

Institutionalising Participatory Innovation Development (PID) in regional and subregional bureaus of agriculture in Tigray



Case study in Tahtay Maychew and Mekelle

16 October – 5 December 2010

(Final)

by Fanos Mekonnen Birke

April 2011

Acknowledgments

I would like to give my thanks to the following persons who made this case study a reality:

The PROLINNOVA–Ethiopia Core Group members for giving me this opportunity to work with them and learn about the work of PROLINNOVA–Ethiopia;

All the staff of Extension Case Team at Tahtay Maychew District Office of Agriculture, without whom the data for this study could not have come together;

Innovative farmers of Tahtay Maychew District, who were willing to share their experience and work processes on local innovation;

The Axum Sub-platform members of PROLINNOVA–Ethiopia, who were ready to share their work experience and knowledge on local innovation;

All individuals at Mekelle Bureau of Agriculture, Mekelle University, Institute for Sustainable Development (ISD) staff in Mekelle and Addis Ababa, and others who contributed to this case study;

Elias Zerfu and Laurens van Veldhuizen for their continuous support and guidance in developing and refining the Participatory Innovation Development (PID) self-assessment tool;

Ann Waters-Bayer for her continuous support and encouragement from the very beginning until the end, for reading the drafts and giving her valuable comments and insights.

My special thanks goes Gebrehiwot Zebelo, who was always ready to assist me in my fieldwork and helped to translate during discussions with farmers in Tahtay Maychew and translating operational documents.

Contents

Acronyms.....	v
Figures.....	vii
Tables	vii
Boxes.....	vii
 SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS.....	1
Main findings	2
Conclusions	4
Lessons learnt	4
Key recommendations	5
 1. INTRODUCTION.....	6
1.1 Agricultural extension in Ethiopia.....	6
1.1.1 A few projects on participatory agricultural extension in Ethiopia.....	6
1.1.2 The start of PROLINNOVA.....	8
1.2 Purpose of this study	9
1.3 Overview: Structure of this paper.....	9
 2. CONCEPTS AND METHODOLOGY	10
2.1 Major concepts	10
Institutionalisation	10
Farmer-led joint research.....	10
Local Innovation Support Fund (LISF).....	10
2.2 Issues of observation in the case study	11
2.3 Methodology	11
2.3.1 The TPC Framework	11
2.3.2 Stakeholder analysis	12
2.3.3 Methods	12
2.4 Limitations of the study.....	13
 3. SETTING THE SCENE: TIGRAY AND ITS AGRICULTURAL AND RURAL DEVELOPMENT POLICIES AND STRATEGIES	14

3.1	Topography and climate	14
3.2	Political context in Tigray Regional State and its impact on agricultural extension.....	14
	The civil war.....	14
	Post civil war development policies	16
	Administration.....	16
3.3	Agricultural extension provision	16
4.	FINDINGS: PID IMPLEMENTATION IN TAHTAY MAYCHEW	19
4.1	Key activities in promoting PID in Tahtay Maychew	19
4.1.1	Implementing PID in Tahtay Maychew	19
4.1.2	Structure and practices towards institutionalising PID in the OoA	27
4.1.3	Stakeholders and their roles.....	31
4.1.4	Contribution of ISWC-II and ISD to institutionalising PID	32
5.	SUMMARY ANALYSIS ON PID INSTITUTIONALISATION IN TAHTAY MAYCHEW OFFICE OF AGRICULTURE.....	33
6.	LESSONS LEARNT, CONCLUSIONS AND RECOMMENDATIONS	36
	Lessons learnt	36
	Conclusions.....	36
	Recommendations.....	37
	References	38
	Annex 2: Workplan	45
	Annex 3: Semi-structured questions.....	47
	Annex 4: Brochure promoting local innovation prepared by OoA staff	50
	Annex 5. Resource people for the case study	52

Acronyms

ASE	AgriService Ethiopia
ATVET	Agricultural Technical and Vocational Education and Training
BoA	Bureau of Agriculture
BPR	Business Process Re-engineering
CFW	Cash for Work
DA	Development Agent
FFW	Food for Work
FLJR	Farmer-Led Joint Research
FPR	Farmer Participatory Research
FTC	Farmer Training Centre
IPMS	Improving Productivity and Market Success of Ethiopian Farmers
ISD	Institute for Sustainable Development
ISWC	Indigenous Soil and Water Conservation
LISF	Local Innovation Support Fund
M&E	monitoring and evaluation
MoARD	Ministry of Agriculture and Rural Development
NGO	non-governmental organisation
NRM	natural resource management
OoA	Office of Agriculture
PADTES	Participatory Agricultural Development Training and Extension System
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PID	Participatory Innovation Development
PROFIEET	Promotion Farmer Innovation and Experimentation in Ethiopia
PROLINNOVA	PROMoting Local INNOVation in ecologically oriented agriculture and natural resource management
PTD	Participatory Technology Development
RCBP	Rural Capacity Building Project
SG2000	Sasakawa Global 2000
SMS	Subject Matter Specialist
TARI	Tigray Agricultural Research Institute
TPC	Technical, Political and Cultural
TPLF	Tigray People Liberation Front

List of Figures

Figure 1: Map of Tigray Regional State

Figure 2: Innovative farmers in their newly allocated land for experimentation

Figure 3: Innovator Abadi showing the materials of the experimenting farmers' group

Figure 4: Announcement of seasonal activity and assignments for each expert is put on the main gate of the OoA

List of Tables

Table 1: Resource people for the case study in Tahtay Maychew

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

Table 3: Stakeholder analysis on importance and influence of PID promotion in and around Axum

List of Boxes

Box 1: Criteria for selection of pilot areas

Box 2: Participatory observation

Box 3: Innovation case

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS

This case study synthesises findings on the institutionalisation of Participatory Innovation Development (PID) with special emphasis on promoting local innovation and farmer-led joint research (FLJR). The synthesis is based on primary data collected from the District Office of Agriculture (OoA) in Tahtay Maychew and the Tigray Regional Bureau of Agriculture (BoA) in Mekelle. In addition, archived policy papers, annual reports, planning and budgeting documents from the BoA and PROLINNOVA¹–Ethiopia were referred to. The subject of the study – institutionalising PID in a regional and a district government agricultural bureau – was approached from a broadly historical perspective: tracking changes in policy, strategies, extension systems and implementation processes since the end of the Ethiopian civil war in 1991. This study documented outcomes and lessons learnt on the process of implementing PID mainly in Tahtay Maychew District. This is because Tahtay Maychew is the district OoA where promoting local innovation and FLJR is more visibly implemented, as compared to the regional BoA in Mekelle.

Local innovation and *farmer-led joint research* are the two main concepts in this case study and they are further elaborated on Section 2. The Technical, Political and Cultural (TPC) framework (Tichy 1982), a theory of change management, was used to analyse the data collected. The TPC framework was chosen because it explains the intertwinement and interconnectedness of three systems in an organisation – namely technical, political and cultural – for an organisational change to take a positive effect. This framework enables one to observe the existing situations in terms of mandate, structure, decision-making process, organisational values and organisational principles as separate entities. Moreover, it enables one to observe how these interconnect with each other. This report analyses thoroughly the three systems and their intertwinement in the context of Tahtay Maychew OoA.

In addition to the TPC framework, stakeholder analysis was used to understand the integration and interaction of stakeholders in promoting local innovation in Tahtay Maychew. The result of the stakeholder analysis shows those stakeholders that are highly important but less influential and vice versa. It also shows the level of interaction of Tahtay Maychew OoA with other stakeholders in terms of promoting PID.

This study was commissioned by the PROLINNOVA–Ethiopia Core Team. The study presents detailed observations, conclusions and recommendations for three purposes:

- To understand the learning processes by identifying the factors that trigger or hinder the institutionalisation of PID;
- To share with a larger readership the lessons learnt in the process of institutionalising PID in two contexts: Regional (provincial) Bureau and District Office of Agriculture;
- To reflect on the process so far and plan for a way forward.

¹PROLINNOVA: **P**ROMoting **L**ocal **I**NNOVation in ecologically oriented agriculture and natural resource management

Main findings

The second phase of the Netherlands-funded Indigenous Soil and Water Conservation project (ISWC-II) was a pioneer for initiating the recognition and documentation of local innovation in Tigray Region. Lessons learnt from the ISWC-II project resulted in the continuity of recognising and promoting local innovation through a newly formed country programme, first called PROFIEET (Promoting Farmer Innovation and Experimentation in Ethiopia) and now called PROLINNOVA–Ethiopia. The knowledge and awareness creation that started during the ISWC-II project resulted in better mainstreaming of PID in Tahtay Maychew.

The non-governmental organisation (NGO) Institute for Sustainable Development (ISD) coordinates the Northern Typical Highlands subplatform of PROLINNOVA–Ethiopia since 2005. This subplatform has many partner organisations in Tigray Region, including Mekelle University, the Tigray BoA and the Tigray Research Centre. However, I witnessed active implementation of PID in terms of FLJR and closer collaboration with local staff and community only in Tahtay Maychew OoA.

The coming of PID in Tahtay Maychew further publicised innovations already identified by ISWC-II, such as Kes Malede's water-lifting innovation, through documentation, exhibitions, field visits and farmer days in collaboration with the district OoA, ISD, Mekelle University and other partners.

ISD provides technical, material and moral support to Tahtay Maychew OoA in promoting local innovation and similar activities. According to the district staff, the close follow-up and partnership on an equal ground created a sense of ownership and rapid progress towards internalisation of the process into the daily routines of extension experts working with innovative farmers.

ISD's strategy in PID implementation is making the OoA accountable for all activities, starting from planning through to final evaluation, and allowing OoA staff to move at their own pace. ISD reports that the long-term effect of this strategy is fruitful.

Tahtay Maychew, having relatively better agro-ecology than the rest of the Central Zone of Tigray, provides room for farmers to produce for subsistence and market and to engage in innovative work to improve their livelihoods.

The existing government strategy – decentralisation to the district level – is reported to give the district administration and OoA officers some room to exercise their own planning and implementation. Nonetheless, the centralised policy, structure and processes of budget allocation limit the decision-making power of Subject Matters Specialists and the daily routines of development agents (DAs).

The above-discussed context in Tahtay Maychew had triggered the process of institutionalising PID. In some cases, the same context triggered the process in one aspect and hindered it in another. The following factors triggered or enable PID institutionalisation in Tahtay Maychew OoA:

- The Farmer Training Centre (FTC) constructed by the Rural Capacity Building Project of the Ministry of Agriculture and Rural Development (MoARD), with its 2-ha experimentation/demonstration area, serves as a place for knowledge sharing and experimentation. Tahtay Maychew OoA staff use the FTC not only for transfer of technology, but also as a platform for innovative farmers to share their findings with others and to experiment on farmers' innovative ideas;
- The District Land Administration Bureau made an experimentation plot available to a group of innovative farmers. This action empowered the innovative farmers to further push with their innovation activities and to sustain their group by using the area as a knowledge centre and manufacturing their own innovations;
- The teamwork culture in the Extension Department of Tahtay Maychew OoA, that had its roots from the civil war, created good awareness and changed behaviour with respect to innovative farmers and their capacity to come up with local innovations;
- The newly formed culture of "farmer festival" inspired farmers to perform better and get recognition. This culture also enabled the OoA to use the platform to recognise farmer innovation as well as model farmers in the presence of greater publicity;
- Individual interest of SMSs, extension head and DAs in farmer innovations and promotion of local innovation processes had the greater share on triggering the institutionalisation process;
- The 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.

The following factors challenge or hinder PID institutionalisation in Tahtay Maychew OoA:

- The Tigray BoA supports many activities in agriculture and natural resource management (NRM) through Food-for-Work (FFW) or Cash-for-Work (CFW) schemes. These schemes make farmers dependent on the external support and discourage them from devoting time and resources to experimentation and innovative work;
- Subject Matter Specialists (SMSs) from the Extension Department mainly document progress in the use of external inputs (fertiliser and improved seed). Documenting local innovation is not among their evaluation criteria and therefore they give little emphasis to documenting or promoting local innovation unless they have personal affinity to this;
- Experts in Tahtay Maychew OoA have less awareness on promotion of local innovation as a process. Those experts and some stakeholders who are aware of local innovation still focus only on recognising local innovations and not on the processes. For instance, SMSs only focus on documenting best practices used to implement recommended technologies from the extension office.
- The partnership formation in PROLINNOVA–Ethiopia network is mostly with individuals and not with the organisations (whether state or non-state, including community-level) in which they work. This has created a gap in building institutional knowledge on PID at organisational and community level. The data from this study show that this is prevalent especially in the Mekelle BoA, where there is currently little awareness among the staff of

the Extension Department even though individuals from this department were earlier involved in the ISWC-II project and PROFIEET;

- Routines of DAs and experts at district level include convincing farmers to adopt technology packages, buy fertilisers, pesticides and water pumps; and submitting hand-written reports for the zone and region, giving no time and space for promoting PID;
- Tahtay Maychew OoA has no own budget allocated for promoting PID and thus yearly work evaluation and planning at the OoA do not include this activity;
- High levels of staff turnover in Tahtay Maychew OoA, especially among DAs, results in little dedication and continuity in the activities of promoting PID;
- The organisational policy in the BoA does not clearly specify the promotion of PID and thus gives no mandate for staff to implement PID.

Conclusions

According to the results of this study, the most significant change in Tahtay Maychew OoA towards institutionalising PID is the social cognition among extension experts on local innovation. All experts interviewed on the course of this study had good awareness and perception on local innovation, and changed behaviour towards farmers' innovativeness. Continuous capacity-building through trainings, workshops and field visits; provision of full accountability on PID implementation to OoA; partnership with OoA staff and farmers on an equal ground; and moving at the pace of OoA and farmers are contributing factors for penetration of PID into the unwritten work procedures and practices. Another significant aspect that played a role in changing attitude was the incentive that comes for innovative farmers. The recognition they received at district and regional level triggered PID institutionalisation at farmers' level in Tahtay Maychew. Incentives in the form of training courses and exposure visits to other sites triggered PID institutionalisation within the District OoA.

A district like Tahtay Maychew lies at the bottom of the regional administration hierarchy. It is a mere implementer of the organisational policy and administrative structure of the regional BoA. Decentralisation is only partially applicable in Tahtay Maychew District: the OoA implements what the regional BoA has already decided. The organisational policy at regional level implicitly encourages identification and utilisation of best practices. Best practices, according to the PASDEP, include local innovations. Though promoting "best practices" is stated as an organisational policy, the budget, activity plan and job descriptions do not articulate how to implement this process. In addition, the limited number of staff members with practical PID knowledge, except those who attended the PID training, further hinders PID internalisation in Tahtay Maychew OoA.

Lessons learnt

- Organisational policy, structure and budget play a major role in determining the pace of PID institutionalisation in Tahtay Maychew OoA. This indicates that progress towards institutionalising PID can continue in the absence of an enabling environment if there is commitment among a few experts in the office and good relationships and linkages with other stakeholders.

- Capacity building at all levels is a crucial means to internalise PID and to bring about a change in attitude. The need to build capacity should not be limited to SMSs and DAs, but should include also decision-makers within the OoA who could be less important in the technical implementation but very influential in creating an enabling environment.
- Proper rewards and incentives at all levels can inspire and empower farmers in finding own solutions for own problems. It also creates awareness among OoA staff about farmers' innovativeness.
- Teamwork in promoting local innovation facilitates internalisation of PID into the norms and routines of the 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, important issues include: the extent to which the PROLINNOVA–Ethiopia network members actively seek to institutionalise PID, under what conditions, how and why; the potential for collaboration and learning between partner organisations in the network; and the perceptions of Core Group members of the network. These aspects should be analysed, as they have direct or indirect effect on the institutionalisation process.

Key recommendations

- Based on observations made in Tahtay Maychew, it is recommended that 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 by strengthening already existing platforms and organising fora for better awareness and changed attitude of decision-makers.
- Focus on staff capacity building at all levels. One of the findings of this study is that SMSs and DAs, especially those in the regional BoA, lack knowledge on local innovation. In order to alleviate this problem, frequent capacity building and knowledge-sharing fora needs to be organised.
- Closer collaboration with the regional BoA is essential, as the ultimate decision-makers are at regional level. This should be done through proper documentation, knowledge dissemination and a well-elaborated reporting system on local innovation.
- Proper documentation at the PROLINNOVA–Ethiopia secretariat, housed in AgriService Ethiopia (ASE) and at district and community level. Documenting processes and events that take place enables partners to reflect on their work, to strategise next steps and to learn from experiences more easily.

1. INTRODUCTION

1.1 Agricultural extension in Ethiopia

Ethiopia's guiding policies and strategies are geared towards eradication of poverty. Development strategies and frameworks focused on Sustainable Development and Poverty Reduction Program (SDPRP) since 2002/03–2004/05, followed by the second phase of the poverty eradication strategy, the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) from 2005/06–2009/10. PASDEP's major focus for growth is through commercialisation of agriculture and enhancing private-sector development, industry and urban development (MoFED 2006).

1.1.1 A few projects on participatory agricultural extension in Ethiopia

Sasakawa Global 2000

Sasakawa Global 2000 (SG2000), a programme that was intended to be a replica of the African Green Revolution, was implemented in Ethiopia from 1993 to 2006 (Howard *et al* 2003, SG2000 2010). The programme gave extensionists training in transferring technology and gave farmers training in adopting technology. Technology packages and credit access were provided to farmers willing to provide a 0.5 ha demonstration plot on their land and free labour. The main focus of the programme was promoting high-input maize technology.

SG2000 worked mainly with, and through, Ministries of Agriculture, primarily national extension services, and national and international research organisations in Ethiopia (Howard *et al* 2003) instead of having an organisation performing in parallel. The main strategy of SG2000 is to conduct demonstrations of improved crop production technologies on farmers' fields in collaboration with national research institutes, departments of agricultural extension at the federal, zonal and district level, and other key stakeholders (SG2000 2010)

The extension intervention of SG2000 was mainstreamed into the government system after many officials, including the Prime Minister Meles Zenawi, visited the SG2000 on-farm demonstration results (Abera 2006). Then, in 1995, SG2000 started supporting the newly established government extension programme **Participatory Agricultural Development and Training Extension System (PADTES)** (Eyasu 2002). As recommended by SG2000, PADTES focuses on the use of commercial fertilisers, pesticides and hybrid maize and wheat seed released from the national seed enterprise (SG2000 2010). The aim of the PADTES and SG2000 is changing the agricultural practice into market-oriented commercial agriculture and boosting production by peasant farmers.

SG2000 introduced farmer field days where best-performing farmers in using the technology package were identified and rewarded. While identifying the farmers who use the packages best, some DAs identified local innovations in their area. It is probable that only few DAs were actively recognising local innovations and it is also probable that their recognition was not valued at that time. However, SG2000 contributed to bring some innovators on board, e.g. Kes Malede's water-lifting innovation was given recognition during a farmer field-day in

Tahtay Maychew that was organised by SG2000 (Luel Haileselassie, personal communication, 2010).

Indigenous Soil and Water Conservation Project (ISWC) II

While SG2000 was going on, the second phase of the Dutch-funded project on the dynamics of Indigenous Soil and Water Conservation (ISWC) was implemented in Tigray Region of Ethiopia from 1997 to 2001. The first phase of ISWC identified 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 was designed to implement an assessment on the effectiveness of the indigenous and modern practices through joint experimentation involving farmers, scientist, researchers and DAs (Tesfahun & Amanuel 2009). The project involved various stakeholders including farmers, representatives from the Tigray BoA, researchers from Mekelle University and the Tigray Agricultural Research Institute (TARI), academicians, students, and development organisations, with Mekelle University coordinating the project. The project intended to link innovative farmers with researchers and change the attitude of development workers and policymakers towards local innovation and farmers' innovativeness (Reij & Waters-Bayer 2001). ISWC-II introduced a culture in the regional BoA of promoting innovative farmers, encouraging exchange visits, recognising farmer innovation and giving awards to male and female innovators (Tesfahun *et al* 2008).

At various fora, stakeholders of ISWC-II lobbied for recognising and acknowledging farmers' innovativeness and ability to work with scientists in participatory technology development (PTD) (Tesfahun & Amanuel 2009). For instance, higher officials at ministerial level visited a farmer's innovation in trenching that was promoted by ISWC-II. The effectiveness of this local innovation as compared with the external technology package distributed by the BoA was demonstrated to the Minister. After witnessing the effectiveness, the Minister conveyed to extension staff that extension packages should be flexible and incorporate innovation from farmers and DAs (Fetien Abay, personal communication, 2010). The lessons learnt from ISWC-II resulted in the formation of a national learning platform known as Promoting Farmer Innovation and Experimentation in Ethiopia (PROFIEET) (Tesfahun & Amanuel 2009).

Rural Capacity Building Project

The Rural Capacity Building Project (RCBP) is financed by the World Bank and CIDA (Canadian International Development Agency) and implemented by the MoARD with the objectives of improving agricultural services and systems. RCBP interventions focus on human, physical and system capacity improvement in agricultural education, research, development and marketing. The programme coordinates many "modular trainings" in participatory methods including Participatory Rural Appraisal (PRA); participatory programme planning, reporting, and monitoring and evaluation (M&E); PTD/PID approaches; communication, facilitation and networking skills; report writing and documentation of farmer best practices. ASE handled two modular trainings (PTD/PID approaches, report writing and documentation of farmer best practices) in this programme.

Improving Productivity and Market Success of Ethiopian farmers

Improving Productivity and Market Success of Ethiopian Farmers (IPMS) was a joint project between the MoARD and the International Livestock Research Institute (ILRI). It had ten pilot learning districts, of which two were in Tigray Region: Alamata and Astbi. The project focused on capacity building of extension professionals at regional and district level through workshops and training. The first regional farmer festival, which later evolved into a national-level festival, was organised with technical and financial support of IPMS in 2005. Since then, the Regional BoA in Tigray has been organising farmer festivals on a yearly basis. Additional funds (apart from the annual fund) are allocated for the festival at regional, zonal and district level.

1.1.2 The start of PROLINNOVA

Promotion of Farmer Innovation and Experimentation in Ethiopia (PROFIEET) was an initiative aimed at promoting farmer innovation by creating an enabling institutional and policy environment for farmer-led research and extension approaches. The core agenda of the initiative was to create space in which formal researchers and extensionists could support the informal experiments of innovative farmers and rural communities. The whole idea was to help farmers come up with cost-effective and ecologically friendly innovations that fit their own local realities. This is a process of empowering farmers and rural communities. A major principle of the approach was to give farmers more opportunity and self-confidence to make their own decisions about research and development (PROFIEET/PROLINNOVA 2004).

In January 2002, ASE (a national NGO implementing food-security programmes) and Mekelle University (the lead agency for ISWC-II) organised a national familiarisation workshop on the concepts of PROFIEET for regional policymakers in all BoAs in Ethiopia. ASE, Mekelle University and FARM-Africa – an NGO that had been promoting farmer participatory research (FPR) in the Southern Region of Ethiopia for several years – presented their experiences with farmer innovators and FPR / PTD (PROFIEET/PROLINNOVA 2004).

A national platform, PROLINNOVA–Ethiopia was formed with partners from NGOs, research, universities and government agencies. Thereafter, four platforms linked to the national platforms were set up according to dominant agro-ecological systems and geographical areas in the country: the Ethiopian Typical Highlands Platform, which includes subplatforms in Amhara Region and Tigray Region; 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); the coffee-based agro-ecology platform in the west and southwest; and the pastoralist platform in the lowland areas on the periphery of Ethiopia (Tesfahun *et al* 2008). In addition, in August 2010, the Axum sub-subplatform was created from the Northern Typical Highlands subplatform in Tigray Region, which had been operating in Tahtay Maychew District of Tigray Region since 2001.

PROLINNOVA–Ethiopia has been working in many agro-ecological regions of the country to stimulate the innovative capacities of all farmers. Policy dialogue on PID as a way of contributing to food security and sustainable development with many scientists and extensionists is part of the approach of PROLINNOVA. Institutionalising PID – the ultimate aim

of partners of PROLINNOVA (in principle) – is a process that is envisioned by many development organisations worldwide.

1.2 Purpose of this study

This case study was made to understand the processes of institutionalising the promotion of local innovation and farmer-led joint research (FLJR). According to the Terms of Reference (Annex 1), it had six main purposes:

- Understanding the structural, practical and cultural transformations that influenced the introduction and integration of promoting local innovation processes and farmer-led experimentation
- Understanding the role of PROLINNOVA–Ethiopia partners and other stakeholders in the transformation processes that led to institutionalisation of the concept of promoting local innovation and farmer-led experimentation
- Understanding the contextual factors that triggered or obstructed the institutionalisation process in the regional and subregional bureaus
- Drawing lessons on the processes of institutionalising the promotion of local innovation and farmer-led experimentation in a governmental development organisation
- Identifying the activity(ies) and events that changed the attitude of decision-makers on institutionalisation of the concept
- Identifying the changes perceived by extension staff and farmers regarding the organisational structure and institution of the OoA.

1.3 Overview: Structure of this paper

This paper has six sections:

Chapter 1 sets the background and introduces the objectives.

Chapter 2 discusses the major concepts, research questions and the methodology.

Chapter 3 elaborates the existing agro-ecological and institutional setting of the context and programme overview.

Chapter 4 discusses the findings of the assessment in implementing PID and changes in administrative, political and cultural systems of the OoA.

Chapter 5 provides a summary analysis of issues discussed, challenges and enabling factors that contributed for the progress towards PID institutionalisation.

Chapter 6 provides lessons learnt, conclusion and recommendations for the way forward.

2. CONCEPTS AND METHODOLOGY

This section provides major operational definition of concepts used by the PROLINNOVA International Secretariat. The definitions are mainly from PROLINNOVA's perspective, with special emphasis on operationalisation by the country programme PROLINNOVA–Ethiopia.

2.1 Major concepts

Institutionalisation

Institutionalisation is 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. It is more than a policy or intention, more than a strategy or plan, and more than an activity or method.

Source: Ejigu & Waters-Bayer 2005

Local innovation *Process of developing new and better ways of doing things.*

Local innovations *New ways of doing things (in terms of technology or socioeconomic organisation or institutional configuration) that result from the innovation process.*

Source: PROLINNOVA 2009

There are three main reasons for development actors to promote local innovation processes in which farmers are active participants. These are to increase efficiency of one's work (technical), to promote equity (cultural) and to empower the poor (political). Identifying local innovations is a first step toward changing the way that formal research and development actors regard farmers and interact with them (Amanuel & Tesfahun 2006).

Farmer-led joint research

Farmer-led joint research is conceived and controlled by farmers who carry out the research in collaboration with other (non-farmer) partners. Farmer-led joint research builds on possibilities already recognised by farmers, inspiring farmers to do better what they have already initiated (Wettasinha & Waters-Bayer 2010).

Local Innovation Support Fund (LISF)

The Local Innovation Support Fund (LISF) was designed as part of achieving the effort towards institutionalising PID by putting in place a mechanism that avails financial resource to local innovators. The assumptions are that LISF improves farmers' innovativeness and disseminates their innovations and that the mechanism enables farmers or their groups/organisations to access funds directly for their innovation, hire support from research or other service organisations, link up with other innovators, and/or share their findings more widely (Yohannes 2006).

2.2 Issues of observation in the case study

Five areas of observation were given due attention in this case study individually and their impact on each other and on the institutionalisation process:

- Who or what is involved in the change? (e.g. individual actors and organisations)
- What activities are used to bring about institutionalisation? (e.g. awareness creation, experimentation, policy dialogue)
- What are the contexts that affected how the change happened? (e.g. decentralisation, power relations)
- What are the triggers of change towards institutionalisation? (e.g. intervention effects, cumulative progress)
- What are the perceptions of experts, senior officials and farmers on the processes of local innovation?

2.3 Methodology

2.3.1 The TPC framework

In participatory research and development, culture, organisational and personal behaviour, power and politics all intertwine and interconnect. To study and understand these intertwinements, many structures and frameworks were developed by development professionals. The TPC (Technical, Political and Cultural) framework is one of the frameworks that laid groundwork for understanding the intertwinement of the three systems of an organisation (technical, political and cultural). Therefore, it was selected as the framework for this study to analyse the issues of observation and to understand the intertwinement of the subsystems that are crucial for participatory research and development.

- 1) The **technical** dimension comprises the visible and tangible components of an organisation and can be accessed through printed documents, policy statements, public-relation manuals and the like. This is the public face of the organisation and it consists of three discrete elements: the policy or mandate, the tasks and responsibilities, and the human resources or expertise of an organisation. Formal structural mechanisms that enable promotion of local innovation and FLJR need to be in place if the concept is institutionalised.
- 2) The **political** dimension of an organisation is less tangible. It is a more subjective arena in which decisions are made, policies are formulated, and individual members negotiate spaces in which to manoeuvre and innovate.
- 3) The **cultural** dimension is the non-tangible aspect of an organisation. This represents embedded organisational elements that influence the norms and values underlying the running of the organisation; the way work relations between staff and outsiders are

organised; and the way members feel and think about their work environment and about other members.

2.3.2 Stakeholder analysis

Stakeholder analysis allows to identify the interests of different groups and to find ways of harnessing the support of those in favour of the activity. It can also play a central role in identifying real development needs of an organisation (Golder & Gawler 2005).

2.3.3 Methods

Data collection: The primary data were collected using observation techniques, participating in meetings, and interviewing officials and staff members. The meetings were conducted at regional and district level between 28 October and 29 November 2010. The data collection was focused on perception, practices and experiences. The secondary data were drawn from theoretical reviews, annual work reports, the strategic plan of the OoA and other relevant documents.

Table 1: Resource people for the case study in Tahtay Maychew

Overall resource people for the Tigray platform	Sample size (n)	Resource people for Tahtay Maychew	Sample size (n)	Self-assessment tool	Sample size (n)
PROLINNOVA Core Group	4	Pilot site (Tahtay Maychew) focal persons on local innovation	5	Pre-testing self-assessment tool at regional level	1
Mekelle University	1	Axum platform team	6	Pre-testing self-assessment tool at district level	2
Ex-BoA officers; Focal person	1	Extension experts at Tahtay Maychew	5	Stakeholder analysis on importance and influence of key stakeholders on institutionalisation of local innovation	10
Axum Zone Food Security Coordinator	1	Group meetings with farmers	6		
TARI	1	Group meetings Debriefing	10		
Tigray BoA	4				
Total	12		32		13

Debriefing and stakeholder analysis: After three weeks of data collection, there was a debriefing on what has been observed in the pilot site and at regional level. Ten participants representing six stakeholder groups including a woman farmer; experts and the Director of OoA; Zonal Food Security Coordinator; Axum University Research and Development Director; senior researcher from Axum Research Centre; and a journalist from Dimitsi

Woyane – the regional radio station – took part in the debriefing and analysis of importance and influence of key stakeholders.

For the stakeholder analysis, at first, all participants identified stakeholders in and around Axum that contribute to promoting PID. Then the participants were grouped according to their institutional affiliation so that they could assess the level of influence and importance of each identified stakeholder on promoting PID. Results of the stakeholder analysis are presented in Table 3. The debriefing session was also used for discussion on the way forward of the Axum platform.

Data analysis: This study used mainly qualitative descriptions of processes and events that took place in the regional and district bureaus. The concept of TPC as the theoretical framework was used to evaluate the outcome of the process of institutionalisation of local innovation in the bureaus. Detailed analysis is on the Tahtay Maychew OoA rather than the regional level, because promotion of local innovation was actively implemented at district level. Analysis on why the regional level is not promoting local innovation more actively is made in Sections 4 and 5 of this report.

2.4 Limitations of the study

One limitation of this study is allocation of little time and resources for an in-depth understanding and assessment of the institutionalisation process. This case study therefore should serve as a guide to indicate procedures and processes taken towards institutionalisation of local innovation and factors that trigger or hinder change processes, and not as a detailed evaluation or process review. In some cases, further work may be needed to shed light on important issues. Such aspects may include the extent to which the PROLINNOVA–Ethiopia members work towards institutionalising the promotion of local innovation, under what conditions, how and why; the potential for collaboration and learning between partner organisations of the country programme; and the perceptions of Core Group members on the promotion and institutionalisation of local innovation and FLJR.

This case study report is based mainly on interviews and discussions, as documentation of activities in Tahtay Maychew or in ISD on the different activities is very weak.

There is a probable bias, as contexts were mainly observed from the PROLINNOVA–Ethiopia perspective on PID institutionalisation. In addition, there is the researcher’s bias regarding the linkage gap among PROLINNOVA–Ethiopia partners and their little interest in and commitment to the work of promoting local innovation and FLJR.

3. SETTING THE SCENE: TIGRAY AND ITS AGRICULTURAL AND RURAL DEVELOPMENT POLICIES AND STRATEGIES

3.1 Topography and climate

Tigray Region lies in northern Ethiopia and has a rugged terrain, ranging from 400 to 4000 m above sea level. Tigray has international boundaries with Sudan and Eritrea to the west and north, and borders with the Afar and Amhara Regions of Ethiopia to the east and south (FDRE 2011). The climate is predominantly semi-arid; Tigray is one of the most drought-prone regions in the country. In most parts of the region, the rainfall season lasts for only three months from mid-June to mid-September (Berhane 2009).

Agriculture is traditionally rainfed. The main cropping season is from July to December, when cereals, pulses and oilseeds are cultivated. February to June is a minor cropping season with the *belg*² rains in the relatively wetter zones in the eastern part of the region (Robinson *et al* 2001).

Administrative structure: Tigray is divided into five zones: Western, Central, Eastern, Southern and the capital Mekelle. The zones are subdivided into 36 districts (*weredas*) containing a total of 620 subdistricts (*tabias*) or clusters of villages (*kushets*) (Robinson *et al* 2001; see Figure 1). The total population in Tigray is about 4.31 million, of which 3.47 million are rural inhabitants (CSA 2008).

3.2 Political context in Tigray Regional State and its impact on agricultural extension

Agriculture plays a key role in the overall economy of the region. The sector sustains more than 81% of the region's population and contributes to 44% of the regional gross domestic product (BoFED 2007).

The civil war

From 1975 until 1993, Tigray was a war zone of the civil war in Ethiopia. During this period, there was no formal government and thus no standardised agricultural extension service. However, the Tigray People Liberation Front (TPLF) was active. Under TPLF, an agricultural department was formed. TPLF assigned the agricultural department 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, another option – identifying resources that are at hand and available at the local level and disseminating these to others – were used as best approach by the TPLF agricultural department. This activity resulted in 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 these to other farmers. TPLF used this extension approach until 1993. During this period, farmers at grassroots level were empowered and were active

² *Belg* is one of the seasons of Ethiopia after the end of the main rainy seasons

participants in both development and political activities. Resistance fighters were also development agents (Berhane 2001).



Figure 1: Map of Tigray Region

(Source: <http://www.tigraionline.com/tigraiprofile.html> accessed 04.12.10)

In 1993, the civil war ended and a central government was formed in Ethiopia. As the Tigray Region was the most affected by the civil war, the central government sent high-level experts and professionals in agricultural development and extension to strategise Tigray Region's agricultural development approach (Berhane Hailu, personal communication, 2010). This team of experts drafted the development strategy by taking into account what had been done before (during the war), what worked, what needed to be improved, and what experiences needed to emerge from others. Some best practices/experiences that were to be included and encouraged in the strategy were:

- The work that was done on grassroots participation and mass mobilisation of farmers
- Recognising local innovations and promoting local innovation
- Continuing with the organisational setup which goes all the way to farmer groups
- Continued commitment of development agents.

In addition to the past practices, the use of external technologies and inputs was identified as a crucial component for bringing fundamental improvement in the development practice. However, the use of external technologies ultimately dominated over the local innovations. One of the factors that accelerated the use of external technologies was the placement of new

university graduates at all levels. The focus in universities in Ethiopia was and is mainly on theories and state-of-the-art conventional technologies, leaving no space for local innovation and innovations.

Post civil war development policies

The country's development policy after the civil war focused on poverty alleviation, and substantial focus was on agricultural development activities. With the intention of enacting the new policy and expectation of radical change, massive intervention work was undertaken on NRM and boosting agricultural productivity through the use of agricultural packages and a top-down extension approach. Though the new development policy provided no room for promoting local innovation and empowerment of farmers' own experimentation, it continued to organise farmer field-days at all levels and experience-sharing with other areas. Local innovations were minor inputs in these fora and farmers' experience sharing. Some documented cases reveal that the new policy openly discouraged the use of local innovations and created conflict in some instances. For example, farmers in all districts were forced to use ponds for irrigation while, in some areas, local innovation of shallow wells worked better than the ponds (Berhane 2009).

Administration

After the decentralisation, Tigray Regional State is the highest in the hierarchy of government administration. Axum Zone is the next level of administration, followed by district, subdistrict and development group (*yelemate budene*) at village level. The regional BoA and district OoA perceive this administrative structure to be a well-organised and useful setup for mobilisation of farmers (Berhane Hailu, personal communication, 2010).

Each district has a certain amount of annual budget that comes from the Regional Government. The budget is divided among the several sectors, including agriculture. The District Cabinet, in which the Director and Deputy Director of OoA are members, decides on the annual budget of the OoA after reviewing the annual workplan. The District Administration plays the major role in managing the administration and implementation of all development activities in the district. It therefore monitors and approves all activities of OoA.

3.3 Agricultural extension provision

Operational procedures of agricultural extension provision in Tigray start from the region and go all the way down to the subdistricts.

Activities at regional level

The regional BoA has five major activities: revising and endorsing the extension plan that comes from all districts according to the annual development plan of the region; facilitating service delivery (inputs, credit); organising farmer festivals at regional level; organising capacity-building activities; and M&E of activities at district level.

The regional BoA organises a quarterly workshop each year in the regional capital Mekelle, where representatives of all sections of the BoA and the Local Administration office participate. The first-quarter workshop focuses on evaluation of the past year's activities and planning for the next year. In this workshop, the OoA from each district presents its annual

report and its plan for the next year. This forum opens a space for discussion on the problems identified and what needs to be done and a review of the annual action plans. Reports from these meetings indicate that, at times, the region requests districts to increase the planned activities by a certain number. In some cases, the districts disagree; in others, they accept it. These fora take 5–10 working days. The second-quarter workshop focuses on a midterm update on the progress of the annual plan. The workshops in the third and fourth quarters focus on progress and updates (Guush WoldeSelase, personal communication, 2010).

For three consecutive years – 2005, 2006 and 2007 – the District’s three-year strategic plan was to achieve food security in the area through “modern” agricultural techniques in cropping, irrigation, animal husbandry, and soil and water conservation. Afterwards, a column was added to the plan for local innovations or “*bahlawi*”, as it was put in Tigrigna, to achieve food security and sustainable development (Guush WoldeSelase, personal communication, 2010). Most of the district budget for agricultural development goes toward building capacity in the use of external inputs and technologies.

Organising farmer festivals at regional level started in 2006, when the IPMS project together with the Tigray BoA organised the first one. This consisted of an exhibition of farmer innovations and modern technology, paper presentations, experience sharing, and rewarding best local innovations and technologies. During this first festival, five innovator farmers from Tahtay Maychew demonstrated their innovations. Since 2006, the OoA institutionalised the farmer festival and organises one in November or December of each year. An additional factor that contributed to the continuation of the festival is the recognition given at federal level. The following year, in 2007, the MoARD organised a farmer festival at country level. With this recognition and appreciation, the OoA promoted the idea of farmer festivals at zone, district and sub-district level. A certain budget for this festival is directly allocated from the regional level. Districts like Tahtay Maychew collaborate with NGOs working in the area to cover the remaining costs for the festival. For example, according to the OoA director, ISD is a major donor for this activity.

M&E activities at regional level became more structured and organised after the implementation of the Business Processes Re-engineering (BPR). The M&E is done with reference to what was planned and its relation to what is on the ground. After the BPR, SMSs do the M&E as a team, and all observe and learn from each other. The regional BoA encourages the SMS team to document best practices and local innovations during their quarterly M&E sessions. However, it is not mandatory. The SMS team share their report with the management team of the BoA and other staff members in a forum called “M&E hearing” (Feseha Bezabeh, personal communication, 2010).

For the last few years, documentation and compilation of best practices and innovations are reported to be weak at the level of the regional BoA (Feseha Bezabeh, personal communication, 2010). Pieces of information are found here and there in reports and with individuals. In 2008, as part of the BPR, a new work group that documents and compiles best practices and local innovations was formed. This group consists of four experts who used to work at district level and an expert on audiovisual communication. The members had no prior knowledge on how to implement the activity; therefore, they had to build their capacity by

reading and preparing procedures. The preparation took almost two years and they just started their actual work in early September 2010 (Hailu Kiros, personal communication, 2010).

Activities at zonal level

Activities at zonal level are mainly administrative and have no direct role on implementation of technical work. The main concern of the zonal administration is on the quantity of agricultural production and the level of attainment of the benchmarks set by the regional BoA.

Activities at district level

The annual budget of the district, including budget for the OoA, passes through the District Cabinet, which is coordinated by the District Administration Office. This office actively collaborates with the OoA in implementing agricultural extension and other services of the BoA, such as land administration. After the decentralisation, it took a while to convince the District Administration about promoting local innovation and the benefits of the OoA's activities in this connection to farmers and the locality (organising workshops, field visits...). The OoA required the District Administration's support in order to promote local innovation at subdistrict level, where the local administrators directly respond to the District Administration (Guush WoldeSelase, personal communication, 2010).

4. FINDINGS: PID IMPLEMENTATION IN TAHTAY MAYCHEW

Tahtay Maychew is one of the 33 administrative districts of Tigray Regional State that is found near the 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 110,000 people. According to Tesfahun *et al* (2008), Tahtay Maychew District is among one of the most drought-prone areas of Tigray, with food insecurity in more than 80% of the households. Mixed crop-livestock farming is the main means of living on an average of 0.5 ha of land per household. Physical problems such as soil erosion and infertility, drought and political instability are prevalent in the region. More than 95% of the District's budget is from the Regional Government. Currently, Tahtay Maychew OoA has 108 staff members working under six different "business processes" that include: *Extension business process* with its case team of technology adoption, technology dissemination and technology multiplication; *NRM business process*; *Input and services supply business process*; *Food Security business process*; and *Planning for development business process*.

4.1 Key activities in promoting PID in Tahtay Maychew

In Tigray, the Northern Typical Highlands team was formed by three government organisations and three NGOs: Tigray BoA, Mekelle University, TARI, Relief Society of Tigray (REST), Adigrat Diocesan Catholic Secretariat (ADCS) and ISD (Hailu *et al* 2007). The Women's Office was also included later on. Interview results from Tigray BoA, Mekelle University and ISD indicate that the platform was weakened due to various reasons, including communication gaps, knowledge gaps in understanding and operationalising the concepts of local innovation and FLJR, 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.

4.2 Implementing PID in Tahtay Maychew

First workshop on PID

In April 2005, the Northern Typical Highlands platform organised an Innovative Farmers' Workshop in Axum. Prior to the workshop, local innovators and their innovations in the Central Zone of Tigray were identified, e.g. Giday and her modified modern beehive, so that farmers could explain their innovations to each other and to researchers and technical experts. At this workshop, the concepts of local innovation and PID were introduced to the farmers.

At this workshop, the first PID activities selected for further experimentation by the platform was beehive modification and queen-rearing innovation. Two innovator farmers were assigned to take 3–4 farmers who have similar interest in their community and to form a group for further experimentation on their innovations. According to the innovator farmers, each group meet on a bi-weekly basis to update each other on their activities and findings. This happens in the mornings and can take from 30 minutes to an hour.

In March 2006, innovative farmers from Tahtay Maychew displayed their innovations at the “Agricultural Technologies and Marketing Strategy Exhibition”. The OoA and ISD facilitated participation of innovative farmers in this forum. As a result, 2500 visitors, including farmers, technical experts, research scientists and government officials from all parts of Tigray Region, observed the farmers’ innovations (Hailu *et al* 2006, Hailu & Yohannes 2006).

Second workshop on PID

A second workshop was held in May 2006 to launch the PID activities supported by the platform. At this workshop, the OoA and fund management committee identified a team of three farmers to experiment on the water conservation innovation of Abadi, one of the innovative farmers. The aim of this experimentation was to challenge farmers in creating their own modified methods, as they had different type of land from that of Abadi.

In January 2007, Tahtay Maychew OoA – with ISD as facilitating NGO – was given the responsibility to coordinate the piloting of a Local Innovation Support Fund (LISF). According to the criteria given in Box 1, Tahtay Maychew District was selected for the LISF piloting, together with a second pilot area in southern Ethiopia. The PROLINNOVA–Ethiopia Core Team decided that the district OoA would facilitate farmers’ proposal submission and ISD would facilitate access to the fund for the selected experiments.

Third workshop: introducing LISF

In January 2007, two PROLINNOVA–Ethiopia Core Group members (one from the network secretariat and one from ISD) held an introductory workshop on the aim of the LISF piloting. The workshop involved 17 farmers, of which five were women, and five staff members of Tahtay Maychew OoA. According to the report, farmers were very interested and willing to work on this new approach.

Box 1: Criteria for selection of pilot areas for LISF

Pilot areas for LISF piloting was selected according to a combination of criteria that included;

- areas with different agro-ecological zones and socio-cultural conditions
- areas that are drought-prone and chronically food-insecure with high dependency on food aid
- supported by an active NGO that is also member of PROLINNOVA and experienced in recognizing indigenous knowledge and local innovation.

Source: Tesfahun et al 2008

At this third workshop, farmers identified a Fund Management Committee and chose three priority areas for experimentation: water-lifting and its rational use; beekeeping and honey production; and ethnoveterinary medicine and plant protection. The participating farmers were divided into three groups, each to experiment further on one of these innovations according to the farmers’ interest. Field visits during this study showed that the strong innovative farmer groups were disseminating these innovations by using different methods including: hosting visitors (for the local innovations on water-lifting and underground drainage system); providing training in making modified modern beehives, making the

beehives and selling them to other farmers at low cost; and coordinating other farmers to modify these innovations.



Figure 2: Innovative farmers in their newly allocated land for experimentation

The Fund Management Committee in Tahtay Maychew was formed after an experience-sharing visit to community-based organisations and Farmer Field Schools in southern Ethiopia. The original committee had five members, including a woman innovator (PROLINNOVA–Ethiopia 2007). Currently, however, all committee members at district level are men. At the time that the farmer group was formed, it was informal and had no legal entity (Tesfahun *et al* 2008). At the time of this study (late 2010), the group decided that they were strong enough, as an innovative farmers group, and ready to work as a legal entity. In October 2010, at its monthly meeting, the group decided to open a bank account (see Box 2). This indicates the empowerment of innovative (male) farmers that was achieved in the three-year period. The innovative farmers indicated that their empowerment was influenced by the continuous follow-up and support from the Tahtay Maychew OoA and ISD in terms of skills, materials and facilitation.

For the first round of farmer-led experimentation, the OoA and the then informal farmer group announced to the community about the availability of grants for experimentation. Announcements were made orally in churches, markets and *idir*³. Ten farmers, all from the initial group that joined the introductory workshop, applied for financial support. From the ten, the Fund Management Committee – all members of which were also from the initial group – selected four to receive an innovation grant. Once the experimenting farmers were selected, the committee identified the priority areas of experimentation for funding in more detail. The identified areas were:

- Development of improved water-lifting technology
- Control of stalk borers, shoot flies and termites using blends of botanicals
- Methods of trapping rats

³ *Idir* is a local social safety net that facilitates funeral services.

- Improved construction of beehives using clay, soil and mud
- Improved construction of beehives using local materials such as mud and bamboo
- Production of papaya fruit using compost at various depths of planting
- Reproduction of bees and their management
- Construction of a knowledge management centre by developing various types of beehives
- Control of rats using blend of botanicals
- New methods of honey sieving.

Stakeholders from the region – Tahtay Maychew OoA, Axum University, Axum Agricultural Research Centre and Mekelle University – were partners in the piloting project. It was intended that these different institutions periodically visit the innovative farmers to advise and support them in their innovative work, e.g. improving procedure, structure, the type of the material and design (Tesfahun *et al* 2008). The result of this current case study of PID institutionalisation indicates that involvement of the key stakeholders was rather loose: it was limited to attending workshops, where different people attended at different times with no follow-up. People interviewed during this case study indicated that internal knowledge-sharing in the partner organisations regarding local innovation and piloting the LISF in Tahtay Maychew was rare. According to informants, Mekelle University was the least involved partner, primarily because of its large distance from Tahtay Maychew.

Box 2: Participatory observation

I had the opportunity to attend one of the monthly meetings of the executive members of the experimenting farmers' group. The meeting is held on the 21st of every month (Ethiopian calendar). This day is selected because it is a non-farming day for religious reasons. I was surprised to see the innovative farmers in the meeting instead of in the church on that day. Obviously, the value given for their experimentation activities and their association is greater. The meeting is mainly held to give updates of each subdistrict's activity and to accept or reject innovative farmers' proposals for fund request. The meeting venue rotates among the five subdistricts, where there is one representative from each. At this time, the venue was at Kes Malede's house.

On that day, after the end of their monthly meeting, we went to visit Kes Malede's water-lifting pump, which had been re-modified yet again, and then to his fruit farm, where a very interesting discussion started among the innovators. From the discussion that they were having, it seems that the rest of the innovators are not very happy with Kes Malede's extended research on water-lifting technology. They were asking Kes Malede why he does not stop experimenting and start using what he has already innovated. They all appreciate his innovations and his capacity to innovate, but they were arguing that he should apply his innovations and improve his and his family's living standard. Kes Malede responded that he wants to keep on improving his innovations. What he has innovated already, he is using, but he wants to keep on improving his work.

The innovative farmer's concern is that living only on the products of fruit trees does not guarantee food security for the family and that the work of Abeba Tigray (as Kes Malede has named his water-lifting technology) should be used for irrigation and for cereal production.

The discussion among this group of farmers was very interactive and indicates that, at times, there are gaps between innovations and actual application, just as it is observed in the conventional research and extension system.

Also in 2007, Tahtay Maychew OoA and ISD requested that the District Administration provide a piece of land to establish a Knowledge Management Centre to serve as a demonstration area for all innovations of the innovative farmers. The District Administration agreed to process the allocation of land for this purpose. The district allocated two hectares of land, the same area in size as the land allocated for FTCs, to experimenting farmers in 2009, and the farmers started demonstrating their innovations there. One of the farmers also indicated that the group was revitalised after land was given to them for building the knowledge-sharing centre. The allocation of land indicates the acceptance of farmer innovation by district officials and the interest of the District OoA to facilitate the work.

In late 2007, the PROLINNOVA–Ethiopia Core Team monitored what farmers in Tahtay Maychew have been experimenting on. However, no details were given on how farmers involved in the innovation process were documenting their work. Afterwards, the experimenting farmers’ group started documenting the innovations in detail and OoA started documenting in brief about which farmer is doing what, in a big reporting dossier that is kept in the OoA.

The experimenting farmers’ group is organised with a similar structure as that of the *development groups*⁴: one innovative farmer from each subdistrict is selected to lead a group of innovative farmers in his/her subdistrict. There are four other innovative farmers working with him/her on experimentation and experience-sharing activities. These five people further train and promote local innovation and their experimentation results to their neighbours and other people living in their locality. The subdistrict representatives work with the DAs and district experts on promoting innovation further.



Figure 3: Innovator Abadi showing the materials of the experimenting farmers’ group

In August 2010, with coordination from ISD and the PROLINNOVA–Ethiopia Secretariat, an advisory board of the Tigray Regional Platform for the Axum area was formed. The committee consists of eight persons from six stakeholder groups: Axum Research Centre,

⁴ Development groups are 20–25 farmers working together for extension and other development activities in a locality.

Axum University, Tahtay Maychew OoA, a farmer from Tahtay Maychew selected by OoA, Laelay Maychew OoA, a farmer from Laelay Maychew selected by Laelay Maychew OoA, the Axum Zonal Food Security Office, and the local and federal media service. The advisory board was formed to create shared ownership of the programmes and activities regarding promotion of local innovation(s). The major factor that led to the formation of this committee was previous experience of each stakeholder that they plan and implement unsynchronised activities and a communication gap arises. It is also the aim of the committee to promote and institutionalise the concept of local innovation and FLJR in their respective organisations. Furthermore, the committee divided tasks as follows:

- Tahtay Maychew and Laelay Maychew OoA and farmers (implementation)
- Zonal Food Security Office (coordination)
- Axum University (awareness creation)
- Axum Research Centre (M&E)
- Media (innovation dissemination).

A monthly meeting of the committee on the last Sunday of every month was scheduled for updates, planning and information sharing. ISD and the PROLINNOVA–Ethiopia Secretariat agreed to raise fund for this platform.

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

Year	Activity	Place	Remark
2001	<ul style="list-style-type: none"> • Workshop on celebrating farmer innovation. (the first seeds of PROLINNOVA–Ethiopia) 	Axum	Organised by ISD, Mekelle University and Tigray BoA
2003	<ul style="list-style-type: none"> • The National Platform of PROLINNOVA–Ethiopia (then called PROFIEET) was formed 		
2005	<ul style="list-style-type: none"> • Formation of the four subplatforms according to agro-ecological regions 		
2005	<ul style="list-style-type: none"> • OoA and farmers from the community identified 5 innovative farmers mainly from Akabseate Subdistrict 	Akabseate	
2006	<ul style="list-style-type: none"> • ISD took 5 innovative farmers from Tahtay Maychew so they could exhibit their innovation at the regional farmer festival organised by IPMS 	Mekelle	Kes Malede won 1 st prize for innovative farmers
2007	<ul style="list-style-type: none"> • Number of identified innovative farmers increased to 16 • Tahtay Maychew OoA organised farmer festival at district level 	Akabseate and Maybrazio	
2008	<ul style="list-style-type: none"> • Number of innovative farmers in Maybrazio increased and the group was divided into two • Farmer festivals were organised at district and regional level 	Maybrazio	ISD supported organisation of farmer festivals; innovative farmers included in list of nominees

2009	<ul style="list-style-type: none"> • Innovative farmers' group made request for land for knowledge centre to district administration • Farmer festivals were organised at district and regional level 		
2010	<ul style="list-style-type: none"> • More innovative farmers from other districts started to share their innovations and expressed interest to form groups • The District Administration and Land Administration allocated land for experimenting farmers 	Mayeasbi, Ferima, Mayeseye, Merena	

Documentation

Some staff members at OoA are actively involved in the documentation of local innovation. Two of the focal persons of PROLINNOVA–Ethiopia in Tahtay Maychew OoA prepared a brochure on the advantages of local innovation and listed some of the identified farmer innovations (see Annex 4). The brochure was prepared in two local languages (Tigrigna and Amharic) and distributed to experts, farmers, visitors and interested individuals at the district's farmer festival. Apart from this brochure, rather poor documentation was observed in the Northern Typical Highlands platform on activities that took place to promote PID, LISF and local innovation. This is not only at district level but also at zonal, regional and country level. Coordinators and focal persons are more active in the actual implementation of the activities rather than documentation.

A weakness was also identified in compilation and proper documentation of local innovations both at OoA and at platform level. In order to narrow this gap, the regional BoA in Mekelle put into its structure that four regional-level experts document “farmers’ best practices” and facilitate the identification and compilation through the SMS team at district level. The newly formed Axum platform is preparing to strengthen the documentation of local innovation at zonal and district level by collaborating with the regional media and the District Administration in Tahtay Maychew and Laelay Maychew. One mechanism identified for this activity is the regular publishing of a farmer's case of local innovation in the biannual magazine of Tahtay Maychew District Administration. This magazine was selected because of its wide circulation in the local community and its affordability by farmers, as it costs only .050 Ethiopian birr. Furthermore, the news media network from the Ethiopian news agency and Dimitsi Woyane radio is committed to support documentation and dissemination of local innovations.

Gender roles

The agriculture strategy of the country aims to increase participation of women in development interventions by 30%. Though PROLINNOVA–Ethiopia, especially the National Typical Highlands platform, has made efforts towards recognising innovations of women farmers in the area, women innovators in Tahtay Maychew can be finger counted as compared to the rising number of innovative male farmers in the district. It was reported by the district experts that there is limited activity in empowering women to innovate. However, once an innovation by a woman is recognised, it is given priority and goes all the way to the regional level for recognition and reward. Currently, five women innovators are actively working with the OoA on experimentation related to local innovation.

Box 3: Case on local innovation by a woman farmer

In 2008, a woman farmer by the name Yibeyene Assefa from Tahtay Maychew submitted an application to construct beehives from local materials by replacing the wooden materials of the modern beehive with clay, soil and animal dung. The aim was to reduce the cost of buying modern beehives, which are very expensive. She also wanted to check if use of the local materials can bring better quality and yield of honey compared to the modern beehive and, at the same time, reduce deforestation by not using wood as a construction material. Another assumption she had was that the mud hive would keep the temperature constant for bees. Yibeyene tried out her innovation, and proved her hypothesis.

Then, in 2010, local farmer innovator Abadi and his group of experimenting (male) farmers started to try out her innovation. They are trying to improve the mud hive by putting bamboo in the middle so that it can be more easily transported from place to place without damage. According to Abadi, they have proved the effectiveness of the mud hive in contrast with the modern hive in balancing the hive temperature and creating a favourable environment for the bees. Though Yibeyene came up with the initial idea, she is not directly involved in the experiment being carried out by the male farmers.

Main findings on implementation of promoting local innovation and FLJR

1. The Northern Typical Highlands platform was formed as a subplatform of PROLINNOVA–Ethiopia in 2005. The platform has weakened over the last two years and currently has a minimal role in promoting local innovation and FLJR (as a platform).
2. Focal persons for promoting local innovation in the OoA are a team of four people. In the current setup, there are two people from extension, one from NRM, and one from input supply, all men. Each focal person encourages 2–3 under him to work on PID.
3. Current activity in promoting local innovation is focused on strengthening the experimenting farmer association and securing land for the construction of the knowledge centre and experimentation site for experimenting farmers.
4. Experimentation procedures, capacity-building activities, field visits and workshops prevail in the work done in promoting and institutionalising PID, but there is weak documentation of the processes.
5. Women are encouraged to innovate by motivating particularly those women who already demonstrated their capacity to innovate by sharing their innovation in public. Efforts were also made to involve women in the Fund Management Committee of innovative farmers, but there seems to be no interest on the part of women. In the original Fund Management Committee, one woman participated.
6. In order to strengthen the promotion of local innovation at Tahtay Maychew and to create awareness in Laelay Maychew, a new zonal platform to promote local innovation was formed by stakeholders that include farmers, OoA, research, university, media and Zonal Administration.

4.3 Structure and practices towards institutionalising PID in the OoA

Structure. The agricultural policies and strategies are replicas of those at federal level. Key stakeholders in the OoA have no influence on structure and strategy. The existing extension strategy encourages a top-down development approach and use of modern inputs to boost production, shaping the routines into technology transfer. Therefore, extension experts promote local innovation as a side job (along the way) to their other activities.

System. The recent system of extension that resulted after the BPR exercise encourages teamwork among experts from different specialisations rather than holding 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. Though the Regional BoA encourages low-external-input agriculture, it also insists on the distribution of technology packages (mineral fertilisers and high-yielding crop varieties) to all districts. At times, the quota in terms of inputs is more than the requirement of farmers in the districts, but it is mandatory for OoA to distribute all inputs. Therefore, extension experts are occupied with promoting and distributing external inputs and have little time to actively work on identifying and documenting local innovation or being involved in FLJR.

Work procedures in Tahtay Maychew OoA follow routines according to seasonal activities that are demanded from the regional level. Seasonal activities can be seen as both an opportunity and a constraint for promoting PID. The opportunity is that these occasions are good to promote local innovation, as farmers are already mobilised for the other extension activity and it could be a way of creating the awareness and sharing experience related to local innovation without additional cost and time. The constraint is increased workload for experts and DAs with no incentive for this extra work.

Establishment of FTCs has facilitated experimentation with modern or local innovations in the FTC compound before applying them in farmers' fields. This has changed the work procedure of experts in technology transfer in that they provide training in the FTCs. The FTCs are becoming meeting places for both innovative and non-innovative farmers and a place to exchange ideas.

Planning and budgeting of annual activities is done on the basis of the previous year's activities and data that come from DAs. Activity planning is mostly focused on quantitative data. The District Cabinet allocates the budget. The OoA Director and one expert are members of the Cabinet and they present their annual plan and the budget needed. However, before presenting the annual plan, the regional BoA needs to approve the activity plan and make necessary adjustments. Planning documents of the district implicitly contain promotion of local innovation; as explained by the director, "increasing yield by the use of traditional methods" means promoting local innovations. Then, OoA experts operationalise the annual plan, and local innovation is promoted in practice in the fields. This way of operationalisation and change in practice took place four years ago (OoA Vice-Director, personal communication, 2010). Budget allocation is entirely dependent on the decision of the District Cabinet.



Figure 4: Announcement of seasonal activities and assignments for each expert is posted on the main gate of the OoA

Human resource development. Workshops and farmer festivals have been effective mechanisms to promote local innovation and inspire many farmers, as they envy the attention and reward gained by an innovative farmer. Workshops are irregular, while farmer festivals are continuous since 2006. These are good opportunities to increase the capacity of staff as well to create awareness of and develop skills in PID.

Staff evaluation. Tigray Region in general and in Tahtay Maychew District in particular are known as places where work is evaluated regularly. Staff evaluation is open and very critical. Criteria for evaluation depend on the job description and the staff member's performance and attainment of his/her responsibilities. Work activities and commitment to promoting local innovation are recognised but not rewarded or included in the evaluation criteria.

Conflict management. The Director of the OoA manages conflict by allowing more experts to work on local innovation activities, so that there is a shared understanding, and rotating the benefits, such as training opportunities on PID and field visits, among all experts. Farmers, on the other hand, depend on OoA or the government in many ways, and express their disagreement to follow a certain procedure or application of a technology by passive resistance. One of the extension experts explained that, at times, the DAs work on two conflicting approaches. For example, s/he convinces a farmer on the advantages of using compost rather than mineral fertiliser for boosting production and minimising cost. The same expert then tries to convince the farmer to buy mineral fertiliser to boost production.

Decision-making process. The political system during the civil war encouraged equal participation of all local people in decision-making processes. Currently, the role of OoA staff and farmers in decision-making varies depending on the type of decision made. Officials in the regional BoA define overall policy and strategies, whereas officials in the District OoA make procedural decisions. Officials at this level can influence modification of some

decisions coming from the region, such as using both traditional and modern technologies in the extension system. As mentioned above, “traditional” includes local innovations.

Rewards and incentives. The rewards and incentives for promoting local innovation come only from NGO network members of PROLINNOVA–Ethiopia and include training opportunities, participation in workshops, exposure visits and per diems during these activities. Though extension staff receive no reward from the OoA for promoting PID, the OoA does provide transportation and other facilities for staff promoting PID.

Attitudes and perceptions. ISWC-II played a major role in changing the perception of policymakers and development professionals on local innovation and FLJR. ISWC-II’s use of media and publications to promote local innovations is reported as a very effective means of raising awareness at all levels (Fetien Abay, personal communication, 2010). As a result, local innovation was encouraged and farmers’ knowledge was recognised. It was observed, however, that in most cases the positive perception is passive (i.e. the people do not act on it) unless another organisation or programme such as ISWC-II, RCBP, IPMS and/or PROLINNOVA activate it.



Figure 5: Tahtay Maychew BoA expert wearing the farmer festival t-shirt

Perception at regional level. In the regional BoA in Mekelle, the organisational values are very much focused on the attainment of food security, mainly through external inputs and agricultural commercialisation. This organisational value contradicts what experts experience and believe regarding the use locally available innovations. As a result, I found it quite difficult to determine the change in perception of experts at regional and higher level regarding local innovation and FLJR. What can assured is that experts and decision-makers in the regional BoA are well informed and supportive of the concept, but the perception they have is that local innovation and FLJR is a way to sustain development activities but does not ensure food security in such drought-prone areas. For this reason, the decision-makers in the BoA do not discourage promotion of local innovation, as long as the related activities come with own funding and an external organisation takes responsibility to coordinate it.

Experts in Mekelle BoA stated that the ATVET (Agricultural Technical and Vocational Education and Training) curriculum as well as the university curriculum does not encourage participatory research and local innovation, creating a difficulty for new graduates to learn how to work with farmers as equal partners. In addition, the higher value given by society to formally educated people creates a communication gap between new experts and farmers. In order to solve this problem, both the regional BoA and district OoA train new graduates in skills of communicating with farmers.

Major setbacks identified for change in perception in the regional BoA are: lack of awareness among experts, as only one person was actively involved with PROLINNOVA and he had no platform to share his knowledge and experience with his colleagues; workload; and, as explained by one expert, fear of rejection by colleagues and other experts.

Perception at district level. In the beginning, senior officials in Tahtay Maychew District, especially those in the administration, were resisting the concept of local innovation and gave little value to promoting it. Policy dialogue, invitations to study tours (at national and international level), inclusion in workshops and making them facilitators and active participants in the PID process proved to be good mechanisms to change the attitude of the administration staff in Tahtay Maychew. The complete change of attitude of the District Administrator in Tahtay Maychew was after policy dialogue with PROLINNOVA–Ethiopia partners, mainly ISD and ASE and a study tour in many places, including Germany, which was organized by ISD. After he accepted promotion of local innovation, other administrators that came to Tahtay Maychew easily accepted the process, as the first administrator had already laid a good ground (Guush WoldeSelase, personal communication, 2010).

According to Guush WoldeSelase (personal communication, 2010), change in the value given to local innovation in the OoA increased in the past 3–4 years. This is attributed to much recognition and exposure to local innovation, an enabling development policy and closer collaboration with ISD. Currently, promotion of local innovation is considered as part of the regular extension system in the OoA by 56% of the interviewed people (9 out of 16). Though only 56% internalised the concept, almost all experts in Tahtay Maychew OoA have increased social cognition on local innovation processes, farmer innovations and farmers’ capacity to innovate.

As a result of change in perception and value given to local innovation, BoA purposely included innovativeness as a criterion for selecting model farmers and their best practices during the farmer festivals at district and regional level. However, innovative farmers are not always selected as model farmers because of other criteria that come from the region, such as amount of money earned through the use of a particular innovation and farmer’s efficiency to follow the technology package as recommended by the regional BoA.

A contributing factor for change in perception is a close linkage of focal persons with the community. For instance, the Axum platform coordinator was a DA in Tahtay Maychew District, and worked with innovative farmers from the beginning. Currently, being in an influential position at zonal level, he is actively working on awareness creation and changing the perception of experts and decision-makers at regional, zonal and district level. Furthermore, the documentation of farmer innovations by ISWC-II and the bottom-up intervention approach of ISD changed the mindset of many experts and active stakeholder representatives about promotion of local innovation.

Perception of farmers. The experimenting farmer group is recognised, acknowledged and supported by the BoA and the District Administration. The study revealed that the perception of farmers on local innovation and their capacity to innovate changes more quickly when they are approached in groups and shared experience from each other rather than through one-to-one preaching on local innovation. Some farmers reported that their perception on local innovation and FLJR is gradually changing after observing the success of other farmers and the strong innovative farmers group.

In order to encourage farmers to share their innovations, the innovative farmers group put a criterion that, in order to receive grants from the LISF, one has to share his/her innovation with other farmers. This shows that the farmer group has already a changed perception on the importance of joint experimentation and knowledge sharing.

4.4 Stakeholders and their roles

Stakeholders identified in Tahtay Maychew District who are directly and indirectly involved or have potential to be involved are: farmers, Tahtay Maychew OoA, District Administration, Zonal Administration, ISD, Axum Research Centre, Axum University, regional media, ATVET, Dedit Credit and Microfinance Service, and small- and micro-technology enterprises. The first eight stakeholders formed the Axum platform of PROLINNOVA–Ethiopia in August 2010. The remaining stakeholders were among the list of identified stakeholders for the stakeholder analysis during the debriefing held at the Zonal Food Security and Natural Resource Coordinator’s office in Axum. Results of the stakeholder analysis on the importance and influence level of each stakeholder in promoting local innovation showed that most of the key stakeholders have high importance, but their direct influence levels were very small. Table 3 shows the result of the stakeholder analysis made by the Axum platform.

Table 3: Stakeholder analysis on importance and influence in promoting PID in and around Axum

Stakeholder group	Tahtay Maychew OoA		Research and University		Zonal Administration and media		Sum of all three	
	Importance	Influence	Importance	Influence	Importance	Influence	Importance	Influence
Farmers	5	3	5	3	5	5	15	11
Tahtay Maychew OoA	5	5	5	5	5	3	15	13
Axum Research	5	1	5	3	5	1	15	5
Axum University	5	1	5	3	5	3	15	7
District Administration	3	5	3	5	2	5	8	15
Zone Administration	2	4	3	5	3	5	8	14
Media	5	1	4	5	5	2	14	8
Regional BoA	5	3	3	5	5	3	13	11
ISD	5	1	5	5	5	2	15	8
ATVET	2	1	4	2	3	1	9	4
Dedit Credit and Microfinance	2	1	2	1	5	1	9	3
Small- and micro-technology enterprise	2	1	2	1	5	1	9	3

4.5 Contribution of ISWC-II and ISD to institutionalising PID

ISWC-II had been active in this district and there were already some stakeholders trained in participatory research and documentation of innovation prior to the start of PROLINNOVA work in 2003. Two subdistricts of Tahtay Maychew – namely Akabseate and Maybrazio – were known to have many innovative farmers that were identified by ISWC-II. There are also other innovative farmers from Hadish Adi, Mayeseye and Adi Guara Subdistricts.

ISD, an NGO partner in PROLINNOVA–Ethiopia, has been working actively in Tahtay Maychew District to foster sustainable development through research and awareness creation since 1996. In addition to Tahtay Maychew, ISD promotes PID in another 11 districts in Tigray Region. However, the funds from PROLINNOVA are only enough to cover PROLINNOVA-related work in Tahtay Maychew District.

As the NGO coordinating the PROLINNOVA-related work in the district, ISD bestows accountability and ownership of all activities to OoA experts and senior managers, the District Administration and local farmers. The coordinator indicated that this approach has made it easier for OoA to internalise the concept of local innovation. ISD’s development approach is in line with PROLINNOVA aims, working towards sustainability and institutionalisation of local innovation and empowerment of the local community. However, the study revealed that there is no visible overlap in the activities of ISD and PROLINNOVA. There is little awareness among other ISD staff about the work on FLJR in Tahtay Maychew.

5. SUMMARY ANALYSIS ON PID INSTITUTIONALISATION IN TAHTAY MAYCHEW OFFICE OF AGRICULTURE

This section brings the analysis of the findings based on the points raised on Section 1.2 (purpose of this study).

Understanding the role of PROLINNOVA–Ethiopia partners and other stakeholders in the transformation processes that led to institutionalisation of the concept of promoting local innovation and farmer-led joint experimentation

Individual interest and commitment to a process have the capacity to influence the institutional norms and practices and even the structure of an organisation. The set-up of the PROLINNOVA–Ethiopia Core Team and the Northern Typical Highlands platform exemplifies this, where different representatives of partner organisation play a major role in the progress towards institutionalising PID. Findings of this study reveal that not all representatives are actively working towards creating organisational linkages to promote PID; they are rather making individual communication and contributions in this respect, because they give little attention to the process and allocate little in terms of time and resources. This is also an indication that not all partners of PROLINNOVA–Ethiopia are interested in and planning to institutionalise PID.

The results of the stakeholder analysis indicate that members of the Axum platform find farmers, Tahtay Maychew OoA, Axum Research Centre, Axum University and ISD to be significantly important stakeholders in institutionalising PID. The results also indicate little integration with support providers such as micro-finance, ATVET and small and micro enterprises in relation to promoting local innovation. The stakeholder analysis shows 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 among the three groups (see Table 3) indicates the different perspectives OoA experts take as compared to university and research regarding the importance and influence of each stakeholder in promoting PID. This is also an indication of the existence of unclear perceptions among partner organisations about PID institutionalisation.

Understanding the contextual factors that triggered or obstructed the institutionalisation process in the regional and subregional bureaus

Enabling environment. An enabling environment for institutionalising PID includes policy, leadership, organisational values and resources that support and promote local innovation (Demekech & Amanuel 2009). As is in the case of many development policies, federal and regional authorities govern strategy and budget of district OoAs in Tigray Region. The hierarchical structure influences the work procedure and budget-allocation mechanisms of Tahtay Maychew District, giving little authority over the formal work procedures to include PID. Causes of the non-enabling environment are: low awareness on PID processes at regional level that influences 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 into the formal work procedures, job descriptions, planning and reporting documents of the OoA. However, individual interest in and commitment to PID by the District OoA resulted in the use of the already existing structures for PID. For instance, Tahtay Maychew OoA has managed to internalise PID in the field practices by using already existing structures of “development groups” for mobilising “innovative farmers groups”. In addition, in order to strengthen the partnership with farmers and bridge the budget and skill gap, Tahtay Maychew OoA created linkages with many line offices in the district e.g. for Health, Land Tenure and Water & Energy, in order to avail material and technical support for the joint experimentation. In addition, the linkages have created better awareness, recognition and partnership with innovative farmers in the district.

Technology. Recognising local creativity and initiative leads to changes in behaviour and attitudes of all actors in the innovation system. Findings of this study and a similar case study in Cambodia (Fanos *et al* 2010) reveal 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 of Tigray Region rather than a local innovation in animal breeding. This result indicates the interconnectedness of type of technology (technical system) and the change in attitude (cultural system) and decision-making processes (political system), which again 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.

Skills. The findings of this case study show that Tahtay Maychew OoA 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 main reasons for this situation. PROLINNOVA’s main mechanisms to develop skills are providing training in PID, holding workshops and organising exposure visits in which two or three staff members attend at a time. The SMS grouping in the extension system is expected to facilitate the knowledge sharing on PID, as the team is composed of those who took PID training and those who did not. The rotating SMS group, though not intentionally made, contributes to PID institutionalisation, as staff awareness increases as a result of the knowledge sharing and practical experience in farmers’ fields.

Identifying the changes perceived by extension staff and farmers regarding the organisational structure and institution of the OoA.

In general, there is good perception on PID and local innovation in Tahtay Maychew OoA. However, the perception is passive in most cases, unless an external organisation initiates PID implementation. Attitude change in experts is not supported by change in the organisational values, which are hindering the process of PID institutionalisation. Shallow perception and

implementation at regional level and incapability to incorporate into the organisation's formal plans, programmes and activities further contribute to the passivity of good perceptions of PID in the OoA.

Understanding the structural, practical and cultural transformations that influenced the introduction and integration of promoting local innovation processes and farmer-led joint experimentation

- The newly formed culture of “farmer festival”, where farmers are inspired to show their results and strive to work better. Tahtay Maychew OoA used this as an entry point to promote local innovation by recognising those innovators and including them in the competition.
- The government policy (structural transformation) makes visible efforts towards increasing agricultural production.
- In recent years, the skilled manpower in agricultural knowledge has shown a radical change, amounting to a fourfold increase (practical transformation). The establishment of ATVET colleges has played a major role in capacitating all experts in OoAs and in providing training facilities for farmers, DAs and others.
- The FTC with its 2-ha experimentation/ demonstration land is serving as a place for knowledge-sharing and experimentation among farmers and DAs.
- The provision of land for experimenting farmers by the District Land Administration Office has empowered experimenting farmers and motivated them and other innovative farmers to collaborate with the OoA more closely.

Main challenges or hindering factors

- Many activities in agriculture and NRM in Tigray and similar areas are supported through FFW or CFW schemes. These make farmers dependent on the external support and discourage them from devoting time and resources to experimentation and innovative work.
- The partnership formation in the PROLINNOVA–Ethiopia network is mostly with individuals in an organisation and not with the organisation (whether state or non-state, including community level) in which they work. This has created a gap in building institutional knowledge of the concept at organisational or community level.
- The level of awareness to vigorously engage in promoting local innovation is rather low; activities of OoA's staff related to local innovation are limited to recognition of outputs of farmer's innovation and not on promoting local innovation as a process and encouraging farmers to find own solutions.

6. LESSONS LEARNT, CONCLUSIONS AND RECOMMENDATIONS

Lessons learnt

- Organisational policy, structure and budget play a major role in determining the pace of PID institutionalisation in Tahtay Maychew BoA. This indicates that progress towards institutionalising PID can continue in the absence of enabling environment, if there is commitment among a few experts in BoA and good relationships and linkages with other stakeholders.
- Capacity building at all levels is a crucial means to internalise PID and to bring about a changed attitude. The need to build capacity should not be limited to SMSs and DAs, but should include also decision-makers within the BoA who could be less important in the technical implementation but very influential in creating an enabling environment.
- Proper rewards and incentives at all levels can inspire and empower farmers in finding own solutions for own problems. It also creates awareness among BoA staff about farmers' innovativeness.
- Teamwork in promoting local innovation facilitates internalisation of PID into the norms and routines of the 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, important issues include: the extent to which the PROLINNOVA–Ethiopia network members actively seek to institutionalise PID, under what conditions, how and why; the potential for collaboration and learning between partner organisations of the network; and the perceptions of Core Group members of the network. These aspects should be analysed, as they have direct or indirect effect on the institutionalisation process.

Conclusions

According to the results of this study, the most effective factors that enabled the progress towards institutionalising PID in Tahtay Maychew BoA were: previous experience during the time of the civil war, capacity-building on PID, provision of full accountability to BoA and close collaboration with facilitating organisation on local innovation and other activities. However, due to poor documentation of PID, many lessons learnt and reflections on performance of the process are being lost.

A lot was done to promote local innovation and FLJR in spite of several setbacks in Tahtay Maychew OoA. A large part of the success was due to the stakeholders' devotion – especially those of farmers, OoA staff and the coordinating NGO, flexibility in management style, and acknowledging farmers as equal partners. Furthermore, the stakeholders' determination to embrace opportunities to improve rural livelihoods, the prior traditions of recognising farmer innovation that dates back to the time of the civil war, and subsequent work that took place in identifying indigenous knowledge are the main seeds for PID institutionalisation in Tahtay Maychew BoA.

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 setbacks are mostly beyond the capacity of officials at district level.

The results of this study show that the regional BoA in Mekelle is lesser aware of and less active in promoting PID as compared to the Tahtay Maychew District. Mekelle BoA is involved only in awareness creation and initiating staff capacity-building in this aspect, which is the first step towards institutionalisation of promoting local innovation and FLJR.

The results of this study show that there is not a clear strategy on how to institutionalise PID and that there are different perceptions of this among the PROLINNOVA–Ethiopia partners.

In general, considering the contextual features in the country – economical, political and physical – institutionalising local innovation as a process for development will be a huge challenge, especially where there is no clear strategy on how to institutionalise PID.

Recommendations

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

- 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 by strengthening already existing platforms and organising fora for better awareness and changed attitudes of decision-makers.
- Focus on staff capacity-building at all levels. One of the findings of this study is that SMSs and DAs, especially those coming from institutions of higher learning, lack knowledge about local innovation. In order to alleviate this problem, continuous capacity-building activities and knowledge-sharing fora need to be organised.
- Closer collaboration with the regional BoA is essential, as the ultimate decision-makers are at regional level. This should be done through proper documentation, knowledge dissemination and a well-elaborated reporting system on local innovation.
- Proper documentation at secretariat, district, and community level needs to be put in place. Documenting processes and events that take place enables partners to reflect on their work and to strategise next steps and to learn from experiences easily.
- For advanced PID institutionalisation in Tahtay Maychew OoA, the regional BoA in Mekelle, as regional coordinating organisation, needs to institutionalise PID within its policy framework and daily routines. For this to take effect, policy dialogue and critical reflection on contribution of PID to attaining food security needs to be undertaken by partners of PROLINNOVA–Ethiopia and the outcomes need to be well communicated.
- Further exploration of why women are not active participants in the group of experimenting farmers and why women do not seem to be interested in being part of the

Fund Management Committee may provide some answers regarding the gender imbalance observed in the experimenting groups.

References

- Abera D. 2006. Changing the face of agriculture in Ethiopia. <http://www.nippon-foundation.or.jp/eng/index.html> accessed 31 December 2010.
- Amanuel Assefa & Tesfahun Fenta. 2006. Harnessing local and outsiders' knowledge: experiences of multi-stakeholder partnership to promote farmer innovation in Ethiopia. Addis Ababa: PROLINNOVA–Ethiopia (unpublished).
- Berhane Hailu. 2009. *The impact of agricultural policies on smallholder innovation capacities*. MSc Thesis. Wageningen University and Research.
- Berhane Hailu. 2001. Librating local creativity: building on the 'best farming practices' extension approach from Tigray's struggle for liberation. In Reij C & Waters-Bayer A (eds), *Farmer innovation in Africa: a source of inspiration for agricultural development* (London: Earthscan), pp 310–324.
- BoFED (Bureau of Finance and Economic Development). 2007. Regional socio-economic information. Mekelle: BoFED (unpublished).
- CSA (Central Statistical Agency). 2008. Report on area and production of crops: agricultural sample survey 2007/2008. *Statistical Bulletin* 1 (417). Addis Ababa: CSA.
- Demekch Gera & Amanuel Assefa. 2009. Institutionalising Participatory Innovation Development (PID) in AgriService Ethiopia. In: PROLINNOVA–Ethiopia: Proceedings of the Multi-stakeholder Sharing and Learning Workshop 16–19 September 2008, Ambo, pp 94–116.
- Ejigu Jonfa & Waters-Bayer A. 2005. *Unlocking farmers' potential: institutionalising farmer participatory research and extension in Southern Ethiopia*. London: FARM–Africa.
- Eyasu Elias. 2002. Literature review on experiences with Farmer Field Schools in Ethiopia. Addis Ababa: SOS Sahel (unpublished).
- Fanos Mekonnen Birke, van Veldhuizen L, Sam Vitou & Nhep Srorn. 2010. Institutionalisation of Participatory Innovation Development: experiences of the Provincial Department of Agriculture; Takeo Province, Cambodia. PROLINNOVA Working Paper 31. Leusden: PROLINNOVA International Secretariat.
- FDRE (Federal Democratic Republic of Ethiopia). 2011. The state of Tigray <http://www.ethiobar.net/type/English/basinfo/infotgry.htm> accessed on 1 January 2011.
- Golder B & Gawler M. 2005. Cross-cutting tool Stakeholder Analysis. World-Wide Fund for Nature (WWF)–USA.
- Hailu Araya, Edwards S & Waters-Bayer A. 2006. Agricultural innovation: do we understand who wants what? *Rural Development News* 2/2006: 39–43.
- Hailu Araya & Yohannes GebreMichael. 2006. Endogenous and modern innovations: differing perspectives. *IK Notes* 96. Washington DC: World Bank.

- Hailu Araya, Yohannes GebreMichael, Abera GebreAmlak & Ann Waters-Bayer. 2007. Participatory research that builds on local innovation in beekeeping to escape poverty. *Rural Development News* 1/2007: 29–33
- Howard J, Crawford E, Kelly V, Mulat D & Jeje JJ. 2003. Promoting high-input maize technologies in Africa: the Sasakawa-Global 2000 experience in Ethiopia and Mozambique. *Food Policy* 28: 335–348.
- MoFED (Ministry of Finance and Economic Development). 2006. A Plan for Accelerated and Sustained Development to End Poverty (PASDEP). Addis Ababa: MoFED.
- PROFIEET/ PROLINNOVA. 2004. Proceedings of the First International PROLINNOVA Workshop, 8–12 March 2004, Yirgalem, Ethiopia. Addis Ababa: AgriService Ethiopia.
- PROLINNOVA–Ethiopia. 2007. PROLINNOVA–Ethiopia semi-annual report, January–June 2007. Addis Ababa: PROLINNOVA–Ethiopia.
- PROLINNOVA. 2009. Local Innovation and Participatory Innovation Development: some frequently asked questions. PROLINNOVA Working Paper 30 <http://prolinnova.net/workingpaper.php#workingpaper30> accessed 1 January 2011.
- Reij C & Waters-Bayer A. 2001. An initial analysis of farmer innovators and their innovations. In: Reij C & Waters-Bayer A (eds), *Farmer innovation in Africa: a source of inspiration for Agricultural Development* (London, Earthscan), pp 77– 91.
- Robinson I, Beyene A & Likke Y. 2001. Development Fund, Norway-ETHIOPIA: Evaluation of DF-funded development programmes implemented by the Relief Society of Tigray (REST), April–May 2001. Bangor: CAZS.
- SG2000. 2010. Country profile – Ethiopia: Feeding the Future. <http://www.saa-feedingthefuture.org/index.php> accessed 31 December 2010.
- Tesfahun Fenta, Hailu Araya, Teklu Tesfaye, Luel Haileselassie & Waters-Bayer A. 2008. The Ethiopian experience in piloting Local Innovation Support Funds, April 2006–March 2008. Addis Ababa: PROLINNOVA–Ethiopia.
- Tesfahun Fenta & Amanuel Assefa. 2009. Harnessing local and outsiders’ knowledge: experience of a multi-stakeholder partnership to promote farmer innovation in Ethiopia. In: Sanginga PC, Waters-Bayer A, Kaaria S, Njuki J & Wettasinha C (eds), *Innovation Africa: enriching farmers’ livelihoods* (London: Earthscan), pp 89–103.
- Tichy N. 1982. Managing change strategically: the technical, political and cultural keys. *Organizational Dynamics* 11(2): 59–80.
- Wettasinha C & Waters-Bayer A (eds). 2010. Farmer-led joint research: experiences of PROLINNOVA partners. Silang, Cavite, Philippines: International Institute of Rural Reconstruction / Leusden: PROLINNOVA International Secretariat, ETC EcoCulture.
- Yohannes GebreMichael. 2006. Feasibility study into the introduction of a Local Innovation Support Facility (LISF): case of Amaro-Kelle District of Southern Region and Wukro-Maryie District of Tigray Region, Ethiopia. <http://www.prolinnova.net/lisf/feasibility-study-introduction-local-innovation-support-facility-lisf-case-amaro-kelle-district>

Annex 1: Terms of Reference

Background

Previous case studies shows that it is not only the methodology that influences technology development and integration or institutionalisation but also specific historical, political, economical and institutional conditions (Biggs & Smith 1998)⁵. Promotion of innovation processes should go hand in hand with supportive social, institutional, economic and policy arrangements (Stroud 2003)⁶.

Institutionalisation is a process of change through which new ideas and practices are accepted, used and become part of the norm of an organisation (Ejigu & Waters-Bayer 2005). It is a transformational type of change that involves doing things differently and with ultimate aim of new configuration of organisational components (Hayes 2007).⁷

Objective

This study intends to document the events, activities and attitudes that triggered, supported or obstructed the transformation of the conventional extension system into farmer-led participatory innovation development in the regional Bureau and a district Office of Agriculture in Mekelle and Axum, respectively.

Expected outputs

- Understanding the structural, practical and cultural transformations that influenced the introduction and integration of promoting local innovation processes and farmer-led experimentation
- Understanding the role of PROLINNOVA–Ethiopia partners and other stakeholders in the transformation processes that led to institutionalisation of the concept of promoting local innovation and farmer-led experimentation
- Understanding the contextual factors that triggered or obstructed the institutionalisation process in the regional and subregional bureaus.

⁵ Biggs, S. and G. Smith. 1998. "Beyond methodologies: Coalition-building for participatory technology development." *World Development* 26(2): 239-248.

⁶ Stroud, A. 2003. *Managing Natural Resources for Sustainable Livelihoods: Uniting Science and Participation*. London, International Development Research Centre.

⁷ Hayes, J. 2002. *The Theory and Concept of Change Management*. Palgrave Macmillan, NY.

- Drawing lessons on the processes of institutionalising the promotion of local innovation and farmer-led experimentation in a governmental development organisation.
- Identifying the activity(ies) and events that changed the attitude of decision makers on institutionalisation of the concept
- Identifying the changes perceived by extension staff and farmers regarding the organisational structure and institution of the BoA.

Methodology

There are three areas of attention in the process of institutionalising a new development approach or bringing institutional change. They are Technical, Political and cultural systems coming with their three administrative components; mission, structure and human resources as shown below on Table A. These areas/factors will be considered to attain the expected outputs and to structure the institutionalisation processes in Axum and Mekelle Bureaus of Agriculture.

Table A: Areas of attention in institutional change (van Veldhuizen 2003)⁸

	Mission/ mandate	Structure	Human resources
Administrative: 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; facilities and infrastructures; training and coaching
Political: the power game	Policymaking: developing policies and strategies, influence from inside and outside; role of management	Decision making; formal and informal mechanisms; supervision and control; conflict management	Room for manoeuvre: space for innovation; rewards and incentives; career possibilities working styles
Socio-cultural: identity and behaviour	Organisational culture: symbols, traditions, norms and 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, objectives and to partners/clients; stereotyping: willingness to change.

⁸ van Veldhuizen, L., Waters- Bayer, A., Wettasinha, C. 2003. Advancing Participatory Technology Development: Case studies on integrating into Agricultural extension and education, silang, Cavite, Philippines: IIRR/ ETC Ecoculture/ CTA.

Data-collection methods

Expected output	Sources of information	Method	Checklist
Understanding the structural, practical and cultural transformations that influenced the introduction and integration of promoting local innovation processes and farmer-led experimentation	<ul style="list-style-type: none"> • BoA management body • BoA technical people • Archives • Participatory observation 	Participatory reviews and assessments	<ul style="list-style-type: none"> • Previous and current organisational structure • What and how changes are made in the new structure • Planning strategy, implementation processes • Documented duties and responsibilities • Programme / employee evaluation processes and criteria • Administrative norms and rules • Programme planning, implementation and monitoring mechanisms, • Clarity of objectives, level and determinants of hierarchy • Resource allocation, level of flexibility, and conflict management mechanisms • Level and type of participation of farmers and extension officers in planning, experimentation and decision-making process
Understanding the role of PROLINNOVA–Ethiopia partners and other stakeholders in the transformation processes that led to institutionalisation of the concept of promoting local innovation and farmer-led experimentation	<ul style="list-style-type: none"> • Axum BoA staff members • Stakeholder representative and staff members • Archival research • PROLINNOVA–Ethiopia coordinator 	Stakeholder analysis	<ul style="list-style-type: none"> • Projects introduced by other organisations (current and previous). • What they do, what changes they brought • Condition of the enabling environment for stakeholders

Understanding the contextual factors that triggered or obstructed the institutionalisation process in the regional BoA	<ul style="list-style-type: none"> • Interview the staff who facilitated local innovation and farmer-led experimentation • Archives 	Impact assessment	<ul style="list-style-type: none"> • Type of technology introduced • Location of the bureau (physical distance) • Opportunities and challenges faced by the organisation towards promoting local innovation
Drawing lessons on the processes of institutionalising farmer-led experimentations and local innovations in state owned development organisation.		Process documentation	<ul style="list-style-type: none"> • Chronological order of activities and how they were implemented • Infrastructural arrangements, material and human resource mobilisation mechanisms, planning, and budgeting
Identifying the activity(ies) and events that changed the attitude of decision makers on institutionalisation of the concept (farmer-led experimentation)		Impact assessment	<ul style="list-style-type: none"> • Which activity triggered change process • Which activity hindered the change process
Identifying the changes perceived by extension staff and farmers regarding the organisational structure and institution of the BoA		Impact assessment	<ul style="list-style-type: none"> • What are the perceptions of staff members on promotion of local innovation • What is their attitude towards the reward system and benefits of promoting local innovation • What changes do staff members need for further promotion of local innovation

Annex 2: Workplan

TIMELINE	TASK	REMARKS
Week 1 (18–22 Oct 2010)	<ul style="list-style-type: none"> • In-depth discussion on content of the study and procedure to follow with Hailu • Make contacts with the Tigray BoA and confirm their willingness to cooperate on the institutionalisation study • Finalise the workplan and check list for indicators of the process • Revise the content of the workplan and the check list together with Elias Zerfu 	Hailu will make the contacts with Tigray BoA and ask of their willingness to cooperate
Week 2 (25–29 Oct 2010)	<ul style="list-style-type: none"> • Travel to Tigray, Axum BoA • Introduction and explanation of my purpose to the extension head and staff members of the BoA who facilitate farmer-led experimentation • Settling at the BoA (temporary working place for four weeks) • Background study on the BoA (annual reports, annual plan, organisational structures and institutions (brief overview) • Arrange meetings with the extension head, • Arrange interview and group discussion with extension officers at BoA • Observation of day-to-day activities, trust building and informal discussions 	<ul style="list-style-type: none"> • Extension head and key staff members working on local innovation should join
Week 3 (1–5 Nov 2010)	<ul style="list-style-type: none"> • In-depth interview with Extension Head Guush WoldeSelase • In-depth interview with Luel Haileselassie • Group discussion with extension officers • Observation of day-to-day activities at the BoA • Berhane Hailu, who has the historical perspective of the Tigray BoA also from the time of the ISWC-II project 	Timeline of activities in relation to local innovation and farmer-led experimentation starting from late 1990s to now will be outlined during the interviews, discussion and archives (if any) (CD with all the ISWC-II documentation: Mitiku Haile)
Week 4 (8–12 Nov 2010)	<ul style="list-style-type: none"> • Field visit with extension officers and observation of their activity (Axum and others) • Group discussion with experimenting farmers (three different farmer groups, if possible) • Arrange meetings with partners/ collaborators of the BoA including Mitiku Haile and Fetien Abay • Document cases of farmer and extension 	Field visits will be made according to the schedule of the extension officers or on own planning if there is no arranged visit during that period

	<p>staff interaction</p> <ul style="list-style-type: none"> • Document cases of farmer-led experimentation and local innovation • Spend a couple of days observing work in Axum, i.e. not only with the OoA people who are directly in contact with the experimenting farmers and ISD? 	
Week 5 (15–19 Nov 2010)	<ul style="list-style-type: none"> • Discussion with ISD and other partners/ collaborators of the OoA (to be identified together with Hailu Araya and the OoA head) 	ISD (Sue Edwards), PROLINNOVA (Teshfahun Fenta), Elias Zerfu, Fetien Abay
Week 6 (22–30 Nov 2010)	<ul style="list-style-type: none"> • Debriefing and discussion on the findings with extension officers and finalise the study with the input of the BoA staff • Debriefing and discussion with PROLINNOVA–Ethiopia Core Group for the input of the study 	Debriefing in Axum on 28 November 2010
Week 7 (29 Nov–5 Dec 2010)	<ul style="list-style-type: none"> • Prepare a short summary and presentation slides for the Axum workshop 	

Annex 3: Semi-structured questions

1. For extension head, and extension staff at Axum and Mekelle

1. When did you start working in the Bureau of Agriculture?
2. Under what capacities did you serve the Bureau since you started working in the Bureau?
3. When and how did you hear about promoting local innovation and farmer-led experimentation?
4. How did you personally get involved in the promotion of local innovations, when and why? What has been the focus of your activities on promotion of local innovations and farmer-led experimentation to date?
5. Who else is or has been involved from your organisation on the activities of local innovation? How?
6. What were your expectations by participating in the process of promoting local innovation and farmer-led experimentation for
 - a. yourself?
 - b. your colleagues?
 - c. your organisation?
 - d. To what extent have your expectations been met? Why/why not?
7. Can you see any changes in yourself, colleagues, partners, and partners in working on promotion of local innovations – in terms of visible changes in attitudes, behaviour, skills, knowledge, practicing, policies and strategies, programmes etc?
8. What difference would it have made if you and your organisation did not work on the promotion of local innovations?
9. How do you plan and implement the annual work activities at the Bureau of Agriculture? Is it any different from the past? If so how?
10. What do you think about the knowledge sharing and capacity-building activities on local innovations?
11. How do you feel about the overall management and structure of promoting local innovation in Tigray. Is it working? What can be improved?
12. How well is the farmer-led experimentation concept working in the Bureau of Agriculture? Is it as you would like to see it? Why/ why not?
13. Are there factors or conditions in your organisation or outside that have influenced the success of farmer-led experimentation?

14. Do you identify local innovators and their innovations and find ways to include them in their regular extension activities?
 - a. How (provide examples)
 - b. How do you work with farmers? (provide examples)
 - c. Did it have any impact on the day to day regular activities?
15. Would you say there is a transformation in the attitude of extension staff towards farmer-led experimentation? If so, since when was there a change in the way they think, behave, and organise? What was the contributing factor?
16. Would you say the concept of local innovation and farmer-led experimentation is well integrated in the Bureau of Agriculture? If so, what are the main factors
 - a. hindering progress and success in integration of local innovation and farmer-led experimentation?
 - b. facilitating progress and success promotion of local innovation and farmer-led experimentation?
17. What will you change about farmer-led experimentation and local innovation in Axum/Tigray?

2. For stakeholders working with Axum and Mekelle bureaus of agriculture on promotion of local innovation and farmer-led experimentation

1. How, when and why did you get involved with Bureau of agriculture to work on promotion of local innovation?
2. What does the local innovation and farmer-led experimentation concept mean to you specifically? How would you describe it according to your own perceptions in a few sentences?
3. Is the idea of local innovations unique - or does it have some unique elements? What are the unique aspects, if any?
4. Did your participation in promotion of local innovation add any value to your work? If so, what are the main benefits/value additions? If not, why not?
5. Did your participation in the processes of promoting local innovation change anything that is actually reflected in your actions, or in the policies and strategies of your organisation? (Do you or your organisation do anything differently that you did not do before?)
6. What are the factors that obstruct/hinder the use of local innovation concept
 - a. in your project(s)?
 - b. in your organisation?

- c. in the general enabling environment?
- 7. What are the factors that facilitate/support the use of local innovation in
 - a. your project(s),
 - b. in your organisation and
 - c. in the general enabling environment?
- 8. How would you improve the promotion of local innovation to make it better at building capacity and integration in the working systems of your organisation?
- 9. What do you recommend for sustainability of the use of local innovation and farmer-led experimentation as a development concept?

Annex 4: Brochure promoting local innovation prepared by OoA staff

ዋና ዋና ፈጠራዎችና ሥራዎች የሚዳስስ ዝግጅት

1. መግቢያ

ወረዳ ታ/ማይጨው በትግራይ ክልል ማእከላዊ ዞን የምትገኝ 17 የገጠር ቀበሌዎችና 2 የከተማ ቀበሌዎች በአጠቃላይ 19 ቀበሌዎች በማቀና፣ ጠቅላላ የቆዳ ስፋትም 57468 ሄ/ር ሲሆን በዚህ የተገለፀው የቆዳ ስፋትም የተለያዩ ስራዎች የተሰናፍ በመስራት ላይ ያሉ ሲሆኑ ለምሳሌ የተፈጥሮ ሃብት ልማት፣ አጠቃቀምና ጥበቃ ስራዎች፣ ምርታማነት የሚጨምሩ አሰራሮችና ቴክኖሎጂዎች የማስገባትና የማስፋፋት ስራዎች፣ ይህንን ለማስፋትና ዘላቂ እንዲሆን ደግሞ የአስፈጻሚ አካላት አቅም ግንባታና የህሰብ ግንዛቤ መፍጠር ስራዎችና ሌሎች በሰፊው እየተካሄዱ ይገኛሉ። በተለይ ደግሞ ዘላቂ ልማት መሳሪያ ጥናት ድርጅት አዳዲስና የተሻሻሉ ፈጠራዎች እንዲሁም አሰራሮች የማስራጨትና የማስፋፋት፣ የአቅም ግንባታ ስራዎች በግብይት ትኩረት ለጥቁ በመንቀሳቀስ ጠብታማ ስራ እየሰራ ነው።

2. አላማ-

የዕቃው ዋና ዋና አላማዎች፡-

- የገበሬዎች ፈጠራና አሰራሮች መዳሰስና መመዝገብ
- ገበሬውን በወጭዎች በመደራጀትና በመጠየቅ እያንዳንዱ ገበሬ ያለውን እውቀት ችሎታ፣ ማተራያል፣ አቅም መዘብ በመቀናጀትና በመስጠት የተሻለ ሥራ መስራት

- ውጤታማ ፈጠራዎችና ሞዴል ሥራዎች ማስፋትና ማስራጨት

3. የዘላቂ ልማት ዋና ዋና ሥራዎች

ሀ/ የዘላቂ ልማትና ጥበቃ ሥራዎች
 ለ/ የገበሬዎች የፈጠራ ሥራዎች ወዘተ
 ሀ/ የዘላቂ ልማትና ጥበቃ ሥራዎች

በወረዳችን በ1989 ዓ/ም በማይበራዝቦ ቀበሌ ገበሬ ማህበር ዓድንፋስ በተባለው ጎጥ ልማቱ 40 ሄ/ር የቆዳ ስፋት ባለው የእርሻ መሬት የተጀመረ ሲሆን የዚህ ዘላቂ ልማትና ጥበቃ ሥራዎች በአሁኑ ጊዜ ወደ 17 ቀበሌዎች በማስፋፋት 8305 ሄ/ር የቆዳ ስፋት የሚሸፍን ከአንስሳት ንክኪ ነፃ ሆኖ በመልማት ላይ ይገኛል።

ከዘላቂ ልማቱ የተገኙ ጥቅሞች

- የንፋስና የጎርፍ አደጋ መቀነስ
- የአፈር ለምትና የመሬት እርጥበት መጨመር
- የክርስ ምድር ውሃና ምንጮችን መጎልበት
- በተደጋጋሚ ባልተፈለገ መንገድ ሲጠፋ የገበሬውን በጀት፣ ጉልበትና ማተራያል እንዲቀንስ አድርጓል እንዲሁም ከላይ የተዘረዘሩትን ጥቅሞች በማስገኘት የአንስሳት መኖርና የሰው ልጅ መሰረታዊ ህጻኖች እንዲሻሻሉ አድርጓል።

ለ/ የገበሬዎች የፈጠራ ሥራዎች

ፈጠራ ሲባል ባለህ እውቀት፣ ችሎታ፣ ማተራያል፣ ጉልበት/አቅም/ ወዘተ ተጠቅመህ አዲስ ሥራ ስትሰራ ወይም የገበሬውን ሥራ ስታሻሽል የሚሰጥ ስያሜ

ነው። ይህንን ግምት ውስጥ በማስገባት በወረዳችን የተለያዩ የገበሬው የፈጠራ ስራዎች እየተካሄዱ ናቸው። በዚህ መሰረት በወረዳችን 15 አባላት የያዘች ሞዴል ቡድን ፈጣሪዎችና ተማራማሪ ገበሬዎች በግልና በህብረት በማደራጀት የተለያዩ ፈጠራዎች ፈጥረውና አስፋፍተው ይገኛሉ።

ለምሳሌ፡-

- አከባቢን የማገገም ሥራዎች
- የንብ ዘቀፎ መስራት
- የንብ መንጋን በዘመናዊ መንገድ ማዋለድ/ማባባት
- የቂሚ ተክሎች ማዳቀል ስራዎች
- የአገርአት፣ ቋሚ ተክሎችና እንዲሁም የጓፎ አትክልት አንድ ላይ የማዛኑት ሥራዎች
- የተቀናጀ ባህላዊ የተባይ መቆጣጠር ሥራዎች
- የውሃ ቴክኖሎጂዎችና አጠቃቀም ፈጠራዎች ወዘተ

ከላይ የተዘረዘሩት ዋና ዋና ሥራዎች ሆነው ሌሎች ፈጠራዎች በሃደት ያሉ መሆናቸው በመግለፅ በዚህ የመስከረም ወር የምንዳስሰው የንብ ልማት በተመለከተ ፈጠራን ይሆናል። በዘርዘር ሲገለፅ፡-

የንብ ልማት ፈጠራዎች

ይህንን ሥራ በተመለከተ የወረዳችን ሞዴል ፈጣሪዎችና ተማራማሪዎች ቡድን በዚህ መስከረም ወር ያደረጉት እንትስቃሉ፡-

- 1/ ዘመናዊ ተፎ መስራት
- 2/ የንብ መንጋ ማባባት

1/ ዘመናዊ ቀፎ የአካባቢ ማተራረቢያ ስሜት ስም የሚሰጥ ሲሆን ይህም ደግሞ በጣውላ ወይም በጭቃ መልክ ሊዘጋጅ ይችላል። በዚህ ወር ክንብሩ ወቅታዊ ሥራዎች በማጣጣም 13 ከሳምንት 2 ከሳምንት በኋላ 15 ዘመናዊ ቀፎ በወረዳችን በፈጠራና ምርምር ቡድን በተቀናጁ ገበሬዎች ተሰርተዋል። ከጣውላ የተሰሩ 13ቱ ዘመናዊ ቀፎ በ646.30 ብር የአንድ ዘመናዊ ቀፎ ዋጋ ለሽያጭ ተዘጋጅቶ ስምምነት ላይ ተደርሷል። ይህ ዓይነት ፈጠራ ተቀባይነት በማግኘቱ ለሌሎች 3 ማህበራት በልምድ ለውጥ አመካኝነት ለማስፋት 26 ወንዶችና 8 ሴቶች የሚገኙበት በድምር 34 ገበሬዎች በተማርተው ተሳትፏል።

2/ የጉብ መንጋ ማጣባት

የጉብ መንጋ ማጣባት/ማራባት/ ሃደት በቅደም ተከተለ፡-

1/ ጉብ የያዘ/ያለው/ ዘ/ቀፎ ማዘጋጀት

2/ ጉብ የሌለበት/ያልያዘ/ ዘ/ቀፎ ማዘጋጀት

3/ ጉብ ካለበት/ካያዘ/ ዘ/ቀፎ ወደሌለበት ዘ/ቀፎ ማስተላለፍ

- አጭ ያለው ፍሬም ከጉብ መንጋው ጋር በአኩል ወደ ዘ/ቀፎ ይከፋፈላል
- ማር ያለው ፍሬም ከጉብ መንጋው ጋር በአኩል ወደ ዘ/ቀፎ ይከፋፈላል

4/ ነጻ ሆኖ ዘ/ቀፎ ጉብ ከነበረበት ቦታ ወደ ሌላ ቦታ እንዲሮት ይደረጋል። ምክንያቱም፡-

- በአካባቢው በከፍተኛ ሃይት/ጊዜ/ ተባብሮ የጉብ መንጋ መንጋው ወደ አዲሱ ዘመናዊ ቀፎ

በማስገባት የጉብ መንጋው ለማመጣጠን ያስችላል።

- አበባ ለመቅሰም/ውሃ ለመጠቀም/ ወጥቶ የነበረው የጉብ መንጋ በተጥታ ተመልሶ ወደ አዲሱ ዘ/ቀፎ በመገባት የሁለቱ ቀፎ የጉብ መንጋ መጠን ያመጣጥዋል።

5/ ሁለቱንም ዘ/ቀፎዎች ከተከፋፈሉ ከ5 ቀናት በኋላ ፍተሻ ስናደርግ አውራ ጉብ ያልነበረበት ቀፎ አውራ ጉብ የመፍጠር ምልክቶች ያላል። በ9 ቀናት ውስጥ ደግሞ አውራው ጉብ ጨርሶ ስለሚፈጠር የማጣባት ስራዎች ይካሄዳል።

በዚህ ወር ውስጥ በንደዚህ ዓይነት ሥራ የፈጠራ ቡድን ገበሬዎች በራሳቸው 6 የጉብ መንጋ በማጣባት 3600 ብር ገቢ ሲያገኙ ሌሎች ግል ገበሬዎች ደግሞ በቴክኒክ ድጋፍ መልክ 11 የጉብ መንጋ በማጣባት ተጠቃሚ እንዲሆኑ አድርጓል። በተመሳሳይ ይህ ፈጠራ ሥራ ወደ ሌሎች የፈጥራ ገበሬዎች ቡድን በመስፋቱ ብዛት ያላቸው ገበሬዎች አየሩበትና እየተጠቀሙበት ይገኛሉ።

ሰረዳሊ፡ ማህበረ ሰላም የተባለች ማህበር 5 የጉብ መንጋ አባዘታ 700 ብር አንድ የጉብ መንጋ ዋጋ ሃሳብ ለገበያ በማቅረብ በጠቅላላ 3500 ገቢ ተገኝቷል።

4/ ለማስፋት የተደረጉ ጥረቶች

- በዘላቂ ልማት መካከል ጥናት ፕሮጀክት ድጋፍ አመካኝነት የተሰያዩ ድጋፎችና የአቅም ግንባታ ሥራዎች በመካሄዳቸው
- የፈጠራ ሥራ ቡድን ገበሬዎች ስብሰባ በመፍጠር በልምድ

ለውጥና በመደጋገፍ እንዲከናወኑ በማድረግ

- ሌሎች የሀ/ሰብ ክፍሎች ወደ ተግባር ለማስገባት የፈጠራ ቡድን ገበሬዎች መደመሪያ ለቤተሰቦቻቸውና ለሳሪቤቶቻቸው የማሳመን ሥራ እንዲሰሩ መደረጉ
- በግልና በህብረት በመቀናጀት በአደጋ ላይ የነበሩ ተራራዎች/ተፋሰሱ የተሰያዩ የልማት ሥራዎች በመደገፍ የጉብ ልማት ሥራዎች የተሰራሳቸው መሆኑ

በጠቃላይ በዚህ ወረዳ ብዙ ጥሩ ስራዎች መኖራቸው ግምት ውስጥ በማስገባት ሁሉ በየደረጃው የሚገኝ ሀ/ሰብ ባለሙያና ባለሥልጣን/ሃላፊዎች/ አካላት እንደዚህ የመሰለሉ ሥራዎች ለማስፋትና ዘላቂነት እንዲኖራቸው ለማድረግ የላቀ እንቅስቃሴ እንዲያደርጉ እያልን ያላችሁን አስተያየት ለወረዳ ታ/ማይጨው ጉብርናና ገጠር ልማት ዕቢት በስልክ ቁጥር 034 668 04 20 ማሳወቅ/መጠቀም የምትችሉ መሆናችሁን ልንገልጽላቸው እንወዳለን።

አዘጋጅ፡- የወረዳ ታ/ማይጨው ጉብርናና ገጠር ልማት ዕቢት ባለሙያዎች

1/ አብርሃ ገ/ስላሴ

2/ ክፍላይ ጠባሪ እና የፈጠራና ምርምር ገበሬዎች ቡድን ጋር በመተባበር

መስከረም 2002 ዓ/ም

Annex 5: Resource people for the case study

No	Name	Position	Organisation	City/district/ Subdistrict	Country	
Some members of the PROLINNOVA–Ethiopia Core Group and backstopper						
1	Hailu Araya		ISD	Addis Ababa	Ethiopia	
2	Tesfahun Fanta	PROLINNOVA– Ethiopia Coordinator	AgriService Ethiopia	Addis Ababa	Ethiopia	
4	Elias Zerfu	Senior Training Coordinator	IFPRI	Addis Ababa	Ethiopia	
3	Ann Waters-Bayer (f)	PROLINNOVA International Support Team (backstopper)	ETC EcoCulture	Leusden	Netherlands	
TAHTAY MAYCHEW STAFF WORKING WITH PROLINNOVA–ETHIOPIA ON LISF						
5	Gebrehiwot Zebelo	Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
6	Hailu Legesse	Case Team Leader	Taytay Maychew OoA	Wekro Maray	Ethiopia	
7	Guush WoldeSelase	OoA Director	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
8	Guush Girmay	NRM Coordinator	Tahtay Maychew OoA	Wekro Maray	Ethiopia	

9	Fitsum Abrha	Extension Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
10	Abrha GebreSelase	Input Supply Case Team Director	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
	Members of the new PROLINNOVA subplatform in Axum					
11	Demoz Hishe	Reporter	Dimitsi Woyane Tigray media	Axum	Ethiopia	
12	Kesete Negash	Reporter	Ethiopian News Agency	Axum	Ethiopia	
13	HaileSelase GebreMariam	Research and Development Director	Tahtay Maychew OoA	Axum	Ethiopia	
14	Abadi Redahegne	Innovative farmer		MayBrazio	Ethiopia	
15	Luele Haileselese	Food Security Program Coordinator	Axum Zone Administration	Axum	Ethiopia	
16	Birhu HaileMariam	Researcher	Axum Research Centre	Axum	Ethiopia	
	Innovative Farmers					
17	Abadi Redahegne	Innovative farmer		MayBrazio	Ethiopia	
18	Kes Malede Abrha	Innovative farmer		Akabseate	Ethiopia	
19	Aleka Gidaye Aseffa	Innovative farmer			Ethiopia	
20	Yehedego Beyene	Innovative farmer		Mayeasbi	Ethiopia	

21	Abeba (f)	Innovative farmer		Akabseate	Ethiopia	
22	Almaz Gebre Wahede (f)	Innovative farmer		Akabseate	Ethiopia	
23	Beriha Tadesse (f)	Innovative farmer		Mayeseye	Ethiopia	
	Tahtay Maychew OoA staff					
24	Teklay Asmelash	OoA AI Technician	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
25	Mulu GebreHiwot	OoA Extension Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
26	Desenete Gidaye	OoA Extension Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
27	Ashenafi Kelaye	OoA Extension Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
28	Atsede GebreMariam (f)	OoA Artificial Insemination Technician	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
29	Haile Beyene	OoA DA	Tahtay Maychew OoA	Akabseate	Ethiopia	
30	Tesfaleme Asmelash	OoA Extension Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	
31	TekeleGiorgis Ameha	OoA Extension Expert	Tahtay Maychew OoA	Wekro Maray	Ethiopia	

	The Subregional Platform Partner Organisations					
32	Beyene Gobezaeye	Public Relations Officer	Tahtay Maychew District Administration	Wekro Maray	Ethiopia	
33	Mezegebe Tsegaye	Extension Director	Mekelle BoA	Mekelle	Ethiopia	
35	Berhane Hailu	Former Extension Director	Mekelle BoA	Mekelle	Ethiopia	
36	Abera GebreAmlak	RCBP Coordinator	Mekelle BoA	Mekelle	Ethiopia	
37	Hailu Kiros	BoA Extension Expert	Mekelle BoA	Mekelle	Ethiopia	
38	Feseha Bezabehe	BoA Extension Expert	Mekelle BoA	Mekelle	Ethiopia	
39	GebreMedhin WoldeWahid	IPMS-TARI Research and Development Officer	TARI	Mekelle	Ethiopia	
40	Fetien Abay (f)	Researcher and Lecturer	Mekelle University	Mekelle	Ethiopia	
41	Sue Edwards (f)	Director	ISD	Addis Ababa	Ethiopia	
42	Sara Mesgena (f)	Assistant Programme Coordinator	ISD	Mekelle	Ethiopia	
43	Arefeayne Asmelashe	Regional Programme Coordinator	ISD	Mekelle	Ethiopia	

