

**Assessing the level of institutionalising  
Participatory Innovation Development in  
Tahtay Maychew District, Tigray, Ethiopia**



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*Cover photo: Farmer innovator Kes Malede discussing fruit-tree grafting technique with members of innovative farmer group (photo taken in Kes Malede's garden in Akabse'at by Fanos Mekonnen)*

## Acronyms

ADCS	Adigrat Diocesan Catholic Secretariat
ARD	agricultural research and development
ATVET	Agricultural Technical and Vocational Education and Training
BoA	Bureau of Agriculture (regional-level)
DA	Development Agent
DOA	District Office of Agriculture
FMC	Fund Management Committee
IPMS	Improving the Productivity and Market Success of Ethiopian Farmers
ISD	Institute for Sustainable Development
ISWC	Indigenous Soil and Water Conservation
NGO	nongovernmental organisation
NRM	natural resource management
PA	Peasant Association (lowest level of government administration)
PID	Participatory Innovation Development
PROFIEET	Promoting Farmer Innovation and Experimentation in Ethiopia
PROLINNOVA	Promoting Local Innovation in ecologically oriented agriculture and NRM
REST	Relief Society of Tigray
SMS	Subject Matter Specialist
TARI	Tigray Agricultural Research Institute
TPLF	Tigray People's Liberation Front
TPC	Technical, Political and Cultural (framework)

# 1. Introduction

Since 2005, PROLINNOVA–Ethiopia has been working with Tahtay Maychew District Office of Agriculture (DOA) in Tigray Region of Ethiopia to promote local innovation and institutionalise an approach of Participatory Innovation Development (PID). PROLINNOVA–Ethiopia is one of 18 country platforms in PROLINNOVA (**P**romoting **L**ocal **I**nnovation in ecologically oriented agriculture and natural resource management), a global network working towards integration of PID into the regular work of agricultural extension, research and education organisations. In PROLINNOVA, PID institutionalisation implies increased attention to local innovation processes as a starting point for PID and empowerment of local communities towards sustainable development.

Waters-Bayer *et al* (2009b) state that keeping track of small changes and challenges faced in the process of PID implementation is crucial and a determining factor for social learning and institutional change. Having this in mind, this paper highlights practices and perceptions on the use of PID and discusses some pertinent issues towards integration of the PID approach into the existing agricultural extension system. This paper is based on a case study that was done from October to November 2010 by an independent researcher to track the process of PID institutionalisation in the Tahtay Maychew District Office of Agriculture.

This paper describes procedures and processes taken towards institutionalisation of local innovation and PID approaches, and indicates the factors that trigger or hinder the change processes. It is not intended to be a detailed evaluation or process review. Further work may be needed to shed light on some important issues, such as: the extent to which the PROLINNOVA–Ethiopia members deliberately worked towards institutionalising the promotion of local innovation, under what conditions, how and why; the potential for collaboration and learning between partner organisations of the PROLINNOVA–Ethiopia platform; and the perceptions of the PROLINNOVA–Ethiopia Core Group<sup>1</sup> members on what it means to institutionalise approaches of promoting local innovation and PID.

The structure of the paper is as follows. Section II explores the need to institutionalise PID. Section III presents the three subsystems of the organisation of agricultural extension that were analysed to understand the level of PID institutionalisation and their impact. Section IV describes the experiences of institutionalising PID in Tahtay Maychew District. Section V discusses the key lessons learnt and Section VI summarises the discussion and provides some recommendations.

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<sup>1</sup> The Core Group of PROLINNOVA–Ethiopia comprises people from major stakeholder organisations in agricultural research, extension and education in the country.

## 2. Why institutionalise PID?

Institutionalisation is understood as “a process through which new ideas and practices are introduced, accepted and used by individuals and organisations so that these new ideas and practices become part of the norm. Institutionalisation of a new approach involves change and development within the targeted organisations” (Ejigu & Waters-Bayer 2005).

In the last two decades, increased attention is being given to the need to institutionalise participatory approaches in agricultural research and development (ARD) organisations. This was because advocates of participatory approaches realised that the mechanical adoption of “participatory methods” over a wide area would not automatically change the role of extension staff and farmers and bring about the required change in attitude, behaviour and organisational structure for a sustainable development beyond the project framework (Cornwall & Pratt 2000 in Pijnenburg 2004).

Participatory Innovation Development (PID) is an approach that takes local innovation as a point of entry to develop innovations in a farmer-led and expert-supported manner. It is an approach to research, extension and – above all – development (Waters-Bayer *et al* 2004). PID is designed to couple technical participation with organisational empowerment (Amanuel *et al* 2009). PID is one of the participatory approaches that aim to attain transformation of an extension institution in both tangible and intangible concepts for sustainable development.

In order to allow for a PID approach to be developed, sustained and spread, its mechanisms and processes need to be integrated into the formal ARD system, creating space for a flexible organisation of collaboration and partnership with farmers (Almekinders & Elings 2001). This integration into an already existing formal system implies change in the institutional arrangements and transformation of processes, which is a complex process that requires different patterns of change in structures, procedures, strategies and decision-making processes. To put it in an orderly manner, there are three major preconditions for institutionalisation of PID: new skills in participatory approaches, a supporting institutional setting and an enabling wider context (Pretty & Chambers 1994, Zweekhorst *et al* 2009).

There has been continued interest among development practitioners in studying and understanding the institutionalisation of participatory approaches (Thompson 1995, Lizares-Bodegon 2002, Stroud 2003, Pretty & Chambers 1994, Mikkelsen 2005, Waters-Bayer *et al* 2009b). However, much analysis of participatory approaches is focused on the use of appropriate techniques, tangible results and practical efficiency in solving development constraints (Cleaver 1999). Other important but intangible results such as empowerment, transparency, inclusion, and impact of social norms in the extension organisation as well as among farmers are factors that have equal influence but are usually excluded (Stroud 2003).

The way in the approach is integrated into the formal system is a major influencing factor. This implies re-orientation of some fundamental characters of an extension organisation like formulating new missions, planning new strategies, restructuring budget allocation and changing the systems of human resource management (Tichy 1982). One mechanism that the PROLINNOVA international network has tried to use to institutionalise PID is through multi-stakeholder partnership involving farmers and both governmental and nongovernmental organisations. It is the vision of the international network to create collaboration among key stakeholders in ARD by forming platforms in which the members agree to jointly plan,

implement and evaluate activities and to share risks, costs and benefits (Waters-Bayer *et al* 2009a). According to Killough (2009), partnership is successful if it includes building trust among stakeholders; transparency and accountability in resource use and the power dynamics; personal contact and risk takers, recognition of and appreciation for multiple perspectives and realities; local leadership to sustain action; and recognition of the implications for organisational change, organisational mandate, staff skills, knowledge and attitudes, and adjustments to organisational culture.

### **3. Theoretical and methodological approach**

#### **3.1 Sociological theory of institutionalisation**

Discourse on participation is strongly influenced by the new institutionalism theories (Clever 1999) that involve a social theory focusing on sociological development of institutions for formalising mutual expectations of cooperative behaviour to allow group sanctions to be exercised. From the three schools of thought of new institutionalism theory (historical institutionalism, rational choice institutionalism and sociological intuitionism), the theory of sociological institutionalism was selected to understand PID institutionalisation in the case study on which this paper is based. This was because, unlike the other two schools of thoughts, sociological intuitionism emphasises not just formal rules, procedures and norms, but also the subtle elements of mindsets and social norms that shape and guide human action. In addition, sociological institutionalism gives emphasis to the collective interpretation of processes (forms, procedures, symbols that are associated with social norms) of a role, beyond efficiency aspects (Hall & Taylor 1996).

Since sociological institutionalism arose from a subfield of organisational theory, it seeks to explain why organisations take specific sets of institutional forms, procedures or symbols, and how such practices are diffused in the organisation. In order to understand the specific sets of forms, procedures and practices, the Technical, Political and Cultural (TPC) framework of Tichy (1982) looks at three subsystems of an organisation.

#### **3.2 Subsystems of an organisation and their intertwinement**

An organisation – be it for research, extension or development; be it governmental, nongovernmental or in the private sector – is a system. According to Tichy (1982), an organisation has three major subsystems: Technical, Political and Cultural, which intertwine and interconnect to determine the identity of the system as a whole. To understand these subsystems as separate entities and their intertwinement, development professionals drew up many structures and frameworks. The TPC framework (see Table 1) lays the ground for understanding how different components within the three subsystems in an organisation relate to each other.

**Table 1: Systems and their components in an organisation**

Systems	Components		
	Mission / mandate	Structure	Human resources
<b>Technical / administrative:</b> the tangible “nuts and bolts”	Operations: planning and implementing action plans, monitoring and evaluation, budgeting	Tasks and responsibilities: levels, positions and tasks; procedures and instructions; information and coordination systems	Expertise: quantity and quality of staff; recruitment and job descriptions; staff facilities & infrastructure; training and coaching
<b>Political:</b> the power game	Policymaking: developing policies and strategies; influencing from inside and outside; role of management	Decision-making: formal & informal mechanisms; supervision and control; conflict management	Room for manoeuvre: space for innovation; rewards and incentives; career possibilities; working styles
<b>Cultural:</b> identity and behaviour	Organisational culture: symbols, traditions, norms & values underlying organisational and staff behaviour; social and ethical standards	Cooperation and learning: norms and values underlying arrangements for teamwork; mutual support; networking; reflection; learning from experience etc	Attitudes: dedication to the organisation; commitment to work, to objectives and to partners/clients; stereotyping; willingness to change.

Source: after Lizares-Bodegon *et al* (2002)

The *technical* subsystem refers to the operational part of an organisation: the planning, forming of teams and departments, staffing etc. Constraints or drivers of change in the technical system include: pressure from donors, from the global and local economy, and from innovations and strategies in agriculture and information systems; and changes in investment in ARD. To transform an organisation, fundamental aspects of this subsystem may need to be changed, such as reformulation of the organisation’s mission and strategies, restructuring of budget allocations, and adapting human resource management (Tichy 1982).

The *political* subsystem of an organisation refers to how decisions are being made, how power is structured, the role of the management *vis-à-vis* the staff, how conflicts are settled, and how staff is rewarded or not (Tichy 1982). Major enabling or obstructing factors are often found in this subsystem. Pressures from decentralisation, government regulations and policy, and resource and power allocation influence the existing power system of an organisation. In public agricultural extension organisations, this subsystem is often characterised by a centralised hierarchical authority, leaving little room for manoeuvre. Personal promotion and institutional survival depend on internal criteria of professional norms rather than external criteria such as farmers’ adoption of technology (Pretty & Chambers 1994) or the need to meet local people’s interests and demands.

The *sociocultural* subsystem refers to the organisational culture of an organisation, to the norms and values that staff members adhere to and that influence their behaviour. Past practices and decision-making processes as well as rewards and incentives shape an existing organisational culture. External pressures such as expectations for job fulfilment, definitions of rewards/incentives and equity, and demographic changes in society are major factors that can easily initiate a change in the sociocultural subsystem (Tichy 1982). Change

in staff attitude – which is part of this subsystem – is often seen as the first step towards organisational change and institutionalisation of a new approach (Hagmann *et al* 1998).

### **3.3. Methodology**

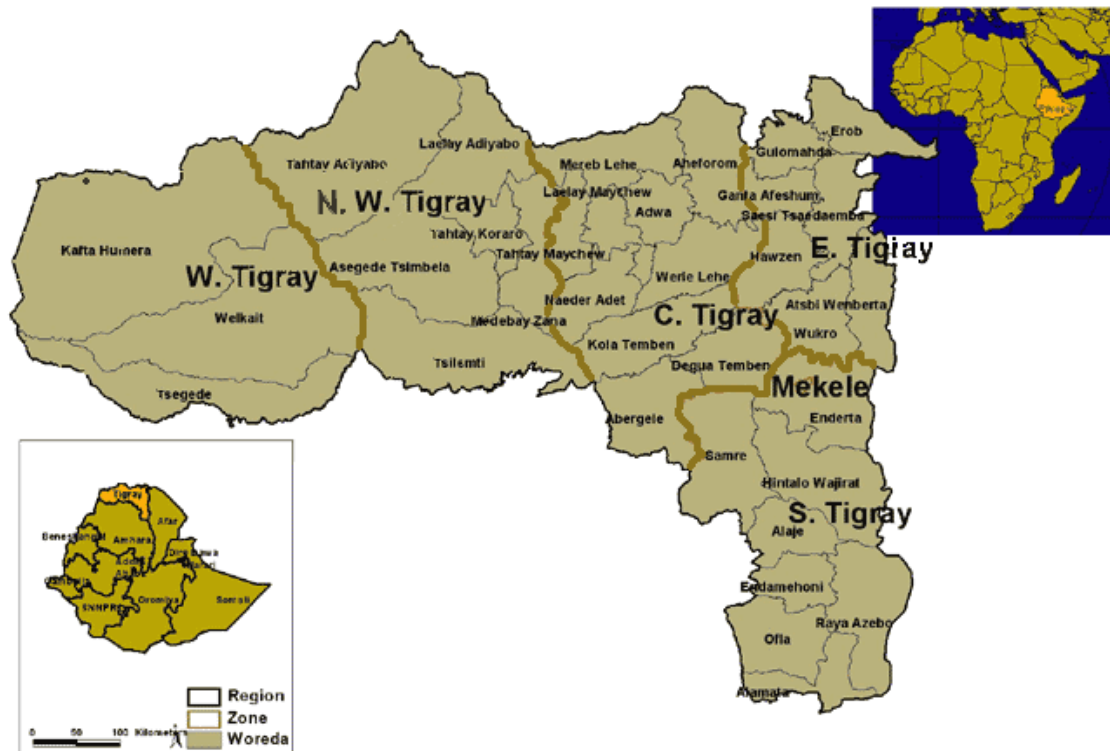
The case study is based on empirical information collected mainly through: i) interviews in the field and with stakeholders at regional and national level; and ii) focus-group discussions with partner organisation representatives and innovative farmer groups. Since there was little documentation on local innovation at the study site, it was hardly possible to find such information in the archives of the partner organisations. The case study was carried out over a period of six weeks: three weeks of data collection in the Tahtay Maychew DOA and farmers' fields, followed by a stakeholder analysis of partner organisations and potential stakeholders in order to identify the importance and influence of these stakeholders in institutionalising PID in Tahtay Maychew. In the course of operationalising the objectives of the study, a self-assessment tool was developed, which the stakeholders used to assess and reflect upon the status of PID institutionalisation in their respective organisations. This self-assessment tool is the topic of separate paper (Fanos *et al*, in preparation).

## **4. Experiences of PID institutionalisation in Tahtay Maychew: challenges and opportunities**

### **4.1 The context**

Tahtay Maychew is one of 35 rural administrative districts in Tigray Regional State in the north of Ethiopia (see Figure 1) and is located near the well-known historic town of Axum. Tahtay Maychew is 250 km from Mekelle, the regional capital. Tahtay Maychew covers 57,468 ha of land and has 17 rural subdistricts and two urban subdistricts with a total population of about 100,000 (99,184 people according to a census in 2007; CSA 2008). The subdistricts are further divided into “Peasant Associations” (PAs), the lowest level of government administration. According to Tesfahun *et al* (2008), Tahtay Maychew District is among the most drought-prone areas of Tigray. Mixed crop-livestock farming is the main means of living on an average of 0.5 ha of land per household. Soil erosion, low soil fertility, drought and political instability are prevalent problems in the region. More than 95% of the District's budget is from the Regional Government. Currently, Tahtay Maychew DOA has 108 staff members working under six different “business processes”: i) Extension, with its case team of technology adoption; ii) Technology dissemination and technology multiplication; iii) Natural resource management (NRM); iv) Input and services supply; v) Food security; and vi) Planning for development.





**Figure 1: Map of Tigray** (source: <http://www.tigraionline.com/tigraiprofile.html> accessed 04.12.10)

During the civil war in Ethiopia from 1975 until 1993, Tigray was a major war zone. During this period, there was no formal government and thus no standardised agricultural extension service. However, the Tigray People’s Liberation Front (TPLF) was active. Under the TPLF, an agricultural department was formed and assigned to assess challenges faced by farmers in the region. Among the major problems identified were: low level of agricultural land management and lack of access to improved technology. As access to technology was impossible during the war, the agricultural department used another option: identifying “best farming practices” that used locally available resources and spreading these ideas to other farmers. This activity led to recognition of many local innovations in soil fertility management, moisture preservation, land preparation, weed control etc. The agricultural department compiled the identified best practices and farmers’ knowledge and disseminated them. The TPLF used this extension approach until 1993. During this period, farmers at grassroots level were empowered and were active participants in both development and political activities. Resistance fighters were also development agents (Berhane 2001).

#### 4.2 Structure and practices in Tahtay Maychew Office of Agriculture

According to officials from the Tigray Region Bureau of Agriculture (BoA), the existing system of decentralisation of agricultural extension gives the district-level offices some room to exercise their own planning and implementation. Nonetheless, the centralised policy, strategy, structure and processes of budget allocation limit the decision-making power of DOA officials and the daily routines of development agents (DAs) working at village level. However, the experience of the agricultural extension system during the civil war retained its

influence in making officials in the BoA flexible in accepting the promotion of local innovations in extension as long as this process was supported – also in terms of funding – by an external organisation.

The system of structuring extension that resulted from a “Business Process Re-engineering” exercise in 2006 was designed to encourage teamwork among experts from different specialisations (Subject Matters Specialists, SMSs), rather than holding only one person accountable for an activity. The team usually goes as a group to the community and meets the local development group to create awareness on available technologies and to distribute inputs. Focal persons for promoting local innovation in the DOA are in a team of four people. In the current setup, there are two people from the extension business process, one from NRM, and one from Input and services supply, all men. These experts have no influence on structure and strategy of extension. Therefore, promotion of local innovation is regarded as a side activity (along the way) to their other activities; this leaves them little time to focus on local innovation. Current activities in promoting local innovation involve strengthening an association of experimenting farmers and helping them secure land for establishing a knowledge centre and experimentation site.

### **4.3 The process**

#### **ISWC–II and PROLINNOVA–Ethiopia**

The second phase of the Dutch-funded project Indigenous Soil and Water Conservation (ISWC–II) was implemented in Tigray Region of Ethiopia from 1997 to 2001, as part of a programme involving seven countries in Africa. During the first phase of ISWC, which had involved 15 countries including Ethiopia as a whole, it was found that farmers maintain and expand indigenous practices of soil and water conservation better as compared to the modern techniques promoted by development projects. The second phase assessed the effectiveness of indigenous and modern practices through joint experimentation involving farmers, scientists and DAs (Tesfahun & Amanuel 2009). The work in Tigray involved farmers, staff from the Tigray BoA, researchers from Mekelle University and the Tigray Agricultural Research Institute (TARI), lecturers, students, and nongovernmental organisations (NGOs), with Mekelle University as coordinator. ISWC–II tried to link innovative farmers with researchers and to change the attitude of development workers and policymakers towards local innovation and farmers’ innovativeness (Reij & Waters-Bayer 2001). It introduced a culture in the BoA of promoting innovative farmers, encouraging exchange visits, recognising farmer innovation and giving awards to male and female innovators (Tesfahun *et al* 2008).

In 2001, the ISWC–II project ended, but the lessons learnt led to the formation of a national learning platform known as Promoting Farmer Innovation and Experimentation in Ethiopia (PROFIEET) (Tesfahun & Amanuel 2009). This was later re-named PROLINNOVA–Ethiopia after it became part of a new international PROLINNOVA programme initially supported by the International Fund for Agricultural Development (IFAD) in 2003 and later by the Netherlands Directorate General for International Cooperation (DGIS), among other donors. PROFIEET involved partners from NGOs, research, universities and government agencies. Four platforms linked to the national platform were set up according to dominant agro-ecological systems and geographical areas in the country: i) the Ethiopian Typical Highlands Platform, which includes subplatforms in Amhara Region and Tigray Region; ii) the *enset*-based agro-

ecology platform in the Southern Region (*Enset ventricosum* or “false banana” is a staple food in many parts of this region); iii) the coffee-based agro-ecology platform in the west and southwest; and iv) the pastoralist platform in the lowland areas on the periphery of Ethiopia (Tesfahun *et al* 2008).

### **Northern Typical Highlands Platform and Axum subplatform**

Three government organisations – Tigray BoA, Mekelle University, TARI – and three NGOs – Relief Society of Tigray (REST), Adigrat Diocesan Catholic Secretariat (ADCS) and the Institute for Sustainable Development (ISD) – formed the Northern Typical Highlands Platform of PROLINNOVA–Ethiopia in 2003 (Hailu *et al* 2007). Later, the Women’s Office also joined. However, this platform was weak for various reasons, including communication gaps, knowledge gaps in understanding and operationalising the concepts of local innovation and PID, loose coordination and follow-up from the PROLINNOVA–Ethiopia Secretariat, high staff turnover, lack of own funding for further promotion and limited decision-making power of stakeholders. Involvement of the key stakeholders in the platform – with the exception of ISD, farmers and staff at Tahtay Maychew DOA – was limited to attending workshops regularly, with minimum follow-up in terms of internal sharing among colleagues.

Because the regional platform was weak, in August 2010, ISD and the PROLINNOVA–Ethiopia Secretariat formed a more active subplatform-in the Axum area. The advisory board of this subplatform consists of eight persons from six stakeholder groups: Axum Research Centre, Axum University, Tahtay Maychew DOA, a farmer from Tahtay Maychew selected by DOA, Laelay Maychew DOA, a farmer from Laelay Maychew selected by Laelay Maychew DOA, the Axum Zonal Food Security Office, and the local and federal media (radio) service. This advisory board was formed with the aim of creating a shared ownership of the activities to promote local innovation(s). The members also aim to promote and institutionalise the concept of local innovation and PID in their respective organisations. The advisory board divided tasks as follows:

- Tahtay Maychew and Laelay Maychew DOA and farmers are responsible to encourage and support farmers in practising local innovation and PID;
- The Zonal Food Security Office is the coordinator of the committee work;
- Axum University is responsible for awareness creation and linkage with academics;
- Axum Research Centre is responsible for monitoring and evaluation activities;
- The media are responsible to disseminate information about farmer innovations through local and federal radio and to prepare articles for local newspapers;
- ISD is responsible for seeking and providing additional financial resources.

The first major activity of the Northern Typical Highlands Platform was the organisation of an “Innovative Farmers Workshop” in Axum in April 2005. At this workshop, the participants (DOA and ISD staff and innovative farmers) identified farmer innovations and decided which ones would be explored further with other farmers working in groups. Results of the farmers’ experimentation and other farmers’ innovations were displayed and shared with other stakeholders on many occasions, including agricultural technology exhibitions, farmer field days and platform meetings. Activities of the Tahtay Maychew DOA from 2005 onwards to promote local innovation and PID are summarised on Table 2.

**Table 2: Summary of main activities in Tahtay Maychew DOA towards institutionalising local innovation**

Year	Activity	Place	Remark
early 2005	<ul style="list-style-type: none"> <li>Innovative Farmers Workshop organised by Northern Typical Highlands Platform of PROLINNOVA–Ethiopia in Tigray Region</li> </ul>	Axum	Farmers from Tahtay Maychew were involved
late 2005	<ul style="list-style-type: none"> <li>DOA and farmers identified 5 innovative farmers mainly from Akabse'at and Mai Berazio PA</li> </ul>	Akabse'at and Mai Berazio PAs	
2006	<ul style="list-style-type: none"> <li>ISD took 5 innovative farmers from Tahtay Maychew to exhibit their innovations at the regional technology exhibition organised by IPMS project<sup>2</sup></li> </ul>	Mekelle	Kes Malede won 1 <sup>st</sup> prize for innovative farmers
2007	<ul style="list-style-type: none"> <li>Number of identified innovative farmers increased to 16</li> <li>DOA organised farmer festival at district level</li> </ul>	Akabse'at and Mai Berazio PAs	
2008	<ul style="list-style-type: none"> <li>Number of innovative farmers in Mai Berazio increased and the group was divided into two</li> <li>Farmer festivals were organised at district and regional level</li> </ul>	Mai Berazio PA	ISD helped organise farmer festivals and included innovators in list of nominees
2009	<ul style="list-style-type: none"> <li>Innovative farmer group in Tahtay Maychew asked District Administration for land to establish a knowledge centre</li> <li>Farmer festivals were organised at district and regional level</li> </ul>	Wukro Marai	
2010	<ul style="list-style-type: none"> <li>More innovative farmers from other districts started to share their innovations and expressed interest to form innovation farmer groups</li> <li>The District Administration and Land Administration allocated land for experimenting farmers</li> </ul>	May Berazio, Ferima, Mai Siye and Merena PAs	A total of 78 innovative farmers have been identified in 6 PAs in Tahtay Maychew District

The Northern Typical Highlands Platform made efforts towards recognising innovations of women farmers in the area. However, thus far, women innovators actively working with the DOA in Tahtay Maychew are few in number: only five of the total of 78 innovative farmers identified were women. The innovative farmer group tried to involve women in their

<sup>2</sup> In 2006, the IPMS (Improving Productivity and Marketing Success of Ethiopian Farmers) project organised a regional technology exhibition where farmers' innovations were displayed together with conventional research outputs. This exhibition was organised in such a way as to create an interactive learning platform between farmers, researchers, academicians and investors, and farmers' innovativeness was recognised and rewarded. Based on the IPMS experience, the BoA took up this idea and, since 2006, such exhibitions are organised annually by all districts in Tigray Region. In line with this, Tahtay Maychew DOA organises a technology exhibition every year, where it – among other things – promotes the work of innovative farmers in the district.

management committee for the Local Innovation Support Fund<sup>3</sup> set up with PROLINNOVA support, but there seems to be little interest on the part of women. One woman was in the first Fund Management Committee, but currently there are none in the committee.

### **Role of stakeholders**

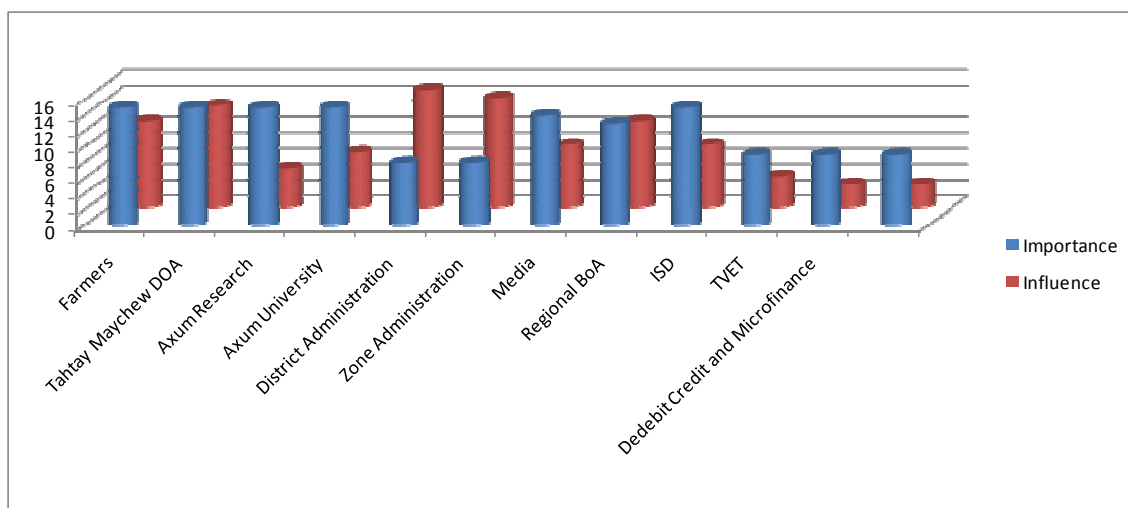
In the case study, it was found that, unlike many other NGOs in Ethiopia, ISD is accepted by the DOA and trusted in its development approach. One factor that contributed to building this trust is the fact that ISD bestows ownership of all activities to the DOA experts and senior managers, the District Administration and the local farmers. This led to a faster internalisation of the concept of PID within the extension work. However, ISD is represented by only one person in Tahtay Maychew DOA and there appears to be little overlap of the activities of ISD and PROLINNOVA–Ethiopia in Tahtay Maychew District with those of other DOAs. Also other ISD staff members (most of whom are based in Addis Ababa, 1000 km away) do not seem to be very well aware of the activities to institutionalise PID taking place at Tahtay Maychew.

Stakeholders identified in Tahtay Maychew District that are directly and indirectly involved or have potential to be involved in PID are: farmers, Tahtay Maychew DOA, District Administration, Zonal Administration, ISD, Axum Research Centre, Axum University, regional media, the Agricultural Technical and Vocational Education and Training College (ATVET) in Shire 60 km from Axum, Dedebit Credit and Microfinance Service, and small and micro enterprises. The first eight stakeholders are the ones that formed the Axum subplatform of PROLINNOVA–Ethiopia in August 2010. The remaining stakeholders were among the list of identified stakeholders for the stakeholder analysis during the case-study debriefing held at the Zonal Food Security and NRM coordinator's office in Axum. Results of the stakeholder analysis on the importance and influence level of each stakeholder group in promoting local innovation and PID showed that most of the key stakeholders have high importance, but their direct influence levels were very low. Figure 2 shows the cumulative result of the stakeholder analysis on importance and influence in the Axum PROLINNOVA subplatform.

The stakeholder analysis indicated that members of the Axum subplatform found farmers, Tahtay Maychew DOA, Axum Research Centre, Axum University and ISD to be significantly important stakeholders in institutionalising PID. It also revealed little integration with support providers such as microfinance, ATVET and small and micro enterprises in relation to promoting local innovation. The stakeholder analysis showed that the regional BoA and the Zonal Administration, both responsible for development strategy and budget allocation, have substantial influence in institutionalising PID. Analysis of the difference in results between the three groups showed that DOA experts have different perspectives as compared to university and research staff regarding the importance and influence of each stakeholder in promoting local innovation. It also indicated that the partner organisations have different perceptions of what it takes to have PID institutionalised in Tahtay Maychew DOA.

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<sup>3</sup> The Local Innovation Support Fund (LISF) is a mechanism to make funds for agricultural research and development accessible to farmer experimenters and local agencies supporting them (<http://www.prolinnova.net/lisf>).



**Figure 2: Level of importance and influence of stakeholders in promoting local innovation in the Axum subplatform**

## 5. Discussion: components of an enabling environment

### Culture of improving farming

The fact that Tigray Region was a war zone during the Ethiopian civil war from 1975 to 1993 led to use of resources available at local level to develop and improve agriculture. This resulted in recognition and utilisation of local innovations by the farmers and TPLF soldiers. This system became a normative standard and value pattern of the TPLF development approach; TPLF soldiers and farmers agreed with the approach and internalised it. After the civil war, the focus of agricultural extension changed to high use of external inputs mainly related to soil fertility and crop production. This weakened the approach to promote local innovations and best practices that had prevailed until then in the BoA. Then, the coming of ISWC-II into the region revived the recognition and promotion of local innovation once again. The subsequent PROLINNOVA-Ethiopia activities could build on this.

### Structure, strategy and techniques of extension

An enabling environment for institutionalising PID would include policy, leadership, organisational values and resources that support and promote local innovation (Demekech & Amanuel 2009). As is the case with many development policies in Ethiopia, also in agricultural development policy, the federal and regional authorities govern the strategy and budget of the DOAs in Tigray Region. The hierarchical structure in the government influences the work procedure and budget-allocation mechanisms of Tahtay Maychew District, giving the DOA little authority over the formal work procedures to decide to include PID. Causes of this non-enabling environment are: low awareness on PID processes at regional level that could bring about a change of attitude among decision-makers and higher officials; government focus on attaining food security through recommending external technologies and inputs; and the organisational values that support the use of external inputs for better livelihoods.

Absence of an enabling environment limited inclusion of PID in the formal work procedures, job descriptions, planning and reporting of the DOA. However, individual interest in and commitment to PID in the DOA resulted in the use of the already existing structures to promote PID. For instance, Tahtay Maychew DOA has managed to internalise PID in the field practices by using already existing guidelines for structures (for farmer-group formation) for mobilising “innovative farmer groups”. In addition, in order to strengthen the partnership with farmers and bridge the budget and skill gap, Tahtay Maychew DOA created linkages with many other line offices in the district (e.g. Offices for Health, Land Tenure, and Water & Energy) in order to avail material and technical support for the joint experimentation with farmers. In addition, the linkages with these other offices have created better awareness and recognition of and partnership with innovative farmers in the district. These experiences show that room for manoeuvre is still available to integrate PID into the extension work by jointly planning the PID work as part of other routine activities, even though there is no direct budget for PID.

### **Innovation and innovativeness**

Ethiopia’s current agricultural development strategy, PASDEP (Plan for Accelerated and Sustainable Development to End Poverty), supports best practices and allows flexibility of extension implementation in the various agro-ecological zones. By so doing, it implicitly gives room for promotion of local innovation. Using this flexibility, the Tahtay Maychew DOA purposely includes innovativeness as a criterion for selecting “model farmers” and their best practices during the annual farmer festivals that have become a culture to empower and encourage farmers.

Recognising local creativity and initiative leads to changes in behaviour and attitudes of all actors in the innovation system. Findings of the study upon which this paper is based and a similar case study in Cambodia (Fanos *et al* 2010) revealed that, for better progress towards institutionalising PID, innovations that align with the priorities of decision-makers and higher officials need to be selected depending on the context. For instance, local innovation on soil and water conservation attracts greater interest from decision-makers in Tigray Region than a local innovation in animal breeding. This finding indicates the interconnectedness of type of technology (technical system) and the change in attitude (cultural system) and decision-making processes (political system), which in turn is responsible for policymaking. This analysis indicates that PID institutionalisation depends on the type of technology/innovation and the level of priority given to these by decision-makers in the institutions concerned.

### **Human resources and skills**

The case study in Tigray revealed that Tahtay Maychew DOA has an adequate number of skilled staff in the conventional agricultural extension system. However, the number of staff fully implementing PID with innovative farmers is limited. Lack of resources and high workload in the conventional extension system are the main reasons for this situation. PROLINNOVA’s main mechanisms to develop skills are providing training in PID, holding workshops and organising exposure visits attended by two or three DOA staff members at a time. The SMS extension team is expected to facilitate the knowledge sharing on PID, as it is composed of staff who took PID training and staff who did not. The SMS team travels together to different farmer groups and learns from innovative farmers. This contributes to

PID institutionalisation. In addition, even if not deliberately organised, staff awareness increases as a result of the knowledge sharing and practical experience in farmers' fields.

### **Partnership**

The functioning of the multi-stakeholder partnership in PROLINNOVA–Ethiopia in general and in the Northern Typical Highlands Platform in Tigray is limited to active participation of only a few organisations. For instance, in the Northern Typical Highlands Platform, only some farmers, Tahtay Maychew DOA and ISD were found to be actively involved in the process of institutionalising PID within government extension agencies such as in Tahtay Maychew. Long distances to cover, low budgets, high workloads and frequent communication gaps are some of the reasons why the partnership with other stakeholder organisations in Tigray Region (e.g. Mekelle University, TARI, REST, ADCS and the regional BoA) has not been very strong, and these other institutions are not collaborating closely in trying to institutionalise PID in Tahtay Maychew District.

At national level, according to informants from the BoA and Mekelle University, the multi-stakeholder platform of PROLINNOVA–Ethiopia has a reputation of being weak in facilitating partnership and collaboration among the stakeholders. As constraints, they mentioned communication difficulties on account of the great distance between Tigray and the national capital, limited financial resources, and poor communication skills of coordinators at different levels. As a result, national-level PROLINNOVA–Ethiopia partners were not very closely involved in supporting efforts to institutionalise PID Tahtay Maychew District.

### **Attitudinal change**

PROLINNOVA–Ethiopia's approach to bringing about attitudinal change in Tahtay Maychew DOA involves mainly awareness creation, facilitating joint experimentation and facilitating self-organisation by farmers. These activities brought impact at the farmer level, where farmers have been empowered to run their own farmer experimentation groups, one of which has become a legal entity. The case study revealed that the farmers' perceptions on local innovation and their confidence in their capacity to innovate changed more quickly when they were approached in groups and shared experience from each other, rather than through one-to-one preaching by DAs or SMSs on local innovation.

In the DOA, the awareness creation and joint experimentation led to more awareness especially in the Extension team ("business process group") as it is directly involved in implementing these activities. The second contributing factor for the existing perception of PID in the DOA is the legacy of the ISWC–II project, which was a stepping stone for PROLINNOVA–Ethiopia and played a big role in recognising and popularising farmer innovation and farmers' ability to innovate. An additional contributing factor is the teamwork spirit in the DOA about promoting local innovation. The fact that SMSs work in groups facilitates internalisation of PID into the norms and routines of the organisation. This also facilitates knowledge sharing and exchange of experience among staff, and minimises the need to start over when a staff member leaves the organisation.

However, the change of attitude to PID in Tahtay Maychew DOA is not strong enough to bring about change in organisational values, policy and strategies. This is because officials in the DOA have no mandate to change the organisational values and decision-making



process, and officials in the regional BoA have less awareness and a less clear perception of PID to be able to incorporate it into the organisation's formal plans, programmes and activities. Major reasons identified for change in perception in the regional BoA are: lack of awareness among experts, non-existence of an internal platform to share gained knowledge and experience with colleagues in the BoA, workload and fear of rejection by colleagues and other experts.

The agricultural strategy of the country aims to increase participation of women in development interventions by 30%. Though PROLINNOVA–Ethiopia, especially the Northern Typical Highlands Platform, has made some efforts towards recognising innovations of women farmers in the area, women innovators identified by the DOA in Tahtay Maychew are only five as compared to the large (and rising) number of innovative male farmers identified in the district. It may be that women have contributed to some of the innovations listed by the DOA under the names of male household heads, but most of the male farmers and DOA staff mention only the men's role. This indicates that conscious attention still needs to be given to bringing about changes in attitude about the contribution and capacity of women to innovate and to gain acceptance by communities for women to be in a spotlight.

## **6. Conclusions**

### **6.1 Main findings**

From the experience of Tahtay Maychew DOA, the most effective factors that enabled the progress towards institutionalising PID in Tahtay Maychew DOA were: previous experience from the time of the civil war, capacity-building on PID, provision of full responsibility to the DOA, and close collaboration with the facilitating organisation on local innovation and other activities. However, because documentation of the institutionalisation process was poor, many lessons learnt and reflections on performance during the process were not captured and were therefore not available for this study.

A lot was done to institutionalise PID in spite of several constraints in Tahtay Maychew DOA. A large part of the success was due to the stakeholders' devotion (especially that of farmers, DOA staff and the coordinating NGO), the flexibility in management style, and the readiness to acknowledge farmers as equal partners. Furthermore, the stakeholders' determination to embrace opportunities to improve rural livelihoods, the prior traditions of recognising farmer innovation that date back to the time of the civil war, and subsequent work that took place in identifying indigenous knowledge such as in the ISWC-II project were the main seeds for PID institutionalisation in Tahtay Maychew DOA.

Major constraints identified were: limited room for manoeuvre in the formal organisational structure and strategy, insufficient resource allocation for development interventions, and insufficient organisational and individual capacities to promote local innovation at large. These constraints are mostly beyond the capacity of DOA officials at district level. The regional BoA in Mekelle is less aware of and less active in promoting PID as compared to the Tahtay Maychew DOA. The regional BoA has been involved only in awareness-raising

activities and initiating staff capacity-building in this aspect, which is a first step towards institutionalising PID.

With the existing loose multi-stakeholder partnership in PROLINNOVA–Ethiopia and the vagueness of its strategy for institutionalising PID, it will be a huge challenge to institutionalise PID as a process for development. Therefore, much work needs to be done in strengthening the multi-stakeholder partnerships – especially at national and regional level – and developing a clear strategy for institutionalising PID.

Key findings of the case study on PID institutionalisation in Tahtay Maychew DOA were:

- Increased social cognition among extension experts on local innovation processes, good awareness and perception on local innovation, and changed behaviour towards farmers' innovativeness were achieved; this led to creation of partnership between DOA staff and farmers on an equal basis;
- Full responsibility for PID implementation was provided to the DOA by the NGO that was coordinating the Northern Typical Highlands Platform in Tigray, and this contributed to empowering the DOA to implement and institutionalise PID at its own pace.

## **6.2 Lessons learnt**

Capacity building at all levels is a crucial means to internalise PID and to bring about a change in attitude. The capacity building should not be limited to SMSs and DAs, but should include also decision-makers within the DOA and BoA who could be less important in the technical implementation process but very influential in creating an enabling environment.

Rewards and incentives at all levels can inspire and empower farmers in finding own solutions for own problems. This also creates awareness among DOA staff about farmers' innovativeness.

Teamwork in promoting local innovation facilitates internalisation of PID into the norms and routines of the extension organisation, facilitates knowledge sharing and exchange of experience among staff, and minimises the need to start over when a staff member leaves the organisation.

For better understanding of PID institutionalisation in a given context in Ethiopia, important issues include: the extent to which the PROLINNOVA–Ethiopia network members actively seek to institutionalise PID, under what conditions, how and why; and the potential for collaboration and learning between partner organisations in the network. These aspects should be analysed, as they have direct or indirect effect on the institutionalisation process.

## **6.3 Recommendations and the way forward**

Based on the study findings in Tigray Region and above all in Tahtay Maychew District, some recommendations for better institutionalising PID in government extension organisations are the following:

- Such a complex approach as PID is better promoted and internalised through active collaboration and linkages at all levels. For this to take effect, systematised and stronger networks should be encouraged at all levels by strengthening existing platforms and organising fora to raise awareness and change attitudes of decision-makers. This recommendation could be realised through efforts by all PROLINNOVA–Ethiopia partners.
- Focus on building staff capacity at all levels. SMSs and DAs, especially those coming from institutions of higher learning, lack knowledge about local innovation. Therefore, continuous capacity-building activities and knowledge-sharing fora on local innovation and PID need to be organised by the partners in PROLINNOVA–Ethiopia.
- Closer involvement of the regional BoA in the multi-stakeholder PROLINNOVA platforms at regional level is essential, as the ultimate decision-makers about agricultural extension are at regional level. This could be done through consultations and discussion with BoA staff members on formulating a strategy to favour PID, accompanying them on field visits, organising training and coaching events, preparing a well-elaborated reporting system on local innovation, and preparing and disseminating policy briefs.
- Proper documentation at secretariat, district, and community level needs to be put in place. Documenting PID-related processes and events enables partners to reflect on their work, to strategise next steps and to learn more easily from experience.
- To be able to advance PID institutionalisation in Tahtay Maychew DOA, the regional BoA in Mekelle – as regional coordinating organisation – needs to take well-planned and deliberate steps towards institutionalising PID within its policy framework and daily routines. For this to come about, partners in PROLINNOVA–Ethiopia need to engage systematically in policy dialogue and critical reflection on the contribution of PID to attaining food security and need to communicate the outcomes well.
- Further exploration of why women are not active participants in groups of experimenting farmers being supported by the DOA and why women do not seem to be interested in being part of the Local Innovation Support Fund management committee may provide some answers regarding the gender imbalance observed in the work with farmer innovators thus far by the Axum subplatform and the Tahtay Maychew DOA.

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