

The Do-It-Yourself formula – Internalising participatory communication principles to support rural development in Eastern Indonesia

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Abstract: *In order to institutionalise participatory approaches in the mainstream agricultural research and development system and enhance impact in farmers' fields, the Indonesian Centre for Agricultural Technology Assessment and Development (ICATAD) established a so-called "Innovation Team". It consists of a group of researchers and extension specialist who experiment with approaches that make farmers rather than technologies the centre of change. Rather than imposing externally developed approaches in an isolated project context, ICATAD apply the "Do-It-Yourself formula" in which the local researchers design their own models based on agreed principles, and incorporate them in their existing structures. The Innovation Team critically evaluated prevailing technology assessment and dissemination approaches, formulated a farmer-centred "Research for Development" model, and tested innovative adaptive research and knowledge exchange approaches in four provinces in Eastern Indonesia. Participatory communication principles are at the core of all planning, implementation and evaluation processes to allow for a dialogue between farmers, researchers and service providers. From being the "know-it-alls", researchers and service providers are learning to identify needs and opportunities from a farmer perspective and becoming facilitators of a change process in which farmers are considered the experts on their own farms. Old habits that are deeply embedded in the agricultural research system cannot be eliminated through short term projects or brief training on participatory approaches. It requires attitude change of both policy makers, researchers and development practitioners, trial and error through real life experiences, and internalisation of tailor-made models into existing structures, which eventually may change those structures.*

Keywords: *participatory development communication, research for development, Eastern Indonesia*

Introduction

Over the past few decades, rural development in Indonesia followed the various trends introduced by foreign donor agencies. While participatory approaches became common practice in NGO programs since the 1980s, Indonesian government organisations have only recently begun to apply some principles and practices of stakeholder participation in development initiatives. Participatory Rural Appraisal (PRA; Chambers, 1994) training has been offered, in a variety of forms, to staff of government research and extension organisations involved in the context of specific projects. However, due to a range of factors, efforts to engage stakeholders are often limited to superficial problem identification at the community level, while decision making in planning and implementation processes of development initiatives is still the main responsibility of the policy makers, researchers and service providers. These factors include limited resources, short term planning cycles, and national policies that are strongly inspired by development models based on economic growth. In agricultural research and extension, in particular, technology development and dissemination still tend to apply top-down Transfer of Technology approaches. These often imply the handing out of inputs and implements to a select group of model farmers, without much consideration of the socio-economic conditions faced by the majority of the farmer population. As a result, sustained application on a large scale is not guaranteed as little to no ownership over the innovation process is achieved. It is not uncommon that only limited numbers of already better-off

farmers receive immediate material benefits, while large scale and continued access for farm families of diverse profiles is not catered for.

The Indonesian agricultural research and development system has a unique structure in that provincial Assessment Institutes for Agricultural Technology (AIAT) provide a potential link between central commodity-based research centres and district-based extension centres. The thirty-two AIATs situated across the country are centrally managed by the Indonesian Centre for Agricultural Technology Assessment and Development (ICATAD), which falls under the Agency of Agricultural Research and Development of the Ministry of Agriculture. A main function of these provincial institutes is to assess technologies generated by research institutes and adapt them to suit local conditions (Van de Fliert *et al.*, 2010). Their second mandate involves support to the extension system in the dissemination of innovations to farming communities. This function is operationalised mostly through field-based demonstrations and the development of training modules and extension materials/media. Researchers and extension specialists at the AIATs are, in principle, well placed to work closely with communities and make sure that research outputs address farmers' needs and suit the local conditions. In reality, however, it is not always easy to materialise these potentials and achieve maximum impact, due to dysfunctional institutional linkages, centralised priority setting and an inadequate incentive system for research and extension staff (Connell *et al.*, 2007; Van de Fliert *et al.*, 2010).

As a consequence of the situation described above, the technology assessment and dissemination methodologies used at the AIATs are still predominantly based on "Transfer of Technology" thinking, with the "Demonstration Plot" as the preferred model. The Demonstration Plot is an adaptive trial of an innovation in a field location, inspired by the popular motto amongst Indonesian farmers of "seeing is believing". In principle, a demonstration under local conditions can be a powerful way of communicating the potential of an innovation, provided that the conditions match those of the people who are supposed to be following the example. However, Demonstration Plot designs seldom take into consideration if what is being demonstrated applies to the variable and often contrasting agroecological and socioeconomic conditions most farm families find themselves in. They are mostly put up in the field of a model farmer in a prime location and all inputs and incentives are provided. Consequently, what is being communicated is how well the innovation performs under ideal, but often unrealistic, conditions. For farmers living under less ideal conditions, for instance, when constrained by marginal farm economics, a poor natural resource base or limited labour availability, the demonstration does not necessarily set a concrete example, particularly if inputs will have to be purchased. Rather than questioning the trial design, non-adoption is often still explained by Rogers' (1962) notion of "innovators" versus "laggards". For convenience and short term outcomes, the system still works through the "innovators", who receive most of the attention as well as the inputs and implements that come with the Demonstration Plots. The question why the "laggards" don't follow is too easily answered with a "farmers are resistant to change", rather than analysing reasons for non-adoption, which is more likely to be incapacity as a result of different agroecological and socioeconomic conditions than resistance.

In a collaborative effort of ICATAD, four provincial AIATs and the ACIAR SADI project¹, a group of agricultural and communication researchers are making an attempt to enhance impact in farmers' fields by breaking through old, top-down modes of operation, and developing and institutionalising a more effective "Research for Development" model. They agreed on the principle that agenda setting for adaptive research and extension development should depart from a thorough understanding of farmers' conditions, practices and perspectives. Participatory communication methods are at the core of the processes applied to allow for an ongoing dialogue between farmers, AIAT staff and other

¹ ACIAR is the Australian Centre for International Agricultural Research of the Department of Foreign Affairs and Trade. SADI is the Smallholder Agribusiness Development Initiative funded by the Australian Agency for International Development (AusAID) and implemented in four provinces in Eastern Indonesia. The ACIAR SADI subprogram, entitled Support for Market-Driven Adaptive Research (SMAR), is coordinated by ACIAR and implemented by ICATAD and the AIATs in the provinces of South Sulawesi, Southeast Sulawesi, West Nusa Tenggara and East Nusa Tenggara. The Centre for Communication and Social Change of The University of Queensland provides consulting services to the SMAR sub-program to facilitate the development of conceptual and methodological frameworks with the project partners.

service providers. This dialogue allows all stakeholders to understand farmers' constraints and their reasons for not adopting innovations that were previously introduced from a system's perspective. This, in turn, supports a more realistic identification of farmers' needs and opportunities, and of suitable options to improve their farm businesses. A so-called "Innovation Team" was established, consisting of a group of sixteen researchers and extension specialists from ICATAD and four AIATs in Eastern Indonesia, and supported by consultants from the ACIAR SADI project.

After a description of the benefits and constraints of participatory research approaches as perceived by the AIAT researchers, this paper will discuss the principles and activities of the Innovation Team in four provinces in Eastern Indonesia, outline the frameworks applied, present a case study of one activity in West Timor, and conclude with the initial lessons learned by the Innovation Team.

Collaboration and participation in the Indonesian agricultural R&D system

Mainstream agricultural research and development in Indonesia consists of three major players:

- (1) At central level, 11 commodity- and 4 non-commodity based research institutes and 3 research stations.
- (2) At province level, 31 Assessment Institutes for Agricultural Technology (AIAT), which were established in 1994 and in most provinces emerged out of Agricultural Information Centres.
- (3) At district level, the agricultural extension service with Rural Extension Centres at the sub-district level. Attempts have been made over the past years to increase the coverage of extension officers to one person per village, resulting in a total of about 28,879 extension officers across the country (data for May 2008²). Villages, however, tend to be very large, and especially in Eastern Indonesia are scattered over large and remote areas.

While the central research and provincial assessment institutes are managed by the Ministry of Agriculture, the extension service is administered by autonomous district governments. All three levels operate quite independently from one another, causing disconnections in the research and development cycle and low levels of efficiency. The AIATs are, in theory, perfectly positioned to bridge between central research institutes and the extension system, as their mandate is to confirm and adapt mature technologies from research institutes under local conditions that are subsequently "handed over" to the extension system (Connell *et al.*, 2007). In practice, however, there are no systematic or formal mechanisms to encourage communication and collaboration in either direction, and totally separate channels of resourcing and reporting rather discourage collaboration and communication. Government funded research and extension is planned and implemented in annual cycles, generally not allowing for a continuation and consolidation of the same topic over several consecutive years, which forms another constraint to collaborative research and development. Any collaboration that may occur is often on an *ad hoc* basis, not uncommonly in the context of a specific project rather than routine core activities.

An example of such a project is "Prima Tani" (*Pilot and Acceleration Program for the Socialisation of Agricultural Innovation and Technology*³), which was initiated in 2005 by the Indonesian government to be implemented by the AIATs in 21 villages in 14 provinces. By 2007, the program had expanded to 200 districts in all 31 provinces, however, in each district the Prima Tani village formed an island with substantial special attention and funding but with limited connection with or overflow to neighbouring villages. The program was prematurely terminated in 2009. An interesting aspect of the Prima Tani Program was that it was the first large government program that introduced Participatory Rural Appraisal (PRA) as a compulsory step in the process. Selected staff members of participating AIATs received PRA training. The training was conducted in provincial locations with the duration varying from 3 to 7 days (with a tendency of shorter durations the further away the location was from Jakarta) and with limited field work. It appeared to be a very condensed and watered down

² www.deptan.go.id/bpsdmp/Pusbangluhtan/Data/Ketenagaan/Data%20Penyuluh%20PNS%20Per%20Provinsi.pdf.

³ <http://primatani.litbang.deptan.go.id/>

version of PRA training compared to those typically provided in NGO circles in Indonesia involving full-cycle assessment and planning activities in a pilot community.

Experience has shown that to learn an approach that is fundamentally different from the ways one has previously been trained in, calls for an intensive experiential learning process, for which the amount of training time cannot be compromised (van de Fliert *et al.*, 1995). In addition, a program applying a participatory approach should do so throughout all phases of planning, implementation and evaluation, rather than just an initial activity to kick-start a project after which top-down approaches are used for implementation. A typical feature of many development programs in Indonesia, including the participatory ones, is the provision of material incentives to farmers to participate, which is often in the form of monetary allowances to come to meetings, free inputs and technologies, and/or payments for labour to take care of “participatory” trials. Such incentives are detrimental to the establishment of ownership of farmers over the process, as it puts them in a dependent and lower power position than the researchers. This works against the overall goal of empowerment of the participatory process. In addition to more thorough training of facilitators of participatory communication processes, institutional change is needed allowing for true partnerships – and power sharing – between the different stakeholder groups in agricultural research and development. This would require a major adjustment in program planning and funding cycles, which to date has not been observed yet. This is illustrated by the perceptions of the ACIAR SADI Innovation Team members, as recorded in baseline questionnaires at the time the Team was established in 2008 (Table 1). All Innovation Team members had received their main training in participatory approaches in the context of the brief Prima Tani PRA training.

The perceptions presented in Table 1 inspired the design of the workplan for the Innovation Team. The Team was given the task by ICATAD to develop technology assessment and knowledge exchange approaches that will result in impact in farmers’ fields. Through self-analysis and experimentation the Team has worked on formulating and piloting more farmer-centred models of research that will have a chance of being institutionalised within the Indonesians agricultural research and development system. It was recognised that this cannot be achieved by introducing yet another project with an externally developed master plan promoting foreign concepts and methodologies to be blindly followed. Rather, those who know and are bound by the system had to analyse available concepts and ideas themselves, identify ways of adjusting or changing them to suit their conditions, and in an experiential learning (if not trial and error) process test and finetune the approaches.

Table 1. Perceptions of Innovation Team members in 2008 (baseline) on the benefits and drawbacks of participatory approaches, and the difficulties to implement them (N=15).

Benefits of participatory approaches	Drawbacks of participatory approaches	Difficulties to implement participatory approaches
<ul style="list-style-type: none"> • Provides a good understanding of local conditions • Allows for technology testing according to farmers needs • Allows farmers to solve their own problems and be more independent; is empowering • Instigates ownership over the process among all stakeholders • Establishes feedback communication mechanism • Allows for collective decision making • Allows for more sustainable results 	<ul style="list-style-type: none"> • Is time consuming • Is relatively expensive • Requires many people to be involved • Requires specific capacities of partners • Produces too many ideas and opinion, making it difficult to come to a conclusion and agreement • Is difficult to involve representative stakeholders and hear the voice of all layers in the community • Final decision are often still made by the outsider and not by farmers • Is slow in showing impact 	<ul style="list-style-type: none"> • Limited availability of time considering overall job description within the institution • Insufficient funding available to effectively implement a full cycle participatory approach • Limited capacity to facilitate participatory methods • Different intellectual and practical capacities of different stakeholders which may cause a lack of mutual understanding • Pressure from leaders to produce quick, short-term results, rather than sustainable impact • Policy makers are not supportive • Different stakeholders may have conflicting vested interests that cannot all be accommodated • Different stakeholder organisation have different objectives • No collaborative structures exists amongst stakeholders • Farmers’ attitude and habits of being passive recipients of aid • Insufficient organisation of farmers

The Innovation Team

The idea to establish an Innovation Team emerged from within the management of the ICATAD, and the ACIAR SADI component on Technology Assessment and Knowledge Exchange was deemed the appropriate context to do it. The objectives of the Innovation Team were formulated as follow:

1. Form a team of innovators who will stimulate the emergence of innovative approaches within ICATAD and AIAT.
2. Give direction to, monitor and analyse implementation processes of technology assessment and knowledge exchange activities by AIAT (particularly in the context of the ACIAR SADI subprogram).
3. Establish linkage mechanisms between ICATAD/AIAT and other stakeholder groups to allow for effective collaborative adaptive research and development activities.

The team was established in April 2008 after careful selection of its members from within ICATAD and participating AIATs in four provinces in Eastern Indonesia⁴. The Innovation Team members were selected based on a set of criteria ensuring a multidisciplinary composition in each provincial sub-team, the ability to independently implement unconventional pilot projects, credibility amongst both AIAT management and peer research/extension staff, and availability to be involved for at least 20% of their time. An important aspect of the Innovation Team operations is that ICATAD and the partner AIATs contribute the staff time and consider it their core business.

The Innovation Team was launched through a training workshop in which the members analysed and agreed on the basic principles of their own operations. Since then, the Team has experimented with adaptive research and socialisation approaches that make farmers rather than technologies the centre of change. The Innovation Team's main activities involved the following:

- Case study of Technology Assessment and Knowledge Exchange approaches within the AIATs. This involved a critical review of existing projects looking at stakeholder roles in agenda setting, planning, implementation, evaluation, dissemination and utilisation of technology assessment and knowledge exchange processes.
- Review of the conventional framework for agricultural research and development in Indonesia and design of an adjusted framework that would better acknowledge impact in farmers' livelihoods.
- Development of a model that will take adaptive research to a larger, pilot roll-out scale and effectively link outcomes with up-scaling mechanisms through the design of "development models" that include a target specific communication strategy. Each provincial sub-team is currently conducting one Pilot Roll-Out project. While each project stands on its own and has benefits for the local communities, the innovation team as a whole constantly reviews the frameworks, concepts and practices applied in order to further develop the pilot roll-out phase as a model for adaptive research.
- Internal Innovation Team bi-annual reflection and planning workshop.
- Socialisation within the larger network of partner organisations to receive feedback on the applicability of new models to a wider set of institutional settings.

At all steps in the process, from deciding what innovations will be tested and how, to conducting the trials and evaluating the results, farmers and extension officers are involved as research partners. This involvement is facilitated by intensive dialogue at regular and critical stages in the process when decisions are made and analysis is done. At first, this appeared quite unsettling for most of the Innovation Team members, as they felt they were losing control. Over time, however, they have learned to share and shift responsibilities amongst various stakeholder groups and across various phases of the process, ensuring better linkages within the knowledge system and more effective and sustainable outcomes. More importantly, by learning, then reformulating and experiencing principles and methods of participatory communication, they developed models that are geared towards the current capacities, limitations and potentials that exist in the system, ensuring a better chance of institutionalisation and sustainability. While the Innovation Team activities would not immediately

⁴ South Sulawesi, Southeast Sulawesi, West Nusa Tenggara and East Nusa Tenggara.

change the planning and implementation structures of AIAT's regular programs, they provide an opportunity for internal reflective practice within the organisation and experimentation with new ideas and models. By doing so, a change process has been instigated that emerges over time through internal realisations of what needs to be changed and formulation of models that fit the system. The longer term perspective ensures that reflective practice, experimentation and institutionalisation of new models are continued while the system, and the people within it, are possibly changing and, hence, allowing further change.

Frameworks for agricultural research

Figure 1 below shows the framework that the mainstream Indonesian agricultural research and development system applies, while Figure 2 is the framework that the Innovation Team has so far come up with to cater for limitations of the mainstream framework. While the former represents a linear process that departs from government defined development objectives and produces "technology packages" to be adopted in agribusiness systems, the latter has the farmers' conditions, needs and opportunities at the centre and emphasises multidimensional linkages across research and development phases and stakeholders. Each stakeholder group has a different role in each phase, which needs to be articulated as much as the transition of roles across phases. Collaboration and communication at all phases is important to make this transition possible and avoid stakeholders working parallel from each other.

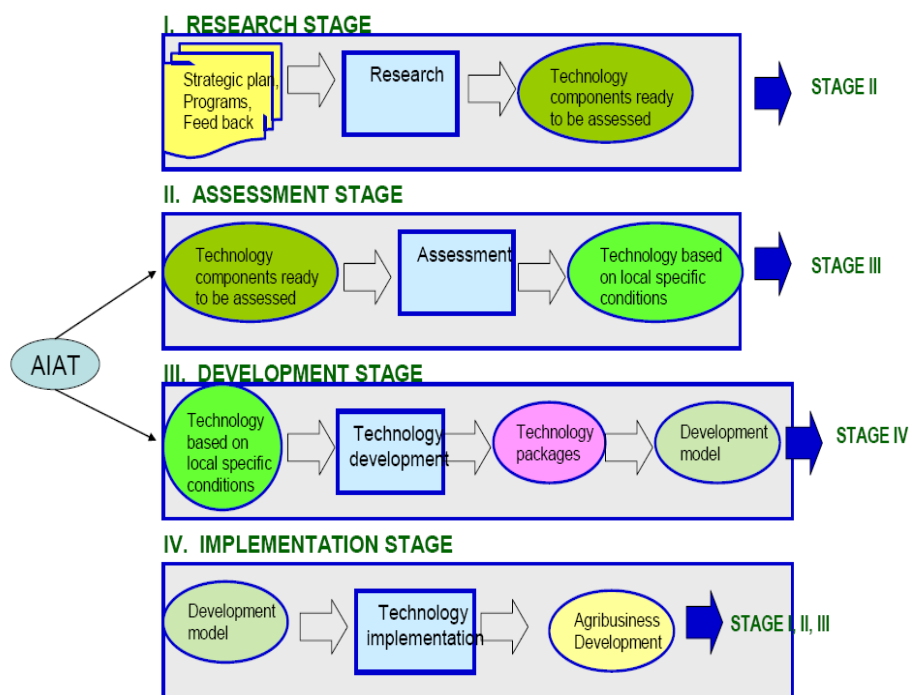


Figure 1. Conventional framework for agricultural research and development. AIAT is responsible for Stages II and III

The revised framework will only work if participatory communication mechanisms have been effectively installed. If this approach is proven desirable, it will require a substantial investment in preparing the system to accept and effectively implement it, initially through intensive capacity building of those who aspire to become facilitators of a research for development process. Implementation will need to see a consistent set of activities that allow for shared ownership over decision making processes amongst all stakeholders. It is about a collective effort to identify real problems (and their causes), develop suitable solutions, and communicate them and make them available to the larger community.

The central position of diagnostic research in the framework, representing farmers' needs and opportunities, implicitly implies a different development focus, namely that farmers themselves can

formulate their need for change to solve their problems and improve their livelihoods, rather than government or other partner organisations. This provides the basis to effectively identify farmers' needs, understand their constraints and opportunities, and determine suitable options to improve their farm businesses. This has implications for how research and development agendas are set but also how support is offered. Support should be more on capacity building (to identify needs, review options and make better decision) and making available of services and inputs rather than direct aid, which has proven not to be sustainable.

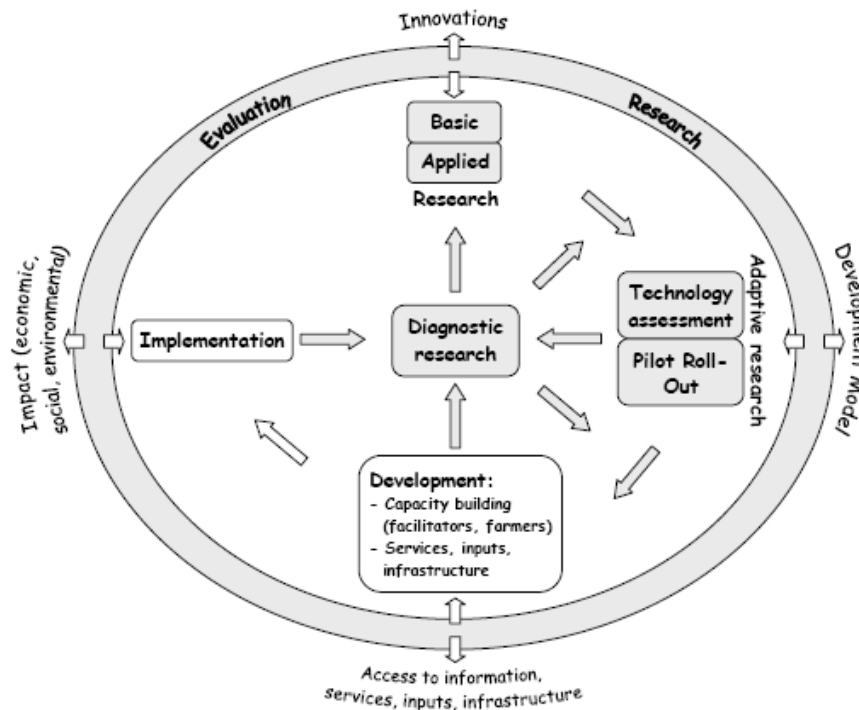


Figure 2. Innovation Team framework for agricultural research and development. AIAT is mainly active in diagnostic, adaptive and evaluation research phases

The Pilot Roll-Out phase provides another new step in the research for development cycle that traditionally is mostly overlooked, namely the design and testing of the development model to make innovations available to potential users while taking into consideration the implications for implementation of the innovation under diverse conditions. As one of the Innovation Team members called this “technology assessment in farmers’ world”, not just on their fields. One Pilot Roll-Out case is described below to illustrate how the principles of farmer-centred research for development have been applied by the Innovation Team.

In the course of the first year and a half of the Innovation Team operations, team members reported that being involved in the activities had the following impacts on them:

- They had learned how to analyse problems and solutions from the perspectives of the farmers.
- They experienced that systematic planning, implementation and evaluation involving all stakeholders results in more meaningful activities, and hence better impact.
- They had come to respect and value farmers and extension officers more as equal partners in development.
- They had learned that farmers are very capable of making the right decisions for themselves, provided they have access to information and options.
- They experienced that transdisciplinary collaboration adds value to everyone’s work.

Pilot roll-out case in West Timor: “Plant corn, harvest cattle”

The AIAT team in the province of East Nusa Tenggara initially intended to design their Pilot Roll-Out project with a focus on livestock issues as they believed that the Institute had produced several field-tested technologies for livestock management, such as legume cultivation and preservation, which were considered “ready” for larger scale testing and dissemination. However, during the community-based needs assessment in the district of West Timor it became soon clear that the majority of farmers were not in a position to even try out any of the technologies, let alone “adopt” them, the main reason being that hardly any of them actually owned cattle. They took care of cattle based on a range of agreements that provided them with varying levels of incomes and risk. In all cases, the income for the farmers, however, was so low that they couldn’t be bothered about improved management practices, not to mention that they did not have any capital to invest in innovations. Apparently, the AIAT researcher had only involved the farmer group leader in the adaptive trials of the technologies, but his farm, with some 10 self-owned cows, was not at all representative for the rest of the community and no one would ever be able to follow his example.

The community needs assessment activity revealed that the farmers were trapped in a cycle of dependency. They did not own cattle and earned a very small income for taking care of other people’s cattle. This income appeared barely enough to buy food during the 2-3 months of food shortage that they generally experience before harvesting their corn crop. Farmers in West Timor tend to cultivate corn only on an area of land that they can manage with their own family labour using traditional practices (typically less than 0.5 ha). While generally suffering substantial post-harvest losses, this is not sufficient to feed the family throughout the year. After deliberate discussions with representative groups of farmers, the NTT Innovation Sub-Team became convinced that farmers can only be helped out of this dependency cycle if they would collaboratively work on the farming system as a whole. With the NTT AIAT having produced several improved corn production technologies that individually never went anywhere either (including improved varieties, cultural practices, weed control and post-harvest technology), the team designed a scenario in which farmers would improve their corn production resulting in excess harvest, partly to be sold at the market, allowing farmers to purchase their own cattle. The slogan became “Plant corn, harvest cows”. The main corn production components were: cultivation area (minimally 1 ha), improved variety, plant density, herbicide use, post-harvest technology and marketing. At the end of the season, farmers harvested 2-3 times more than they used to do, stored more to last them throughout the year and sold the surplus. Several of the participating farmers were able to buy 1-2 calves from the excess corn income, although a few started out with purchasing pigs or invested in other enterprises to enhance their livelihood. Now that most of them have their own livestock, the research team is initiating training to introduce and tests livestock management innovations with the farmers. Main input for the farmers from the researchers consisted of awareness raising, technical training, mentoring throughout the year, and a loan to buy seed and herbicide that was paid back in kind (corn seeds) at the end of the first season. The farmers provided very positive feedback to the process and initial outcomes.

For the Innovation Team members, this project has also been a liberating experience, although a hard learning process, at times. The realisation of what farmers actually need emerged out of a question that they had never thought of asking before: “Why DON’T things work?” The holistic view on “farmers’ worlds” required them to be facilitators of a communication process, in which they constantly needed to accommodate for a sharing of perspectives – and power – between farmers and researchers with different disciplinary background. At times, they fell back in old patterns of being directive and making decisions for farmers, but a continuous review of the process within the context of the regular Innovation Team workshops helped them to pick up these inconsistencies and correct them.

Lessons learned

While the Innovation Team has only been operational for less than two years and progress is sometimes slow, the process involved seems to have changed the team members quite substantially, as is being monitored through questionnaires during biannual reflection and planning workshops. Changes occurred in the way they look upon farmers and their capacities, their own institutions, the way they used to plan and conduct their research, and the impact of their work (or the lack of it) in farming communities. Their own internal reflections on concepts and frameworks applied in the mainstream systems have opened up a space for trying out new ways that could possibly be internalised, instead of being run as a temporary project. The underlying principle of these new ways is that all stakeholders identify and agree what each of them has at stake, and what they need to contribute themselves to change for the better. It is about “doing it yourself” and knowing why, rather than being told what to do or just running another project. This Do-It-Yourself formula applies to all levels, from farmers in identifying and adapting innovations to help solve their specific problems, to researchers in changing research frameworks and methodologies that fit within and eventually change prevailing structures.

There may, however, be resistance from within the system to change, as those who have not gone through the same process of analysis and self-criticism will not necessarily see the same need or direction for change any time soon. Old habits that are embedded deeply in the education and development system cannot be done away with through a brief socialisation session or training on participatory approaches. It requires attitude change, building up of mutual respect amongst stakeholder groups, capacity building, and trial and error through real life experiences that can be both rewarding and frustrating. Improved communication processes through genuine dialogue at all levels will be key to facilitating this process of both personal and institutional change.

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