

Sub-Saharan Africa Challenge Programme

Monitoring and Evaluation Strategy

Monitoring and Evaluation Strategy

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1 Introduction

1.1 Participatory Monitoring and Evaluation

The monitoring and evaluation within the SSA-CP has been designed with project teams and partners to allow the program to analyse and document the proof of concept for integrated Agriculture Research for Development (IAR4D). It further allows the programme and partners to document and use information about the processes, the activities the SSA-CP is implementing and their impact at individual partner, organization, community, market and household level. The monitoring, evaluation and reporting system is about efficient use of that information for understanding what SSA-CP is doing, what it is accomplishing, what impact the activities have, at what costs and what needs to be adapted or scaled out. In line with this, the PM&E system aligns itself to the SSA-CP impact pathway, research questions and hypothesis as outlined in the MTP and the research framework.

In Developing the SSA-CP PM&E system, we have taken the general definitions of the concepts of monitoring and evaluation.

Box 1: Monitoring and Evaluation; Key definitions

Monitoring is a continuous systematic and critical review with the aim of checking progress on the six outputs. If there are discrepancies between planned and actual results and contextual changes, corrective action can be taken. This implies that monitoring is a more frequent form of reflection. Monitoring is an essential part of good management practice. This is already happening in BAPPA without the framework:

Evaluation is a time-bound exercise that attempts to assess the relevance, performance, and success of ongoing processes and completed events. Evaluation involves comprehensive analysis with the aim of adapting strategy, planning, and influencing future policies and programmes. This implies that evaluation is a more complete, cumulative, and thorough process and a less frequent form of reflection. It usually takes place at certain points in time—e.g. mid-term and summative evaluations—and leads to more fundamental decisions. It should assign a value to the outcomes and impact of the process or programme.

Participatory monitoring and evaluation (PM&E) refers to the involvement of multiple stakeholders in the design and implementation of observing, systematizing and interpreting processes as a basis for joint decisions about improving their joint activities. PM&E is not an end in itself but rather a management tool, whether for managing natural resources, managing social relations within a given area or managing relations between local people and outside agencies (e.g. government services, intervention projects).

The PM&E system is intrinsic to the project's design and implementation. Monitoring and evaluation in SSA-CP serves several functions including: (i) tracking progress; (ii) learning and change; (iii) collecting data for testing hypothesis; and (iv) for project management. As a result of this, PM&E is both built into the research design of the SSA-CP and integrated in the action research process including in the innovation platforms.

1.2 Sub Saharan Challenge Program (SSA-CP)

The Sub-Saharan Africa Challenge Programme (SSA CP) is an African-led research initiative seeking to increase the developmental benefits from agricultural research and development (ARD). While agricultural research in Africa has produced numerous excellent research outputs, it has not generated the expected developmental benefits across the continent. SSA-CP aims to achieve this objective by proposing, testing and evaluating a more effective alternative to the conventional ARD approaches. SSA-CP has been testing the concept of Integrated Agricultural Research for Development (IAR4D) with the intention of scaling out IAR4D. Integrated Agricultural Research for Development is an action research approach for investigating and facilitating the organization of groups of stakeholders to *innovate more effectively* in response to changing complex agricultural and natural resources management contexts, to achieve developmental outcomes. The testing is carried out in three carefully delineated Pilot Learning Sites (PLSs) – one in East and Central Africa, another in West Africa, and the last in Southern Africa.

The 18 month inception phase of the SSACP that ended in 2006 was largely successful in establishing governance and management structures; drawing up a strategy, developing a research plan, and, through a competitive process, identifying the teams that would implement the plan. The subsequent three year research phase would focus on proof of the IAR4D concept in a “scientific, statistically based manner”. The CGIAR Science council (SC) outlined three research questions the program would seek to answer in establishing proof of the IAR4D concept. These were:

- i. Does the IAR4D concept work and can it generate deliverable international and regional public goods for end users?
- ii. Does the IAR4D framework deliver more benefits to end users than conventional approaches (assuming the conventional research, development and extension approaches have access to the same resources)?
- iii. How sustainable and usable is the IAR4D approach outside the test environment?

Further to the continuation of the second phase of the project, the SC recommended that SSA-CP’s research should focus on the interfaces of processes driving (a) productivity gains, (b) efficient use of resources and the care of the environment, (c) agricultural policies, and (d) markets; as the problem and opportunity spaces within which IAR4D will be implemented and evaluated. In response, the SSA CP developed a research plan articulating the methodology it proposed to follow in answering the above research questions.

1.3 Integrated Agricultural Research for Development (IAR4D)

The point of departure of IAR4D from conventional ARD is that whereas the latter treats research-development-production-consumption as a linear process (Figure 1) in which research is by far the predominant source of knowledge, IAR4D embeds research within an innovation system comprising relevant actors who interact within a network to develop, test and promote technological and institutional innovations along agricultural value chains. The network (systemic) approach facilitates timely feedback to researchers and aims at promoting knowledge sharing and interactions leading to innovations. Innovation

refers to the activities and processes associated with putting into use new technical and institutional or organizational knowledge therefore adding value to products of research thus catalyzing the achievement of development impact.

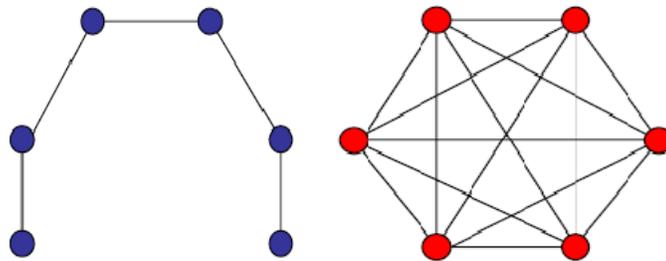


Figure 1: Structure of Integrated Agricultural Research for Development (IAR4D)

IAR4D is characterized by key process principles including:

1. An innovation Platform (IP) has to be in place before the beginning of process of finding solution to a problem that has been identified
 - a. IP is multi-sectoral, multi-institutional coalition of actors in the agricultural value chain system
 - b. IP actors organized in partnerships/teams to bring about change
 - c. IP actors have competence, interest, stake and share to jointly innovate
 - d. The composition of the IP is determined by problems/opportunities/entry points

2. A nonlinear collective and collaborative interaction among actors (rather than linear researcher-extension-farmer transfer of technology model)
 - Direct interaction and communication among actors
 - Knowledge sharing among different stakeholders
 - Quick and continuous feedback from end users (farmers) at all stages of the research for development
 - Flexible, adaptable to new knowledge, builds on experiential learning, relies on internal M & E for continual corrective feedback

3. Research addresses key constraints and opportunities agreed by the IP in the context of entire value chains (from input supply through production to consumption) and sustainable livelihood systems.

4. Research process has to be multidisciplinary and participatory

5. Institutional and human capacity building for IAR4D actors to effectively participate:
 - a. Needs identified by IP
 - b. Training (formal and non-formal) provided by the appropriate partners.

1.4 SSA-CP Impact Pathway

The point of departure of the IAR4D approach from the conventional R & D and extension approach is that instead of exogenously bringing innovations into the system an

institutional innovation – the Innovation Platform -- is set up and this, in turn, endogenously generates technological, market, institutional and policy innovations. The SSA-CP impact pathway begins with the establishment of innovation platforms that bring different actors together. In these innovation platforms the priorities that would determine the objectives of the research are agreed upon, a concept and plan of action developed and the roles of each actor or groups of actors on the platform clearly defined. The research process would then involve the use of **inputs** which include: Information, research staff, research collaborators and financial resources to generate innovations / outputs.

Figure 2 summarizes the research-to-impact pathway used to hypothesize the causal relationships between research inputs, research outputs (the Innovation Platform institutional innovation), IP outcomes (knowledge and behavioral outcomes and innovations at the interfaces of processes driving productivity, environment, policies and markets and efficiency of innovation development and dissemination); and knowledge and behavioral outcomes at the household/community/market levels and impact outcomes.

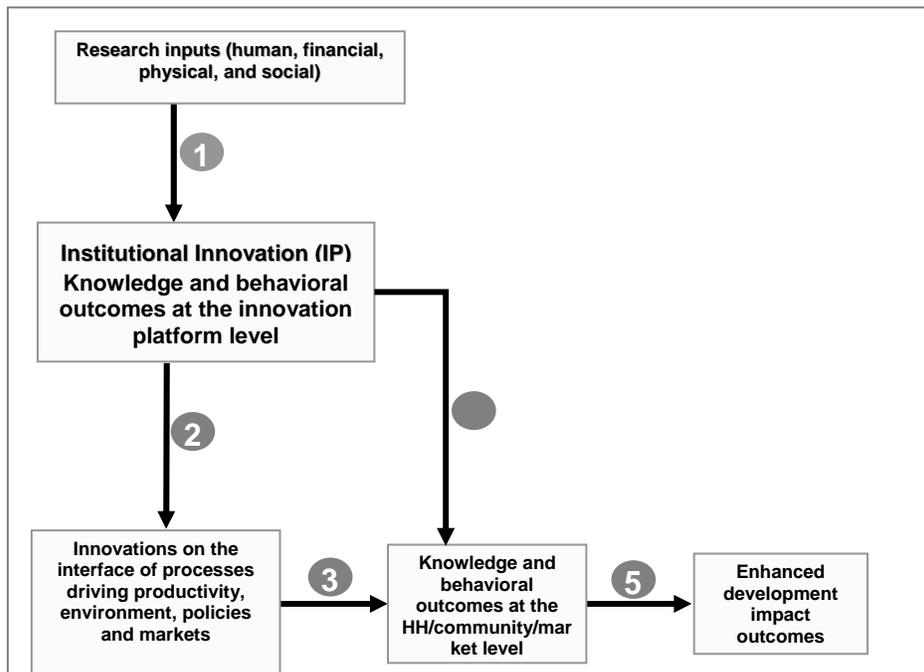


Figure 2: The SSA-CP Impact Pathway

Out scaling by using *agricultural development processes* leads to improved food security, income, livelihood assets, the natural resource base and resilience to shocks; i.e., **impact**.

The realization of the impact pathway is based on the premise that the 9 TF projects implement IAR4D. The monitoring and evaluation therefore considers the extent to which these 9 projects adhere to the principles of IAR4D.

1.5 SSA-CP Outputs, Outcomes and Impacts

The SSA-CP is divided into 4 projects in which monitoring and evaluation is implemented, each PLS is a project and there is a meta-analysis project. A summary of the project outputs, outcomes and impacts is given in Table 1.

Table 1: Pilot Learning Site and Meta-analysis project outputs, outcomes and impact

PLS projects		
Outputs	Outcomes	Impact
<ol style="list-style-type: none"> 1. Innovation platforms (IPs) introduced and functional 2. Potential technological, market, policy and Institutional innovations identified, developed and mechanisms for putting them into use analyzed 3. Lessons learned from the innovation platforms evaluated and documented 	<ol style="list-style-type: none"> 1. Knowledge and information flows among IP members and between IP members and community improved 2. Awareness among IP members and between IP members and communities about potential technological and institutional innovations increased 3. Awareness about sustainable NRM and markets among members and farmers increased 4. Adoption of technological and institutional innovations / inputs by farmers, agribusiness and other players in the value chains increased 5. Efficiency along the targeted value chains increased 	Improved food and nutrition security increased household incomes, reduced poverty, and sustainable natural resource management.
Meta-Analysis Project		
<ol style="list-style-type: none"> 1. Empirical evidence of whether IAR4D works, the extra benefits it delivers compared to those delivered by traditional approaches given the same resources and whether it is replicable beyond test sites 2. Guidelines/principles for implementing IAR4D 3. A database of process and impact indicator variables for 36 innovation platforms and their associated research communities and households 4. Methods and tools for designing, implementing and analyzing social experiments in Sub-Saharan Africa 	<ol style="list-style-type: none"> 1. Increased adoption and reliance on IAR4D (increased 2. Involvement of non-traditional actors in ARD) 3. Increased investment towards supporting IAR4D processes 4. Increased human and institutional capacity for innovation among ARD actors 	Improved returns from agricultural research and development contributing to improved food security increased household incomes, reduced poverty, and sustainable natural resource management.

1.6 SSA-CP Research Questions

The SSA-CP has three key research questions that are aimed at the proof of concept of IAR4D. The research questions and the corresponding research hypothesis are shown in Table 2.

Table 2: Key Research Questions and Hypothesis

Research Questions	Corresponding Hypothesis
1. Does the IAR4D concept work and can it generate international public goods (IPGs) and regional public goods (RPGs) to end users?	H1: If an innovation platform is created and is functional with the five components characterizing IAR4D, then it will lead to increased interactions and better outcomes among partners in the IP compared to where there is no IP and among farm households in communities where IAR4D is in operation compared to communities where IAR4D is not in operation.
2. Does the IAR4D framework deliver more benefits to end users than conventional approaches (assuming conventional research, development and extension approaches have access to the same resources)?	H2: IAR4D delivers more benefits to end users compared to conventional approaches (if the conventional ARD approaches have access to the same resources).
3. How sustainable and usable is the IAR4D approach outside its test environment, that is, concerning its scaling out for broader impact?	H3: If the design and estimation show that IAR4D works in different contexts then it can be extrapolated outside the test environments.

To test the three hypotheses in a statistically robust fashion and empirically determine whether IAR4D works and whether it delivers more benefits than conventional approaches, the SSA-CP uses a multiple treatments experimental design that compares household and community level outcomes under: (i) IAR4D; (ii) the conventional; and (iii) no intervention approaches. The evaluation entailed in the proof of the IAR4D concept is designed to compare outcomes under IAR4D and under two other possible states, namely: the conventional approach and under non intervention. Only one of these three possible states gets realized in any given site.

The effectiveness and impact of IAR4D is assessed throughout the impact pathway from the IP to the community and to the farmer. The hypothesis about whether IAR4D is tested by comparing the values of relevant knowledge, behavioral, efficiency, welfare, equity and environmental outcomes under the non intervention and the IAR4D states. Similarly, the hypothesis about whether IAR4D delivers more benefits than the conventional approach is tested by comparing the values of relevant knowledge, behavioral, efficiency, welfare, equity and environmental outcomes the conventional and the IAR4D states. The sustainability and utility of the IAR4D approach outside of the test environment is assessed through an analysis of performance of IAR4D under the different baseline conditions (institutional, biophysical, social, policy and household...).

1.7 Design Framework

The SSA CP research design has allocated research sites (districts/communes/local government areas) to IAR4D and non IAR4D through stratified random sampling (Figure 3). The strata within which the randomization is to be carried out consist of four development domains delineating the combination of market access potential and agro-climatic potential. Each IAR4D treatment site (district/commune/ local government area) is associated with a corresponding counterfactual site also randomly selected from the same stratum as the IAR4D site. Taskforces have spread IAR4D treatment sites across various strata in order to investigate the performance of the approach across a wide range of conditions. The SSA CP has employed a multistage stratified random sampling within the selected districts / sites (IAR4D and counterfactual) to select the villages where IAR4D will be introduced, study village communities where conventional approaches are in operation, and study villages where no agricultural interventions have been carried out over the last 2-5 years. Each taskforce will establish four separate IPs.

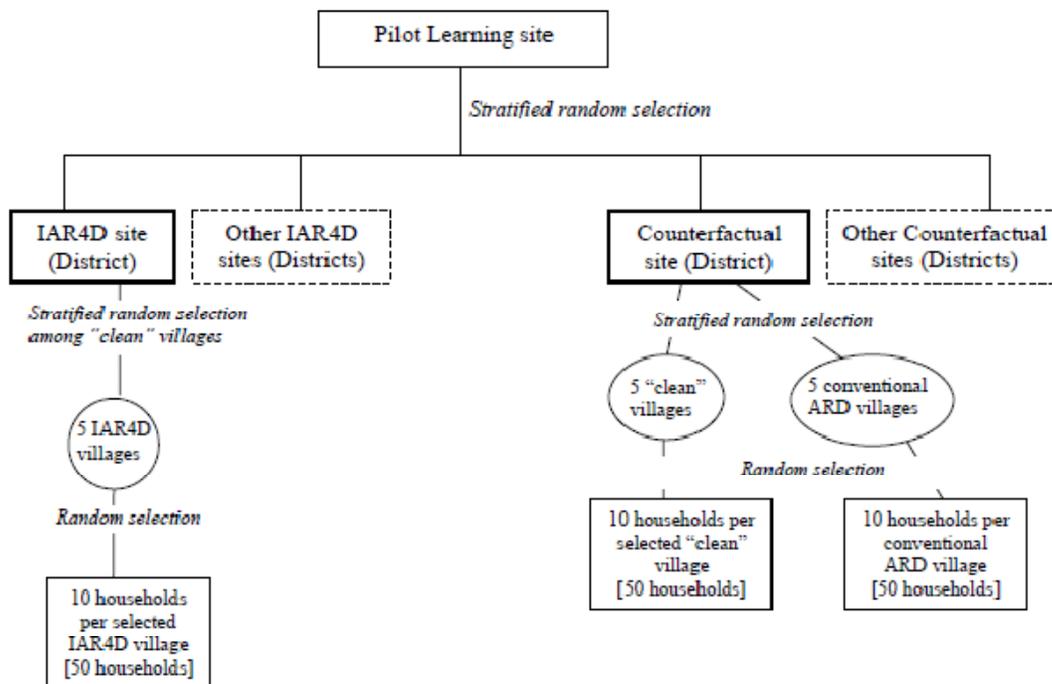


Figure 3: SSA-CP Research Design

The sites however differ in size and geographical definition across the 3 pilot learning sites. While ZMM uses districts, Lake Kivu uses sub-county, groupment and secteur as its operational site. The characterization and baseline studies are based on the research design. Characterization has been done at three levels; (i) the site (district or sub county characterization); (ii) village (iii) households.

2 Developing the M&E system

The development of the M& system follows key steps as shown in Figure 4.

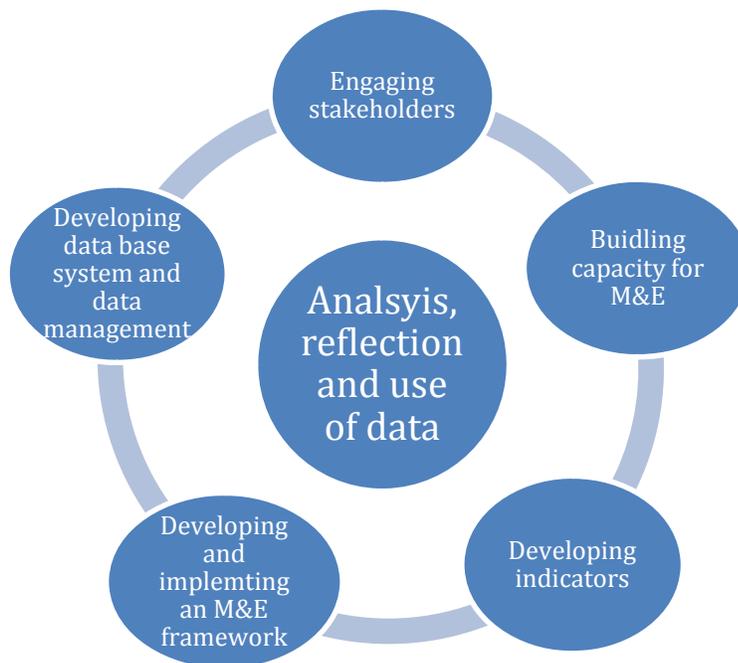


Figure 4: Key Steps in the Development of the M&E System

2.1 Engaging stakeholders

Engagement of stakeholders will be at Task Force and Innovation Platform level meetings to;

- Get a common understanding of IAR4D, its outputs and impacts
- Develop and implement the PM&E system
- Use monitoring and evaluation data and information to improve implementation

Monitoring and Evaluation meetings were held in each PLS lead by Lead Institute coordinators and the CRST members responsible for Monitoring and Evaluation and Data management.

2.2 Developing indicators and the M&E framework

In each task force, meetings to develop key indicators were held with task force teams, and partners. Teams discussed indicators for the common outcomes and outputs as outlined in the SSA-CP impact pathway and MTP as well as task force indicators specific to the technologies of activities of the task force. The key indicators developed to monitor the innovation platforms, the research outputs, outcomes and impacts are shown in Annex 1.

During these meetings, two levels of M&E frameworks were developed. A common framework with all common outputs outcomes and indicators as well as Task Force level

M&E framework that included task force specific indicators that were not common across all the TFs.

2.3 Developing tools for baseline, monitoring and evaluation data collection

A tools development meeting with key people including task force leaders, FARA PCU and the CRST was held. This was to ensure ownership of the tools and their consistent application across all the TFs and IPs. Two types of tools were developed; tools for characterizing sites and collecting baseline information at site, community and household level and (ii) monitoring and evaluation tools for IPs and other field level processes. All the tools for data collection (baseline, monitoring, and evaluation and impact assessment tools) are given in Annex 2.

2.4 Building capacity for M&E

The SSA-CP views itself as a catalyst and facilitator of innovation. For this it needs to build and support capacity development. The SSA-CP is however a research program therefore the ongoing process of building capacity, through training, mentoring, etc., must be linked to the insights being delivered by the research process on innovation systems, in order for these capacity building approaches to be improved during the course of the program. This is done through constructing a number of feedback loops, most notably using *monitoring and evaluation*, between capacity building and the research process. Training on the M&E system both through participation in the design and specific training activities ensure sustainability.

Capacities on the monitoring and evaluation of different task forces on the PM&E framework, the method of implementation of the framework, and the project level monitoring and evaluation is crucial. As the task forces, comprised of different partners are the main implementers of the activities that are conducted at the IP level, the need for the capacity building is greatest at this level. A more rigorous approach to capacity building especially for innovation platform level actors on both implementation and management of the IPs and on monitoring and evaluation are planned.

Two levels of capacity building;

- Task force members on implementing project level M&E and supporting M&E at innovation platform level
- Actors at IP level including farmers to build capacity in identification of critical areas for research, development of work plans, monitoring of work plans, data collection, analysis and use. The strategy used here is a learning-by-doing approach to hasten the process of learning and ensure independent practice of monitoring and evaluation.

2.5 Developing the data base system

A data base system based on the Q-Fax methods was developed for data entry, management and use across taskforces.

3 Levels of Monitoring and Evaluation in SSA-CP

Four levels of M&E are implemented in the SSA-CP; process monitoring and learning, outcome monitoring and evaluation, baseline and evaluation of impacts and the extent to which various projects in the three PLS's are practicing IAR4D ('IAR4Dness').

3.1 Characterization and baseline of indicators

The characterization and baseline of indicators is based on the indicators from the impact pathway, expected outputs, outcomes and impacts of the project. It is guided by the different levels at which change is expected i.e. the IP site, IP stakeholders, village or community level and the household level.

3.1.1 IP site and stakeholder characterization

Rationale

The village characterization tool was used to collect information to characterize the various villages for comparison purposes and to establish the baseline conditions at village level on indicators of change at village level as a result of IAR4D.

Process

The implementation is in two major steps:

- Step A: Quick characterization of the biophysical and social characterization of the IP site and an inventory of all stakeholders working within the site. This is done for all three sites (IAR4D, conventional and clean sites)
- Step B: This step involves a one day workshop with all identified stakeholders above to conduct a stakeholder analysis and collect information on existing forms of interaction amongst stakeholders as well as information on indicator that are likely to be influenced by the presence of innovation platforms (e.g. knowledge and practice of IAR4D, forms and strengths of interactions and linkages etc.) This is done for all three different types of sites (IAR4D, conventional and clean sites)

Indicators

Some of the outcomes and indicators covered under the IP site and stakeholder characterization include outcomes 1-3 of the task force research (Knowledge and information flows among IP members and between IP members and community improved; Awareness among IP members and between IP members and communities about potential technological and institutional innovations increased; Awareness about sustainable NRM and markets among members and farmers increased) and outcomes 2 of the meta-analysis research (Involvement of non-traditional actors in ARD; Increased human and institutional capacity for innovation among ARD actors) with a focus on non farmer actors. These outcomes and their indicators are shown in Table 3.

Table 3: Outcomes and Indicators included in the IP site and Stakeholder Characterization

Outcomes	Indicators
Knowledge and information flows among IP members and between IP members and community improved	Changes in patterns of interaction, linkages and social capital (bonding, linking and bridging among IP actors)
Awareness among IP members and between IP members and communities about potential technological and institutional innovations increased	Level of awareness and access to information on critical issues (NRM, technology, market, policy etc) and operational issues (budgets, expenditures, guidelines, decisions and resolutions)
Awareness about sustainable NRM and markets among members and farmers increased	Level of awareness and access to information on critical issues (NRM, technology, market, policy etc) and operational issues (budgets, expenditures, guidelines, decisions and resolutions)
Increased human and institutional capacity for innovation among ARD actors	Level of knowledge, attitude & practice of IAR4D processes and the critical research issues (NRM, markets, production etc)

Tools

The tool used for IP site and stakeholder consultation had multiple functions and therefore multiple distinct parts (i) General information (both biophysical and socio-economic) on the sites using key informant interviews, secondary information and village transect walks (ii) A participatory stakeholder analysis of existing stakeholders in the site and their roles, as well as key constraints (iii) individual survey of existing stakeholders focusing on their skills, priorities, interactions with others among others. The outputs of the tools are a framework and indicators for comparison of sites across TFs, PLS and the SSA-CP and the social network maps of all research and counterfactual sites based on various characteristics.

Analysis

Outputs of the analysis

- Comparative analysis of intervention and counterfactual sites in terms of social and biophysical characteristics
- Baseline social network maps of stakeholder interactions in intervention and counterfactual sites
- Identification of the critical issues on productivity, markets, NRM, policies and other cross-cutting issues e.g capacity
- List of stakeholders, their interests on the critical issues and areas where they operate to inform the formation of IPs

Use of the outputs

- The analysis of critical issues and constraints will be used to determine entry points for the innovation platforms.
- Social network maps of stakeholder interactions will be used to monitor changes in interactions as a result of IPs

- List of stakeholders and interests will be used in the stakeholder engagement strategy in the IAR4D sites.

3.1.2 Village characterization

Rationale

The village characterization tool is for characterizing and getting baseline information on all the 540 villages in the SSA-CP across the 3 types of treatments (180 IAR4D villages, 180 conventional villages and 180 clean villages). Baseline at village level on those aspects that is likely to change under influence of the IAR4D activities in order to be able to compare the situation before and after the project.

Process

The village characterization has two major parts;

- Part A which is general information based on key informant interviews, secondary information and village transect walks
- Part B which is focus group discussions with farmers in the village.

The focus group discussions identify the priority income and food security options for the villages, the constraints that need to be addressed to achieve community visions of improved livelihoods as well as baseline information on markets and source of information by farmers.

Key indicators

The key indicators in the village characterization are aimed at making comparisons of villages across the 3 treatments, identifying baseline conditions of village level variables and identifying priority constraints for interventions in each of the villages.

Tools

The village characterization tool consists of a (i) General information (both biophysical and socio-economic) on the village using key informant interviews, secondary information and village transect walks (ii) A participatory stakeholder analysis of existing stakeholders in each village both internal and external and Venn diagrams of how these stakeholders interact (iii) Focus group discussion to identify the community vision of change, key livelihood strategies, priority crops and livestock for markets and food security and constraints and opportunities related to these.

Analysis

There are three different levels and outputs of the analysis of the village characterization;

- A framework for comparison of the 3 treatment villages across the sites, TF, PLS and SSA-CP based on common socio-economic and biophysical variables
- List of internal and external stakeholder sin the 3 treatment villages
- Social network maps by village of the baseline levels of interactions amongst stakeholders
- Priority critical areas for interventions on productivity, markets, NRM and policies in the IAR4D villages

Use of the outputs:

- Characterization of villages to be used as explanatory variable in impact assessment and to understand differences on the outcomes and impacts
- Social network maps for monitoring changes in interactions and access to services as a result of IPs
- Priority areas to monitor the responsiveness of IAR4D to the critical issues as defined by communities

3.1.3 Household level characterization and baseline

Rationale

In order to test hypotheses in a statically robust fashion and empirically determine whether IAR4D works and whether it delivers more benefits than conventional approaches, multiple-treatments experimental design will be used. This design compares household-and community-level outcomes under IAR4D, the conventional approach and no intervention. The SSA CP experiment will comprise three treatments carried out in three blocks (the PLS) and nine repetitions (three per block-the taskforces)

Following White and Chalak (2006) we take the set of counterfactuals to be the set of all possible states of the world with outcomes taking different values under different possible states of the world. We also define an intervention as the move from one possible state to another. Under the SSA CP we are limiting ourselves to comparing outcomes under IAR4D and under only two other possible states namely: the conventional approach and under non-intervention. So our set of counterfactuals is limited to the set $\{W_0, W_1, W_2\}$ where W_0 is the non intervention state consisting of having neither IAR4D nor the conventional approach in operation, and W_2 is the state consisting of having IAR4D in operation. The effectiveness and impact of IAR4D will be assessed throughout the impact pathway all the way to the farmer level. The hypothesis about whether IAR4D works will be tested by comparing the values of relevant knowledge, behavioural, efficiency, welfare, equity and environmental outcomes under W_2 and under W_0 .

Similarly, the hypothesis about whether IAR4D delivers more benefits than the conventional approach will be tested by comparing the values of relevant knowledge, behavioural, efficiency, welfare, equity and environmental outcomes under W_2 and W_1 . Then “with” and “without” IAR4D comparison will be made by comparing the values of the same outcomes as above under W_2 and under the composite possible “ W_0 or W_1 ”

Process

This involved the development of a common tool to characterize and collect baseline information on all the 5400 households that comprise the SSA-CP (1800 households from IAR4D villages, 1800 households from conventional villages and 1800 households from the clean villages). The indicators measure the span the whole impact pathway.

Indicators

In addition to the variables for the characterization of the households the household data collection includes indicators on the expected outcomes (behavior changes) and impacts

(welfare changes). The outcomes include access and use of improved services and technologies, market behavior including market participation, interactions with service providers and other farmers/farmer organizations.

Table 4: Outcomes and Indicators at Household Level

Market behaviour	Awareness and use of improved technologies	Knowledge and service seeking behaviour	Interactions at farmer level
Market participation % of farmers receiving market information	Changes in number, quality and reliability of information sources	Access to different services (credit, transport, inputs etc)	Farmers' perception of the rate of occurrence of interactions
Proportion of marketed produce for target crops	Use of inputs (fertiliser, seeds)	Access to different information by farmers (technologies, markets, policies etc)	Types and numbers of local and wider stakeholders involved in IAR4D activities
Value of crop, livestock and livestock products sold per household	Use of improved varieties	Proportion of households with farmers pro-actively seeking for information and extension services	
Extent to which farmers/ communities / rural poor are aware of market conditions, consumer preferences, and are responding to them	Awareness and use of improved crop, soil, land management and post harvest technologies		

The impact indicators are organized around the Sustainable Livelihoods Framework and focus on key capitals; social capital and empowerment, financial capital (income), physical capital (assets), human capital (changes in skills and knowledge and natural capital (environmental impacts). These are shown in Table 5.

Table 5: Impacts and Indicators at Household Level

Financial capital (Income)	Social Capital /farmer empowerment	Human capital	Natural capital (including NRM)	Physical capital (Asset accumulation)
Total household income	Social capital index	Extent of knowledge and skills	Others specific to TFs (water quality, reduction in erosion)	% of households owning key assets
Income distribution within households	Level of farmer organization	(technological, markets, policies) by farmers	Changes in productivity and production of key focus crops and livestock	
Poverty index: Proportion of surveyed households under the poverty line	Strength of social networks (emergence of new groups / strengthening of existing groups for collective action)		Farm technical efficiency Number of months harvested main cereal/legume/root crop lasts after harvest	Household asset index
	Extent to which the rural poor, marginalized and women are able to articulate their demands and priorities to IP		Household dietary diversity score measured over a 24 hour recall	

Tools

The household characterization and baseline tool has 2 main sections (i) a household survey and (ii) a plot level survey. The household survey focus on several key elements including a characterization of households, their assets and livelihoods strategies and key outcome and impact indicators that are likely to change as a result of their participation in IAR4D activities. The plot level survey focus on input and production data for 2 seasons (current and immediately before)

Analysis

The focus of the analysis of the baseline and characterization of household level data is on comparison of households across the 3 different treatments using the key variables outcome and impact indicators and variables across sites, TFs, PLS and SSA-CP. The analysis uses simple measures of comparison tests to show differences across the treatments. It also uses the propensity score matching (PSM) that involves identifying a sample of comparator non-participants that are as similar as possible to participants in their predicted likelihood of participation, then comparing mean outcomes. Techniques such as the Double Difference Estimator (DDE) compares change in outcomes pre and post program for participants and non-participants. This approach was used in a recent study of Farmer Field Schools in Indonesia (Feder, et al. 2003). In addition, we will use econometric approaches to account for effects of differences in observable characteristics across individuals or over time, in order to address selection biases. Econometrics will help to account, under the caveats expressed above, for observable and unobservable differences between program participants and non-participants (OLS, Heckmann model). For full details of this analysis see the SSA-CP research plan and programme for impact assessment (SSA-CP, 2009)

The outputs of the analysis are:

- Data base of baseline indicators for all 5400 households by type of treatment
- Proof of concept on whether IAR4D delivers more benefits than conventional approaches

Use of the outputs

- The data base of baseline household indicators will be used for the impact assessment as described in the research plan and programme for impact assessment (SSA-CP, 2009)

3.2 Process monitoring and learning within innovation platforms

The process monitoring follows the action learning cycle of the innovation platforms. The cycle is based on key stages of planning, action, monitoring, reflection and re-planning based on the results of the reflection. These processes will start with a capacity building and mentoring process for Task Force teams as part of the innovation platform to develop shared vision, key processes to be monitored and tracked based on the process and learning hypothesis and outcomes. A participatory process of learning is implemented to document what is happening within the innovation platforms, what is working, what is not

working, what the outcomes are and what needs to be changed or improved. This feeds into the next planning phase. The key focus of the process monitoring is the IP formation, IP functioning and IP outcomes.

3.2.1 IP formation, functioning and outcomes

Rationale

Innovation platforms are the key implementation mechanisms for IAR4D. An innovation platform is comprised of a set of stakeholders bound together by their individual interests in a shared issue, objective, challenge or opportunity, dealing with which will improve livelihoods, businesses and/or other interests. An innovation platform refers both to the emergent properties of groupings of players and their processes, practices, and habits, as well as the formal structures that might give operational focus to activities and interactions. Innovation platforms will provide the mechanisms through which innovations are identified to address priority issues / problems. Three areas monitored are (a) formation, (b) functioning and (c) outcomes. The establishment of the innovation platforms and the subsequent actions of the IP in the field research is expected to have changes at 3 levels, individual actors, organizations and household level.

Indicators

The IP formation, functioning and outcome indicators are applied across all the 36 innovation platforms.

Table 6: Indicators for the IP Formation, Functioning and Outcomes

	Key Indicators	Frequency of Monitoring	Tools used
IP establishment	Inclusiveness / representativeness of the IP	At the beginning of formation of IP and updated every year	IP Registers
	The IP has a well articulated common objective, issue being addressed and roles are well defined	At establishment and at end of each IP cycle (End of farming season)	IP evaluation tool
	Guidelines for establishing innovation platforms tested	End of each IP cycle	IP establishment protocol
IP Functioning	Consistency (frequency) of participation of IP actors	At every activity	IP Registers
	Quality and process of IP organized activities (establishment, setting research agenda, training events other	At every activity	Activity Report
	Number and types of knowledge sharing	At establishment and beginning of every year	Inventory of knowledge sharing

	channels and number of male and female farmers being reached with information		tools IP evaluation tool
	Extent to which there is systematic planning, action reflection cycle within the IP	End of IP cycle (e.g End of farming season)	After Action Review (AAR) IP evaluation tool
IP outcomes	Significant changes in interactions among IP actors / and or their organizations as a result of participation in the IP Changes in the level of knowledge of interface issues by IP actors Changes in the level of knowledge on concepts and principles of IAR4D by IP actors	At the beginning and every year	IP actor and stakeholder analysis

Tools

Various tools are used to collect data on the formation, functioning and outcomes of the innovation platforms.

IP formation

The IP establishment is used to collect information on the common issues that will be addressed by the innovation platform at the point of establishment of the innovation platforms, the type of facilitation and the work plans for the IP. During the formation of the innovation platforms, the inclusiveness and representativeness of stakeholder sin the IP is measured by the register of actors. This tool also captures data on the types of actors, and their roles in the innovation platforms for each activity that the innovation platform holds.

IP functioning

The IP register that is filled in very time the IP has key activities captures data on consistency of participation and inclusiveness of the relevant actors in these activities. The IP uses activity reports, the register of actors and the minutes to collect the data on the quality and process of IP organised activities (establishment, setting research agenda, and training events). This data is collected on an activity basis. The knowledge sharing mechanisms tools shall be used to measure the knowledge attitude and practice of the innovation platform actors. This tool captures information on the number of knowledge sharing channels, number of people being reached by each and their perception of the channels. The after action review tools shall assess the planning action and reflection cycle within the IP actors and the activities that were carried out in the innovation platform. Both the knowledge sharing mechanisms and the after action review tools are used on an annual basis.

IP outcomes

Evaluation of the IP outcomes uses two major tools; social network analysis to map the existing interactions between and amongst stakeholders and how these change on an annual basis from baseline and in comparison with the conventional and clean sites. The tool also incorporates an evaluation of the changes in knowledge and skills of IP actors. The second tool used in the IP outcome evaluation is the IP evaluation tool which is a scores based tool through which actors in the IP including farmers score the IP based on several criteria. These include how participatory the research is, extent to which research addresses identified critical issues, and their level of satisfaction with different aspects of the IP management such as facilitation.

Analysis

The analysis of the IP formation, functioning and outcome data is done on a regular basis as part of the planning, action, evaluation cycle shown in Figure XXXX. At the end of each IP cycle (end of season), the data is analyzed and used to inform the next IP cycle.

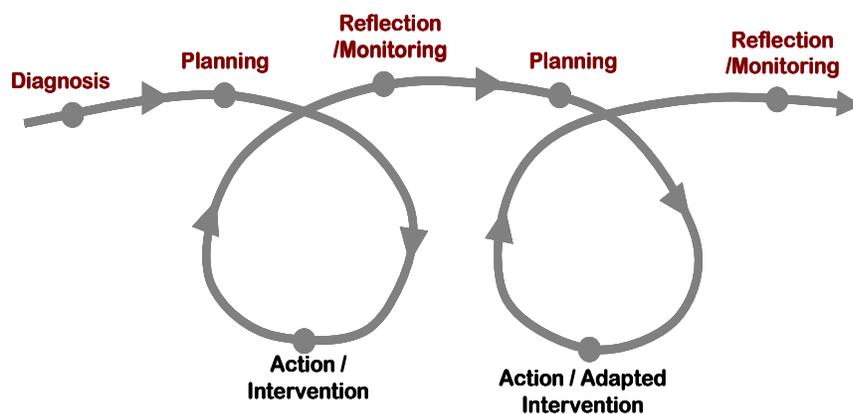


Figure 5: The Planning, Action and Reflection Cycle

Analysis of the IP registers is based on a trend analysis of actor participation in the IP showing changes in types and numbers of different actors and identifying gaps in participation. The IP establishment protocol provides a detailed description of the process used in the formation of the IPs across the TFs allowing for a comparison and the establishment of guidelines. Activity reports provide a documentation of the type, the quality and process of IP organised activities such as the establishment, setting research agenda, and training events with a summary of key lessons learned from these.

3.2.2 Measuring the “IAR4Dness”

Rationale

The proof of concept requires generating evidence that the IAR4D approach is more effective than alternatives and brings benefits to the poor. The elements that could lead to failure to achieve the anticipated outcomes and impacts described in the impact pathway include the conditioning or external factors that may have an influence on the achievement of results; a theory failure that IAR4D cannot deliver the expected outcomes /impacts and

implementation failure that the 9 or some of the 9 projects do not actually implement IAR4D and therefore the expected results are not achieved. Part of the monitoring and evaluation is therefore to monitor the thirds one i.e the extent to which the task force projects implement IAR4D or the 'IAR4Dness'. The two ways of generating the evidence on the extent to which projects are practicing IAR4D include empirical evidence to directly compare the IAR4D approach with alternatives and understanding the rules and processes operating in IAR4D, and use these to predict the outcomes and impacts. In the first approach, comparisons can be made before/after or with/without or, ideally, both measures may be used. The second approach requires development and validation of a conceptual framework for the IAR4D approach, and this has resulted in the hypotheses.

Process

The measure of 'IAR4Dness' is based on the five principles of IAR4D.

- Existence of IPs that are representative, inclusive and with diverse partnerships
- Existence of non-linear, collective and collaborative interaction among IP actors
- Research addresses key constraints and opportunities agreed by the IP in the context of entire value chains
- Research process is multidisciplinary and participatory
- Institutional and human capacity building for IAR4D actors to effectively participate

Indicators

Indicators of "IAR4Dness" have been developed based on these five key principles. Table 7 shows the indicators used the tools used to collect the data and the frequency of data collection.

Table 7: Indicators for Measuring "IAR4Dness"

Indicators	When to collect	Tool to be used
Innovation Platform (IP) Strategic actors identified, listed and interconnected in network and actively participating: <ul style="list-style-type: none"> - Representativeness /inclusiveness of IP; affiliation of actors - Assessment of how well the IP establishment process was conducted (Respondents' scores to questions about how well IP established) - Types of partnerships established (agribusiness, research, rural financing etc.?) - Profiles of IP actors (expertise; experience; competence; specialization) 	To be collected as part of the IP establishment	IP Register IP establishment protocol
Non-linear, collective and collaborative interaction among IP actors (rather than linear researcher-extension-farmer transfer of technology model) <ul style="list-style-type: none"> - Graphic analysis of relationships among IP actors (based on baseline and follow-up surveys about social interactions among actors) 	To be collected as part of IP establishment, functioning and outcomes	IP stakeholder characterization)

<p>Research addresses key constraints and opportunities agreed by the IP in the context of entire value chains (from input supply through production to consumption) and sustainable livelihood systems.</p> <ul style="list-style-type: none"> - Criteria and methods used to identify constraints and to set research priorities - Research protocols 	To be collected as part of IP establishment and functioning	Activity report Research protocols
<p>Research process is multidisciplinary and participatory</p> <ul style="list-style-type: none"> - IP actors' perceptions of the research process (Respondents' ratings of the participatory and multidisciplinary nature of research from surveys and focus groups) 	End of IP cycle (e.g End of farming season)	IP evaluation tool
<p>Institutional and human capacity building for IAR4D actors to effectively participate</p> <ul style="list-style-type: none"> - Congruence between problem identified and training provided (Tracer study: respondents' ratings of the usefulness of training) - Number and types of training events 	<p>After every training</p> <p>End of 2008, 09 and 10</p>	<p>Training evaluation form</p> <p>Activity report</p>

The variables for measuring 'IAR4Dness' are collected as part of the monitoring and evaluation of the IP establishment, functioning and outcome evaluation.

Tools

Monitoring and evaluation tools to be used to assess the extent to which Task Force projects are practicing IAR4D are similar to those used for the establishment, function and outcome evaluation. These include:

- The IP establishment protocol and IP register that records the process for the establishment of the IPs including identification of partners, information on types of actors, their interests and competencies and their participation in the IP activities
- The IP stakeholder characterization that has a section which collects information on interactions between and amongst stakeholders. Social network analysis from this data shows the multi-directional or linear nature of interactions and information flow.
- A combination of the stakeholder analysis in each site that gives the critical issues identified in each site and village with the activity reports and research protocols show the extent to which the IP is addressing the critical issues as identified and defined by stakeholders
- The IP evaluation tool includes scores of IP actor's perception of the extent to which the research carried out by the IP is participatory and multi-disciplinary.
- The training evaluation form which is used after every collects information on the types of training, who has been trained and participants perception of the usefulness of the training

Analysis

Based on the data, an index of IAR4Dness will be calculated for each innovation platform. There will be two distinct overall indices: a simple linear combination and a more complex

index. This will be used in the impact assessment either as a dummy for a dummy for intervention sites (yes/no), (ii) a linear index (min 0 - max 5), and (iii) a complex index.

3.3 Monitoring plot and field level Outputs

Rationale

Research being carried out at innovation platform level and other experimental sites need to be monitored as these are expected to lead to field and household level changes including use of new and improved technologies, use of inputs and changes in production and productivity. Of interest from a monitoring perspective will be the innovations, how have they come about, what is innovative about them and how do they respond to the interface issues (NRM, markets, productivity, policy); who are using them—number of households and male and female farmers, types of households and what is their scale of use? How has access to these innovations changed for households? What are farmer perceptions of the innovations? These innovations shall be used to generate knowledge and behavioral outcomes at the household, community and market level.

Process

The process will involve the description of the research protocols before the research, a documentation of the innovations and a participatory evaluation of research trials and any products coming out of these trials for new or existing technological innovations. These innovations may be social (in terms of approaches, methods), technological, Institutional (markets, input systems, organizational) or policy (community policy mechanisms, advocacy mechanisms).

Indicators

The indicators to show that plot and field level outputs are shown in Table 8.

Table 8: Indicators for Monitoring Field Level Outputs

Key Indicators	How often?	Tool to be used
Number of technological, social, market, policy interventions developed and tested with farmers	At the end of every year	Innovation documentation tool
Number of male and female farmers and other IP actors using or testing innovation	At the end of every year	Innovation documentation tool
Performance of innovations compared to other traditional/non improved technologies /innovations	At the end of every year	Technology evaluation tool
Farmer perceptions of technological, social, policy and market innovations	At the end of every season	Technology evaluation tool
Number of information sharing mechanism, number of farmers and other actors being reached and their perception	At the end of every year	Knowledge sharing tool documentation tool

Tools

These field and plot level activities will be monitored and documented through the use of research protocols. The research protocols are designed by the TFs based on the types of technologies being developed, adapted or tested as part of the IP activities. Common data will be included across all the research protocols including the objective of the research, problem being addressed, extent of the problem, how the research has been developed, experimental design, replications and the type of data to be collected.

A documentation of technological and other innovations generated by each IP, how they have come about, what is innovative about them and their application by IP actors will be done using an innovation documentation tool.

A participatory evaluation tool will be used to get both male and female farmers perceptions of the technologies based on a combination of farmer and researcher criteria.

Analysis

The output of the analysis shall produce results on the changes as a result of use in innovations (productivity, profitability), increased returns to investments and changes in technical and allocative efficiency of agricultural production. Other analysis will focus on farmer perception of the technological innovations based matrix scores.

3.4 Outcome Monitoring and Evaluation

There are 2 sets of outcomes envisioned from the SSA-CP (i) Behavioural change outcomes at organization and individual level and (ii) community and household level outcomes.

3.4.1 Institutionalization of IAR4D

Rationale

A key outcome of the IAR4D process is institutional change, change in skills and capacities and organizational change. The individual changes in skills, knowledge and practice are part of the IP characterization. Institutionalisation and use of IAR4D by partners is an important outcome of the meta-analysis project. His part of the M&E focus on the outcomes 1-4 of the meta-analysis project; increased adoption and reliance on IAR4D; increased Involvement of non-traditional actors in ARD); increased investment towards supporting IAR4D processes; Increased human and institutional capacity for innovation among ARD actors)

Indicators:

The indicators to show the changes in these behavioural outcomes are shown in Table 9.

Table 9: Indicators for Monitoring Individual and Organizational Behavioral Outcomes

	Indicators	When?	Tools to be used
Increased Involvement of non-traditional actors in ARD	Inclusiveness of actors	At establishment of IPs, at the end of every year	IP Registers
Increased adoption and reliance on IAR4D	Extent of use of IAR4D by actors beyond the SSA-CP	At establishment, at the end of every year	IP site and stakeholder analysis and characterization
Increased investment towards supporting IAR4D processes	Changes in funding for IAR4D projects, studies and capacity building activities	At the beginning and end of project	Organizational assessment Budget reviews
Increased human and institutional capacity for innovation among ARD actors)	Changes in knowledge and skills of IP actors including male and female farmers	At the beginning and end of the project	IP site and stakeholder characterization
	Number of actors trained in different skills including IAR4D, and interface issues	At each training activity	Training evaluation

Tools

The IP registers list all stakeholders participating in the innovation platforms including their organizations and competencies. Involvement of such stakeholders as the private sector and policy makers will be documented.

The IP site and stakeholder characterization documents the baseline skills and capacities of actors in IAR4D and in interface issues. Annual monitoring using this tool assesses changes in these skills over time.

The training evaluation tool documents the number and types of actors trained and their assessment of the training in terms of new gained skills and knowledge

Organization assessment will be done for all organizations participating in the SSA-CP at the beginning and end of the project to document changes in organizational capacity for IAR4D and the extent of use of IAR4D beyond the SSA-CP. This tool may be extended to other organizations in the regions of the PLS to analysis scaling out of the approach. An electronic survey (rather than a face to face meeting) would be used for this survey.

Analysis

A KAPP analysis for all partners in the SSA-CP and an organizational analysis of the extent of use of IAR4D beyond the SSA-CP and beyond the traditional partners of the SSA-CP and the extent to which this can be attributed to the SSA-CP.

4 Development of a database system for baseline, monitoring and evaluation data

In order for the indicators and the data to be analyzed and comparable across IPs, TFs and PLSs, a common data entry and data management structure is proposed. This is to avoid a situation where data is entered in different formats, different structures and different coding in a way that a cross site and cross project analysis is not feasible. This will entail:

- Developing a structure for all data collection tools that provides an interface both for data collection and data entry
- Developing an access data base for the storage and management of common data across sites
- Assisting Task Forces to build on the common data base for Task Force specific indicators and data
- Assist in the training of TF data enumerators, data entry clerks to achieve uniformity across sites
- Develop a database for IP and field level monitoring tools
- Assist data management specialist in other activities to ensure consistency of data
- To make data accessible to all partners within the SSA-CP

5 Learning within the SSA-CP

As discussed, the M&E system described above is used for multiple functions including learning and improving the implementation of the SSA-CP. The objectives of the learning forums are to:

- To share information and lessons from implementation within and across groups (IPs TFs, PLSs)
- To use monitoring and evaluation data for informing program planning and implementation
- To document lessons across the SSA-CP for scaling up and out of IAR4D

Four levels of learning forums are envisaged:

- a) Innovation platform level: All IP actors meet at the beginning and end of the IP cycle to plan, evaluate their activities and make action plans for implementation
- b) Task Force level: The timing of these is determined at task force level but recommended to be twice a year. Results from M&E and other activities including interface research are presented and used for planning
- c) PLS level: These are to be held once a year to ensure exchange of lessons and experiences and planning of joint PLS activities
- d) SSA-CP wide: To be held once a year bringing together all task forces. These will be used for reviewing progress and achievements, planning and documenting SSA-CP wide outputs and outcomes.

6 Implementation of the M&E system

Implementation of the M&E strategy is the responsibility of different teams within the SSA-CP. Table 10 gives the key persons/groups of person and their roles and responsibilities in implementing this strategy.

Table 10: Roles and Responsibilities for M&E within the SSA-CP

Actor	Role
Task Force teams	<ul style="list-style-type: none"> • Facilitation of Innovation Platforms • Contribute to indicators for monitoring and evaluation processes, outcomes and impacts • Build in a reflection and learning process in innovation platforms to use the results of the PM&E to make decisions and make corrective adjustments thus linking PM&E to planning and implementation. • Implementation of baselines studies that integrate common indicators across-site indicators and task force specific indicators • Monitoring, evaluation and tracking progress of indicators • Implementation of Impact assessment studies to assess extent to which change has occurred within the PLS (in intervention areas and counterfactual sites) • Periodic assessment studies to generate data for testing hypothesis
Innovation platform facilitators (part of TF teams)	<ul style="list-style-type: none"> • Implement and document the interaction process of actors and its outcomes at IP level • Implement and document the participatory monitoring and reflection process • Collect data on key process and outcome indicators and make assessments of the extent to which these indicators are manifested in the innovation platforms • Monitor and document process and interactions within the innovation platforms and how these are changing • Build the capacity of farmer associations and other actor groups to implement PM&E systems that help them to articulate their demand within the innovation platform actors, that develop key indicators to be monitored within each actor group, the tools to measure these and how to use the results for decision making.
Actors within the innovation platforms including farmers / communities	<ul style="list-style-type: none"> • Implement Task Force Level Research • Contribute towards the development of indicators for process, outcomes and impacts • Share roles and responsibilities for monitoring and evaluation • Use PM&E data and information to articulate demands, make decisions and make adjustments to the projects and project activities
Knowledge and information management specialists (including NRS data specialists)	<ul style="list-style-type: none"> • Develop a database system of data and information from the PM&E process that allows for the use of this information for programme improvement, hypothesis testing and across-site comparisons • Manage and make data available for use within the IPs and TFs
A centralized function (Core Research Support Team + Post Doctoral Fellows)	<ul style="list-style-type: none"> • Development and organisation of indicators that cut across-sites to be include in all the baselines, outcome and impact assessments to allow for across-site comparisons • Development of tools and methods for periodic outcome assessments within and between Innovation Platforms, Task forces and PLS • Provide guidance and leadership on the development, implementation of baselines, outcome and impact assessment studies • Coordinate organizational and individual assessments based on key hypothesis and expected outcomes at these levels • Meta-analysis of process, outcome and impact indicators across-sites to derive lessons and test multi-site hypothesis • Mentoring of process facilitators on the participatory monitoring and reflection process for innovation platforms, task force and PLS teams that will allow for learning and adjustment to project plans.

Actor	Role
	<ul style="list-style-type: none"> • Work with task force teams to develop an indicator based reporting system that integrates learning and lessons from experiences. • Meta-analysis of the role of the PM&E system in improving learning, and performance of teams / platforms • Across site comparison of Innovation Platforms, PLS and Task Forces

Annex 1: Participatory Monitoring and Evaluation Framework for the SSA-CP

Theme 1: Approach for establishing functional innovation platforms developed

(IP actor Baseline and IP site characterization)

Results	Indicators	Data to collect	When to collect	What level	Tool to use
Outcome 1.1 Increased responsiveness of IP research to the needs of stakeholders	P I #1.1(a) Extent to which stakeholders participate in IP processes and articulate demands	Perception of IP actors of the extent to which their needs have been met Investment of IP partners in the process	Mid way and end of IP	IP actors	IP evaluation tool (likert scale of micro-scenarios)
	P I #1.1(b)Number of issues addressed in congruence with stakeholder priorities and constraints (NRM, Markets, technologies etc)	Inventory of all issues addressed by the IP Inventory of stakeholder priorities	Through the life of the IP At the start of the IP	IP Actors in the IP	Minutes of IP meetings Scoring and Ranking of priorities
	P I #1.1(c)Extent to which concerns and priorities of various actors in IP are integrated into the planning process and action plans	Inventory of stakeholder priorities in the IP Matching of stakeholder priorities with IP action plans	At the start of the IP Mid way and end of IP	Actors in the IP, IP	Stakeholder Analysis and IP characterization tool
Output 1.1.1 Methodology on establishing innovation platforms developed and tested	P I #1.1.1 (a) Extent to which different actors with a stake in the issue including male and female farmers are represented and active in the platform (Diversity of organizations and actors)	Proportion by gender, institutions and discipline of actors participating in the IP Documentation of the roles and responsibilities of IP actors Consistency in attendance of IP meetings	At the start of the IP Every IP meeting	IP actors IP actors	IP actor inventory / Stakeholder Analysis Attendance registers
	P I #1.1.1 (b) Extent to which IP partners have participated and are aware of the vision and have clear roles and responsibilities for achieving the vision	Actors indicators of functioning and performance of the IP Perceptions of the actors of the functioning and performance of the IP based on these indicators	At the start of the IP Mid way and end of IP	IP actors IP actors	FGD IP evaluation tool (likert scale of micro-scenarios)
	P I #1.1.1 (c) Actors perception on the functioning and performance of the IP	An analysis of factors enabling and hindering functioning of IP	End of IP	IP actors Comparison across all IPs	IP critical incidents journal / process documentation / case studies
	P I #1.1.1 (d) Presence and functioning of decision making and conflict resolution mechanisms (rules and documents)	Process of decision making, type and nature of conflict, method of conflict resolution			
	P I #1.1.1 (e)At least three models for making an innovative platform function effectively developed, by 2010	Number of models, their characteristics	Continuous during the IP	IP	
Output 1.1.2 Interactions, linkages and communication	P I #1.1.2 (a) Changes in patterns of interaction, linkages and social capital (bonding, linking and bridging among IP	Frequency of meetings to discuss and plan Level of interactions, information	Before IP formation, mid project and end of project	All organizations in IP site	Stakeholder Analysis/ Social Network Analysis

among actors increased	<p>actors</p> <p>P I #1.1.2 (b) Quality and consistency of participation in IP activities</p> <p>P I #1.1.2 (c) Level of awareness and access to information on critical issues (NRM, technology, market, policy etc) and operational issues (budgets, expenditures, guidelines, decisions and resolutions)</p> <p>P I #1.1.2 (d) Number and type of knowledge sharing channels</p>	<p>sharing, joint planning and networking between organizations in the IP site</p> <p>IP actors participating in IP meetings and activities</p> <p>Knowledge, attitudes and practice of IP actors with regards to critical issues</p> <p>Knowledge of IP actors on the decisions, guidelines, expenditures etc</p> <p>Number of knowledge sharing channels, number of people being reached by each and their perception of the channels</p>	<p>During each meeting and activity of the IP</p> <p>At IP formation, and end of project</p> <p>Mid project</p>	<p>Actors in the IP</p> <p>Actors in the IP</p> <p>IP and IP actors</p>	<p>IP attendance registers</p> <p>KAP Analysis</p>
Outcome 1.2 IP actors empowered to articulate needs, plan, implement & monitor research and development activities (NRM, Marketing, production, etc)	<p>P I #1.2(a) Extent to which farmers articulate and express their needs and feedback to IP</p> <p>P I #1.2(b) Ability of farmer organizations to independently implement and monitor their activities</p> <p>P I #1.2(c) Extent to which level of farmer organization / social capital has changed</p> <p>P I #1.2(d) Changes in level of knowledge, attitude & practice of critical issues (NRM, markets, production etc)</p>	<p>Number of farmers making contributions to IP meetings</p> <p>Number of farmer groups with clear objectives, plans, activities and indicators for monitoring them</p> <p>No of farmer groups per farmer, changes in levels of social capital (bonding, linking, bridging)</p> <p>Number of farmers practicing different technologies being developed and tested by IP actors</p> <p>Farmers knowledge of technical innovations</p>	<p>During IP meetings</p> <p>End of year 1,2 and 3 of project</p> <p>Year 1 and 3 of project</p> <p>Year 1 and 3 of project</p>	<p>Farmers in IP</p> <p>Farmer groups</p> <p>Households</p> <p>Households</p>	<p>Minutes of IP meetings</p> <p>Farmer group characterization</p> <p>Village / community characterization</p> <p>Baseline and impact surveys</p>
Output 1.2.1 Capacity of IAR4D actors is enhanced in IAR4D principles	<p>P I #1.2.1(a) Changes in level of knowledge, attitude & practice of IAR4D processes</p> <p>P I #1.2.1(b) Number of IP actors implementing IAR4D processes beyond the sites</p> <p>P I #1.2.1(c) At least 3 organizations outside the PLS applying IAR4D principles by 2010</p>	<p>Knowledge, attitudes and practice of IP actors with regards to critical issues</p> <p>Number , type of organizations applying IAR4D process, where they got information skills from and scale of application</p>	<p>At the start, mid and end of IP</p> <p>Year 1 and 3</p>	<p>IP actors</p>	<p>Organizational assessments</p>
Output 1.2.2 Linkages of communities with R&D actors within and outside the site increased	<p>P I #1.2.2(a) 50% increase in the number of sources of information and services that communities interact with by 2010</p> <p>P I #1.2.2(b) Extent to which communities are pro-actively approaching service providers</p>	<p>Type of information (production, market, price etc) farmers get and their sources</p> <p>Number of organizations farmers are approaching for different services and on formation</p>	<p>Year 1, 2 and 3 of project</p> <p>Year 1, 2 and 3 of project</p>		<p>Village / community characterization / household surveys</p> <p>Village / community characterization / HH surveys</p>

Theme 2: IAR4D derived innovations and capabilities to deal with critical issues at interfaces developed

(Household Level Baseline)

Results	Indicators	Data to collect	When to collect	What level	Tools
Outcome 2.1 Increased economic capacity of smallholder farmers from effective market linkages	<p>PI #2.1(a) Farmer changes in wealth category and perceptions of their economic capacity</p> <p>PI #2.1(a) A 30-50% increase in farmer incomes from agricultural related activities (under theme 3)</p>	<p>Indicators of wealth, value of wealth indicators</p> <p>Farmer perceptions of wealth status</p>	Baseline and end of project	Household	Household questionnaire
Output 2.1.1 Effective strategies for farmer linkages to output and input markets are developed and implemented to increase farmer access to markets	<p>PI #2.1.1(a) A 40% increase in the number of smallholder farmers actively producing for selected markets</p> <p>PI #2.1.1(b) An increase in volumes and the value of products traded for market</p> <p>PI #2.1.1(c) Number of male and female farmers with access and utilizing inputs (fertilizers, improved varieties)</p>	<p>Number of farmers producing for the market, crops, livestock kept for market</p> <p>Amounts of crop / livestock marketed, distance to markets, price and value of marketed produce</p> <p>Number of farmer using inputs, source of inputs, distance to source of inputs, perception of availability of inputs</p>	Baseline and end of project	Household	Household Questionnaire
Outcome 2.2 Increased production and availability of food at household level	<p>PI #2.2(a) A 50% change on the value of produce</p> <p>PI #2.2(b) Number of months that harvested food of main crops lasts after harvest</p> <p>PI #2.2(c) Diversity of crops grown by farmers in target sites</p>				
Output 2.2.1 Increased productivity and profitability of targeted crops	<p>PI #2.2.1(a) Increase in productivity (yield per unit area) of target crops</p> <p>PI #2.2.1(b) Increase in returns to investment due to use of improved technologies (returns per unit of labour, unit of cash/ unit of land)</p>	<p>Amount of specific crops produced, area planted</p> <p>Amount of specific crops produced, area planted, labour use, value of crop</p>	Baseline and end of project	Household	Household Questionnaire
Output 2.2.2. Increased utilization of improved technical innovations	<p>PI #2.2.2(a) Number of male and female farmers using crop/ livestock/NRM technologies</p> <p>PI #2.2.2(b) Farmer perceptions of technical innovations</p> <p>PI #2.2.2(c) Changes in the area under improved crop / livestock / NRM practices are used</p>	<p>Types of improved technologies being used, number of farmers using, sex of farmers using</p> <p>Are under each technology</p>	Baseline and end of project	Household	Household Questionnaire
Outcome 2.3 Increased	PI #2.3(a) Number of farmers aware of policies	Number of farmers aware	Baseline and end of	Household	Household

awareness of policies on technologies, input and output markets	influencing markets, technologies	of policies influencing markets, technologies	project		Questionnaire
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Theme 3: Effectiveness of IAR4D approaches in delivering pro-poor benefits and its scalability assessed

Household Level Baseline, Village Characterization, IP site and actor characterization and organizational assessments)

Results	Indicators	Data to collect	When to collect	What level	Tools
Outcome 3.1 Increased benefits to IP partners and target households participating in IAR4D compared to non-IAR4D households	Household Level P I #3.1 (a) Improvements in food security and food availability	No. of months that harvested products last in the HH Number of meals that households have increased by 50% by 2010 Household dietary diversification index	At the start and end of project	Household	Household baseline questionnaires
	P I #3.1 (b) %increase in HH incomes due to IAR4D - compared to non-IAR4D HH P I #3.1 (c) Increased asset accumulation by households P I #3.1 (d) Increased social capital, social organization and empowerment of farmers due to IAR4D interventions compared to non IAR4D sites	Priority sources of income and annual income estimates from these Household expenditure estimates on food and non food items Number and value of agricultural and domestic assets Number and value of household livestock assets Likert scale measurements of social capital and social organization indicators (extent of working together, access to services etc)			
	P I #3.1 (e) Changes in human capacity of farmers with regards the critical issues	Ability of household to demand services-number of service providers that farmers are linked with, types of information they are providing, which ones farmer have approached by themselves Likert scale assessment of human capacity indicators with regards to critical issues (NRM, Markets, policy and Productivity)	Before and end of project	IP actors (traders)	Trader baseline questionnaires
	P I #3.1 (f) Improvements in the natural resources and natural resource base of farmers Partners:	Profitability/ changes in value of			

	<p><u>Traders:</u> P I #3.1 (f) 15% increase in profitability due to reduced transaction costs and/or increased volume in at least 3 products P I #3.1 (f) Traders perceptions of changes in product quality and farmer-trader relationships</p> <p><u>Research and development partners</u> P I #3.1 (f) Extent to which actors within the IP are invited to IAR4D fora and are recognized within the institutions</p> <p>50% increase in funding for IAR4D projects, studies and capacity building activities</p>	<p>traded volumes of target commodities, perceptions of reductions in transaction costs and operational costs, improvements in product quality, improved relationships with farmers etc</p> <p>Perception of actors of changes in status and recognitions, number of meetings and conferences that they present results to, number of invitations to train on IAR4D etc Number of other IAR4D projects, activities and studies actors are involved in, levels of funding allocated to these activities and studies</p>	<p>Mid and end of project</p> <p>End of project</p>	<p>IP actors (other)</p> <p>Organizations</p>	<p>Case studies</p> <p>Organizational assessments</p>
Output 3.1.1 Baseline conditions for the evaluation of the impacts of IAR4D established	P I #3.1.2 (a) Extent to which baseline conditions have been established in intervention and counterfactual sites by mid-2008	Geo-reference, household characteristics, farm characteristics, production system (main crops grown and acreages), production trends of main crops, access to markets (types of markets, distance to markets, volumes of specific crops sold) access to input markets knowledge, awareness and use of different technologies, Household asset base-agricultural, domestic, livestock	Before and end of project	Household	Household baseline questionnaire
Output 3.1.2 Costs and benefits of IAR4D to different actors established	<p>P I #3.1.1 (a) At least one model to assess costs and benefits of IAR4D developed and evaluated by 2009</p> <p>P I #3.1.1 (b) Extent to which the financial social and environmental benefits of IAR4D exceed those of conventional R&D approaches established by 2010</p> <p>P I #3.1.1 (c) Extent to which the cost per farmer adopting conventional R&D exceeds the costs of farmers adopting IAR4D interventions established by 2010</p>				

	PI #3.1.1 (d) Extent to which the lag time between development and utilization of technologies is reduced compared to conventional IAR4D established by 2010				
3.2 Increased utilization of IAR4D within and beyond project sites and partners	<p>PI #3.2 (a) 50% increase in number of project proposals in at least 3 organizations participating in the PLS by 2010 that utilize IAR4D</p> <p>PI #3.2 (b) No. of lecturers exposed to IAR4D incorporating IAR4D in existing courses [economics, rural development, soil sciences, agribusiness, etc]</p> <p>PI #3.2 (c) 50% increase in staff trained in IAR4D in at least 3 organizations participating in the programme in the PLS</p>	<p>Name and type of organizations, number of projects and proposals that include IAR4D principles and concepts</p> <p>Learning institutions that have incorporated IAR4D in their training programs</p> <p>Number of people trained in IAR4D to develop a critical mass</p>	Before and end of project	Organizations	Organizational assessments
3.2.1 Learning sites that allow for pro-poor targeting and scalability selected	PI #3.2.1 (a) Criteria for selection of sites developed and implemented to identify sites by mid 2008	Criteria for site selection, documentation of site selection process and validation	Before	sites	
	PI #3.2.1 (b) Sites are selected and characterized for their suitability for implementation and comparability of impact of IAR4D by mid 2008	<p>Characterization of IP sites and implementation villages</p> <p>IP site characterization--- (geo - references, number of organizations and their linkages, Agro -Ecology / Biophysical potential, governance (land tenure, administrative), population density, Market access, density of networks/ organizations, (mapping existing networks and interactions, farming systems</p> <p>Village characterization--(geo-reference, level of organization, farming system, number of input, output markets within village, proportional households in different wealth categories, governance mechanisms etc)</p>	<p>Before and end of project</p> <p>Before and end of project</p>	<p>IP site</p> <p>Village</p>	<p>IP site characterization tool / stakeholder analysis</p> <p>Village characterization tool</p>

