

The DIY formula – Participatory communication strategies to support rural development in Eastern Indonesia¹

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Introduction

Rural development initiatives in Indonesia have been following the various trends of development approaches over the past half century mainly under the influence of foreign donor policies. While participatory approaches became common practice in NGO projects since the late 1980s, government organisations have lately begun to internalise some principles and practices of grassroots participation in development, as well. The agricultural research and development system in Indonesia has a unique structure that is supported by provincial Assessment Institutes for Agricultural Technology (AIAT), which are centrally managed by the Indonesian Centre for Agricultural Technology Assessment and Development (ICATAD). The function of these institutes is to assess and adapt technologies generated by research institutes under local conditions and liaise with the extension system for dissemination to farming communities. Researchers and extension specialists at the AIATs are very well placed to work closely with farmers and make sure that research outputs are suited to farmers' needs and conditions. Since 2003, selected AIAT staff members have attended training on Participatory Rural Appraisal (PRA) and begun to incorporate the methods in their work. Due to limited resources, short term planning and an institutional structure that is still strongly grounded in the modernisation paradigm of development, PRA efforts are often limited to superficial consultation of limited numbers of farmers, while decision making and planning of research and development initiatives are still assumed the responsibility of the researchers and extension officers.

As a consequence, technology assessment and dissemination methodologies still apply predominantly a Transfer of Technology approach, with the "Demonstration Plot" as the preferred model, without taking into consideration the socio-economic context of farmers who are supposed to be following the example of the *Demplot*. As "seeing is believing" is a popular motto amongst Indonesian farmers, providing a demonstration of an innovation is considered a concrete way of communicating its potential under local conditions. However, what the traditional *Demplot* in agricultural extension mostly communicates is how well the innovation performs under the ideal local conditions, both from an agro-ecological and socio-economic perspective with the best environment and most advanced farmers selected for the *Demplot* and all inputs provided by the project. 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. Rogers' (1962) notion of "early adopters" versus "laggards" is strongly alive and the "early adopters" are still the ones who receive most of the attention, as well as the inputs and implements that come with the *Demplots*. The question why the "laggards" don't follow is too easily answered with a "farmers are resistant to change", rather than analysing reasons for this resistance.

In a collaborative effort of ICATAD, four provincial AIATs and the ACIAR SADI project⁴ a group of agricultural and communication researchers are making an attempt to develop and

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⁴ ACIAR is the Australian Centre for International Agricultural Research of the Department of Foreign Affairs and Trade. SADI is the AusAID funded Smallholder Agribusiness Development Initiative implemented in four provinces in Eastern Indonesia. The ACIAR SADI subprogram (coordinated by ACIAR and implemented with ICATAD) is entitled Support for Market-Driven Adaptive Research (SMAR).

institutionalise a more effective “Research for Development” model in which agenda setting for adaptive research and extension development departs from a thorough understanding of farmers’ current conditions, practices and perspectives. Participatory communication methods are at the core of the process to allow for an ongoing dialogue between farmers, AIAT staff and other service providers to understand farmers’ constraints and their reasons for not adopting technologies that were previously introduced, to identify their needs and opportunities, and to determine suitable options to improve their farm businesses. A group of sixteen researchers and extension specialist from ICATAD and four AIATs in Eastern Indonesia, called the “Innovation Team” and supported by consultants from the ACIAR SADI project, experiment with technology assessment and socialisation approaches that make farmers rather than technologies the centre of the activities. At all steps in the process, from deciding what technologies will be tested and how, to conducting the trials and evaluating the results, farmers and extension officers are involved as research partners. At first, this appeared quite unsettling for most of the Innovation Team members, as they tend to feel they lose control. Over time, however, they learned to understand and accept that a phased implementation of the research for development process, with shifting responsibilities of the various stakeholder groups across the phases, ensures better linkages within the knowledge system and, hence, more effective and sustainable outcomes. From being directors of a set play in an artificial bubble, they become facilitators of the Do-It-Yourself formula in the real world.

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 and 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 (or a total of about 28,000 extension officers in May 2008⁵), but villages tend to be very large and especially in Eastern Indonesia 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

⁵ <http://www.deptan.go.id/bpsdmp/Pusbangluhtan/Data/Ketenagaan/Data%20Penyuluh%20PNS%20Per%20Provinsi.pdf>.

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)⁶, which was initiated in 2005 by the Indonesian Agency for Agricultural Research and Development (IAARD) 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 no 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 duration of training varied from 3 to 7 days depending on the location (with a tendency of shorter durations the further east the location from Jakarta) and with limited field work. This appears to be a very condensed and watered down version of PRA training typically provided in NGO circles in Indonesia, which tends to involve a full cycle of 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 features of many development programs in Indonesia, including the participatory ones, is the provision of material incentives to farmers to participate in activities, which could be in the form of monetary allowances to come to meetings, free inputs and technologies, or payment of 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 exact 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. For one thing, this would require a major adjustment in program planning and funding cycles, which to date has not been observed. This is illustrated in the responses of the ACIAR SADI Innovation Team members, who at the time all had had their main training in participatory approaches in the context of the Prima Tani PRA training, in a baseline survey conducted when the team was established in 2008. When asked what, according to their experiences, the benefits and drawbacks are of participatory approaches, and the difficulties to implement them, the following aspects were mentioned (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 	<ul style="list-style-type: none"> • Is time consuming • Is relatively expensive • Requires many people to be involved • Requires specific capacities of partners 	<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

⁶ <http://primatani.litbang.deptan.go.id/>

Benefits of participatory approaches	Drawbacks of participatory approaches	Difficulties to implement participatory approaches
<ul style="list-style-type: none"> • 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"> • 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 capacity of staff 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 to mobilise a community

These perceptions provided the basis for the approach to work with the Innovation Team on developing farmer-centred technology assessment and knowledge exchange approaches within the Indonesians agricultural research and development system that will have a chance of being institutionalised. It was recognised that this cannot be done by introducing yet another project with an externally developed master plan promoting all the good theories and principles. Rather, those who know and are bound by the system had to analyse it themselves, identify ways of adjusting or changing it, and in an experiential learning (if not trial and error) process test and finetune the approaches. This is step 1 of the DIY formula.

The Innovation Team

The idea to establish an Innovation Team (or initially called "Practice Change team) emerged from within the management of the ICATAD, and the ACIAR SADI project (Component 2 of the SAMR Sub-Program) 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 project)
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 15 members from ICATAD (3) and the four AIATs of the provinces of South Sulawesi, Southeast Sulawesi, West Nusa Tenggara (NTB) and East Nusa Tenggara (NTT) (3 per AIAT), and launched through a training workshop. The Innovation Team members were selected based on a set of criteria ensuring a multidisciplinary composition in each provincial sub-team, the independent execution of unconventional pilot projects, credibility amongst both AIAT management and research/extension staff, and availability to be involved for at least 20% of their time. An important aspect of the Innovation Team operations (and future sustainability) is that ICATAD and the partner AIATs contribute the staff time and consider it core business.

While the Innovation Team activities would not immediately 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 over a period of several years. By doing so, a change process is instigated that emerges over time through internal realisations of what needs to be changed and formulation of models that would fit the system. The longer term perspective should ensure that reflective practice, experimentation and institutionalisation of new models is continued while the system and the people within it are possibly changing and hence allowing for more change. Since its inception, the Innovation Team's main activities involved the following:

- Case study of Technology Assessment and Knowledge Exchange approaches within the four AIATs, involving a critical review of existing projects through a predetermined framework using indicators for stakeholder roles in agenda setting, planning implementation, evaluation, dissemination and utilisation of technology assessment and knowledge exchange processes.
- Review of the current IAARD framework for Research for Development and design of an adjusted framework that would better acknowledge impact in farmers' livelihoods.
- Pilot Roll-Out (PRO) experiment to develop a model that will take adaptive research to a larger scale and effectively link outcomes with up-scaling mechanisms through the design of "development models" (which include a communication strategy). Each provincial sub-team is currently conducting one PRO 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 PRO model as a possible future adaptive research phase in the mandate of the AIATs.
- Internal Innovation Team bi-annual reflection and planning workshop.
- Socialisation seminars within the partner organisations

Frameworks for research for development

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 the 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.

The latter framework will only work if participatory communication mechanisms have been effectively installed. If this approach will be 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 now will 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. Each stakeholder group has a different role in its 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 all stakeholders working parallel from each other.

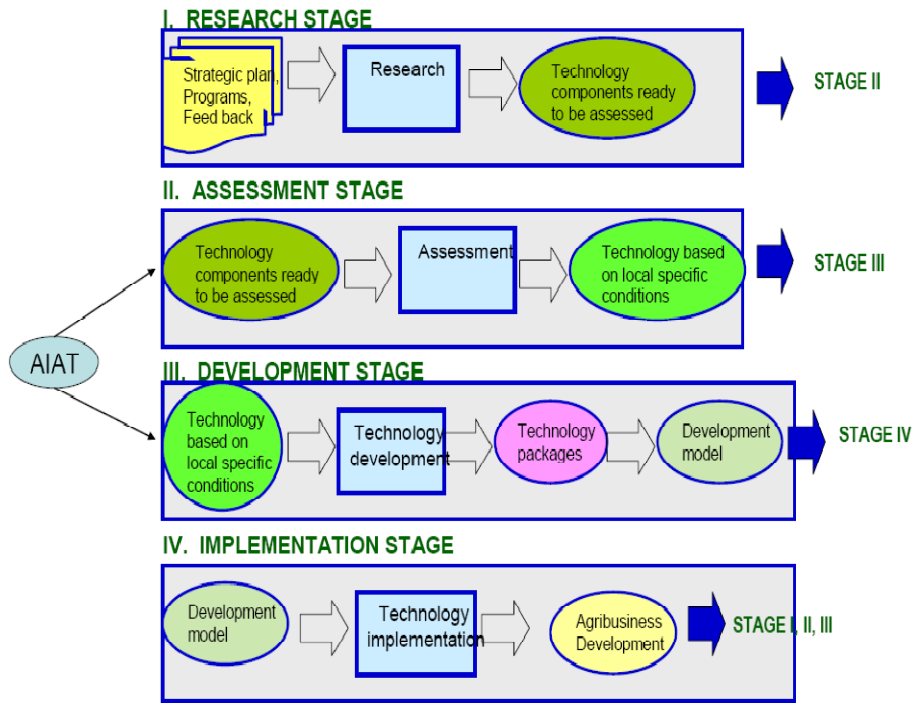


Figure 1: IAARD framework for agricultural research and development. AIAT is responsible for Stages II and III.

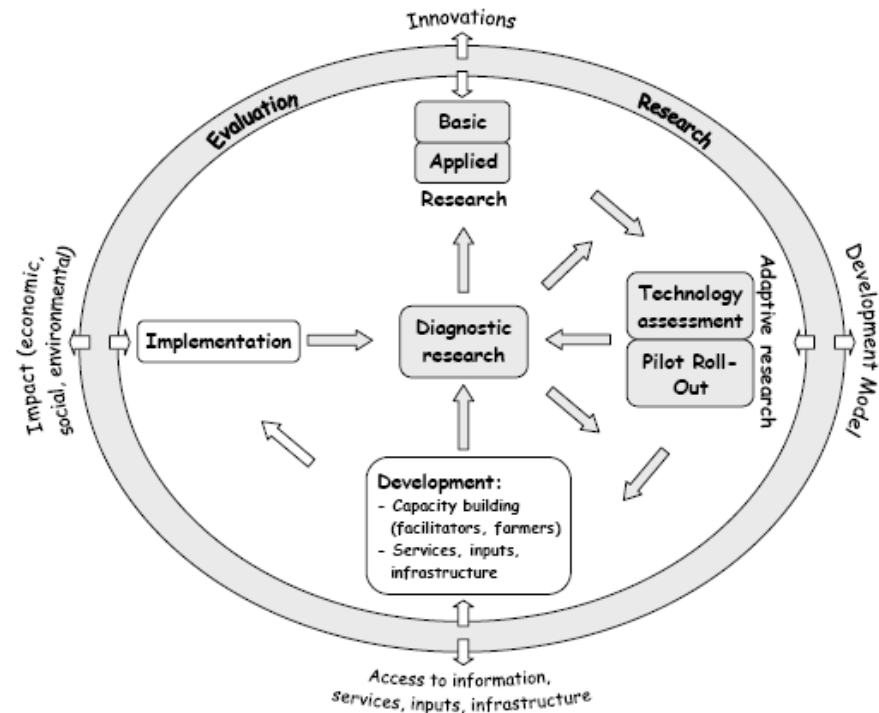


Figure 2: Innovation Team framework for agricultural research and development. AIAT is mainly active in diagnostic, adaptive and evaluation research phases.

Putting the diagnostic research, representing farmers' needs and opportunities, in the centre of the framework implicitly implies a different development focus, namely that farmers have a need for change to solve their problems and improve their livelihoods, rather than government or other partner organisations. 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. The Pilot Roll-Out projects that the provincial Innovation Sub-Team are experimenting with attempt to incorporate these principles. One case is described below.

Pilot Roll-Out experiment in West Timor

The AIAT team in East Nusa Tenggara initially intended to design their Pilot Roll-Out experiment 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 it became soon clear that the majority 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, but in all cases the income for the farmers 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, with not owning cattle and hence earning only a small income which was barely enough to buy food during the 2-3 months of food shortage that they are generally experiencing before harvesting their corn. 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 (generally 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. Most of the participating farmers bought 1-2 calves from the corn income, although a few started out with purchasing pigs. Now that they have their own livestock, they will be exposed to livestock management innovations in the coming months. 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, farming systems focus required them to be facilitators of a communication processes in which they needed to constantly accommodate for a sharing of perspectives 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 a year and a half and progress is sometimes slow, the process involved seems to have changed the team members quite substantially 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 rather than only run as a temporary project. The underlying principles of these new ways is that all stakeholders identify and agree what each of them has at stake and need to put in 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 DIY formula applies to all levels, from researchers to farmers.

There may be resistance from within the system to change as those who have not gone through the same process will not necessarily see things in the same way 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 even 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 at various levels will be key to facilitating this process of change.

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