crop Production: 3.1 Department of Environment 3.2 Department of Meteorology	? Ensure equitable water distribution; ? Construction of dams; ? Monitoring of surface and subsurface water; ? Develop equitable water use master plan. ? Construction of irrigation infrastructure; ? Equitable distribution of water to farmers; ? Prioritization of development according to master plan; ? Development and documentation of irrigation best practices; ? Develop, implement and document irrigation best practices; ? Ensure water use that is economically viable and environmentally sustainable. ? Advise of priority crops; ? Conservation of wetlands; ? Dev. of degraded areas; ? Dev. Of proper guidelines or sustainable utilization of wetlands for agriculture; ? Monitoring of irrigation water; ? Provide EIA guidelines and ensure EIA are conducted. ? Provide meteorological data and information;
2. RESEARCH INSTITUTIONS: 2.1 NAROS/NARI 2.2 Universities 2.3 National agricultural extension	 ? Develop vision and mission for improved AWM. ? Develop improved technologies of water use mgt. ? Develop proved/tested technologies. ? Provide training on AWM; ? Participate in the dev. of AWM knowledge (research). ? Disseminate technologies in AWM. ? M & E on uptake of AWM technologies. ? Training of farmers and promotion of indigenous knowledge. ? Provide market information on AWM related products.

STAKEHOLDER	ACTION
3. NGO's	? Publication of information on AWM; ? Participate in promotion of best practices in AWM; ? Participate in conflict management; ? Advocacy and dialogue in AWM; ? Participate in marketing and marketing channels awareness;
4. AGRICULTURE FINANCE AGENCIES	? Avail micro finance to smallholder farmers; ? Train farmers in financial management.
5. AGRICULTURE IMPLEMENTS MANUFACTURERS	To timely provide appropriate implements for AWM;
6. AGRICULTURE INPUTS SUPPLIERS	To timely provide appropriate agricultural inputs for AWM;
7. IMPORTERS	? To avail appropriate inputs for AWM. ? Secure AWM knowledge for NARES.
8. EXPORTERS	? Should exchange information/knowledge with NARES and farmers ? Advice on packaging quality and quantity export requirements
9. IARCs **9.1 IWMI** **9.2 ICRASAT** **9.3 GWP-SA**	? Support research in AWM ? Provide financial and technical back stopping ? The same as above ? The same as above
10. CBO's	? Form associations (Production, marketing, etc.) for lobbying, working with government, etc. ? Form marketing groups ? Advocate for proper utilization of AWM

Q7:   What media and channels might be used to communicate with the various communications stakeholders in relation to the research products (e.g. what is accessibly to them, what are their preferences, what can be sustained after the project is over)?

3.3. CKM Training plan for People in NARS, Extension, and NGOs

The NARS, extension and NGOs are the some of the most critical innovators of development technologies. They need to be trained in the principles of Knowledge Management and scaling up.

Objectives of the training
?   To improve the stakeholders' understanding of KM and Scaling up;
?   To enhance skills on knowledge sharing for extension agents;
?   To enhance key stakeholders skills on data collection, information analysis interpretation and packaging;

Target positions for the training
The right people in the targeted organizations will be trained to ensure effective scaling up of technologies.

NARS

- ? Director General, Deputy DG, Research Centre Managers, Directors
- ? Researchers (Heads of Departments/Divisions; Program Leaders, Project Leaders, others)

Extension
- ? Department heads-crops, livestock, irrigation
- ? SM specialists, Experts, Development Agents

NGOs

- ? Coordinator officer (HQs)
- ? Project Coordinators
- ? Specialists (SMS)

Training Needs
The group identified the training needs as follows.
- ? Mandate of each department
- ? Expertise/Skills
- ? Performance Evaluation (through reports and M and E)

4. Group 4

The group's Terms of reference were as follows.
- ? To analyze the stages of the knowledge management and sharing, and show the role of research systems in knowledge management
- ? To do a SWOT analysis of organizations involved in the project and show they can achieve each step of the KM cycle.
- ? Formulate a KM strategy for the project: "**Making best of climate: adapting agriculture to climate variability"** which is supported by ASARECA CGS.
- ? Developing a training design for the KM scaling up in the "**Making best of climate: adapting agriculture to climate variability"** project.

4.1. Analysis of different stages of Knowledge Management and Sharing and the Role of Research Systems

- ? **Knowledge acquisition** entails gathering, extracting and validating information.
- ? **Knowledge brokering** is the **s**trategic link between the information and knowledge generation and the end user. These are those stakeholders who help the information to reach the most important target of the communication.
- ? **Knowledge packaging** is the filtering, editing, organizing and transforming of information into more usable and easy to share formats.
- ? **Knowledge sharing** is the dissemination of knowledge to stakeholders. This can be done through various media and fora. The end user is the most important person in knowledge sharing. The packaging depends on how and to whom the knowledge will be shared with.
- ? **Knowledge Piloting is the v**alidating of the knowledge and technologies on a small scale in real life situations. This helps to assess if the knowledge fits well in the field and whether it can be adopted.
- ? **Knowledge application and Scaling up** includes involving linkages with strategic partners

4.2. SWOT Analysis of Different Categories of Organisations Involved in the Project

The tables that follow show the various aspects of the knowledge management cycle.

Knowledge acquisition

STRENGTH	OPPORTUNITIES
1. UNIVERSITIES -Expertise -Infrastructures- internet, library, computers, offices	1. UNIVERSITIES -Students for data collection -Agrometeology studies -Relevant departments and studies
2. DATA INSTITUTION-IGAD -Database centre for many countries -Software for data analysis and mapping -Expertise	2. DATA INSTITUTION-IGAD -Supported by many governments and other institutions -Increase research expertise (scientists)
3. RESEARCH INST. CGIA-ICRISAT -Expertise in research -Well developed soil lab	3. RESEARCH INST. CGIA-ICRISAT -Increase use of research information -Increase research experts (scientists)

	- Infrastructures for research institutions
4. NGOs -Advocacy skills -Direct involvement with target groups -Self funding -High level of capability for data acquisition	4. NGOs -Increase awareness of NGOs activities -Emerging roles for NGOs
WEAKNESSES	THREATS
1. UNIVERSITIES	1. UNIVERSITIES -Institutional policy change-scrap or merging the departments -Willingness and commitments of students
2. DATA INSTITUTION-IGAD	2. DATA INSTITUTION-IGAD -Data obsolescence -Subject to political influence
3. RESEARCH INST. CGIAR-ICRISAT	3. RESEARCH INST. CGIAR-ICRISAT -Geographical re allocation -Competition with institutions providing same services -Political environment
4.NARI- FOFFIFA	4.NARI- FOFFIFA -Changes -Peoples attitudes towards use of research information -Under funding-budget allocations
5. NGOs -Funding -High labour turnover -Project life cycle	5. NGOs -Competition -Political influence -Perceptions form stakeholders

Knowledge brokering

STRENGTH	OPPORTUNITIES
1. UNIVERSITIES -Contacts with other academicians and students	**1. UNIVERSITIES** -Increase intake of stakeholders -Increase number of students
2. DATA INSTITUTION-IGADD -Customised database -Websites -	**2. DATA INSTITUTION-IGADD** -Online communication -Regular data review
3. RESEARCH INST. CGIA-ICRISAT -Linkage with research networks	**3. RESEARCH INST. CGIA-ICRISAT** -Emerging platforms for agriculture research (eg FARA) -Institutionalizing of PA in research-the use of bottom-up approach for PRA
4.NARI- FOFFIFA -Linkage with all research stakeholders	**4.NARI- FOFFIFA** -Infrastructures for research institutions
5. NGOs -Information communication skills -Contacts with farmers -Contacts with policy makers -Advocacy platforms eg. coalition groups	**5. NGOs** -Increase awareness of NGOs activities -Emerging roles for NGOs
WEAKNESSES	**THREATS**
1. UNIVERSITIES -Poor communication facilities	**1. UNIVERSITIES** -Emergency of universities -Staff turnover- moving out of university
2. DATA INSTITUTION-IGAD Lack linkage with stakeholders	2. DATA INSTITUTION-IGADD -Data obsolescence

	-Hackering -Technology changes
3. RESEARCH INST. CGIA-ICRISAT	**3. RESEARCH INST. CGIA-ICRISAT**
4.NARI- FOFFIFA	**4.NARI- FOFFIFA** -Competition -Government funding -Project duration
5. NGOs -Political influence -High labour turnover	**5. NGOs** -Political influence -Cross cultural differences -Reduced donor aid -competition

Knowledge packaging

STRENGTH	OPPORTUNITIES
1. UNIVERSITIES -Expertise -Publications, References, Students groups	1. UNIVERSITIES -Facilities well developed -Increased skills -Awareness level
2. DATA INSTITUTION-IGADD -Data and publication services	2. DATA INSTITUTION-IGADD -Supported by many governments and other institutions -Increase research expertise (scientists)
3. RESEARCH INST. CGIA-ICRISAT -Information on consumer groups -Expertise -Facilities eg Editing software	3. RESEARCH INST. CGIA-ICRISAT -Increase use of research information -Increase research experts (scientists)
4.NARI- FOFFIFA -Expertise	4.NARI- FOFFIFA -Facilities well developed -Increased skills -Awareness level Infrastructures for research institutions
5. NGOs -Information on targeting groups/consumer groups	5. NGOs - Increased skills -Awareness level
WEAKNESSES	**THREATS**
1. UNIVERSITIES -Time -Coordinating programmes -Limited practical knowledge	1. UNIVERSITIES -Incomplete information -Poor quality data Software obsolescence
2. DATA INSTITUTION-IGAD -Partial packaging i.e they don't do knowledge transformation	2. DATA INSTITUTION-IGADD -Software obsolescence -Limited data input
3. RESEARCH INST. CGIA-ICRISAT -Staffing -Time	3. RESEARCH INST. CGIA-ICRISAT
4.NARI- FOFFIFA -Staffing -Time	4.NARI- FOFFIFA -Use of non-representative data
5. NGOs	5. NGOs

-Lack of specialised personnel's	-Competition
-Political influence	-Political influence
-Donor influence	-Perceptions form stakeholders

Knowledge sharing

STRENGTH	OPPORTUNITIES
1. UNIVERSITIES - Expertise, Infrastructure e.g.. Libraries	1. UNIVERSITIES - International reach
2. DATA INSTITUTION-IGAD - Expertise, Structure reaching grassroots	2. DATA INSTITUTION-IGAD - Support by many governments
4.RESEARCH INSTITUTES- FOFFIFA, ICRISAT, EARO - International Expertise, Up-to-date information widely circulated.	4.RESEARCH INSTITUTES- FOFFIFA, ICRISAT, EARO - Support by many governments
5. NGOs - Expertise for advocacy, presence in grassroots	5. NGOs -
WEAKNESSES	THREATS
1. UNIVERSITIES - Limited to academic & professional elites	1. UNIVERSITIES - Policy Change e.g. Abolishing departments, Under-funding
2. DATA INSTITUTION-IGAD - Political considerations	2. DATA INSTITUTION-IGADD -Political expediency
3. RESEARCH INST. CGIA-ICRISAT,FOFFIFA, EARO - Political considerations	3. RESEARCH INST. CGIA-ICRISAT, FOFFIFA, EARO - Competition for funds, political expediency - Change in government policy e.g. Merger/separation of departments & ministries, Under-funding,
5. NGOs - High human resource turnover	5. NGOs - Competition for funds, Political influence

Knowledge piloting

STRENGTH	OPPORTUNITIES
1. UNIVERSITIES -Field work -Design experiments, following up -Expertise	1. UNIVERSITIES -Data analysis
2. DATA INSTITUTION-IGADD -Experience in developing model	2. DATA INSTITUTION-IGADD -Supporting data -Increasing research -Growth of technology sector
4.NARI- FOFFIFA, ICRISAT -Expertise	4.NARI- FOFFIFA -Good knowledge

-Experimental fields	
5. NGOs -Information on targeting groups/consumer groups	5. NGOs - Increased skills -Awareness level
WEAKNESSES	**THREATS**
1. UNIVERSITIES	1. UNIVERSITIES -Lack of funding
2. DATA INSTITUTION-IGAD -	2. DATA INSTITUTION-IGADD -
4.NARI- FOFFIFA, ICRISAT	4.NARI- FOFFIFA -Political influence
5. NGOs -Lack of specialized personnel's -Political influence -Donor influence	5. NGOs -Political influence

Knowledge application and scaling up

STRENGTH	OPPORTUNITIES
1. UNIVERSITIES -Good contact with students -Advocacy platform -Good network	1. UNIVERSITIES -Increased number of students -Increased skills -Infrastructure-facilities
2. DATA INSTITUTION-IGADD -Websites	2. DATA INSTITUTION-IGADD -Regular review
3.NARI- FOFFIFA -Research network -Advocacy platform -Presence of local institution	3.NARI- FOFFIFA -Government policy -Increased skills -Multiple stakeholders
5. NGOs -Familiarity with farmers -Social cultural adaptability	5. NGOs -Communication skills
WEAKNESSES	**THREATS**
1. UNIVERSITIES -Poor contact with farmer -Limited practical knowledge	1. UNIVERSITIES -
2. DATA INSTITUTION-IGAD -Limited stakeholders	2. DATA INSTITUTION-IGADD -data reliability -
3. NARS -limited extension -	NARS
5. NGO's -Funding	5. NGOs -Competition -Political influence donor influence

4.2.1. Recommendations

Knowledge acquisition: Strengthening of the University expertise and infrastructure in order to influence policies to favour them by, for example, budget allocations, institution governance

Knowledge brokering: The aim of knowledge brokering is to create strategic linkages for policy advocacy in:
? **Universities to** strengthen their contacts with other strategic stakeholders due to the increased linkage of different stakeholders (eg. policy makers)
? **Research institutions** to strengthen of the research networks to utilise the emerging regional platforms for agricultural research. Diversify collaborations i.e involve multi-sectoral organizations, public sector institutions, private sectors institutions and cross-cutting institutions
? **NGOs** need to Increase the regional level programmes to overcome the threat of political influence at the grass root

Knowledge Packaging

Universities: Strengthen expertise for knowledge package by facilitating the establishment of resource centre. Facilitation and coordination between the RI's, DI,s, NGO's and universities, can help address the problem of limited practical knowledge and timeliness of knowledge. Available information on knowledge consumer groups can be packaged and authentic data made available to strategic stakeholders

4.2.2. Lessons form the New Thinking

Research institutions can help address existing constraints by creating the relevant knowledge. They can share innovations through better communication and networking thus helping in scaling up and scaling out. Research systems have the right facilities to promote uptake by the right people at the right time.

The group discussed the following areas they had learnt form the training.
? Knowledge management concepts
? Scaling up of research results
? Knowledge on some key points on developing competitive research proposal
? Institutional framework and platforms for scaling up

Overall, they agreed that a gap exists between research activities and utilization of research results. There is also need to adapt a problem focusing approach that involves all the necessary stakeholders.

4.2.3. Championing KM in Country and Organization

The group members said that they will henceforth champion the strengthening of the link between the NARI and local governments for ease in scaling up and out of research outputs.

The participants felt that they were ready to training their colleagues in knowledge management and scaling up of research results.

4.3. Knowledge Management Strategy for the Project "Making best of climate: adapting agriculture to climate variability"

The knowledge management strategy was guide by the following questions.

Q1   What are the aims of the project's Communication Plan in relation to the project's purpose?

Q2   Who within the project team will be responsible for the implementation of the Communication Plan?

Q3   Who are the communication stake- holders for the project?

Q5   What are the current knowledge, attitudes and practices (KAP) of the communication stakeholders in relation to the products to be promoted?

Q6   What are the objectives of communicating about the research products to the communication stakeholders?

Q1:   Aim of project's knowledge communication plan

?   To provide access to information on climate variables

?   Promote awareness

?   Increase uptake and utilization

Q2:   Who is responsible for implementation of CKS?

The group identified Mr. Habtamu Admassu Ayana of EARO as the person to take leadership of the CKS implementation.

Q3:   Communication stakeholders

The stakeholders for the project are mmanagers and policy makers, researchers, development and extension specialists. They also include the media and the end users of technologies, e.g., farmers, and business people.

Q:4   Issues on which communication should be made and the means of communicating

Category	Issues	Means
Policy markers	Integration of climate information	Policy briefs Vulnerability maps
DG's	Institutionalization of climate information technology generation	Executive summary of research findings Research brief
Researchers	Integration of climate information in research products	Journals articles Other publications. Workshops, seminars
Development and Extension specialists	Better climate targeting technologies	Training. Brochures. Extension manuals
Media	User-responsive reporting (better, accurate)	Training. Update research findings. Tailored to users
End users -Farmers	Adaptability to climate variability	Response options guided by seasonal climate forecast
-Agribusiness input/product suppliers	Uncertainty in input demand	Decision aid to assess season input demand

Credit institutes/Financial institution	Uncertainty in recovery of loans	Decision aid to assess season risks on advances/loans

Q4: Current knowledge, attitudes and practices of stakeholders

This is necessary in order to prepare the right messages and to use the right approach

Stakeholders	Knowledge	Attitude	Practices
Line ministries of Agriculture livestock, transport, Finance, Planning, Environment, Water and Irrigation	Sufficient general knowledge about broad national development plans. Limited details on climate variability and impacts on agriculture	Climate is a constraint and not a resource Climate is unmanageable Weak response. Reactive than proactive	Farming Early Warning Systems. Resettlements away form drought affected areas. Relief and recovery programs. Rarely consult researchers
DG's and Secretaries	Good	Inadequate appreciation of available options to manage climate. Weak response	Less resource allocation to add value to raw data. Poor linkages btn related institution across ministries. Inadequate data management systems and accessibilities
Researchers	Good awareness. Limited understanding about the vulnerability	as a natural phenomenon. Inadequate attention in formulating research programs and strategies. Doubting of results. Research not rewarding (at national levels	Increasing capacity building eg. Training and research on climate variability mitigation. Human resource turn over. Poor integration of climate variability information in agricultural research. Rarely consult the end users
Development & extension specialists	Limited about response to climate variability options	Perceive climate as a natural disaster	Relief & recovery Programs implementation. Often provide non-user friendly climate forecast
Media	Limited awareness	A natural Disaster. Mostly not news-worthy	Focus on extreme Events. No solutions Often Exaggerated
End users	Good I.K. Limited about Climate forecast information	Consider I.K Superior Agriculture risky investment	Low risk-low value I.K. Increase input price. lower product price. Increased interest rates Rarely consult researchers

Q4:   Actions required form the stakeholders
A good CKS plan must indicate the action of behaviour expected form the stakeholders.

Stakeholder	Actions
Input suppliers	Timely supply of appropriate inputs adapting to climate forecast Eg. HYV for good season, DRV for drought season
Farmers	Intensive strategies if good season forecast Minimize inputs if poor season forecast
Product chain	Make plans that responds to the climate forecast e.g. exports if good season forecast or imports plan if poor forecast
Finance systems	Provide credit facilities for inputs and exports if good season forecast or Credit facilities for imports in poor season
Policy makers/managers	Ensure favourable national policies to take advantage of the available climate information in good season -Institutionalize climate information into the national development plans (eg land use and land utilization types, -Price stabilization)
DG's	Increase priority on climate impact research Improve linkages within and between ministries Capacity building
Researchers	Improve integration of climate information in developing innovations (technology) eg. use of modern tools
Development & Extension specialists	Improve delivery of climate information e.g. use of friendly weather forecast Increased interaction with researchers on suitable options
Media	Balanced, informed and regular news reporting -User tailored reporting

Q5:   **The media to be used to communicate with various stakeholders**

Stakeholder	Products	Media
Policy makers	Policy briefs Vulnerability maps	1-2 page bulleting maps Round table workshop Newspaper Televison Radios
Director Generals	Research findings	? Research briefs ? Reports ? Maps ? Brochures Workshop/seminars

Stakeholder	Products	Media
Researchers	? Information on climatic variability ? Information on climatic adaptability	? Maps of climatic variability ? Reports ? Workshops ? Journals ? Websites ? E-mail updtaes
Meteorological	? Information on climatic variability ? Information on climatic adaptability	? Maps of climatic variability ? Reports ? Workshops ? Journals ? Websites ? E-mail updates
Extension Specialists	? Extension Manuals with up-to-date information on climate issues ? Information on new technologies	? Manuals ? Workshops ? Brochures ? Community Radios ? Radio and TV
Development Specialist	? Manuals with up-to-date information on climate issues ? Information on new technologies	? Manuals ? Workshops ? Brochures ? Community Radios ? Radio and TV
Media	? Up-to-date research findings ? User friendly and up-dated climate information	? Newsletters ? Press Conferences ? Audio/videos
End Users	Seasonal climatic forecasts	? Face-to-face meetings ? Social gatherings ? Folk media ? Community radios ? Local magazines and newspapers ? Tvs
Agribusiness input/output suppliers		? Newsletters ? Press Conferences ? Audio/videos ? Newspapers ? Reports
Donor	? Project needs ? Project progress ? Research findings ? $$$? $$$	Progress reports Newsletter
Credit institutes/Financial institutions	? Guide to input/output demands ? $$$	? Newsletters ? Newspapers ? Journals ? Reports ? Forecasts $$$?

4.3.1. Monitoring and evaluating the implementation of the communication plan and its component parts

The following will be done to evaluate the CKS plan

? Evaluate the nature of the project that increases its chances of scaling up

? Check whether the prepared communication strategy is implemented as planned and find out the reasons for failure if encountered at any stage during implementation

? Check whether the target stakeholder are adequately identified and satisfactorily addressed.

? Match and compare the communication skills available and used with the delivered purpose

? Check weather the budget is sufficient for the implementation of the communication strategy.

Means of Monitoring and evaluating

? Assigning appropriate responsibility to team member

? Inception workshop

? Revisit the whole project

? Make necessary adjustment

? Participatory evaluation forums

? Stakeholders

? Donors

? Team members

? External donor monitoring mechanism

? Internal team monitoring: Midterm Vs. Final workshop

? Monitoring tour

? SWMnet coordinator project M&E tour

4.4. Training plan for the KM and scaling up in adapting agriculture to climate variability in ECA sub-region

Aim

To develop capacity for improved application of climate information in agriculture decision-making by relevant stakeholders

Stakeholders

The stakeholders that will be targeted for the training are: NARIs, the extension and the NGOs.

Training Needs, tools, methods and materials

NARIs			
Needs	**Tools**	**Methods**	**Materials**
Increase understanding and awareness about climate variability impacts in agriculture use of climate information	Multi media Flip charts Markers	Lectures with basic concepts Open discussion Group works and assignment	Printed materials CD Video

product Use of new adaptive field level strategies for managing climate variability Effective scaling up to promote uptake and utilization of climate information product		Presentations Group reports	

Extension			
Needs	**Tools**	**Methods**	**Materials**
To create awareness about climate information package. Technology transfer and adoption system with respect to climate information. Acquaint them with climate information product. Use of new adaptive field level strategies for managing climate variability. Increase awareness on the methods of scaling out and scaling up to promote uptake and utilization of climate information product. How to apply the knowledge in Early Warning System.	As NARI's above	Workshops Field visits Pilot projects	Video Maps Leaflets Extension guidelines Audios

NGOs			
Needs	**Tools**	**Methods**	**Materials**
As Extension above but in a simplified local language	As above but in a simplified local language	As above	As above

Timing

The training will be held at the following times

? Midterm

? End of project

? Continuous training after the project termination