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Learning Participation

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Institutionalizing participatory approaches: experiences in National Agriculture Research Systems and institutions of higher learning in Eastern Africa

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**Institutionalizing participatory approaches:
Experiences in National Agriculture Research Systems and Institutions of Higher
Learning in Eastern Africa**

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Abstract

Over time, institutions of higher learning have not adequately trained professionals in participatory research methodologies⁵ (PRMs), particularly as these are not incorporated into the rural sociology or community development curricula offered by most agricultural faculties. Participatory research methodologies are key to fostering the innovation required to solve Natural Resources Management issues and to improve livelihoods.

The African Highlands Initiative (AHI) was started in 1995 to address complex livelihoods and integrated natural resources management (INRM) issues and to develop methodologies for 'new' ways of implementing research and development (R&D) processes that empower smallholder farmers and foster innovative development and to increase the research in R&D organizations. This work has involved the collaboration of national agricultural research organizations (NAROs)⁶ of Kenya, Uganda, Tanzania, Ethiopia and Madagascar, agriculture extension personnel and a number of local NGOs. Given the dearth of experience and conceptual development in participatory methods AHI has invested in building competencies of researchers and others, and has supported practical application in areas such as participatory technology development, farmer experimentation and innovation, interdisciplinary team work, partnerships and multi-institutional collaboration. Although there are promising results in the pilot areas, a need for larger change has been recognized and this has led to the current work on finding ways to institutionalise these practices within the NAROs⁷.

Even after 4-5 years of exposure some researchers still view PRMs with skepticism: they feel that PRM lacks scientific rigor and critical inquiry, are too flexible and 'soft', and lack standardized, scientific implementation and analysis methods. Also, even though scientists from these collaborating NAROs draw on professional expertise from university social science departments (especially sociology, anthropology, gender and extension programs); the extent to which inter- and intra-disciplinary learning and exchange takes place is limited. This paper discusses experiences of AHI by alluding to factors that have thus far impeded institutionalization of PRM in the NAROs and in institutions of higher learning. Secondly,

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⁵ Participatory research methodologies encompass such areas as: ways of integrating social, biophysical, economic and policy disciplines, inclusion of farm systems and landscape dimensions, facilitation skills, ability to integrate science and local knowledge, participatory technology development, farmer experimentation and innovation, interdisciplinary team work, partnerships and multi-institutional collaboration.

⁶ NAROs refer the publicly funded national agricultural research institutes while NARS refers to all research organizations including the universities..

⁷ This work has been carried out by Drs Jurgen Hagmann and Ann Stroud with the Ethiopian Agricultural Research Organization (EARO) and the Tanzanian Department of Research and Development (DRD) of the Ministry of Agriculture and Food Security

the paper proposes methods for building competencies of scientists in action learning, systemic reflection and to leverage for a participatory learning culture.

1. Introduction

Over the next 3 years, AHI plans to draw on key lessons from the NAROs past work using PRM and facilitate the establishment of strategies for their institutionalization of participatory INRM approach⁸ in the NARS (AHI, 2002). Although the benefits of PRM are well documented, little attention is paid to the ‘human’ and cultural factors related to its application (Biggs and Smith, 2002); e.g. researcher-farmer power relations and professional identity and collective representation (Hall and Nahdy, 1999). There are few documented experiences concerning the influence of the implementer’s personality characteristics and their organizational culture on the institutionalization and use of approaches, tools and techniques. AHI has noted that the application and institutionalization of PRM, as an integral part of the INRM approach, has to face and overcome deeply rooted attitudinal biases for ‘hard sciences’, a non-supportive policy environment, limited funding, limited competencies and good examples of practice, and few champions able to support the spread participatory approaches within R&D agencies. Within the operating pilot cases, AHI has been fostering the initiation of joint analyses, of critical reflection and capacity strengthening so as to improve the acceptance and practice of PRM by individuals, teams and the organizations themselves (AHI, 2001). As researchers learn to use PRM they become aware of their professional blinkers and tunnel vision by recognizing things they do not normally see, start to ask questions they do not normally ask, and notice relationships and interactions they did not identify before. The transformation is occurring but these experiences of practitioners and “believers” still remain as “islands”.

Literature illustrates that private-sector organizations have been on the forefront in championing a learning culture to survive competition and to satisfy client demands. Private organizations tend to have different driving forces that propel the “learning cultures” compared to public organizations; that is - profit and market orientation. Private entities find it relatively easy to change given a relatively top-down leadership that has assessed the need for, favors and directs this change. In contrast, many public research organizations are led by hierarchical “researcher-managers”, who are not expert in assessing their own organizations, do not necessarily have innovation or creative exploration of new ideas as part of their institutional culture, and may not face dire consequences if clients do not accept their products. Public institutions are often part of larger government bureaucracies that do not promote innovation, build trust or enable staff to have a sense of place, sense of responsibility and a sense of belonging (Woodhill, 2002: 327). This said, self-managed institutionalization of PRM in the NARS is important so that research organizations and researchers learn to be and can be more innovative and responsive to client priorities and interests.

Research managers, as well as policy makers, need quality information on which decisions can be made and to justify changing established rules, mindsets, structure and institutional arrangements. AHI’s mandate as “catalyst for institutional change” has thus far contributed to the generation of information needed for informed policy change in two public NAROs that expressed their interest in being “test” cases. AHI has facilitated EARO and DRD to develop and use an assessment framework that could assist research organizations in “holding up the mirror” to see areas where change is needed in order to better manage and conduct effective research. From joint assessment EARO and DRD identified a number of cornerstones for effective research that involve PRM, e.g. fostering local organizational capacity, farmer learning and capacity building through sharing and exposure, farmer experimentation, community facilitation of the R&D process, among others. Therefore, assuming that

⁸ Integrated natural resource management (INRM) approach aims at broadening research and development methods and inputs to solve a complex of poverty-livelihood-environmental issues in a practical way. Key elements include: cohesive social groups, improved economic conditions, conducive policies, appropriate technologies, and improved access to information. INRM promotes increasing local capacity and participation, improved use of coordination and facilitation mechanisms, use of a holistic view farm and landscape systems, and takes cognizance of multiple stakeholders.

greater impact can be achieved by using PRM, then there is need to find ways that ensure that public institutions are receptive, are able to use these and other useful approaches, and are interested in keeping abreast and developing innovations in the future. Thus, a real challenge is to find ways to get public institutions to embrace innovation in general, adopt the use of participatory approaches specifically, and to change so as to be able to support this innovation.

2. Rationale for institutionalizing PRM

Institutions of higher learning in the north and south are responsible for training researchers that join the African NARS. Currently, biophysical scientists dominate these research organizations given their “technology for improving and agricultural production” focus. Many times, the technologies are not very beneficial to the targeted people mainly because of the little understanding, if any, about society-technology interactions/relationships. Sociologists, anthropologists and those involved in rural development are not among the hired NARI staff disciplines nor are needed skills such as facilitation, negotiation, team leadership, and managing partnerships taught. Classical methods of science based on empiricism, objectivism, reductionism, and quantification are on their own inadequate for complex and multi-dimensional nature of new INRM research (Woodhill 2002:326). A constructivist way of thinking could probably open up more exploratory and learning avenues to researchers and other stakeholders.

By and large, agricultural researchers regard themselves as being accountable for generating “hard” technologies using a technology transfer chain⁹. However, practitioners are realizing that “hard” technologies applied by farmers are not a panacea and that the adoption of NRM technologies has been disappointing. Most research organizations provide professional rewards and advancement based on things like crop variety development and scientific papers. In some public funded research organizations a reward system that is linked to an M&E system has only recently been added. On a more personal level, it is also clear that researchers must first understand *themselves* in order to deconstruct their [most likely] biased views of small farmers that have come about by a long conditioning process while in professional training (Chambers, 1980). Thus, the training orientation, the job description and expectations, and the reward systems have resulted in a cadre of professionals who are largely uninterested and certainly ill equipped to deal with more fundamental questions of human existence, knowledge and action. Thus, learning participation brings different disciplines and institutions together as dependent¹⁰ learners to establish and promote a common vision of livelihoods and well being of the stakeholders.

Given these deficit areas, PRM and ultimately the cultivation of social and human capital have been brought in to see if the situation can be turned around (Stroud, 2002). PRM approaches have been contrasted with conventional approaches: conventional are characterized by strong ‘outside’ control of the R&D agenda with few, mostly “extracted” outputs from the expectant beneficiaries, while PRM is characterized as operating in inclusive partnership modes with a strong empowerment dimension – where “outsiders” try to be closer to and add-value to the “insiders”. Many projects have failed when using conventional approaches due to community exploitation and fatigue, lack of local ownership of the process, and lack of the outsider’s ability to understand local social and ecological systems by outsiders. At the farmers level researchers are challenged to listen and learn from farmers, encouraging them to express their categories, meanings and priorities and treating them not just as professional colleagues and collaborators, but as teachers (Chambers, 1980). This implies that the respective roles of farmers, local organizations and research institutions need to evolve from the current dichotomy. The reversal of roles, from relatively ‘untouchable’ status of researchers derived from their high level of formal education to that of partner with farmer farming communities whose

⁹ Most NARO researchers and managers regard their job as developing technologies and these are passed to extension or development agents and from them to the farmers – this is called the “technology transfer chain”. Therefore, the researchers do not take direct responsibility for non-adoption of the technologies or deliberate efforts of seeing that developed technologies lead to concrete benefits on ground.

¹⁰ Learning depends on the interactions between and among researchers, farmers and technology itself.

vast repertoire of knowledge and experience derive much more from practical experience than classroom learning.

The “empowering” type of PRMs as compared to more “extractive” PRM (often used for the purpose of research) are relatively new to researchers in the countries where AHI works (AHI, 2001). Although the values of participatory methods are well documented, research institutional cultures have inhibited their spread and wide scale use: promotion is pegged on tangible technologies developed, there is no related reward system, there is skepticism concerning scientific rigor, there is limited expertise so that quality control is relatively difficult, and data that prove their cost-effectiveness to convince research managers is hard to come by, most social issues can neither be calculated nor quantified. For instance, how does one measure trust or friendship or love! They are important and can not be under looked if a change is desired.. The limited experience, lack of operational models, and the wide variation in application blur the clarity about the principles, quality, methods and objectives that should guide the use of participatory approaches. Although participatory methods have many positive effects, it should not be considered a panacea for community development nor is it a substitute for, empirical research, thorough preparation, long term planning, constructive dialogue and sustained interaction (Abbot, 2002). It is however a way getting all the concerned people involved in the learning and generation of ideas that may help avert a problem collectively.

Using participatory research methods for INRM allows for:

- Developing a shared vision of how natural resources should be managed
- Building confidence and capacity for collective action, advocacy and innovation
- Using a learning based-in-action process of enquiry and reflection
- Acknowledging, enhancing and incorporating local knowledge, beliefs and values
- Learning from and coping with the perceptions of a broader set of stakeholders
- Better understanding and managing social and biophysical complexity, diversity and dynamics
- Reaching and including less powerful stakeholders, such as women and disadvantaged groups, focusing on resource access and social equity
- Fostering interdisciplinary communication and facilitation as a means to dealing with conflict, finding new management arrangements and promoting learning processes
- Monitoring the results that come from actions derived from the learning-reflection processes
- Understanding and influencing micro-political processes
- Operating at different scales or levels: technical and organizational as well as temporal
- Managing change in local institutions that favor improved livelihoods and environmental management

(Source: Uniting Science and Participation for Sustainable Livelihoods and Adaptive Natural Resource Management, 2003)

3. Methods and Outcomes from the Field

3.2 Using “Learning Participation” to assist in institutionalising PRM in NARS

Institutionalization is defined as the process whereby practices become regularly and continuously repeated, are sanctioned and maintained by social norms, and have major significance in the social structure (Abercrombie, et al 1998: 124). Since PRM seems to need an additional “push” given that it requires technique but also changed in attitudes, overt strategies for institutionalization need to be well thought through.

AHI has been experimenting with “learning participation” as one means of furthering the institutionalization of PRM. Its very principles are embodied in the participatory approaches themselves. It promotes involvement of stakeholders (researchers and managers) in the analysis of what is needed for effective research and assists them in setting up an assessment frame that they can use to analyze and adjust their own research processes and organizational support to these processes. Learning participation acknowledges that as there is need for innovation, and gives more licence to

creative, innovative research of various types. The researcher–learner is allowed to experiment with, question and learn from mistakes, and integrate new research methods, such as PRM. As mentioned above learning can be promoted on three levels: individual, groups and organizations (Natural Resources Management by Self-Help Promotion, (NARMS, 1996: 27). The idea is to use “learning participation” as a way to reinforce the understanding of the need for new institutional arrangements and mindsets at various levels, resulting in enhanced social learning that is more responsive to the social realities of targeted communities. Those organizations that embrace a learning culture encourage experimentation, communication of success and failure and reward learning events (Estrella and Gaventa, 1998).

The nature of the ‘newness’ of implementation of PRM lays the ground for systematic learning entailed in “learning participation” and can assist in reversing so-called professional tendencies¹¹. The use of a planning-action-reflection and re-planning cycles with strong process documentation used by “learning and implementation teams”, allows for experiential learning to accumulate and for periodic analysis of the PRM processes and outcomes. This can assist in internalising and processing the experiences in a more conscious way – and serve as material for those that have not started using PRMs.

Some of the key elements of learning participation have been “self-discovered” by AHI during the evolution of its program. These principles are also referred to in literature.

1. Iterative vision and concept development at individual, group and organizational levels.
2. Re-examination of roles and responsibilities given the renewed vision and concepts.
3. Iterative theory – practice - theory and reflection from application and challenges.
4. Iterative reflection at individual and group levels.
5. Linking of reflection to new actions.
6. Returning to the “power” of self-control and management of the processes.
7. Personal learning that improves professional inputs and impacts.
8. Linking “islands” of experience within the organization to get higher level organizational learning.
9. Use learning to review and revise strategies for conducting research and management support structures.

3.2 Evolution of the “learning participation” approach in AHI

Since 1998 when AHI program implementers became interested in applying PRM, AHI embarked upon a series of training and mentoring activities to develop expertise and practical examples of the use of PRM for enhancing livelihoods and improving NRM. The Kenyan, Ugandan, Tanzanian, Ethiopian and Madagascar NAROs have been collaborating partners and recipients of these activities, and have periodically assisted in reviewing where we are in the process of taking on PRMs. The R&D team trained and mentored in these methods had members mainly from research, but frequently included people from collaborating extension and NGOs. Over time, we have recognized that key obstacles to change among researchers: their professional values, norms and behaviour that were accumulated during their training in the institutions of higher learning and perpetuated by their organization. Cognitive change, e.g. the way researchers have been conditioned to perceive and interpret life experiences, is a key element to tackle while facilitating participatory learning. Likewise, institutional change also became a more recent focus of learning participation.

Some major stages in the evolving process to use PRMs with the help of learning participation:

- An initial regional technical group meeting identified the need for INRM approach and use of PRMs. This led to the formation of pilot site research teams having a team coordinator, to promotion, training and use of participatory technology development methods. This regional

¹¹ Valuing indigenous social and technical knowledge that is associated with low prestige and status.

technical group met 6 times over the course of 3 years, and provided consistent “technical support” to this process.

- A series of regional and rounds of site trainings were provided on the concepts and basic PRM steps aimed at improving participatory technology development targeted at solving farmer-felt problems.
- A regional stakeholders’ consultation workshop in 1999 laid the base for a learning culture, under the auspices of establishing an M&E system, and encouraged collaborating partners to try new PRM innovations in their own context. Given the dearth of experiences in this area an experienced and professional facilitator was tasked to facilitate this learning workshop¹².
- Regional capacity building created a platform for wider transformation of individuals and teams. The regional workshop was again followed by a series of site-based M&E and participatory methodology training and reflection sessions that emphasized group and individual learning. The topic of reflection was on the implementation of the various components of PRM – participatory methods, interdisciplinary and integrated team work, and multi-institutional partnerships. The purpose of these workshops was to facilitate and improve the understanding of what was going on, what new information had arisen, what assumptions needed to be revised, and what new actions needed to be initiated. Researchers reflected as individuals on what they had learned, and then reflected on what they had learned as a group or site team. Collaborating university researchers also participated in the workshops and trainings. For example for the workshops in Uganda there was participation of lecturers from Makerere University’s departments of geography, crop sciences and psychology. The principles used in the reflection sessions were based on the experiential learning cycle and practically enhanced systematic self-reflection, observation and feedback. The process made a contribution towards creating a pool of professionals who are open to actively use PRMs. *Conversely, in Ethiopia, lecturers from the Awassa College of Agriculture were participants in a site level training on participatory methods that preceded participatory rural appraisal work in 1997.*
- As follow up to these workshops, there was a central analysis made and dissemination of both the site-level outcomes and the amalgamated analysis across the sites. Some of the insights were that:
 - Individual learning from field experience complemented team learning. There was greater sharing of experiences, discovery of new approaches and information that broadened the minds of the researchers, given the shared field experiences. For example, biophysical scientists at Kakamega¹³ recognize that need to learn more about the social and culture dimensions of the farming community, so they had become aware of the value of social science research and wanted it to be incorporated into their activities. They want to be trained in social science methods (such as gender analysis, social survey methods), because they see the methods as important, and because the social scientist was not available to participate in activities.
 - Through using the learning participation method, the research teams learned to critique and evaluate one another, capturing their learning from experience, thereby expanding their mind set, enhancing communication and self-esteem. For example, the site workshop included a “role-playing” for learning how to manage and work as teams to achieve a given task.
 - AHI has worked with a cohort over time, coupled with workshop series, field mentoring, and periodic facilitated performance reviews. This has given the multidisciplinary teams an opportunity to openly discuss issues, receive encouragement and act as a support group for change. Social and human capital of the researchers and stakeholders was built as a results this enhanced learning process.
 - “Learning by doing” through practical field sessions with farmers led to more insights in farming system management and how research findings and interactions could better enhance this. In Lushoto Tanzania, the research team reported that by using PRM their “planning in

¹² Hagmann professionally facilitated this workshop in 1999 that developed a new vision for AHI and its collaborating partners.

¹³ KARI Kakamega is one of the zonal research stations of the Kenya Agricultural Research Institute.

the office” changed to suite the reality on the ground to fit farmers conditions. For example, an experiment on farmyard manure (FYM) with Mjingu Phosphate Rock (MPR) was changed significantly from the original researcher design given farmer’s inputs. Since the Lushoto farmers did not have enough FYM, the design was modified to use MPR and *tughutu* (a local shrub) that farmers had been using to enhance their soil fertility. This interaction resulted in more relevant research and increased the researcher’s motivation to use these methods. Research teams conducted their own workshop on developing soil fertility indicators with farmers which allowed for discussion on how farmers and researchers perceptions on soil fertility differed or converged.

- Tensions between professions¹⁴ in a given site were reduced after the reflection sessions were held. There was an increase in the frequency of consultations and joint field activities between scientists and collaborating partners. In diagnosis and planning phases researchers from other disciplines are taken along to give a multidisciplinary perspective. For example, the demonstration on green manure on improvement of soil fertility and crop yield had frequent consultations (pre-, mid- and post-season) between agronomists, an agricultural economist, a soil scientist, and a livestock nutritionist who worked for KARI, ICRAF and the Ministry of Agriculture extension department. The KARI principle investigator collaborated with the MOA soil conservation department staff who assisted in the design of the soil conservation structures. The MOA livestock production officer suggested including *Desmodium spp.* on the conservation structures as a livestock feed and as a means to improve manure quality. The KARI agronomist trained farmers in how to manage the storage and application of high quality manure. Professional identity boundaries based on normative behaviour of scientists have to be transcended coupled with building skill base.
- During participatory monitoring and evaluation (PM&E) sessions a learning environment was created by emphasizing self-evaluation among researchers for improving on the effectiveness of research processes. Site teams were encouraged to understand stakeholders’ perspectives, accountability concerns, and documentation of lessons for later influencing policy change.
- It soon became apparent that learning and development PRMs as individuals and teams was valuable but that there was need to get a more supportive organizational environment to enhance adoption. Therefore, in addition to building capacity through mentoring and creating “models” or cases where implementation can be seen, AHI has started to actively work on facilitation of self-managed institutional change. This involves a joint search for finding ways to encourage research organizations to provide a more supportive environment for wider application of PRM wherever deemed appropriate. It is hypothesized that through facilitation of better horizontal and vertical linkages within the research organization, the creation of platforms for “learning”¹⁵ will foster wider analysis, sharing and spread. The “islands” of good experience on-the-ground will be shared and form a more consistent means of convincing and propelling institutional change. The idea would be to take AHI’s isolated “island” along with others promoting PRM, and internalise them within the organization.

At organizational level “learning participation” was used to bring different disciplines and institutions together to promote an integrated vision of livelihoods and well being. This shared vision implies changes in the relative roles and responsibilities of farmers, local organizations, and research institutions. The visioning starts to change the various perspectives of each of the actors and what they should be doing differently and how they might relate to each other differently. For example, farmers would change from the role of recipients (passive “insiders”) to partners in development; and researchers (and other service/support organizations) would change from being suppliers (active “outsiders”) to those who would facilitate farmers and communities to innovate for themselves using inputs¹⁶ supplied by the researchers. Development organizations may now view researchers as merely

¹⁴ NARO are normally organized into departments based on crops and specific disciplines furthering disciplinary biases whose professional construction is through institutions of higher learning and further entrenched by external funding of single-disciplines research programs. .

¹⁵ This is being piloted in two NAROs - DRD Tanzania and EARO in Ethiopia.

¹⁶ By inputs we mean – technologies, management principles, new ways of relating to each other to solve problems, etc.

suppliers of technologies. This view might be change to encompass their role within joint partnerships - promoting, fostering and spreading innovations that are technological and methodological in orientation (Ashby, 1985, Haggmann, 1999, Narayan, et al 2000). Likewise there might be changed perception of instructors in institutions of higher learning – who now might be seen as sole custodians of knowledge and as academics. The future view might be where they are cognizant that students and others are also custodians of knowledge and that they, as “academics”, are able to make relevant contributions towards building upon this as well as teaching new, relevant skills.

4. Conclusion

One of the frequently asked questions is: Is research for the purpose to produce peer-reviewed papers or for creating impact? Usually the answer is the former, given rigid mind sets and the organizational norms perpetuated through advancement and reward systems that only recognize more typical scientific outputs¹⁷ resulting from reductionist, biophysical, quantitative studies that adhere to scientific standards, as opposed to those derived from good quality action research that employs PRMs and might incorporate other social / economic science research processes. Researchers often criticize participatory research because they feel that it does not result in scientific enquiry and refereed publications; however similar scientific rigor based on a wider set of research processes can be employed with PRMs

Much attention has been given to using mass-training/workshop mode designed for enhancing the capacity of individuals – which has not resulted in significant change in practice. AHI has recently reverted to using mentoring of teams *in situ* and is trying to tackle individual, group and recently organizational learning to enhance the support for practical application and learning in the field. A current challenge is to close the gap between the individual, group and organizational learning processes. A significant part of this challenge lies in the fact that historically, a culture of “learning” in NAROs and institutions of higher learning was not “acceptable” given that civil society and the public regarded these institutions with high esteem and prestige. They were the source of the “experts” who knew all the answers. Whereas, inherent in the norms and values of a “learning” culture is that; *people must be allowed to make mistakes, people must feel sure that others are also able to admit their mistakes and willing to make corrections* (NARMS, 1996: 27). The rejection of this point of view coupled to the notion of academics and researchers that learning participation is a responsibility of others and not the researchers themselves has often been stated. Believers in conventional research approaches have indicated that learning participation is for the NGOs and civil society organizations.

Since the norms and values of learning and associated participatory approaches (participatory research, integrated team work, partnerships, participatory technology development and farmers innovations are met with scepticism, defensiveness, stubbornness and even fear and sabotage within research organizations where they are not common practice, the initiators of change have to deal with these and other challenges. They must treat institutional change as a process that needs to be managed taking account attitudes as well as behaviour and practice. For example, four levels of individual and collective learning were observed with the research teams: “(1) Learning facts, knowledge, processes and procedures; (2) Learning new job skills that are transferable to other situations; (3) Learning to adapt and derive lesson from success and failure; and (4) Learning to be innovative and creative in designing the future rather than merely adapting to it” (Estrella and Gaventa, 1998:24).

It is hypothesized here that institutionalisation of new research methods is faster when research managers are flexible and dynamic so they can change research policies, practices and organizational culture to foster learning and creativity. Leadership and facilitation skills are also critical supporting elements that enable learning teams and the organization itself to sustain the momentum of change. Other supportive elements might include rewards for champions of change, recognition for the use of innovative processes, as well as recognition that “poor” results are valuable are other supportive

¹⁷ Varieties, and technologies developed, scientific papers published in peer reviewed journals normatively defined as ‘good science’.

elements. Considerations for managing the change process are: managing dimensions such as building the understanding of new conceptual definitions, handling fear, anxiety and vulnerability; how to prove that your methods work and ways to handle new measurement methods; deal with the “results gap” and expectations from within and without; and dealing with the non-believers (Stroud, 2002).

It is important to identify indicators of change so that one can recognize progress. For example, a researcher’s admission of ignorance of farmer’s indigenous knowledge illustrates a change in cognitive knowledge and provides an opportunity to learn and building a coalition of “new champions”. For a breeder to recognize the need to learn about the social aspects of the community and integrate this step into his/her research protocol as well as to allocate resources for supporting facilitation skills is an important indicator. These sorts of changes illustrate a departure from a culture of individualism and specialization where researchers develop very specific, narrow areas of interest towards being able to pay attention to wider development perspectives of their research and to interact with researchers of other disciplines as a step towards the attaining the larger development objectives (Van Veldhuizen, et al 2002).

5. Implications for the Future

NARO researchers have mostly focused on biophysical aspects using standard statistical research processes, but are receiving increased criticism for neglecting important, relevant social aspects in the research design and process. Morocco researchers have highlighted two main issues: how to achieve a better match between scientific results and the needs of producers, and how to handle the lack of critical mass to support innovations in research systems (Baur and Kardi, 2001:3). According to Biggs (2002), the mantle of scientific authority and respectability has been taken from the shoulders of “the scientific establishment”. The personal behaviour of all individuals in the research system is open to scrutiny. By responding to this criticism, there is a potential for researchers to build a learning culture that can assist in “unblocking” research from learning barriers and create more open, creative and responsive institutions.

There are operational challenges that require new and inventive method development and testing in practice. For example, AHI research teams could reflect and highlight lessons learned when led by an outside facilitator, but had difficulty in doing this themselves as well as undertaking the related documentation. Systematic facilitation of learning sessions at various levels requires competence building in facilitation and process documentation. Facilitation is more of an art than a science and applies soft systems ingredients such as building ownership, finding common ground and images, building on trust and relationships and finding common concepts (Van Schoubroeck and Brouwers, 2002).

Another important challenge is how to monitor / measure the quality of participation once it is defined. If quality and resulting impact are not possible, then it might not warrant institutional adoption of these PRM. Likewise, the quality of participation in the participatory learning is another new dimension that needs in-depth development. Continued spread and scaling up of participatory research and planning methodologies has been accompanied by many questions related to their effectiveness and impact. For some, participatory methods are “a flagship for necessity” with which to seek funds devoid of any real commitment to community empowerment (Abbot, 2002). For others, participatory approaches offer exciting new ways of working that challenge conventional roles and hierarchies by creating opportunities or people to plan and analyse.

We know that the current organizational culture limits the use of participatory approaches. However, we also know from experience gained so far that effort towards institutionalising participatory and other useful approaches through inculcating a learning culture will create room for innovation in research organizations. By increasing the capacity of organizations to undertake self-managed change will ensure that learning will take place concerning new research methods that can add value to and diverge from standard research and teaching procedures.

The external context in which research organizations are operating is changing (demand for markets, client oriented research, change in information technology, economic liberalization policies) and this is definitely leading to and influencing organizations thinking about how to be effective in the future. These changes are part of institutional landscape of innovation systems that is taking place worldwide (Biggs, 2000).

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