

METHODS FOR PLANNING EFFECTIVE LINKAGES

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Linkages between major institutional actors in agricultural knowledge and information systems (AKIS) are widely recognized as essential for an effective flow of technology and information between research, extension, and farmers. Poor performance of the system is often related to common and recurrent linkage problems among these and other stakeholders. Based on lessons learned through the collaborative application in four countries of a linkage planning approach developed by ISNAR, tested methods for improving linkages are summarized below.

Introduction

Many linkage problems between major institutional actors in agricultural knowledge and information systems (AKIS) are caused by a lack of coordinated planning, poor communication between linkage partners, and absence of follow-through with actual linkage resource planning or implementation. In addition, there is typically little or no involvement of farmers or farmers' organizations in linkage planning or cost sharing. Uncoordinated donor involvement in linkage planning for investment projects further complicates the situation in many countries. This results in research and extension activities that lack relevance for producer technology and information needs.

AKIS concepts

AKIS are theoretical constructs based on the assumption that functioning systems actually exist. These "systems" are composed of different institutional actors (farmers, private- and public-sector organizations, and other stakeholders) involved with technology generation and dissemination of improved crop varieties,

agrochemicals, cultural and management practices related to livestock, crops, and natural resources. In fact, such systems are often nonfunctional or hypothetical in the sense that coordinated, goal-oriented system behavior is seldom present. Indeed, while a "system" is a valuable conceptual tool for defining the organizational actors and setting boundaries, its functionality depends on the presence of linkages between individual organizations that help them perform as partners with shared objectives.

In addition, the individual organizations comprising such systems are necessarily the working targets for improvements in system performance. Such organizations as government research and extension organizations, farmers' organizations, private-sector organizations involved in agricultural technology or production, and nonprofit nongovernmental organizations (NGOs) are identifiable legal entities with defined objectives and responsibilities, structures, and internal organization. These



organizations can function together as systems only when they work together, and they can work together only when the linkages between them are consciously planned and activated.

In practical terms, any work to improve or establish linkages in a system must begin with the most important component organizations involved in technology generation and flow.

While all farmers are theoretically part of such systems, effective two-way technology and information flow is most readily established between legal entities, including farmers' organizations. In countries where farmers or certain types of farmers are not organized to define and achieve their own objectives, the initiation of linkages can foster the development of grass roots representation, by involving farmer representatives in linkage planning.

Roles of farmer-research-extension actors

The actors in any system have different capacities and advantages, and play different roles. Once these are understood, their responsibilities and objectives can be coordinated to avoid overlap and achieve complementarity in terms of shared goals. The central actors in most developing-country systems are farmers' organizations, farmers, and (government) research and extension organizations. In some systems, other organizations such as NGOs and commercial enterprises may be central to technology generation and dissemination, and in all systems such organizations are active in technology and information flow to some extent.

Role of farmers' organizations and farmers

Farmers are the ultimate users of technology and information, and they contribute to its flow by

- providing indigenous knowledge and information;
- determining which technology is useful and relevant;
- identifying production problems and defining what is needed from research; and
- representing farmer interests, in the case of farmers' organizations.

Role of government research and extension

Public-sector research and extension organizations have traditionally played a central role in providing improved technology and information for farmers. Their ultimate goals are to increase agricultural production and improve the economic situation at the national and farm levels. Government research organizations can and should play a guiding role in linkage planning by initiating

such efforts. In general, government research and extension are central to

- policy formulation and planning for country-wide research and extension services;
- carrying out research and services that result in improvements for agricultural production and natural resource management;
- ensuring broad coverage of farmer technology and information needs;
- promoting the use of shared methods and processes for linkage planning.

Implications and importance for farmers

Farmers need to participate in establishing research-extension agendas in order to communicate their production and management problems to research, and to help determine effective means of accessing improved technology and information. Without effective linkages, the relevance of research outputs may be uncertain, and the concerns and needs of farmers—such as timely supplies of new genetic material and information on pesticide safety—may not be met. They also need to communicate with research and extension regarding the results of technology use.

Substantial changes are needed to improve the participation of farmers in decision making related to research and extension. Commonly, the major government organizations for research and extension employ top-down decision-making procedures, and farmers have little influence over the planning and implementation of activities. Full partnership and communication among major actors in the AKIS, including farmers' organizations, change the decision-making pattern.

Once a specific approach and methodology are adopted by the central actors, every effort should be made to encourage other stakeholders, such as donor agencies and NGOs, to use the same methodology in order to maximize coordination and cooperation in linkage planning.

Adaptation to AKIS conditions

Linkages require substantial and sustained attention to establish a strong farmer voice in decision making and to build cooperation and collaboration among the principal actors. Together with Senegal, Tanzania, Zimbabwe, and Mali, ISNAR has developed and tested linkage planning methods and procedures that have proven effective. In each of these countries, national research staff took the lead in initiating linkage planning, facilitated by ISNAR staff. They adapted the methods to national systems and involved the constellation of key partners most active in technology and information flow, achieving good results.

These methods are available for use in other countries and are useful in resolving linkage problems. Once adapted to the prevailing conditions in individual coun-

tries, these methods improve linkages and lead to further development and refinement of the procedures.

Conceptual Approach

The linkage planning approach developed by ISNAR emphasizes national participation in the process, provides step-by-step guidelines, and promotes leadership and decision making by representatives of the major actors. This section presents a brief overview of the linkage planning process, with methods for organizing planning in order to maximize participation and consensus.

Process: Maximizing participation and consensus

Achieving the participation of AKIS partners in linkage planning, and ensuring that they lead the planning and decision-making processes, are essential parts of this methodology and approach. For these reasons, the process is at least as important as its end results. Broad participation and national leadership require greater time investment than a top-down approach, but the effects are far-reaching. Table 1 provides a guide for managing the process at national, regional, and district/local levels, which should be adapted to the prevailing conditions in each system.

The planning cycle and its steps

The steps presented below are fundamental to the process of linkage planning. As shown in figure 1, each step embodies a series of actions for linkage planning that can be used at different levels in each individual country.

Step 1: Define research-technology user linkage strategies at different levels for each AKIS by

- identifying the potential linkage partners;
- defining the linkage objectives and/or functions for the most important partners at each level;
- identifying an array of potential linkage mechanisms by type of partner and linkage functions/ objectives;
- preparing linkage strategies that specify the partners, the linkage functions/objectives, and the linkage mechanisms.

Step 2: Diagnose and analyze the existing linkage situation by

- using the linkage strategy developed in Step 1 to identify the linkage gaps/problems at national and regional levels;
- developing affordable solutions (linkages) at each level;

- defining structural and staffing responsibilities for the identified linkages and mechanisms, including any necessary changes.

Step 3: Develop action plans to solve linkage problems by

- identifying the necessary linkage mechanisms required for each linkage channel at national, regional, and district levels;
- identifying the resource costs (funds, staff, equipment) and estimating budgets for plans at each level;
- identifying contributions to be made by each partner organization for the action plans;
- assigning responsibilities and a time frame, and implementing the content of the plans.

Step 4: Periodically monitor and assess the linkage strategy and action plans by

- assigning monitoring and assessment responsibilities;
- monitoring action plan implementation;
- periodically reviewing and adjusting strategies and action plans.

Lessons from experience

Among the principal lessons of linkage planning learned from ISNAR experience, the following have proven to be the most critical, as well as the most difficult to master.

Awareness, consensus, and commitment. The linkages domain is a large arena and is exceedingly complex, with many actors and stakeholders potentially involved in planning and implementation at different levels. Any lack of awareness, lack of agreement on linkage planning procedures, or lack of commitment to sustained linkage planning and implementation by actors involved in such initiatives may undermine national efforts to coordinate linkage activities.

Approval and support. Support for and endorsement of the linkage planning procedures, plans and activities by decision makers and leaders in the AKIS are necessary for their successful inclusion in government and donor budgets.

Participation of policy and high-level decision makers. Ultimately, the involvement of policy and donor actors in the linkage planning process is necessary for a suc-

Table 1. Guide for Multiple-Level Linkage Planning

| Level | Actors | Actions | Results |
|-----------------------|--|--|--|
| National | <ul style="list-style-type: none"> ■ linkage task force (research, extension, and farmers' organizations) ■ policymakers and decision makers ■ government and donor investors | <ul style="list-style-type: none"> ■ agree on linkage planning procedures ■ establish government policy and support for linkages ■ acquire funding commitments from government and donors ■ examine necessary changes in partner organization bylaws and mandates ■ prepare national strategy that identifies essential linkages and mechanisms | <ul style="list-style-type: none"> ■ shared procedures that strengthen sustainability and coordination of linkage planning over time ■ linkage policies developed by MOA and actor organizations ■ funding agreements and commitments ■ mandate and bylaw adjustments ■ coherent national linkage strategy |
| Regional | <ul style="list-style-type: none"> ■ national steering committee ■ regional planning committee ■ donor representatives | <ul style="list-style-type: none"> ■ adjust strategy to agroecological and administrative zones ■ define roles of major linkage actors at regional level | <ul style="list-style-type: none"> ■ national strategy adapted to each region ■ regional linkage planning body responsibilities defined |
| District/local | <ul style="list-style-type: none"> ■ local-level linkage planning teams ■ donor project managers | <ul style="list-style-type: none"> ■ determine producer conditions and needs at local level ■ develop field-level action plans and schedules ■ budget and resource cost sharing agreements | <ul style="list-style-type: none"> ■ producer-driven technology/information needs identification ■ jointly planned and coordinated action plans ■ detailed field-level event, actor, and resource allocation plans and schedules ■ coordinated, coherent linkage actions at field level ■ effective resource cost sharing ■ more relevant, appropriate technology/information delivered at local level |

successful and sustainable effort. Unless these actors are involved in a meaningful way, the likelihood of their support in funding and cooperating with linkage activities is limited.

Time factors. The establishment and implementation of linkage plans have numerous institutional implications for participating organizations that fall into the category of institutional change. Such changes often require considerable time and attention, and approval at various levels in each organization. For these reasons, progress in building sustainable linkage initiatives should be expected to take substantial time—a matter of years rather than months.

Adequate funding. Sufficient funding from reliable sources for the linkage planning process must be available on a sustained basis. This implies the need for government investment in linkage planning and implementation.

Monitoring and adjustment. Improving linkages is a continual process. Linkage strategies and action plans

need to be regularly assessed and adjusted to changes in farmer needs and funding availability.

Responsibility. Maintenance of a linkage task force, or committees responsible for linkage planning, implementation, and adjustments is needed to sustain good linkage planning over time.

Stakeholder acceptance. Other stakeholders, especially donors, are more likely to accept national government alternatives to linkage planning which result from an organized effort and produce solutions based on careful analysis of linkage constraints.

Multiple levels. Linkage planning must be addressed at multiple levels to have practical results. National, regional, and local/district levels appear appropriate for most countries. This implies a substantial effort (with corresponding costs), but one that is essential for reaching agreement of actors on the plans and their implementation, and for ensuring that budgeting and scheduling plans are actually carried out. Unless linkage planning and implementation occur at local levels, they will have little impact on the existing situation.

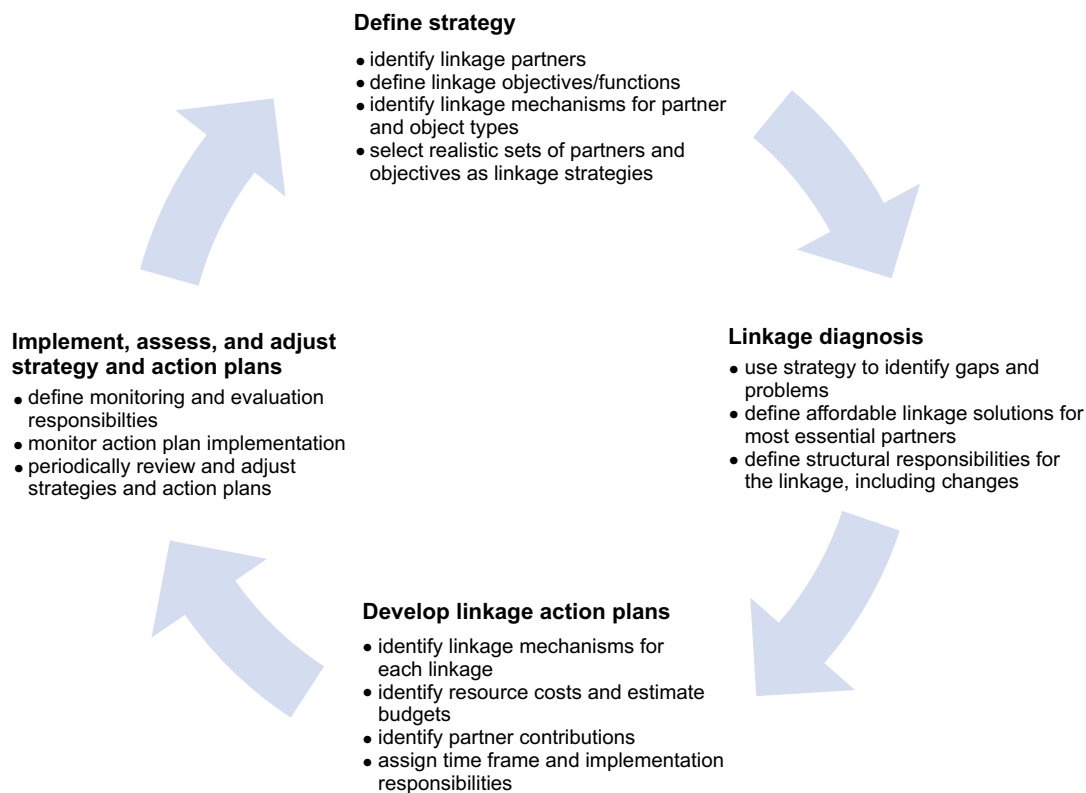


Figure 1. Linkage planning cycle

Conclusion

These procedures and methods were developed and tested by national staff and ISNAR. Testing was carried out in Mali, Senegal, Tanzania, and Zimbabwe, and the linkage planning methodology can now be applied with confidence elsewhere.

Challenges

The principal linkage challenges to confront and resolve, based on in-country testing, are indicated below. These challenges will almost certainly be confronted by any AKIS undertaking linkage planning, and should be considered during linkage planning efforts.

The need to ensure **sustained effort and funding** for the linkage planning approach is a prerequisite for success.

The development of linkage **action plans at the district/local level** is needed to reach producers with practical technology on a broader scale, but has received little coordinated attention in the past. Without this attention to local needs by the linkage planning partners, national or regional strategies will have little effect.

The improvement of the **coherence and coordination of linkage planning efforts** among the major investors and

other stakeholders remains a primary challenge. Without basic agreement on approaches and methods, linkage planning efforts will be characterized by fragmentation and lack of coherence. These agreements are especially important between high-level policymakers and managers of key donors, public-sector research and extension, and farmers' organizations. The establishment of adequate communication and information mechanisms will play an essential role in meeting this challenge.

The planning methods for improving farmer-research-extension linkages developed and adapted by ISNAR and staff of participating countries have proven to be quite effective. Communicating this approach and the elements for its success to key institutional actors and stakeholders in other countries is a major challenge. By meeting this challenge, the errors commonly encountered in linkage planning can be avoided, and the critical lessons can be utilized.

Conditions for success

The following are some conditions for success in linkage planning:

- awareness of the importance of linkages;

- consensus among key actors involved;
- commitment to linkage planning and implementation efforts at all levels;
- adequate funding for the linkage planning process;
- involvement of key donors and policymakers.

Additional conditions for success are listed below:

- National leadership in linkage planning is essential. ISNAR can facilitate and other stakeholders can be involved, but ownership and leadership by nationals from the core AKIS institutes are necessary for linkage initiatives to be successful.
- Apex managers and decision makers of the key AKIS institutions must play an active role on the linkages task force and on any steering committee.
- A minimal level of stability must characterize the AKIS and the key partner organizations involved in linkage planning. If an AKIS or its key organizations

are undergoing major changes, linkage planning should be delayed until there is more stability because the approach, procedures and results can be seriously affected.

There must be broad agreement among stakeholders on the procedures and methods. Without acceptance of basic approaches and procedures, linkage planning efforts will lack coherence and direction. Government endorsement, through formal recognition and approval of the methods and goals, is a necessary step.

The benefits of linkages between partner organizations must be greater than the costs. Establishing and maintaining effective linkages is an expensive and long-term process, and good judgment must be exercised in building realistic strategies and action plans.

The analysis of the existing linkage situation should be critical, objective, and thorough.

About the Authors and this Briefing Paper...

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