

creating a better environment for life

Institute for Sustainable Development
20 Years' Journey With Nature

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Acknowledgements

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ISD would like to thank regional and local extension agents and particularly all the farmers for being reliable partners in ISD's development endeavors in Tigray, Amhara, Oromia and Southern Nations, Nationalities and Peoples Regions of Ethiopia. We also honor the valuable time they gave up to be interviewed and be part of this 20 years' journey documentation.

Institute for Sustainable Development (ISD)

ISD: 20 Years' Journey With Nature

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Dedication

This publication is dedicated to Mr. Bayissa Geleta and Mr. Berhanu Ayele.

Mr. Bayissa Geleta was a very passionate and proactive local environmental leader for many years. He was a great person known for his humble and industrious nature. Mr. Bayissa was a self-trained expert in herbal medicine and demonstrated to many that opportunities could be made for oneself through proactive and relentless efforts. He was an inspiration and a gifted leader in both the social and natural environment wherever he was working and living. His humility and humour; and his ability to listen but not be bent from his aim and what he knew was correct made him a much trusted member of any team he worked in. Even over the last few months while he was battling with his failing kidneys, he continued to come to the office whenever he felt he had the strength to follow-up with the 22 schools ISD works with so that the annual report for the office would not be delayed. Bayissa also had creative gifts. He was the best wielder of a video camera in ISD and had become a gifted story teller, never going on a field visit without coming back with one or more special stories backed up by photographs. It is his story writing that started to put life into the ISD website. Bayissa passed away on 31st December 2010 just as ISD was trying to find the funds for him to have a kidney transplant. Most of those attending his funeral were the students and teachers with whom he had worked. We remember Mr. Bayissa as we celebrate ISD's 20 years anniversary.

This publication is also dedicated to Mr. Berhanu Ayele who was a teacher and latterly also the Director of *Abu Mujahedin* Primary School in Harar who lost his life in a tragic car accident while returning from the Cultural Biodiversity Celebration in *Maychew* in July 2016.

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ISD's Vision

The vision of ISD is to contribute towards an Ethiopia that is free from hunger and poverty by combining the best in modern and traditional knowledge.

ISD's Mission

ISD's mission is to promote sustainable ecological and social development through working with people and organizations at the grassroots level.

Our mission is to raise the importance of using sustainable knowledge, practices and innovations in order to support and improve the livelihoods of local communities in Ethiopia. We work to incorporate the best of both traditional and modern knowledge through sharing experiences, open dialogue, research and training, based on genuine participation.

ISD's Objectives

To carry out research to speed up development by bringing together the best in traditional knowledge and modern science.

To promote activities focused on the link between cultural diversity and biodiversity, also called bio-cultural diversity, with the youth to raise the appreciation of indigenous knowledge for sustainable livelihoods and a better future.

To support and organize meetings and exchange visits which promote dialogue and information exchange on issues related to biodiversity, sustainable development and the assertion of the livelihood rights of the poor majority of the South.

To publish books, manuals and other information materials on biodiversity, natural resources, indigenous knowledge and related issues to provide technical information for development for workers and educators at all levels and

Share information through print and electronic media to create awareness among development workers in government and the public at large on issues that promote the principles of ecology, health, fairness and care to pass the wealth of today's natural resources to the generations of tomorrow.

The ethical values of ISD

Respect the knowledge, practices and cultures of local communities with regard to natural resources management, and learn from them

Believe in equity and solidarity.

Provide an equal employment opportunity regarding sex, religion, political outlook and physical condition.

Respect the laws and regulations of the country.

Use transparency and accountability in all relationships.

Respect each other and work together.

Make effective and efficient use of resources and give high commitment to the organization and its work; and

Believe in and practice comprehensive participation with all stakeholders.

The Main Objectives of ISD's Work

Design, promote and implement sustainable development strategies to address the environmental, social and economic challenges of the beneficiary groups, particularly smallholder farmers, youth, and women;

Facilitate conditions for the beneficiary groups to realize their goals in their self-initiated development efforts;

Facilitate conditions for the beneficiary groups to get better access to services; and

Facilitate a conducive environment for skills development through training and engagement of the beneficiary groups in self supporting endeavors, including institutional learning.





Ecological Organic Agriculture Initiative for Africa

ISD has used ecological principles to guide its work in agriculture. This became focused in 2011 when the 6 pillars for the Ecological Organic Agriculture /EOA/ initiative for Africa was identified.

The Agricultural sector is critical to many African economies and it is one of the sustainable development drivers. However, unsustainable farming practices coupled with natural challenges such as; climate change, soaring human population, land degradation as well as pest and disease pandemics have hampered the sector's capacity to contribute to sustainable development and poverty alleviation in Africa. This condition is further exacerbated by inadequate institutional capacity for professional development, inadequate financial resources, inaccessible markets, and lack of access to adequate relevant information on available technologies and practices.

In light of these challenges and pursuant to the African Union (AU) Heads of State and Government Decision on Organic Farming (Doc. EX.CL/631 (XVIII)), the Ecological Organic Agriculture initiative was born. The decision required the African Union Commission (AUC) and the New Partnership for Africa's Development (NEPAD) to initiate and provide guidance for an AU-led coalition of international partners on the establishment of an African organic farming platform based on available best practices; and to provide guidance in support of the development of sustainable organic farming systems.

The EOA initiative portends solution to the problems facing the agricultural systems in Africa. It is capable of sustaining the health of soils, ecosystems and people drawing on principles of ecology.

VISION

Vibrant systems for ecological organic agriculture that enhance food security and sustainable development in Africa

MISSION

Promote ecologically sound strategies and practices among diverse stakeholders in production, processing, marketing and policy making to safeguard the environment, improve livelihoods, alleviate poverty and guarantee food security.

GROWTH OF EOA INITIATIVE IN AFRICA

The EOA initiative is currently supported by two main development partners - the Swiss Development Corporation (SDC) and Swedish Society for Nature Conservation (SSNC).

During the pilot phase in 2012, SSNC supported the initiative in six African countries (Kenya, Uganda, Tanzania, Ethiopia, Zambia and Nigeria) and SDC supported baseline studies in three West African Countries (Benin, Mali and Senegal).

Following the successful pilot phase, SSNC continues to support the initiative in four African countries (Kenya, Uganda, Tanzania and Ethiopia) for the period 2013 - 2015, while the SDC support is concentrated in eight countries; the four mentioned countries in East Africa and four West African countries (Benin, Senegal, Mali and Nigeria) for the period 2014 - 2018.



Coordination and support is provided by Biovision Africa Trust and PELUM-Kenya for SDC and SSNC contributions respectively. The initiative rolls out a demand-driven result-based implementable action programme for transformative ecologically organic agriculture in Africa along six strategic pillars.

THE EOA STRATEGIC AREAS



Research, Training and Extension (RTE): This is responsible for understanding research and training gaps within the ecological organic agriculture value chains and undertaking activities to fill them. It embraces demand-driven, participatory, interdisciplinary and multicultural research.

Information and Communication (IC): This pillar is complementary to the Research, Training and Extension pillar. It is charged with awareness creation and strengthening EOA extension support systems. It uses diverse information and communication strategies, products and technologies to share information on sustainable farming practices from researchers, farmers and extension agents in order to sensitize the general public and policy makers on the importance of Ecological Organic Agriculture.

Value chain and Market Development: This pillar aims to stimulate development of sustainable markets and increase trade in traditional and high value agricultural produce both at domestic and export levels. Agriculture is a socially and economically crosscutting enterprise and therefore this pillar embraces a holistic approach in its interventions focusing on the whole value chains.

Networking and partnership: Promotion of EOA is a complex and multidisciplinary process that calls for engagement by relevant stakeholders including governments, farmers, civil society, private sector, and the international community. This pillar is mandated with sustaining such partnerships.

Policy and Programme Development: This pillar supports the development and implementation of enabling policies and programmes for EOA. This aims to support stakeholder platforms (agricultural extension agencies, policy making and implementation agencies, credit institutions, prospective agricultural markets, ICT centres, etc.) to share knowledge and experiences, encourage formation of relevant policies to promote EOA.

Institutional Capacity Development: This pillar supports equipping of professionals with skills and competences to facilitate community-based innovation and change processes geared towards establishing, developing and supporting EOA in Africa.

Under the SDC support, the last three pillars are consolidated into one pillar and collectively referred to as steering, Coordination and Management



KEY RESULT AREAS OF THE ECOLOGICAL ORGANIC AGRICULTURE INITIATIVE

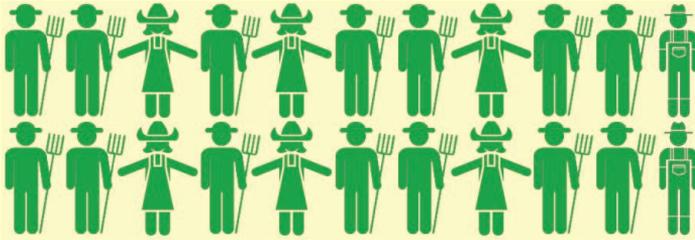
EOA related knowledge along the agricultural value chain increasingly documented and various actors capacitated to translate it into practices and application.

Producers systematically informed and made aware about the EOA approaches and good practices and motivated to apply them by strengthened access to efficient advisory and support services.

A substantially increased share of organic quality products at the local, national and regional markets achieved.

Multi stakeholder platforms formed at the national regional and continental levels to influence positive changes in public policies and investment plans supporting EOA.

ISD Over 20 Years



11,000 +
Farmers, experts and
development agents
impacted

20,000 +

In school students and teachers
through 24 schools impacted

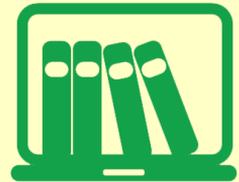


3,500 +

Out-of-school youth through 30+ youth
groups impacted

80+

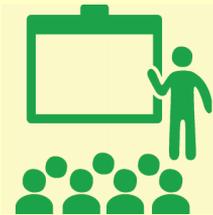
Publications, presentations and research documents



Publications

3,000+

Books in ISD resource center



150 +

Trainings, workshops, conferences and visits delivered

150,000+

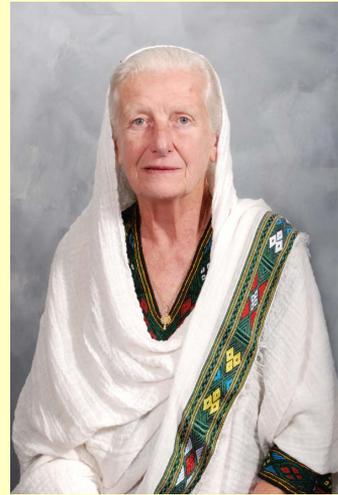
Lives touched



600,000+

Trees and other useful plants planted

Over the last 20 years, ISD has grown from a one-room in our house with a computer and a photocopier to a main office in Addis Ababa and 2 small branch offices in Mekelle since 2005, and Dessie since 2014, providing the bases from which our over 30 enthusiastic and dedicated colleagues work with our partners. In this book, you can meet ISD's colleagues and around 30 of our partners who have willingly cooperated with ISD in describing their experiences on taking up and using improved means to restore and maintain healthy soils, work together to protect both biodiversity and natural resources as well as their understanding of the benefits they have gained from them, and always in a spirit of sharing and innovating with their neighbors.

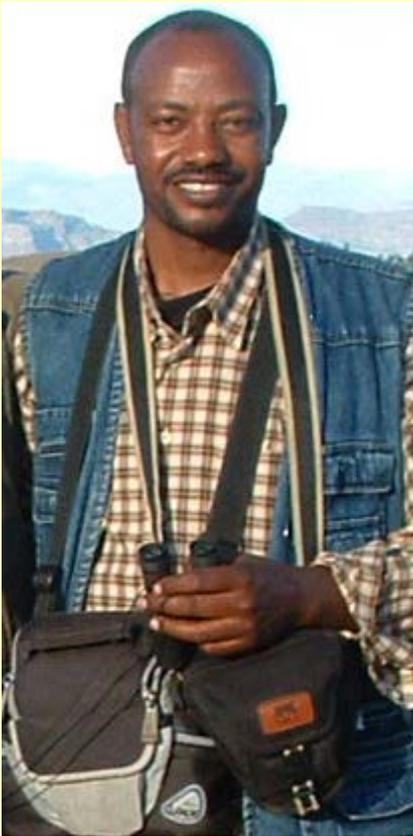


Ms. Sue Edwards
ISD Director

All of us in ISD have learned much from the way these partners have participated in this journey – showing us their deep knowledge and commitment to bring about sustainable improvements to their livelihoods and the ecosystem services vital for their survival.

ISD has also sought to give special attention to the younger members of Ethiopia's rapidly increasing population. We have endeavored to inculcate a love and appreciation of traditional wisdom by linking students and teachers in schools with robust integrated local communities, and to celebrate the rich diversity of cultures that is Ethiopia's heritage from over 2000 years of its geo-political history. Out of this work with school environmental education clubs, ISD has also been able to work with self-organized youth groups who have decided for a variety of reasons not to immediately continue with their education but to work for the benefit of their local communities and themselves by establishing organic vegetable production to earn an income and by providing other types of social services for the less fortunate members of their communities.

The past 20 years have been a particularly rewarding journey for Dr Tewelde and myself as we have seen a dream translated into reality on the ground. We hope and wish that ISD will continue this journey and hold strongly to the basic principle that sustainable development has to be based on working in harmony with nature.



Solomon Hailemariam
Former Communications Officer
and Photographer for ISD

I have the best of memories working in ISD; great colleagues and great leaders are some of the things I cherish working in the Institute. Thanks to all the well seasoned professionals, I have learned a lot about natural resources and cultural biodiversity. I have been able to contribute to natural resource management because of the lessons I learned at ISD. These were the highlights of my stay at the Institute that remind me of all the good times I had there.

I am really excited knowing that, for the past 20 years, ISD has been working to incorporate environmental protection, cultural biodiversity, sustainable development and other related experiences of developed countries, into the Ethiopian school system.

ISD endeavors to protect the environment and improve its utilization. This initiative is a worldwide concern and a critical issue of our age. I think it was for the same reason that in 1996 ISD's founders decided to work on sustainable development.

It was at a workshop in Mekelle they decided that it was time to work on improving the impoverished natural resources of the country.

Before the establishment, I had the privilege of living with the founders' family, Dr. Tewolde G/Egziabher and Mrs. Sue Edwards. I was there when they announced about launching the Institute and proposed to use one of the rooms in the house as an ISD office. All the family members were happy to hear about starting the Institute and glad to share one of the rooms for the office.

I admire how our parents, the founders of the Institute, always shared their dreams and enthusiasm as well as decisions concerning the family with all family members.



The point I am trying to make here is how ISD is a home grown organization that went on to have a nationwide influence. Every family member has in some way or other contributed greatly towards realizing the founders' dream—really it's everyone that left their mark on ISD.

I am sparing you all the details but we could never overlook what Mrs. Alemayehu G/ Tsadik (Ata) and Mrs. Hadas Kidane put in to the making of ISD.

The small homegrown institute then went to become a three room establishment at ENDA Ethiopia and later a full office building of its own. The fourth ISD working station was located around Lem Hotel, the last place I worked at with the Institute. During my stay at the Institute

I have helped mobilizing the office in the initial stages; served as a team leader and representative; as well as ISD's Public Relations officer among other things. Though I am no more part of it, I still keep a close look. I know the Institute and its workforce have kept on the 20 years momentum in moving forward with their endeavors.

ISD is primarily interested in inspiring sustainable development in Ethiopia. As a start to this promising purpose, ISD has put in place various programs to help save the deteriorating ecosystems and natural resources of the country. This progress that requires the active involvement of the community has been in place starting in 1996.

The Institute carries out researches in traditional and modern knowledge to acquire and integrate the best of both in agriculture, biodiversity resources, ecological agriculture and environment rehabilitation. ISD has been practicing the results of these research activities to help improve the local community.

The research activities were first conducted in Adi Nefas, Zebansas, Gu'umse and Adi Abo Mosa sites in Tigray Region. In collaboration with farmers, extension workers and officials of the respective areas, ISD introduced natural fertilizer preparation and use, soil and water conservation, grazing land and vegetation rehabilitation, etc. The results of these interventions were very decisive and replicated in other districts and sub-districts of the Region. In addition to these interventions the farmers have continued implementing other additional programs.

The interventions of the Institute and the results of its programs have been visited by members of the Ethiopian Parliament, government officials, agriculture workers from other Regional States and professionals in the agriculture sector. These experience sharing visits have made it possible for the programs to be replicated and used in other Regions of

the country. In accordance with requests from these Regions ISD has expanded its work into the Southern Nations Nationalities and Peoples Region as well as Amhara and Oromia Regions.

In 1997 ISD launched another unique program. The Cultural Biodiversity (CB) is a program that aims to equip the young generation with culture and biodiversity as well as traditional knowledge so that they could use it in combination with modern knowledge. Through this program ISD mobilizes environmental protection clubs in schools and assists out of school youth groups through trainings in Ethiopia and other countries. The Institute and its staff as well as other scholars and professionals provide these youths with knowledge, practice, financial and material support that help them establish a secure future. With the help of this program several young people have now established their own associations and have acquired considerable achievements. This program now has 4 youth groups and 25 school clubs under it.

The Institute's interventions in schools was first launched in Kefetegna 12 Secondary School by introducing urban agriculture, waste management, ecological agriculture and land management, poultry farming,

honeybee keeping and forestry among other things. Students and teachers of the school were actively involved in trying out these practices on an experimental plot in their school. The students' lively engagement and practice on the plot has shown the extent to which they are inspired and informed. It also motivated ISD to extend this experience to other schools and out of school youth groups.

I will never forget my experience at this school. We [ISD] and the students were working on the experimental plot and farming to produce wheat. When it was time to weed the planted plot most of the students mistook the wheat for grass weed and removed the wheat seedling from the plot. We felt that these youngsters had no idea about the food they eat other than the seed that comes out of sacks. This was a decisive point in making ISD decide to inform students about the source of their food and other related knowledge. That is when ISD started working with 16 schools from different Regional States of Ethiopia.

The Biogas project, which we launched with youth associations and schools is now being a widely implemented intervention throughout the Regional States of Ethiopia. ISD organizes seminars

as an effective means of disseminating such knowledge and establishing its projects; these seminars have insured an effective knowledge transfer between the Institute, students, the community and stakeholders.

Over the past 20 years we have prepared and attended workshops on sustainable development, biodiversity, environmental protection, etc. have helped ISD to design projects that have resulted in continental and global organizations like the Forum for Environment, the African Biodiversity Network (ABN), etc.

The program that targeted students and youngsters in 16 schools across Ethiopia was launched in 2001, focusing on culture and biodiversity.

This program led to the establishment of other programs that mobilized youth groups and improved their capacity. These groups produced vegetables and fruits, poultry farms and bee hives for honey, prepared food products and run small restaurants. ISD introduced biogas as a source of environment friendly energy source for these productive youngsters. The biogas project also made the lavatories clean and free from stink.

Before the country started celebrating the Ethiopian Nations and Nationalities Day, ISD has been carrying out the Culture and Biodiversity program since 2001. This program brings together students from 16 schools of Ethiopia to learn from their families' and communities' cultural, natural, societal and agricultural practices. They share these distinctive cultural manifestations with their fellow students. They collect traditional ornaments, household and communal objects and learn about their use and significance in the respective cultures. They research 'the what about' of the environment their parents and ancestors dwelled in. The students also share this acquired knowledge with other students and teachers from other Regional States and cultures through the Cultural Biodiversity celebrations. This event is a platform for cross cultural relations and exchange of valuable traditions. It is also a means of transferring and spreading knowledge of culture and biodiversity to other nations and nationalities. Accordingly, this celebration has been held more than seven times with colorful festivals and exhibitions. This celebration is a hallmark for the peaceful coexistence and mutual respect among nations and nationalities. It also signifies tolerance for the young

generation to realize it and live according to these traditions of the people. These celebrations are frequently visited by local and international guests. They are also warmly launched in the presence of government officials of both Regional and Federal levels who have played a great role in expanding the program.

On the occasion of the first Cultural Biodiversity Celebration at Weliso in 2002 and the third Celebration in 2006 in Dire Dawa City the former Federal Democratic Republic President Girma W/Giorgis opened the ceremony. In his opening speeches he emphasized on the significance of the event as well as the need to keep up the good work that contributes to protecting biodiversity and spreading tolerance. He also stated the importance of celebrating the Culture and Biodiversity at the national level. This marked the beginning of National Nations and Nationalities Day in Ethiopia. Several other government officials, including the current Ethiopian Prime Minister Hailemariam Desalegn, have taken part and shared the same concern in other Cultural Biodiversity celebrating occasions, meetings and workshops prepared by ISD. All of these acknowledgements have greatly contributed towards spreading the effective programs of the Institute.

Several foreign media have reported about how ISD is contributing towards protecting natural resources as well as preserving the cultures of different communities over the past 20 years. Foreign countries have learned from ISD's experience in organic agriculture and become productive by spreading its principle in their society.

ISD has been working on spreading the preparation of organic fertilizer from decomposable waste in urban areas and its application in vegetable production. Accordingly, this is now a widespread application in several small and big cities in Ethiopia.

The Institute has organized several workshops and meetings with different community members in its programs to facilitate knowledge transfer and spread other important local and international practices. It prepares publications, television and radio programs, photographic presentations, postcards, posters and annual calendars to spread information and knowledge in the community, for civil servants, international partners and concerned organizations.

Many have contributed towards realizing ISD's 20 years' successful journey; various

organizations across the country and the globe, individuals and board members have all played their part in promoting the Institute and its programs in Ethiopia and the world.

I would like to congratulate all organizations and individuals who have provided moral and financial support starting from the inception of ISD throughout the process of realizing all its success.

All the people who have served the Institute in its 20 years journey will always be remembered in the history of ISD.

Beyond working for ISD we all shared a spirit of friendship and family belongingness. We have a Union in which we strengthen ties amongst ourselves by sharing both joyous and gloomy moments in our lives. We go on trips and prepare other events that bring us together. Our staff union has fostered love, respect and longing among us. This is an exemplary relationship in an organization.

I would like to say happy 20th anniversary to the founders and all its employees who have been carrying out the visions of the Institute and have realized it. Congratulations and keep up the good work!



Berhanu Rabo
Board of Directors
Member, ISD

For me ISD is a nest of highly committed professionals working as a family led by a never quitting leader. It is a community of harmonized professionals consorted as a single team serving diverse communities to plant the seed of sustainable development in the minds of the diverse community members. Moreover, ISD is an organization striving to maintain the natural rhythm, while promoting the idea of uprooting poverty in a lasting manner. I think of ISD as an institute that deals with the people for the people in a dignified and sustainable manner. ISD set down the foundation by which the community can integrate its indigenous knowledge with scientific approach and develop its life and livelihood to the optimum level. To this end, the three tiers that have been accelerating ISD towards its ambition are Agriculture, Education and Environment; all of which are the life line for any community to operate in a healthy manner.

I wish all those who are directly or indirectly contributing to the institute for the big dream of ISD to come true. I also wish ISD much more success for its remaining time of service that is awaiting it.

ISD is an institution close to the communities. It strives to serve their needs. The Institute's operations and areas of intervention are unique because they are picked by the community itself. It is a very productive organization that implements extensive projects with limited budget and resources.

In addition, ISD is an organization where there are competent and effective professionals both at management and at the grass roots levels. This has made our jobs as board members very easy. There have not been any major operational difficulties and impossible situations. We provide a limited role supporting ISD and providing technical assistance. I have learned valuable lessons from ISD: In order to succeed with projects money is not as important as commitment and cooperation in the job.



Betseit Sisay
Board of Directors
Member, ISD

For me ISD is the heart beat of the people for green development. It has gone through a lot of challenges to become a light to so many people. I wish that it will continue to move forward with all its strengths. Happy 20th Anniversary for all!

I believe ISD's Board of Directors has not been as supportive as they are supposed to be. This was not a problem of ISD; rather, this was a shared shortcoming in most Non Governmental Organizations that have to work with a board of directors which the government decided to set in place to control cash flow. This requirement does not necessarily imply that the board of directors is ideal especially in terms of providing policy direction and assisting in major areas of organizational operation. So this was not a problem caused by ISD; it is just a root problem.

ISD runs fundamental operations; especially by promoting environment and soil friendly agriculture practices as alternatives to exploitative practices that harm the earth.

It has been extending interventions based on research that have resulted in measurable impact and change. I have the utmost respect for that. What's more, ISD employees do so much work and accomplish projects that could only be realized in big organizations with abundant budget. Despite some of the inherent challenges in the Institute, they work as a family; they are committed and they have come up with practical results. I respect them.

However, I believe ISD has not progressed as it should have. It is the foundation for many organizations. So many organizations will still have to learn from its experience to do so much more. ISD is an organization that could go so far and so wide. In order to do this it needs to raise more funds and advocate its cause and its projects. In addition, it could focus its intervention area to be on fewer issues and thus become more productive.

I would like to wish that Mrs. Sue could continue her endeavors. She knows so much and she has a big heart. I would like to say to her, happy 20th anniversary for ISD. I would also like to honor ISD's employees who work day and night, traveling over the mountains and across the lands to have resulted in the success of the Institute. Happy Anniversary!



Dr. Million Belay
Board of Directors, Member, ISD



Dr. Hailu Araya
Ecological Agriculture Advisor for ISD

For me ISD is a school. There are three bodies in the organization: there are the employees, Dr. Tewolde Berhan and Ms. Sue Edwards and the farmers; I have learned from all of them. I have come to understand how important it is to listen to what the farmers have to say and open our eyes to their ideas; by doing so you get to experience unseen and untold stories. In order to get a message across to farmers and to successfully transfer knowledge, it is crucial to be like them and listen closely. This is an important lesson I have learned from farmers.

The first thing that comes to mind when I think of ISD is farmers and agriculture. It is home of local practices.

What distinguishes ISD from other organizations is not how much money it has. More importantly, it is its close tie with local administrators and community members that sets us apart. We all have to put together our potential and knowledge to continue serving ISD; an organization of the people.



Redwan Mohammed
Community Facilitator, ISD Addis Ababa

ISD is a place where I have acquired much knowledge and have known so many people. It is an organization that undertakes massive projects successfully with limited budget. I believe I have contributed my share of good work in the years I have been working with ISD. Long live Ms. Sue and ISD!

Arefayne Asmelash
Community Facilitator, ISD Tigray



ISD is a parent of development. It has made considerable contributions to help our country develop, sustain itself and reach heights that many countries enjoy. ISD and a farmer are one and the same. ISD is a mentor and a model. We have Dr. Tewolde and Mrs. Sue to thank for their true devotion to the people which led to the success of the Institute. ISD could not have achieved it all alone. The Tigray Bureau of Agriculture and Rural Development has been a reliable partner supporting and owning the projects of ISD. We have teamed up with agriculture experts at various levels to perfect our success.

I personally have learned a lot working for ISD. For me it is like a parent; a mother and a father. Before ISD I learned and worked with different people; friends who end up in lives that are not worth remembering. My life has changed because of ISD. I am grateful to God! Long live ISD!

Alemayehu Ayalewe
Senior Community Facilitator, ISD Addis Ababa



For me, ISD is a place where I learned about real observation of the physical world and developed a positive life discipline to be prepared and creative. Working there gave me a fair personal touch: to have a sense of belongingness and humor; I have learned to admit mistakes, give equal respect for everyone and be forgiving, compassionate and positive. I have come to have high expectation of myself and other people to be successful.

ISD is founded on the principle of fostering the next generation. It has come so far: It may be with few and short root and it has many shoots.



Brook Tesfay
Community Facilitator, ISD Addis Ababa

After completing my undergraduate studies I was very keen to join an organization that works at the grass-roots level on research and development projects in Ethiopia or Kenya. ISD appealed to me due to its long-standing projects and particularly its internationally recognized achievement in Tigray. I thought it would be a conducive environment for me to learn and grow more with the support of its multi-disciplinary team structure.

ISD has given me the chance to put what I have learned in theory, or in my college years, to practical, real, on-the-ground practice and gain insightful experiences. I was able to relate to change-makers in science, law, policy and communication channels of the entire organic agriculture movement that ISD is part of.

For me ISD is an essence of the confluence of indigenous traditional and modern scientific knowledge. It's a landmark institution that tells more than a story of research and development, but also farmers' resilience and livelihood shifts at the grassroots level.

Sustainability; grass-roots growth; traditional and modern acumen in agriculture; family-like institutionalization; 'real' contributor to smallholder agriculture development, youth and women empowerment are some of the concepts that come to my mind when I think of ISD.

I would like to congratulate ISD on its accomplishment of the last 20 years. Wish ISD more success in the future!

ISD is a Change-maker.

Alemu Asfaw

Community Facilitator, ISD Dessie

Having worked for district agriculture office in South Wollo, I am well aware of the limitation in intervention. It is also easy for me to communicate with farmers and extension workers and other stakeholders. As a result, having to work for ISD has given me an opportunity to address these limitations from an external and capable workforce. For this, I am really happy!



The projects implemented by ISD and the results acquired as a result, are proof to what the Institute has been doing so far. There are important activities that need to be applied countrywide. Accordingly, it is my desire that ISD promotes these activities.

Sara Mesgina

Assistant Community Facilitator, ISD Tigray



ISD has exerted unreserved effort in showing me how to communicate and create healthy relationship with grass-root farming communities and other concerned stakeholders for implementing various development activities. It has helped me gain indispensable knowledge on how to maintain and conserve healthy natural resources without any external inputs. It is all about implementing new technologies which are easily applicable by farming communities to improve the environment.

For me ISD is all about promoting a healthy and green environment; stopping any destruction and improving sustainable and stable natural resources in farming communities.

ISD is Assiduous!



Sara G/meskel
Assistant Community Facilitator, ISD Tigray

I'm really happy to have joined ISD because I have got more theoretical and practical knowledge on how to create healthy and suitable environment. For me ISD is a resource of knowledge about ecological organic living and it has changed my life style. ISD is all about promoting soil fertility and expanding organic food for all society in a sustainable manner. It is an organization committed to creating and introducing new technologies which are easy, suitable and sustainable for society and the environment. ISD has accomplished so much by helping landless and poor women in various woredas (districts) by helping them start poultry farms and beekeeping, fruit and vegetable gardening etc.

ISD is green.

Endris Mohammed
Community Facilitator, ISD Dessie

For me ISD is a school. ISD loves farmers and it has taught me to love them. I am grateful. Since I was born and raised in a farmer's family, I never thought there was anything to love about agriculture. I never wanted to work in any agriculture related area. Now, after I joined ISD, I choose and will always choose farmers.



ISD is a farmer. Long life and health for ISD Director! She loves her country and she loves farmers, she always thinks about people.



Gizaw G/mariam
Program Manager, ISD

The principles of ISD take after the principles of its founders, Mrs. Sue and Dr. Tewolde. The founders live for people and the organization has a similar mission. ISD is an organization with limited capacity taking up big projects to serve people.

I have learned a lot working in ISD. I have understood that sharing a belief is the most important thing. I am very happy to have given myself to serve the less fortunate community.

For me ISD is fairness.

Though I have not worked in ISD for all the 20 years, I am very grateful to be a part of the 20th anniversary: a historical phenomenon, a manifestation of continuous mutual support and strengthening.

Let us not take more than we need but serve more than expected!

Asrat Mengesha
Administration and Finance Manager, ISD

For me ISD is a school where I learn a lot for my future career. Congratulations to ISD on celebrating its 20 years anniversary.



Yosef Garedew
Communication Officer, ISD

For me, ISD is Development and Knowledge. Apart from working to protect the environment and improve soil fertility, it is committed to developing local knowledge from indigenous communities'; It also encourages youths and students to value it. Congratulations to all of us as we celebrate ISD's 20 years.



Samuel Mekonnen
Monitoring and Evaluation Officer, ISD

I did my postgraduate thesis on smallholder farmers. Since then I really wanted to work with farmers. An acquaintance of mine who was aware of my ambition put me in touch with ISD to serve a period of internship. It was an opportunity that let me work closely with farmers.

ISD works to help smallholder farmers that account for 80% of the Ethiopian population. It also learns from them; ISD also recognizes and promotes their local knowledge and experience.

For me ISD is an organization that stands for Ethiopian farmers.

I would like to extend my thanks to farmers who are responsible for maintaining ISD as an organization by working with it and accepting its projects. Then, I would like to say congratulation to Dr. Tewelde and Mrs. Sue for their child, ISD, which is 20 years old. Also, to all the former and current staff members who paid sacrifices for ISD, I would like to say happy anniversary.

Nigussie Habtemariam
Community Facilitator, ISD Addis Ababa

For me ISD is a school; I have learned so many things which I could not have gotten in school. It is a learning place for everyone in and out of ISD, for the staff and the beneficiaries. I wish all ISD management, staff and partners a happy 20 years anniversary of success.



Leulsegede Gebeyehu
Communication Assistant, ISD Addis Ababa

For me ISD is a house of knowledge. It is an organization with massive interventions yet limited recognition. ISD belongs to all of us. I would like to say happy 20th anniversary and I wish the organization would be famous and recognized for its deeds.



Woineshet Yadessa
Purchaser, ISD

For me ISD is an organization with big vision and mission working for people, the country and even the world. Its work is for generations yet to come. I want to see ISD grow and attain all its goals.



**Dr. Tewolde Berhan
Gebre Egziabher**

Co-Founder, ISD

When we first thought of establishing ISD the Ethiopian Environmental Policy was being drafted. We launched the ISD from our home aspiring to try out some of the components of the policy in order to contribute to making it practically applicable. The newly drafted Constitution at that time was the base for our decision: It promoted the ground for every local community to care for and protect as well as improve its respective environment. Accordingly, we joined the movement to see how effectively this Constitution can be implemented.

In 1992 the Rio Environment summit took place in Brazil. On this venue I tried to reflect how important it was to work for the rights of farmers.



My advocacy was not as effective as I wanted it to be; however it put me in touch with many stakeholders. My push for the rights of farmers was acknowledged 10 years later in an international sustainable development summit in Johannesburg, South Africa.

When we first launched ISD, we did not have any money for operations. Both my wife and I earned salaries on a monthly basis and we could not afford to travel to rural areas to launch activities of the Institute.

It was some donors I met during the Rio summit who gave us money for the first operations. In addition, then, since the government had just come to power, it had as yet not set any regulations on how Non-Governmental Organizations are established; so ISD was not a legal body.

Back then we went around rural Ethiopia studying challenges and discussing with people to define the scope of the Environmental Policy. Based on the results of the assessment we initiated ISD's interventions working with rural communities. In addition to the assessments, I included my experience of growing up in a rural area and my exposure to modern education to identify the rural problems and their possible solutions.

New beginnings have both opportunities and challenges. When we started ISD the people in the new government were very perceptive about our idea to work with rural communities because most of them were either born and raised or had spent a significant time in rural areas; this was one of the opportunities. People in all levels of authority, from the

Prime Minister to local administrators, were very supportive. The newly adopted Constitution at the time has helpful provisions that promote individuals to contribute to a healthy environment; this was truly useful.

On the contrary, the biggest challenge at that time was that there was not as yet total stability in the country following the fall of the Dergue government; there were so many complications in many parts of the country. It was difficult to travel to rural communities and work with farmers under such circumstances. Since the EPRDF government that took power rose from the Tigray Region, the place was relatively stable and peaceful. For this reason we began our intervention in Tigray.

The project area was far from where we lived; that was a challenge. We lived and worked in Addis Ababa and we initially did not have enough money to travel back and forth to Tigray for ISD projects. Then, after we launched the intervention in Tigray, the farmers were suspicious that we were going to take their land.



Dr. Tewolde Berhan speaking at an Ecological Organic Agriculture field visit to Gergera Tigray, September, 7 2016

We had to work with them for some years before they began to trust us.

Other than these limitations, we also struggled with human resource; there were not as many educated people to hire for ISD's projects because there were only two universities in the country.

After a while the Ethiopian Environmental Policy was approved. We continued our initial effort to supplement the policy; we engaged in supporting the application of the policy. I was first recommended to

lead the team when the environmental policy was being drafted. Then after the policy was approved, I was appointed as Director of the Environmental Protection Authority and stopped my involvement in ISD. Shortly after, ISD was registered as a legal body when the government passed regulations on how Non-Governmental Organizations are established. My wife, Mrs. Sue, has been leading ISD as Director ever since.

When we started ISD we never thought that Ethiopia's development would get to where it is now during our life time.

I never imagined I would see ISD achieving what it now has after all the problems we had with human resource and budget limitations and with peace in the country. We started the intervention believing to make a difference; the new generation should then carry on the good work to help improve our country.

Finally, I would like to thank Martin Khor, Director of the Third World Network (TWN), which was based in Penang, Malaysia, and his associates for all the support and assistance they gave us when we began our operation.

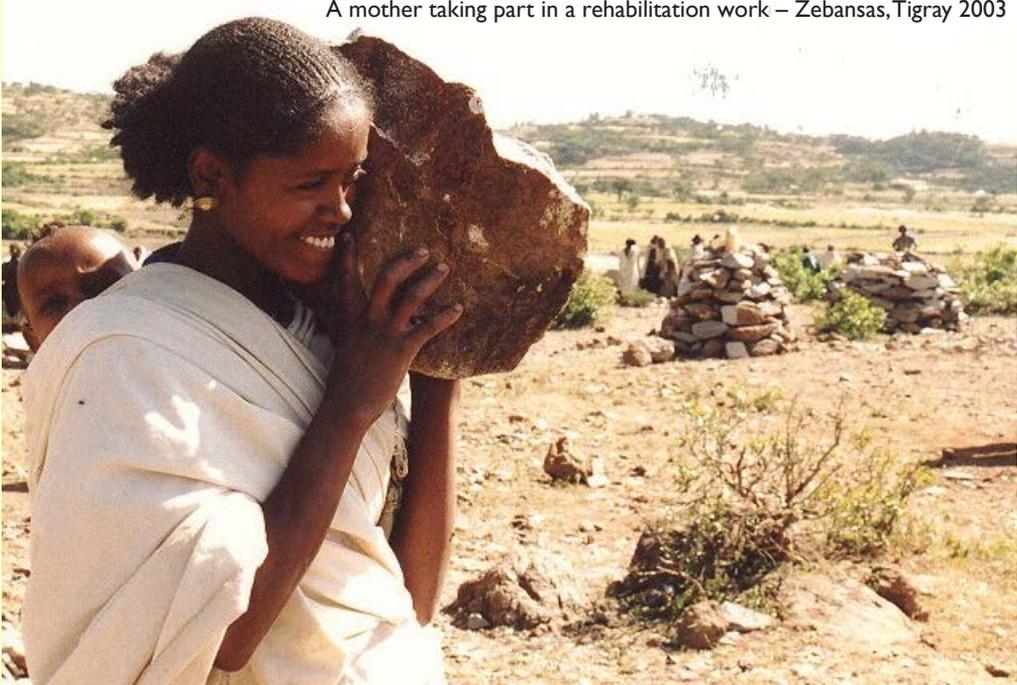
I would also like to appreciate the Swedish Society for Nature Conservation (SSNC) that has continued to assist ISD with its effort.

In Ethiopia, Mr. Sebhat (Aboy Sebhat) was accommodating in resolving the difficulties we used to face. Moreover, Mr. Berhane Haile, former Bureau Head of the Tigray Bureau of Agriculture and Rural Development, was very supportive when we began working in Tigray.



(Left to Right) Ms. Sue, Dr. Tewolde Berhan, Dr. Sara Tewolde Berhan (from Mekelle University) and Young Ruth (Dr. Sara's daughter) at Debrezeit Agricultural Research Institute visiting a breakthrough in System of Crop Intensification applied on Teff – September, 26 2010

A mother taking part in a rehabilitation work – Zebansas, Tigray 2003



Sue Edwards
 Director, ISD

In the 1990's when the EPRDF government came in, there were various movements to give support to Ethiopia's small-holder farmers by promoting the use of chemical fertilizers and improved seed varieties. Before that time Ethiopia had virtually no chemical fertiliser being used and improved varieties hadn't penetrated. At the same time, Dr. Tewolde was asked by the new government to come up with an alternative for farmers who cannot take up chemical fertilizers. This coincided with our plan to help improve crop productivity through

an ecological approach and led to the start of the Tigray project.

The funding and the support came through the Third World Network, an NGO based in Malaysia. Martin Khor is a lawyer and an economist. He became involved with the discussion from the civil society point of view with the 1992 Rio Earth summit. So while Tewolde was in Rio for the summit he made some interventions about community rights and the traditional practices of farmers. And that brought Tewolde and the Third World Network together.

So it was this organization that supported us to get going.

That was how ISD started, in one room in our house. We bought a computer, a table, and a photo-copier. Then we came up with a project idea for ecological management for the Tigray regional government. The project was also aimed at reinstating collective community governance over natural resources. We worked with four communities all over Tigray to help establish their own local committees and came up with bylaws written up in a book published by the Third World Network.

The areas for our project were different in both location and condition. One was located in a better endowed area, two in the east where it is very dry and one in the centre, where there is very high population density. It took over 12 months of discussions to get the project going in the communities. An agricultural extension officer, called Arefayne Asmelash, was our first colleague; he was working for the Bureau of Agriculture in Tigray. These areas were selected after a discussion between us and the

Tigray Bureau of Agriculture and Mekelle University. So Dr. Mitiku Haile of Mekelle University and Berhane Haile, the head of the Bureau of Agriculture, influenced where our original communities were located. Accessibility from the road was one criterion. Also, Arafayne, who was assigned to us to follow the project, was an employee of the Bureau so he would still have his commitments in these places.

1996 was when we got our first lot of money for our project. Between 1997 and 1998 we held compost making workshops and set up the committees for the bylaws to collectively govern natural resources i.e. control animal grazing and perform soil and water conservation activities. In 2002 part of Tigray had its annual farmers' field day, which also included key personalities from the Agriculture Bureau, at one of the sites where we have been working.



They were very impressed with the results, and they picked up the idea of compost-making and controlled grazing. Doing soil and water conservation in the past had been very mechanical—using stones and building across gullies. But Arefayne introduced growing plants on these structures, particularly forages and fruit trees. So the farmers really took on this and the government officials saw this, and the farmers were very vocal about the benefits. So it became part of the program for the whole region.

In 2008 the results had also been convincing for the Ministry of Agriculture; making and using compost has been adopted even at the federal level, and put into the extension system, based on

what we did. We are not responsible for rolling it out to the rest of the country because we have limited capacity. But we are facilitators and catalysts, and we try to document the results and changes. We then present it at appropriate times, to make it visible.

Some of the things that we did in Tigray have gone right through the country; not only compost making but also digging trench bunds. Arefayne, the first person who worked with us, introduced building the bunds on mountainsides and planting useful grasses, trees or legumes like *Sesbania* to prevent soil erosion. The impact of his work is amazing! But there is no label on it, nobody will trace it back to us, but it is there.

Rehabilitation Work - Tigray 2003

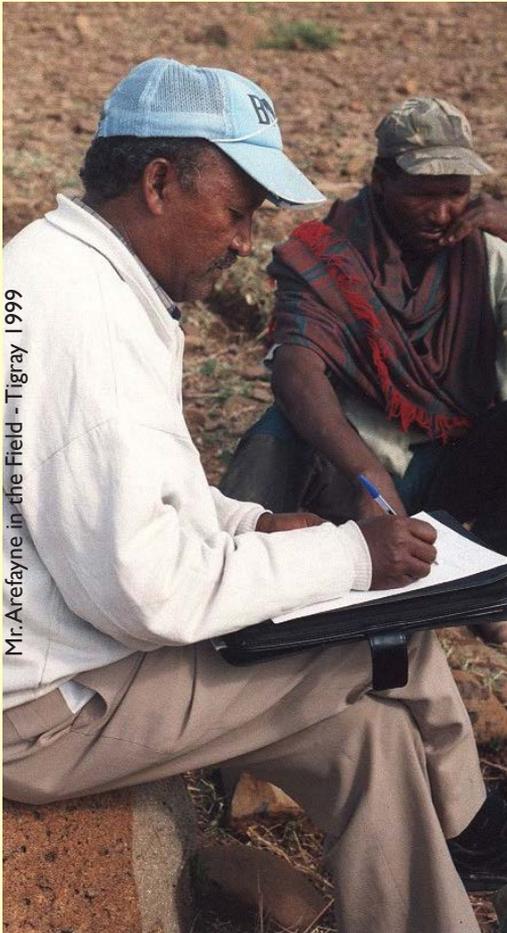


When our project works are introduced to other parts of the country people have made local modifications. There has been a lot of misinformation on how to make and use compost, yet we have backed up our work with an Amharic manual. Arefayne had produced the first manual on how to make and use compost in Tigringna, and we did it in English. And now it is produced in the main languages of the country. We also produced complementary manuals on other technologies. These documents build the capacity of extension workers. But sometimes you get weird stories coming back. In fact, the farmers understand better than the extension workers.

The other revolution or innovation that we introduced is the row-planting, which has turned around the production of teff. We did that with a friend, a teff fanatic like myself, who was in Sasakawa Africa association. His name is Dr. Tareke and he was doing research in Debre Zeit. We got a one year of funding from Oxfam America, and in that one year we showed that even teff can get good yields. It was the lowest yielding cereal. Now instead of broadcasting the seed across the soil, either the seed is mixed with compost or sand and sowed into shallow rows, or even seedlings can be raised and transplanted into the field when the rains come.

Rehabilitated land - Tigray





Mr. Arefayne in the Field - Tigray | 1999

Arefayne Asmelash Community Facilitator, ISD Tigray

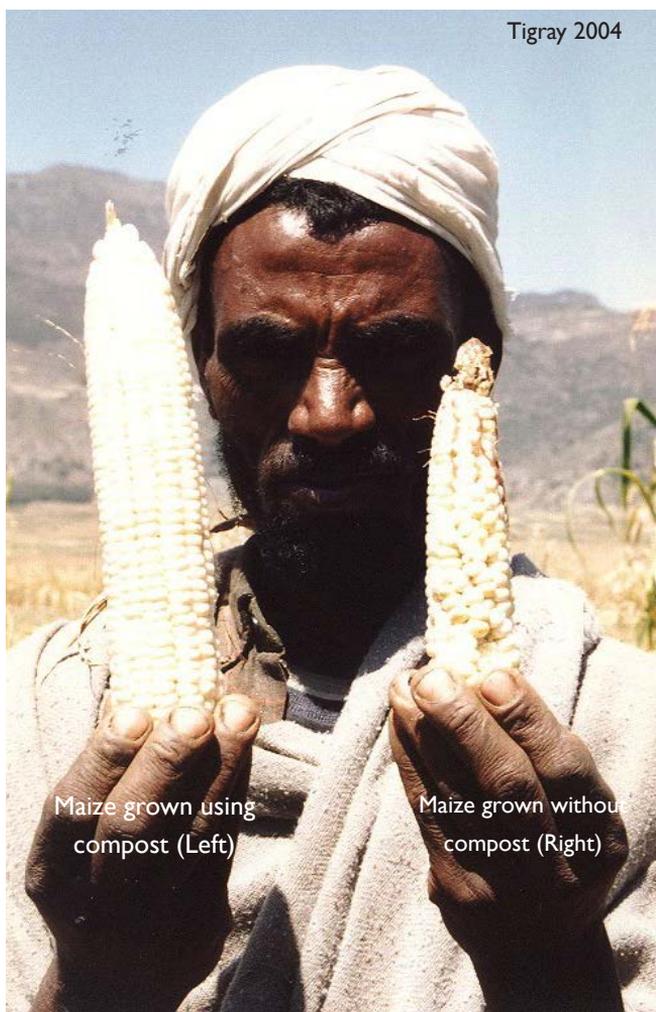
ISD started implementing its projects in three selected areas in Tigray. Dr. Tewolde Berhan together with Mr. Berhane Hailu, Head of Tigray Bureau of Agriculture and Rural Development (TBoARD) at the time, decided to appoint a focal person with sufficient experience and knowledge in agriculture, extension work, and research. This was when I was recommended by Mr. Berhane and then I went to Addis to start the work. My first

assignment was to translate a working English proposal into a comprehensible Tigrinya document so that we can use it to educate farmers. I finished this two-week assignment in four days and returned to Tigray. We started creating institutional connections with Mr. Berhane at TBoARD and other subordinate agricultural offices at the various administrative levels. We then started implementing ISD projects in three districts of the Tigray Region. The first intervention site was in Adi Nefas in Tahtay Maychew District; the second in Sa'si' Tsai'da Imba District in Zibansas site and the third one was Ofla site around Lake Hashenge. I chose these three locations because farmers in these areas are very active in practicing the trainings we can provide and increase crop productivity in a short period of time. In addition to this, the areas are

severely degraded and can benefit from the environmental rehabilitation we planned to do.

First, we gathered farmers in Tahtay Maychew District and explained the aims of our project. The farmers didn't agree with us immediately. They were suspicious especially when we raised an idea of demarcating a part of their land for rehabilitation. They were suspicious as to why I was there. They asked me if I came all the way from Mekelle, the regional capital, just for their land or if we were thinking about using the land for other purposes. We explained how ISD wants to work together with farmers, improve their lives, and rehabilitate the land for their own benefit. We assured them that ISD didn't come to take their land. We asked the farmers to list their problems and together we discussed what kind of remedies we can take. They raised erosion problems of the drainage and land degradation as primary problems. They vowed to assist all efforts with their hard labour. We discussed this with Dr. Tewolde and others to stop the downhill flooding and gully expansion as a primary

step. I proposed making trench bunds to break the flood and prevent soil erosion. As we discussed this possibility with Dr. Tewolde and other stakeholders it seemed likely that the trench bunds could be carried away by the strong floods. Dr. Tewolde suggested mobilizing resources to buy wire mesh reinforcement for the terraces in the gullies. Meanwhile, I came up with ideas to improve the trench bunds and save them from being flooded away. We built the trench bunds together with the farmers and the improvements



Tigray 2004

Maize grown using
compost (Left)

Maize grown without
compost (Right)

on the trench bunds actually helped in resisting the floods and in saving the soil. We planted tree seedlings on the soil. The soil in the area was severely degraded. To improve soil fertility we planted nitrogen fixing *Sesbania sesban* shrubs on the land. Seeing the positive impacts, the farmers believed ISD was there to help them, change their environment, and improve their crop productivity. We became close with the farmers and developed a reliable relationship.

Then we introduced a natural fertilizer—compost. We trained the farmers about compost, its benefits and its preparation.

This time it didn't take much convincing. Since the farmers had seen the benefits of our initial intervention in environmental rehabilitation, they quickly accepted the compost preparation proposal. We trained farmers, agriculture experts, and youngsters about compost, its use and preparation. Some of them still had some doubts. In order to prove to the farmers how compost can make a difference in crop productivity, we agreed for them to sow crops in two ways; one cultivated with compost and the other without it, just in the traditional way. We saw the results within 20 days. In this short time, the seeds planted with compost had

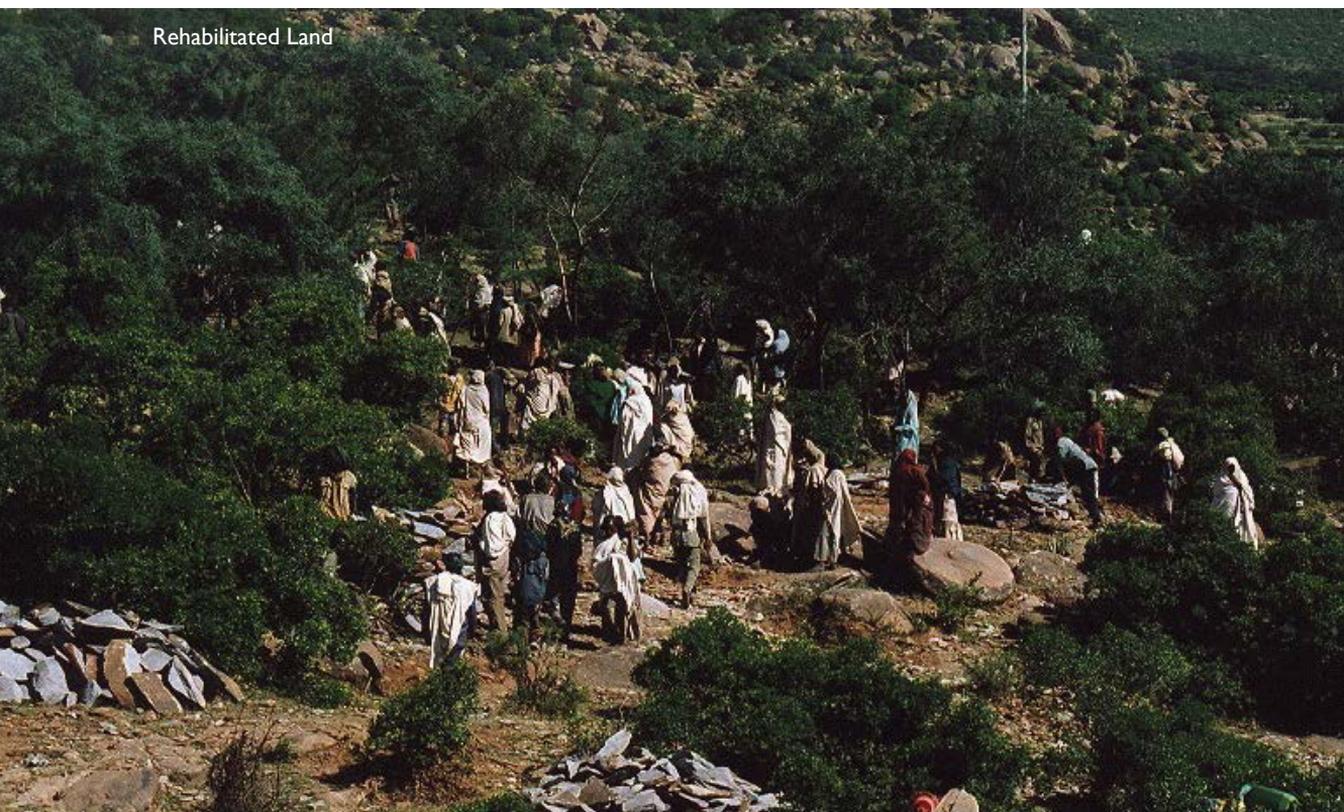


already started growing fast while the seeds that were sown in the traditional way took much longer time. This was enough to convince the farmers on how useful compost is; they didn't need to wait for four and five months to see the result. Everyone started preparing compost immediately. This was an additional reason for farmers to increase their trust in ISD. They witnessed that using compost is practical and they were happy about the results they obtained. Now, compost is used by farmers almost everywhere in Tigray.

The rehabilitation was also repeated in

the same manner in other parts of Tigray. There was one very degraded area near Fereweyni in Sa'si' Tsai'da Imba District. We discussed with the farmers and the local administrators to demarkate the area, plant seedlings and leave it to rehabilitate. The farmers then found a sufficient grazing ground. Together with the farmers, we were also able to build water ponds both near Fereweyeni and Tahtay Maychew. We brought many farmers from other areas to visit these development areas and to see and learn and be able to make the same change in their respective communities. Several administrators, agriculture extension workers and farmers from

Rehabilitated Land



Mekdela District in Southern Wollo of the Amahra Region came to these areas to learn from our experiences. During their seven days stay in Tigray they had a hands-on experience sharing on practices that ISD had introduced to the Region. Over 80 percent of the farmers who took part in the visit have been able to successfully replicate compost making and use. We were invited to their district and have seen how they managed to prepare high quality compost that was much improved than the compost we made.

ISD also introduced planting in lines; a system of crop intensification. We first

introduced it in Tahtay Maychew District. Six farmers took the first initiative to try out this system. Mrs. Yehanisu was one of the six farmers who got exemplary crop productivity by using this system. Planting in lines thus started in Tigray and is now spreading all over Ethiopia.

Bio-slurry is yet another project ISD worked on. Biogas is now familiar in some parts of Tigray. Farmers and extension workers use biogas as a source of light and fuel. The farmers had large quantities of slurry, the fluid byproduct from the biogas production. They never knew how to put it to good use. In fact, it used to

Crop field cultivated without compost

Crop field cultivated using compost



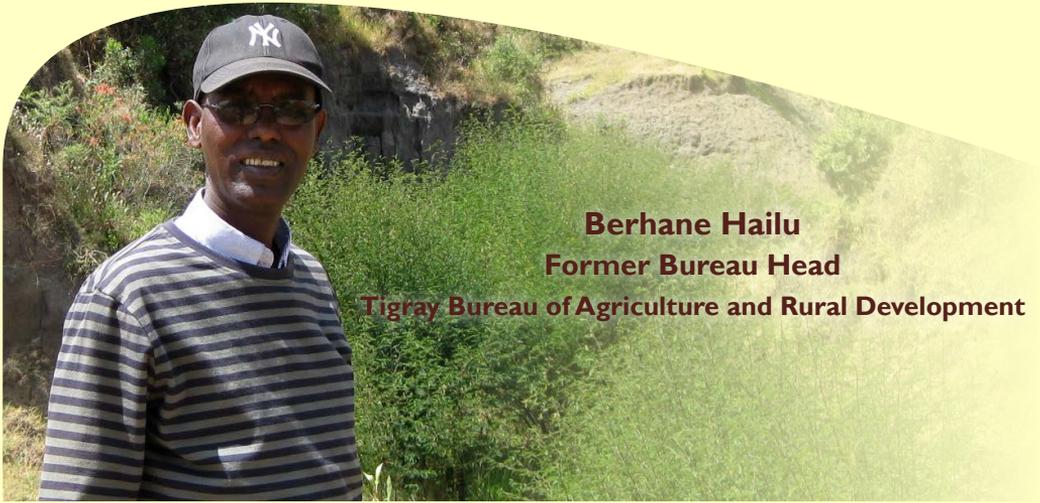
A specimen field - Tigray

be considered as waste and thrown out to fields and rivers. We trained the farmers about the rich fertilizer contents of the slurry and on how they could use it as compost. Now, nobody throws away any slurry. This custom is now widespread throughout various districts of Tigray.

We encountered many problems when we started implementing our projects. I remember one experience in Hashenge. When we told the farmers that we needed to work together to restore soil fertility, they insisted that their farmlands were fertile and yielded high crop productivity; and thus decided that no intervention was necessary. So they agreed on preparing the compost together; since it was a new thing they believed it was better this way. They said that they would benefit together or lose together. When they dug the pit water started to fill it up as there was underground water. Seeing how much labour and time the farmers had invested in digging this large pit, we talked with the district administrators and Agriculture Bureau officials to pull resources and buy cement to build a concrete reinforcement around the pit's wall. We completed the

pit and made the compost mix. Days later when I went back there to follow up the community project I heard rumors flying around about the compost. Some farmers were saying that there was Satan in the compost pit. They told the farmers working on the project that a Satan lives in the pit and he would pull them in when they opened it to mix the compost. I tried telling them it was not true. It is a fact that they may get Mich, temporary fever; if they worked on it during the hottest hours of the day. As a solution, I suggested that they mix the compost between 6 a.m. and 11 a.m. or/and after 2 p.m. until the evening. To further prove that there was no Satan in the compost pit I volunteered to open it for the first time. The farmers, both Christian and Muslim, decided to hold some religious rituals to make sure the Satan goes away; I let them do their rituals. Later, we discussed and reached an understanding that there was no Satan.

Our interventions in Tigray have resulted in outcomes beyond our initial expectations. I never thought we would come this far. If you are determined you can reach your goals and ISD has indeed made the difference it aspired.



Berhane Hailu
Former Bureau Head
Tigray Bureau of Agriculture and Rural Development

ISD came with its projects when the Global 2000 Chemical Fertilizer Package was being widely implemented. Dr. Tewolde and his colleagues came up with a sustainable alternative that can be easily made by the farmers. They proposed using a sustainable supply of compost which can be made by the farmers themselves instead of industrial fertilizers, and cultivating nitrogen-fixing plants that can also be used as animal fodder. They also suggested controlling free-range grazing as a means taking better care of cattle.

Seeing how effective these interventions can be we started the implementation in three areas. The three communities selected for this project were in Adinefas

in Tahtay Maychew in Central Tigray, in Zebansas and Gu'emse in Freweni in Eastern Tigray, and Adi Abo Mossa near Lake Hashenge in Ofra in South Tigray. In this intervention the Agriculture Bureau joined hands with a local agriculture research institution and Mekelle University.

This was when we introduced modern compost preparation as a better alternative to the traditional means of enriching the soil by applying animal manure on farm lands. We also introduced planting nitrogen fixing Sesbania shrubs around the edges of farms. We also started controlling free-range grazing. This package was further extended and other new innovations were introduced

to the initial project areas. For instance we introduced growing finger millet in tree nurseries and transplanting the seedlings in farmlands. It resulted in better productivity.

We also appreciate and support model farmers who practice water infiltration, draining water from soggy farmlands, digging water wells and other innovations. Sue Edwards and Dr. Tewolde were the ones who first took the initiative in all the new introductions and innovations we came to extend to a large scale. These innovations went on to be replicated in Amhara Regional State.

Looking back, I believe we made the right decision accepting these new ideas, discussing them with farmers and launching them as pilot projects. This was in fact an effective alternative to the reinforcement of industrial fertilizer for farming; a policy priority at the time. At this stage farmers mainly relied on industrial fertilizers to increase crop productivity. The assumption was that applying more industrial fertilizer increases soil fertility. Consequently, introducing compost—a natural nutrition that is prepared from free ingredients found in nature—as a sustainable alternative to increase soil fertility was a viable choice.



Sorghum grown without compost



Sorghum grown using compost

This implementation has indeed resulted in better productivity. This practice has later been adopted by different organizations like GIZ and introduced to other communities.

We encountered some setbacks as we first adopted ISD's projects. First, there was a problem with ownership. Agriculture experts and extension workers considered these implementations as extracurricular. There was a lack of logistic support from the Bureau. It wasn't easy incorporating them along the planned activities of the Agriculture Bureau. This is actually the case in other current projects too. Second, institutions like Mekelle University with whom we had partnered to support the interventions with research failed to keep up with the movement. We also had some challenges at the policy level. Compost is not provided as an effective alternative in its provisions. I believe it is important to have such alternatives in the policy.

In my experience
working with
I S D

I have come to realize how innovative farmers can be. If we can provide the necessary support and demonstration they are capable of upgrading their innovative skills. Yet, once you fail to provide continuing support they fall back to square one. That is why it took us a long time to bring them to the right mind set for all the new ideas we introduced.

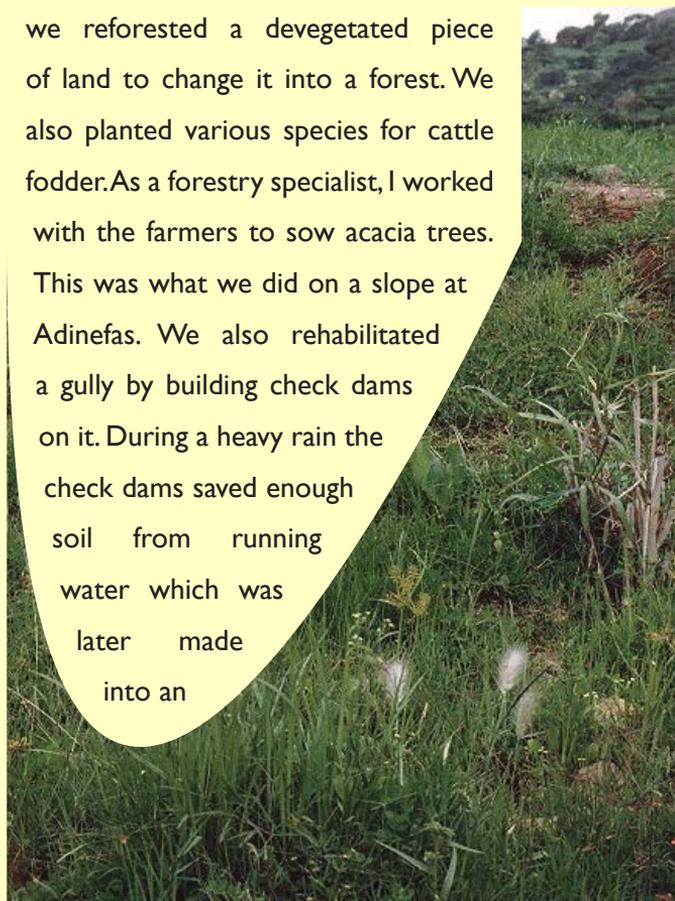
Finally, I would like to recognize and appreciate Dr. Tewolde and Mrs. Sue and their major contribution in the success of all the projects. I also know how much effort ISD staff have put in the process. Mr. Arefayne from ISD Tigray had a special role and continues to perform his endeavors. ISD is special for introducing new innovations and technologies to Ethiopia. It has produced several publications and research reports. In the 20 years journey we have been able to implement various activities and effect significant changes that require attention from policy makers. Although we haven't influenced the agriculture policy as much as we want we have had a remarkable performance. We need to keep extending our activities and implementations. Happy ISD's 20 years anniversary for all of us!



Guiush W/Selassie
Former Expert
Forest Development and
Agro-Forestry Office
Tahtay Maychew District

Mr. Arefayne first introduced ISD to us 20 years ago. He came to our Agriculture and Rural Development Office to tell us about ISD, its vision and work. It took us no effort to accept ISD because it came to us with scientific ways. However, such was not the case with smaller district and sub-district level administrators and farmers. They were reluctant to accept the scientific operations we were proposing to them. As a result, we had to provide various items of evidence from research and other publications. After much persuasion we found some farmers who readily accepted to try out the new activities. Then the local administrators also came to join our endeavors. Dr. Tewolde used to come to visit when we trained the farmers. He always said, 'farmers trust and accept their eyes than they do their ears'. Accordingly, it was at the end of

1996 that we launched demonstrations for farmers at Adinefas station. We started these activities after agreeing to work together with some farmers. At first, we mobilized development groups in the area to implement various soil and water conservation activities. Then we reforested a devegetated piece of land to change it into a forest. We also planted various species for cattle fodder. As a forestry specialist, I worked with the farmers to sow acacia trees. This was what we did on a slope at Adinefas. We also rehabilitated a gully by building check dams on it. During a heavy rain the check dams saved enough soil from running water which was later made into an



arable land.

We planted Sesbania shrubs on the terraces around the farmlands, which is used for animal fodder. We also showed the farmers how to grow and reproduce it. At first the cattle didn't eat the leaves since they had never tasted them. They got used to it once we fed it to them with salt and dry hay. The cattle's productivity increased once they started eating the Sesbania shrubs. The farmers then quickly took the Sesbania shrubs to reproduce on their own farmlands. The small shrub plantation quickly expanded to an area of 20 hectares. Other sub-districts or Kebele's took this lesson and the Sesbania to their villages. Highly degraded places like Adiguara, Maye'atsemi and Maysiye

quickly turned green once the farmers performed a rehabilitation work. In addition to this communal activity every farmer took home the rehabilitation activities, the Sesbania shrubs and all the technologies ISD introduced. Tahtay Maychew became a role model; a special experience for agriculture experts from various Regional States of Ethiopia and countries like Kenya and Uganda.

Compost was also introduced at the same time as the initial land rehabilitation activities. This natural fertilizer was introduced to farmers in the same way ISD taught us about the environment rehabilitation—by showing them and proving the changes. We prepared three farmlands for the demonstration: one

A water reservoir to conserve running water - Tigray 2004



with no chemical fertilizers or compost, the second one with chemical fertilizers and the third with compost. We then showed farmers the three samples' production from the plough to the harvest. They realized how productive the farms where compost was applied were. Because of this we have been able to acquire many followers who carried on the compost preparation and use. At the time Global 2000 chemical fertilizers package was in effect. Yet, farmers refused to use the chemical fertilizer and instead continued using compost. This successful experience was shared by other Regional States. Administrators, agriculture experts and farmers from Mekdela District in Amhara Region have been successful enough to even invite us to visit what

they have replicated after learning from our achievements.

I believe we all have done much more as a team than me as an individual in realizing these rehabilitation endeavors and compost introduction. After all these years, I am still satisfied by what we did. Whenever I go to the places I worked at I remind the people what we did there and urge and motivate them to do their part.

ISD is now a 20 years old youngster. Just like many of the promising interventions at the start of its projects, ISD still needs to work and improve product and productivity of farmers to counter population boom and land shortage.



Water well in Adi Nefas- Tigray 2004

Hadush Beyene
Former Environmental Development
Worker, Tahtay Maychew District



When ISD first launched its operation in 1996 Mrs. Sue and Dr. Tewoldeberhan as well as Dr. Million and Ms. Roman managed its projects at the federal level while Mr. Arefayne was a lead in the interventions at the Regional level. This was when we started choosing intervention sites in central Tigray Zone—one of the three zones selected for the programs. Accordingly we chose Myberazio and Adinefas in the Central Zone.

When we first started the work, we had a hard time convincing the district administrators and agriculture workers. They used to consider ISD-initiated projects as interventions that were going to be executed by some private groups. Obviously, farmers also resisted; they thought the project was going to take away their land. After months of discussion and convincing we were able to reach an understanding with

the local administrators. Accordingly, all the soil and water conservation interventions as well as afforestation activities were carried out under the supervision of the district agricultural program. The project sites we selected for the interventions had water shortages. Consequently, we built two water ponds. The first one slowed down the running torrent of water from the hills while the second was a reservoir. The farmers used this pond to irrigate their farmlands, water their animals and replenish their vegetable gardens. ISD has played a great role by preparing a manual and training farmer on natural fertilizer or compost. ISD followed up every farmer as they worked on their compost pits. It has played a key role spreading the use of compost throughout Tigray single-handedly outside the government agriculture programs. Because of this farmers have been able to save money they would have spent for

buying industrial fertilizers. ISD has helped farmers increase their crop production and enhance soil fertility. The continuous monitoring and crop yield measuring we performed for nine years are evidence of the increase in crop yield.

The environmental rehabilitation activities have changed the environment. The rehabilitated land has been used to produce grass for animal fodder. There is no better resource and productivity. It is sad though, that the program hasn't been sustained for much longer. I believe it should have been expanded. Many visitors from various regional states of the country as well as third world countries like Malaysia have come to experience the results and changes. ISD then started working with innovative farmers; enhancing their capacity and providing financial support to experiment with crops, beekeeping and protect the environment. It has been preparing trainings and experience sharing field visits to repeat this promising knowledge in other Kebeles and districts.

I will always remember two things from when we used to work on ISD projects. First, I remember how much personally involved I was in the rehabilitation process as well as

training and following up farmers while they implemented new ideas. I was not limited to performing monitoring and evaluation tasks as a district level agriculture expert. I used to spend a lot of days in farmer villages; sometimes I stayed as late as 9 or 10 p.m. in the evening beyond the call of duty. This was all because I was eager to see the project succeed and bear fruit. Second, I will always remember how farmers that initially resisted and opposed the projects had a change of heart. In one or two years' time, after seeing how fruitful the projects were, many of these farmers have actually taken the initiative to promote the projects. I am really happy to see this change.

I would like to say congratulations to the ISD Director Mrs Sue, Dr. Tewolde and Dr. Hailu, as well as to Mr. Arefayne—the regional focal person and a man who made a great contribution—and to all ISD staff members for all the changes we have made; happy 20th anniversary. I also extend my greetings to beneficiary farmers, and to school environment protection club members working with ISD. I am grateful for being part of realizing ISD's vision and being alive to recall history and tell what we did.



When ISD first started implementing its projects in 1996 it took us about four months to introduce them and convince the District administrators. Since they have credibility in the community it was soon afterward that we started the implementation. Every agricultural expert in irrigation, crops, forestry and environmental development and animal husbandry contributed their part in the process. The farmers then took real interest in rehabilitating the environment and reforested about seven hectares of land. ISD also bought several bee hives to provide alternative means of securing income for the farmers.



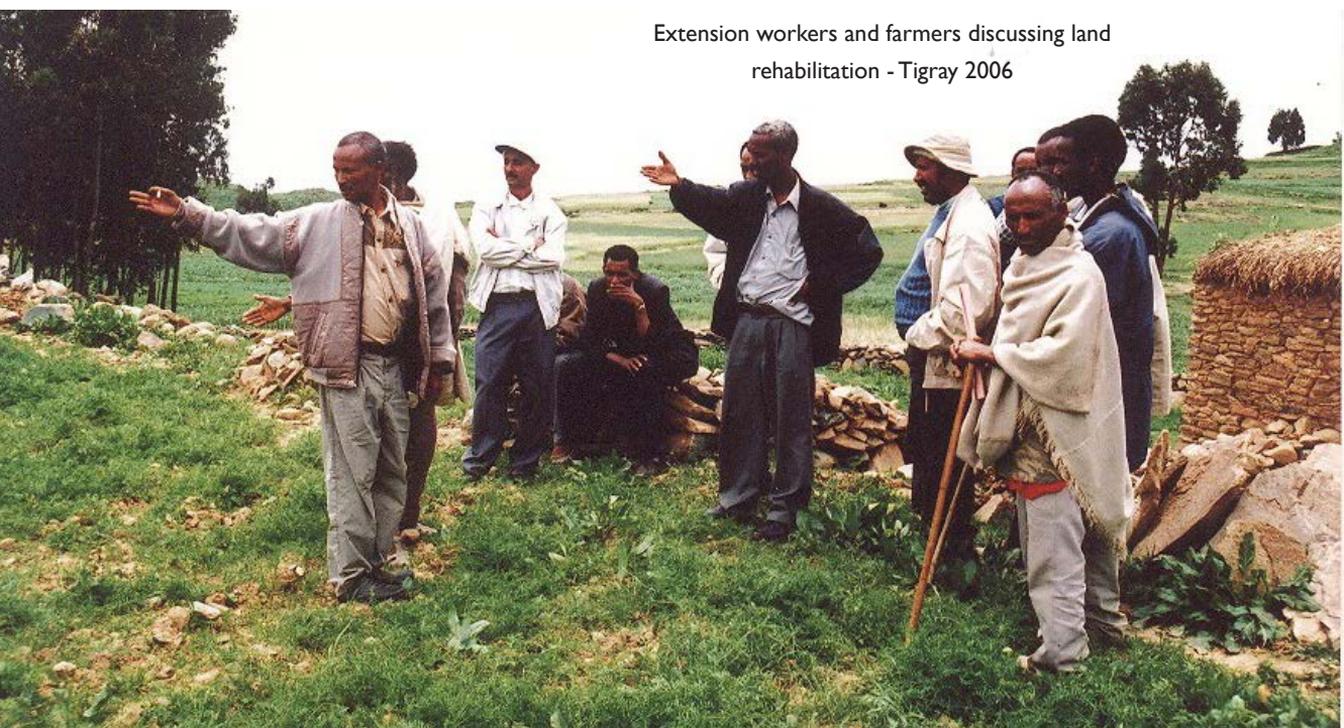
ISD provides productive breeds of sheep and goats to model farmers to reproduce them and pass them on to neighboring farmers once they produce offsprings. Through this process the animal breeds are passed on to every farmer in the village.

We have encountered some problems executing these programs. The biggest challenge is that whenever we introduced new ideas the farmers initially resist them. As a solution to this problem, we film successful practices from other areas and show it to them. Gradually, the farmers

tend to learn from these experiences and start practicing them.

ISD has had successful collaborations with agricultural experts executing its programs and with farmers. However, the Institute has now limited its interventions. Budget constraint and human resource limitation are dragging ISD's interventions. I hope the institute will be as sustainable as its name and continue to collaborate with agricultural experts at various levels to do much better work. Happy 20 years anniversary!

Extension workers and farmers discussing land rehabilitation - Tigray 2006





Woldemichael Dirire
Former Kebele (sub-district)
Administrator and Farmer
Adinefas Station
Tahtay Maychew District

ISD started its operation in our area in 1995. When they brought the idea of keeping an environment reserve in the intervention areas people were suspicious. They feared the government was going to take their land away. ISD collaborated with district officials and Kebele level administrators to convince the people and start the intervention. After reaching an understanding with the people they started to actively engage in the environment rehabilitation process. When we started working in this area there was no green area to lay your eyes on; it was a barren land. In this endeavor we have been able to help recover a 12 meter deep valley created due to erosion from running water. The terrace around the mountain has also contributed to saving running water at the foot hill. It is also a source of existence for various plants and

trees.

We have had some problems in our movement to rehabilitate our area. Some farmers used to let their farm animals graze in the reserved land. We had some momentary issues about this activity. Yet, after having seen the importance of preserving the environment many farmers have turned around and are more careful about grazing in the reserved area. We also have been organized in five committees to take turns caring for the conserved area and protecting it from animal contact. After the area has been duly rehabilitated, we have harvested ground water just in a walking distance from the rehabilitated land.

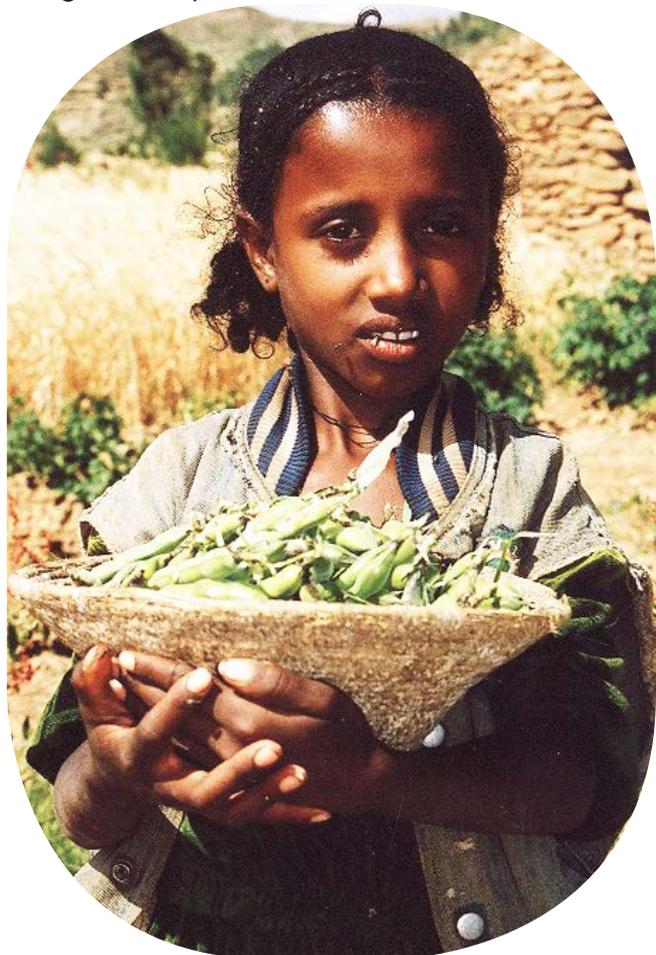
This land was not enough to even return the labor cost. Now it is a different story; the rehabilitated soil plus the compost every farmer prepares are resulting in a

better crop yield every year. The farmers produce different fruits and vegetables even in the dry winter because the soil is very moist.

The small environment rehabilitation activity that started on some plot of land in our community has now been replicated in all Kebeles in our district. People's reaction about the reserved areas has changed. They are no more suspicious about the government taking their land. They are also volunteering to take part in the environment rehabilitation process.

ISD has also played a great role introducing compost preparation and use. It was the Institute that first brought the idea to us. We used cattle manure for fuel. Only some farmers used to add it on their farm land. ISD showed us a modern way of processing the manure adding various natural ingredients and making a compost. No one ever uses cattle manure for fuel. Everything is used to prepare compost because it is life for the community. Farmers would use industrial fertilizer for producing crop just one time; compost on the other hand is different. Once prepared properly compost can be used up to three or even five years. Now, every farmer in our station, the Kebele and even

the district prepare and use compost. Our crop productivity has increased after we started applying compost. We used to harvest barely two quintals of crop from a quarter of an acre. Now we harvest up to eight quintals from the same quarter of an acre. Despite the increase in population and shortage of land per person we now actually feed ourselves sufficiently. There is no more exodus. This is evidence of the change we have in our lives. There is true change besides just talks.



A young girl holding a bowl of beans - Tigray 2003



Shehe Nuru Yasin
Farmer and Former Chairman
Ofla District, Hashenge area Adi
Abomosa Kebele(sub-district)

When we first started working with ISD in 1996 I had so many inquiries. Accordingly, I came to understand how its projects could help us improve our crop productivity. I also found out how using compost can benefit. After some convincing, I and my brother as well as his wife agreed to start working with ISD. Mr. Arefayne oriented us to divide our farmland in three parts and use differing means of crop production. On one third of my farmland I planted sorghum without applying compost or chemical fertilizer; on the second one third I used chemical fertilizer; and the third one third of the crop field was cultivated using compost and manure. I harvested about a quintal from the first third; and four quintals from the third where I had applied chemical fertilizer. The third section cultivated with the help of compost and cattle manure resulted in about 7.5 quintals of crop. There was a significant difference between the compost-applied field and the rest. It was evident even at the early stage when the stem was

bigger than average. The produced seed was also proof. The compost enhanced moisture in the soil. Before the compost, during the rainy season, water used to run off the crop fields once the soil was moist enough. Then, in the months of September and October, the sun quickly vaporized the moisture from the soil. Yet, once we started applying compost on our crop fields, it helped the soil maintain more moisture which is available during the dry months of September and October. We have shared this experience with other farmers. The compost application that started with three farmers in 1996 was taken up by 73 other farmers in 1998.

Having seen how life-changing the compost program is, we asked the Kebele (sub-district) administration to extend it and even promote it to the Regional level. The officials at the time didn't accept our proposal because it would have meant an end to chemical fertilizers. It was when we got together with other farmers and started



Compost preparation training for farmers - Tigray 2003

digging a communal compost pit that Dr. Tewelde, Mrs. Sue and their daughter Ms. Roman as well as Mr. Arefayne came to visit us. They were happy to see our progress. We told them how floods had destroyed the first compost pit we had dug. They rewarded us with 10,000 Birr (500 USD) to help us buy cement and reinforce the new compost pit with concrete. Accordingly, we built a 3m² concrete compost pit.

This compost is now full and out of use. Since, we were forced to use chemical fertilizers, we left the group work and continued using chemical fertilizers. I was transferred to Alamata for a job and the cooperation diminished. Yet, four years later when I returned to my home village, I have continued using compost. I also buy the chemical fertilizer, but use it together with the compost.



In a maize field cultivated using compost Mr. Arefayne and Dr. Hailu (Middle) with extension workers Tigray 2003



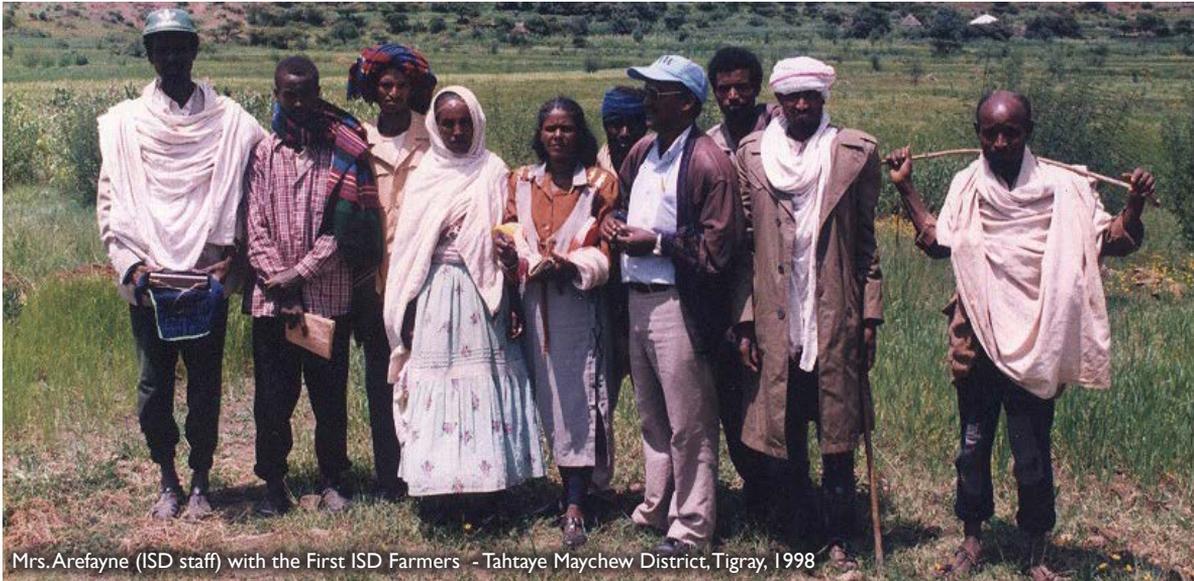
Jano Mohammed
Farmer, Ofla District,
Hashenge area,
Adi Abomosa Kebele(sub-district)

It was some 18 or 20 years ago that we started preparing compost and applying it on our farmland. The compost has helped improve soil fertility and enhanced the moisture in the soil acting like a sponge; thus doubling our crop productivity. Some people were against our choice to use compost for the soil. Yet, once I and another farmer started using it several farmers came to us to show them how to prepare compost; that's how the number of compost users increased.

Before starting using compost, I used to apply chemical fertilizer and got about 12 quintals of produce from a quarter of one hectare of farmland. Yet, once I started applying compost I get between 18 and 20 quintals of produce from the same quarter of a hectare of land. Using compost has improved my food security.

I have also been able to sell what's left from my consumption and acquire cash to pay for my children's education. I have also been able to afford to buy myself clothing three times a year.

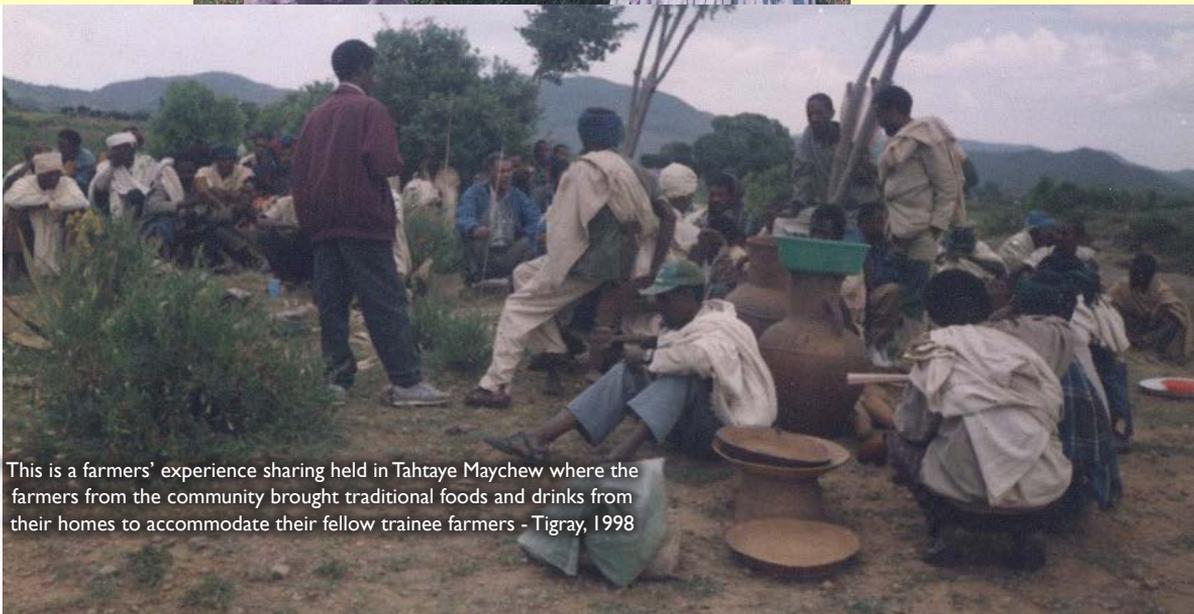
Now, we have stopped using compost. The agriculture office is insisting that we use chemical fertilizers. Since we didn't want to work so hard on our compost pit and also pay for the chemical fertilizer, we have decided not to use compost anymore. However, our crop production has decreased. When we used compost the soil maintained moisture for years, thus allowing us to have a consistent and raised crop production. Yet, once we started using the chemical fertilizer we have to apply it every year; otherwise our crop production declines.



Mrs. Arefayne (ISD staff) with the First ISD Farmers - Tahtaye Maychew District, Tigray, 1998



Development Agent (Left) and First Female Model Farmer (Right)
Tahtaye Maychew District, Tigray, 1998



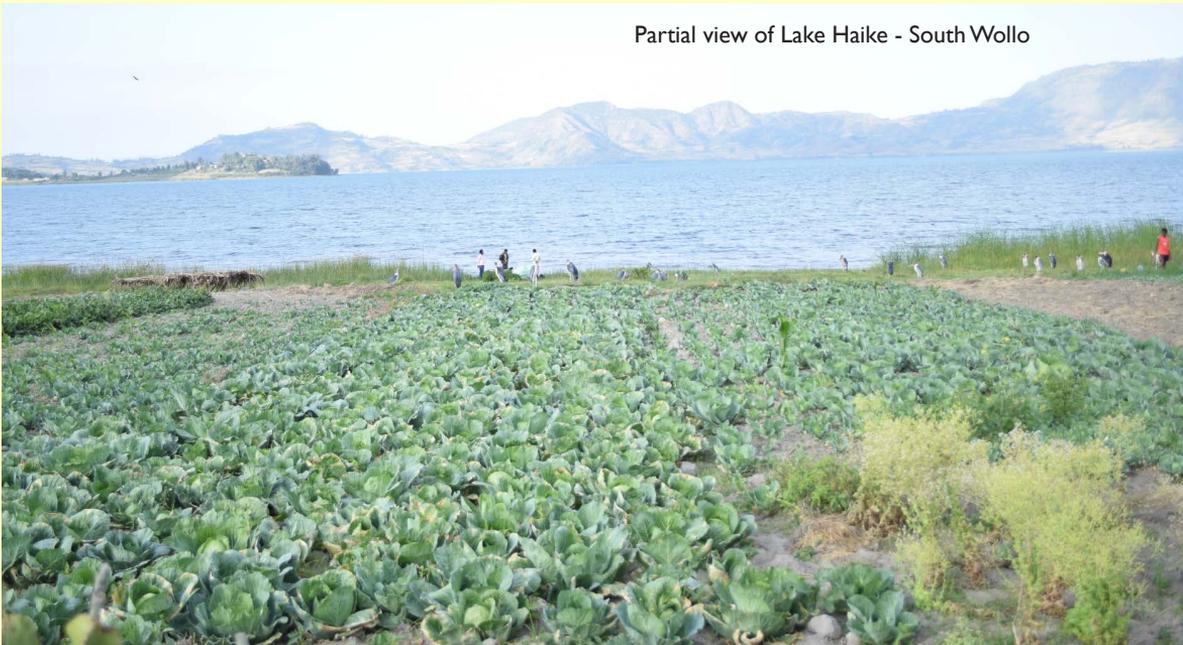
This is a farmers' experience sharing held in Tahtaye Maychew where the farmers from the community brought traditional foods and drinks from their homes to accommodate their fellow trainee farmers - Tigray, 1998

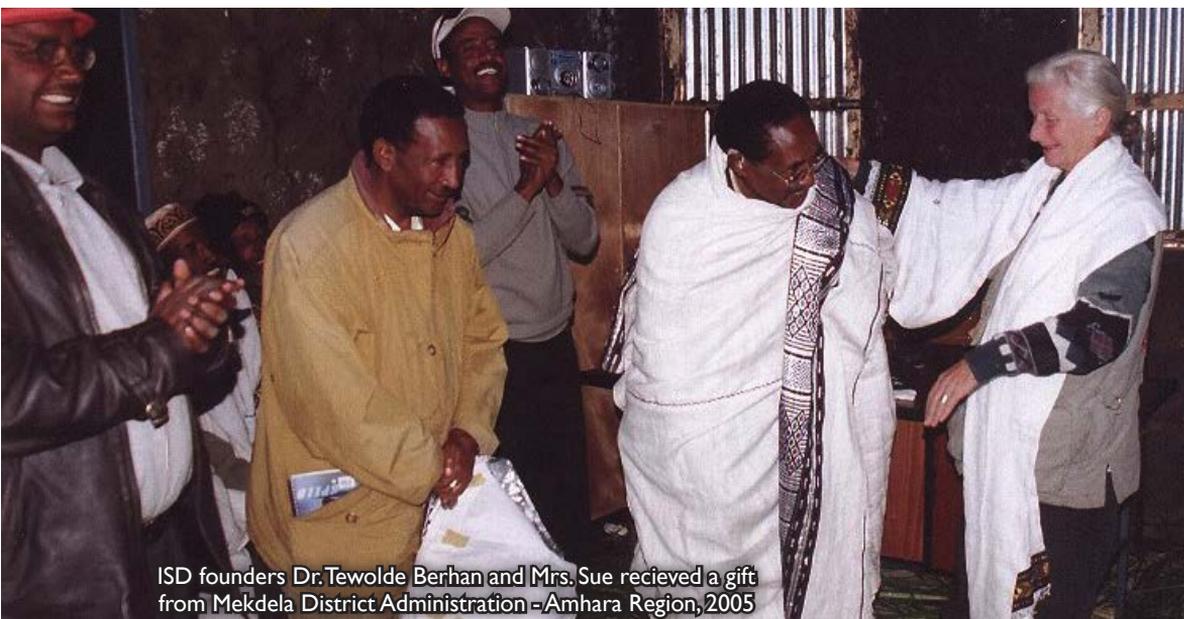
Sue Edwards Director, ISD

When we started our work in 1996 with Arefayne in Tigray, we would train only experts and development agents, we didn't involve farmers. And we were finding that every year, there was a change in personnel. So we were re-training new experts and agents on the same issue. Then, in 2001-2002, we decided to mix farmers with development agents and local

experts on the training. That was a break-through! One of our ISD staff in Dessie at South Wollo Zone, Endris Mohammed, came up with an idea to bring people from his place of origin to learn from what we were doing in Tigray, and we had a workshop. There were farmers and local extension workers in the workshop and they were totally convinced. And it was Getachew Liben, Mekdela

Partial view of Lake Haike - South Wollo





ISD founders Dr. Tewelde Berhan and Mrs. Sue received a gift from Mekdela District Administration - Amhara Region, 2005

District Administrator, who proposed that the trained farmers have the mandate to train ten or more of their family members or farmers around them. That is what made the difference! Farmers have their own understanding. If there are problems for a farmer, the best person to give a solution is another farmer. But sometimes they don't and that is where development agents and experts come in. They can understand a little bit more of the science and provide better explanation. They also have opportunities to travel around

than the farmers, so they can bring in more knowledge. Also, they can help in supervising, backstopping and collecting the data. A close collaboration and understanding between the farmers and the extension agents and experts is crucial. So in all our workshops, there are both farmers and extension workers.





Getachew Liben
Former Administrator
Mekdela District Administration

During my service as the Mekdela District Administrator ISD first came to us with a project that set out to change the lives of people. In light of this, it took government officials and farmers on an experience sharing visit to Tigray, Oromia, Southern Nations Nationalities and Peoples Regions and other places. As soon as they returned from the visits we encouraged the farmers to practice what they have learned and they did. They were actively engaged in causing natural resources to recover and in adopting new ways of improving crop productivity. They managed to improve ground and water infiltration and rehabilitate mountainous areas. Dr. Tewelde and his wife, Mrs. Sue, have played a considerable role in these endeavors. ISD awarded us 500,000 Birr (25,000 USD) to execute these projects in our area which have later marked us as a role model. We have been recognized for our efforts by both zonal and regional bodies. I also remember that farmers

that learned from the experiences in Tigray have been center in extending environmental protection activities into schools and Kebeles (sub-districts).

By creating strong ties with Kebele administrators and community members we effectively rehabilitated overgrazed lands. This in turn helped in creating a drought resistant environment. After rehabilitating the mountainous regions dried up springs were once again filling with water. The farmers rehabilitated these springs and dug up wells, and benefited from using the water to cultivate vegetables and fruits. These farmers who had harvested spring water and dug out ground water were not severely affected by the drought that was caused by El Nino years. They learned that saving the water was like saving money in a bank. The farmers have become rich and have contributed 60,000 to 80,000 Birr (3,000-4000 USD) for the construction

of the Grand Renaissance Dam. They have been recognized by the zone for this civil participation.

We have met several challenges introducing environment protection techniques and crop productivity enhancement mechanisms brought forth by ISD. For example, when we introduced compost as an alternative to industrial fertilizer farmers complained that it was a hard work. There was also a rumor that it caused mich (some sort of temporary illness). We made all the necessary effort to dissolve these rumours.

ISD works closely with schools. Shashe Environment Protection club in Masha Secondary School is a special experience. After receiving training from ISD the club members, students and teachers of the school have been engaged in planting indigenous trees, e.g. Fig trees, wild olive trees, as well as other tree species which were nearly extinct, and other medicinal herbs. They also cultivated some school ground for vegetable gardening. Based on the training they received, they have researched and found a potato variety that can be harvested within 80 days. This school has been a learning ground for other farmers in the area.

I always remember one particular experience working with ISD. When we went to Tigray to visit ISD project areas, we met a farmer who is a priest named Kese Malede who dug a 12 Meter deep water well to harvest ground water. We learned that he was separated from his wife over a misunderstanding about his hand dug well. She was frustrated that he would die when he kept on digging such a deep well and decided to leave him. After seeing this, a farmer in 022 Kebele in our district dug a similar well in eight days and invited us to visit. We went and saw what he had done. It was in fact an improved well. It was a remarkable work. We have tried to show this work to other farmers so they could do the same.

ISD initiates programs that are compatible with the plans and aims of government policies. I know that from a small start ISD is growing into becoming a giant around the country. It is spreading its interventions in several schools and districts. It has won the hearts and minds of officials and people. I am happy it is celebrating its 20th anniversary.



Mr. Getachew with innovative farmers -
Mekdela District 2005



Endris Mohammed
Community Facilitator, ISD Dessie

I know ISD since 2004 when I was Head of the Mekdel District Agriculture Bureau. We started working together after ISD took farmers, agriculture experts and officials from our district on an experience sharing visit to Axum. The experience sharing included various practices of agroforestry, compost preparation, controlled grazing and ground water search. In our stay at Axum we saw how ISD works with the District agriculture bureau in complete understanding.

After the experience sharing, we helped the farmers to prepare compost in their backyards and show it to their fellow farmers. We also collaborated with agriculture experts to help the farmers prepare seedlings for agroforestry. The practice of agroforestry is now wide spread. However, since the price of grafted

mango, avocado and orange seedlings are expensive the farmers are not progressing as much as they want with agroforestry. As a result ISD has trained farmers on how they could graft mango plants on their own. They reproduced seedlings of varieties of plants that enhance soil fertility and can be used as cattle fodder; they are also good sources of income. Other farmers who didn't take part in the experience sharing have been able to learn from these practices back home.

Before the visit to Axum we didn't bring up ground water to irrigate the land. Then we met with a farmer, Priest Malede, who dug out ground water and used it to irrigate his farmland. A farmer in the experience sharing returned home and dug out ground water for irrigation. Following our experience, we also practiced

water recharge schemes in common community lands on mountain slopes. These interventions have been visited by agriculture and environment protection experts as well as administrators from the Regions of Tigray, Oromia, Amhara and Southern Nations, Nationalities and Peoples.

The difference between what we saw in Tigray and what we came to replicate in our district is that in Tigray it was barely a model while we expanded it on a large scale almost to every Kebele [sub district] in our district. The farmers have also dug over 686 ground water wells.

Since I was a civil servant, when I changed my work to Ambasel District, I introduced all the soil and water conservation systems to the farmers in that district. Then, after

a year, I moved to Tehuledere District where I introduced the same systems ISD showed us in Axum. ISD was the first one to provide compost preparation training in Tehuledere. At that time, since there were no hotels to stay at, the trainers used to sleepover in the houses of agriculture experts. ISD knew it was easy to expand the intervention once farmers were convinced. As a result, it cultivated a sense of messengership among farmers for all the interventions in their areas, which has really helped in spreading the projects.

In 2009 I started working for ISD. There is some rainfall distribution scarcity in some areas around Dessie where crop failure is common and farmers don't earn as much as they are supposed to. So we tried introducing a new method of climate resilient crop production.



Mr. Endris explaining about tree nursery
- Tibe, Amhara Region 2005

In Tigray, Dr. Hailu and Mr. Arefayne started working with three farmers to first produce finger millet seedlings before the rainy summer comes when it could be possible to transplant them on farmlands where the crops could continue growing. Then a year later we adopted it to Ambassel District, where I used to work. We applied it on farmers' land and in farmer training centers. The result was very rewarding. Then we tried it with maize, wheat, and teff. The results were fruitful. Farmers and agriculture experts had their doubts when it came to transplanting teff as seedlings onto farmlands. Yet, we did it. We have transferred this practice to a district called Talak in Afar Region, Bati, Kalu, Tehuledere, Ambassel and some parts of Werebabo in Amhara Region. In addition, we also introduced planting with space: a system of crop intensification. ISD is responsible for introducing and helping the farmers practice these new systems which are received and extended by government agriculture extension agents.

The next thing we introduced is the Push-Pull Technology that helps prevent stem borer pest and striga parasitic weed

infestations.

Irrigation is the other area of focus for the government. Farmers have bought water pumps to deliver water from rivers to their farmlands. They spend up to 10,000 Birr [500 USD] to buy the pumps. Most of the pumps stop to work because of small defects. This is because the farmers don't know how to do simple repairs. We collaborated with the district agriculture bureaus to train about 70 farmers on basic pump maintenance. These trainee farmers have been able to fix their broken pumps and many water pumps that belong to their neighbors.

In general ISD works in line with government extension programs. It tries to fill in gaps in the state's intervention to help secure sustainable development. It also promotes farmers to exchange the trainings they receive.

Compost making, planting with space and push pull technology have been accepted by both farmers and government research bodies. They are now part of a bigger government program to be implemented at a large scale.

Just like Dr. Hailu taught me, I have mixed compost with my bare feet just like the farmers do because they learn from what they see in practice. I give them trainings by considering their custom and culture. I also encourage the farmers to train each other and exchange knowledge and I help them with anything I can. I play my part by liaising between ISD and farmers, agriculture workers and government administrators to coordinate and facilitate interventions.

I have served in so many positions and provided so many trainings while I was

working for the government. The farmers may first accept every suggestion, yet they will not practice it because they have their perspective and knowledge. We haven't been able to relate our training with the farmers' knowledge. The most important thing I learned in ISD is that in order to be effective with our interventions, we have to understand the farmers and work hand-in-hand with them. The farmers have so much knowledge and we can only achieve success by progressing based on it.



Mr. Endris (his hands muddy from mixing compost) gives a hands on training for youth about compost preparation

Alemu Asfaw
Community Facilitator
ISD Dessie



ISD started working in Wollo five years ago. At that time I worked in a district agriculture office and also represented ISD. The Institute launched its project by introducing compost preparation. Then we began training farmers on row planting and on the Push Pull Technology. These interventions were first carried out in Mekdela Woreda (District) and then spread to Ambassel and Tehuledere Woredas (Districts).

South Wollo is prone to soil erosion and degradation as well as crop pest infestation. This situation had reduced crop production. ISD started its operation by considering these two problems. To replenish the soil we introduced compost preparation and application to farmers. Then to put a stop to the impact of the stem borer pest and the striga weed we came forth with the Push Pull

Technology. Since these problems were obvious enough to cause considerable losses the solutions ISD introduced were quickly adopted by farmers and extension workers.

ISD collaborates with agriculture bureaus at different levels of government. As a result, it emphasized its interventions in weaker links of agriculture extension work. In areas where there is farmland scarcity the Institute introduces agroforestry. To support farmers, we provide orange, papaya, mandarine, coffee and other fruit seedlings to plant among their crops. Every farmer is provided with 10 seedlings in the first year. Then, if he works hard and successfully grows all of them he/she is awarded another 20 seedlings in the following year. In this system, a farmer that was reckless enough to fail with the initial 10 seedlings gets

no more additions. Thankfully, almost all farmers who received the seedlings some three years back now sell the fruits and benefit from the income.

ISD is now assisting young farmers with bee keeping as per a government policy that set out to organize unemployed youths and make them productive bee keepers. We are working with different Woredas of South Wollo to alleviate the problem of bee colony shortage in our area. As a solution to this problem, we have introduced colony splitting to farmers to yield better honey production from more beehives. Over 20 farmers have used this mechanism to divide a single bee colony into another two or three hives. We also

provide technical training on how the bee farmers could make wax—an important ingredient for bee keeping—at home as an alternative to low grade product from the market. The farmers who took this training now produce quality wax for their personal honey production and even sell it in markets.

On the other hand, we have also trained farmers on how they could fix their water pumps to promote irrigation in farming. This cost effective and simple training has enabled farmers to fix a number of water pumps that had broken down due to simple faults.



Mr. Alemu gives a hands on training for youth about the Push-Pull Technology

In the first pilot training at Tehulederie district we invited about 30 farmers to take the training. Yet, in the training day we received about 4 more farmers than what we were expecting.

They were willing to be trained without any incentive; and without any per diem at all. After the training beyond fixing their own water pumps, these farmers started working together fixing water pumps for other farmers. They have now organized themselves into an association and own a 12,000 Birr (600 USD) capital.

ISD is also working to promote organic agriculture. The Institute organized 11 out of school youths from around Lake Haiké to form an association in Haiké Town to produce organic vegetables. We have two more successful youth association producing organic vegetable around the lake.

We are creating market links between these producers and hotels, wholesalers, retailers, dealers and other organizations to reduce marketing problems.

Planting with space (System of Crop Intensification (SCI)) is another application ISD introduced to S. Wollo. It was first practiced in Tigray then brought to our zone and applied on teff and wheat

crops. At the beginning, the system was misunderstood not only by farmers but even by extension workers. Yet, after we applied it on crops in sample plots of land we have been able to create the desired response. The farmers have applied the system on parts of their farmlands and have indeed seen remarkable differences in crop yield. Now, all farmers in the areas we first introduced the system plant their crop with space. What's more surprising is that this system of crop intensification has been very quickly nationalized as a government policy in agriculture extension activities. Farmers have now advanced this system and are now preparing seedlings for teff, wheat and other crops in nurseries and transplanting them in their farmlands.

Push Pull Technology was first started in South Wello with two farmers. Now there are about 350 farmers using this technology. In 2015/2016 we are planning to increase this number of users to 500. Although we have desmodium seed shortage we are promoting farmers to produce it in their farms. Last year only we bought four kilos from one farmer who produced the seed. This year also we expect seed production from eight farmers.

This year's drought has been a formidable challenge in producing the desmodium seed. Nevertheless, in order to permanently alleviate the seed shortage we have discussed and reached an understanding with the farmers, where each of the 8 farmers, will produce enough seed for their own use and each of them sell desmodium seed to five other farmers.

ISD is assisting the Integrated Pest Management program that had been initiated years ago by the agriculture office. Farmers that took the training have now reestablished associations to prepare natural pesticides from various medicinal plants. They try the pesticides in their own farmlands and share with other farmers once they understand its effectiveness. Chemical pesticides are

no more in use because these farmers are producing their natural pesticides. ISD provides material support for the farmers that they could use in making the natural pesticides. Their work has been very effective. They have even been able to control Scale Insect infestation which the Sirinka Agriculture Research Center had tried to control after several failed attempts by experts in applying chemical pesticides.

We have budget limitations in devising our programs in the community. Because of this we are limited to starting sample projects and handing them over to government bodies for scale up. Wanting to see much more extension of our effective projects some state administration bodies are not satisfied with the scaling up which we do at ISD.



Mr. Alemu, Mr. Gizaw, Mr. Arefayne, Mr. Miftah and Mr. Negussie (ISD staff) engaged in preparing compost with farmers

DELIVERING SOKKE TREE

Aeschynomene elaphroxylon, which is locally (among the Gamo people) known by the name Sokke is a leguminous shrub or small to medium sized tree. The part of the plant above ground in its seedling stage resembles the multi-purpose *Sesbania sesban* shrub grass which is widely used by farmers across Ethiopia. The stem of Sokke is light that floats on water. It is a plant that grows in wetland ecosystems.

The light-stem Sokke is mainly used to build kayaks, locally known as Wogolo, used for transportation and fishing in lakes Abaya and Chamo. The tree is good for making chairs, tables, racks and other household furniture. It is also used in making fences and for household fuel and cattle fodder. In addition, Sokke tree has an ecological value in terms of providing a suitable condition for fish to lay egg; it is a source of food for bees and other insects. Moreover, Sokke tree helps maintain moisture in the soil.

The multi-purpose Sokke was abundantly found around Abaya and Chamo lakes. Yet since 2005 the plant is nearing

extinction. A complex set of reasons may be attributed to why the plant is endangered. However, the destruction of the ecosystem and a reckless and unsustainable use of the Sokke tree are the major factors leading to its demise.

In light of this problem ISD organized two workshops in 2005 with a wide cross section of stakeholders to identify how the Sokke tree can regenerate and be protected. The workshops were followed by field visits to Lake Abaya to observe the status of the Sokke tree. After this intervention local authorities gave attention and involved farmers in protecting Sokke. Forest task forces were set up to monitor the status of the tree around both Abaya and Chamo lakes. The local fishery experts have also helped the farmers in finding alternative wood to make kayaks and boats. Due to these activities, there has been a striking rehabilitation of Sokke and similar biodiversity such as bulrush, which is also important for making local mats and roofing.

Source: Feleke Woldeyes and Simon Shibru (Arba Minch University, Department of applied Biology)



Development agent (left) and farmer (right) inspecting a cotton field for pests

COTTON IPM IN ARBA MINCH

Atalo Belay

Pesticide Action Nexus (PAN-Ethiopia)

In Southern Ethiopia, cotton is grown by smallholder farmers and large commercial farms. Thus there is an increasing interest both by small and large scale farmers to improve cotton production. But, like in many parts of the world, where cotton is grown, the crop is attacked by a wide range of pests. Farmers rely on the use of pesticides to control pests.



The negative impacts of pesticides on human health and the environment, especially disrupting beneficial insect activities, have created doubt on the long-term dependency on such pesticides. In Ethiopia, these risks have been aggravated by the limited knowledge of cotton farmers in the safe use of pesticides and the lack of appropriate and easily accessible alternatives.

As a solution to this problem an Integrated Pest Management on cotton was first introduced to the Arba Minch area by FAO in 2006. Since then, PAN-Ethiopia has been monitoring the trained farmers.

It has been working on mitigating the impacts of pesticides on human health and the environment through awareness creation in community based Farmer Field Schools (FFS) among smallholder farmers.

In 2013, PAN-Ethiopia launched a 3-year project, funded by Textile Recycling for Aid and International Development (TRAID) via Pesticide Action Network-UK (PAN-UK). The project aimed at up-scaling and expanding Integrated Pest Management for cotton in Arba Minch Zuria and Mirab Abaya districts of Gamo Gofa zone to engage smallholder cotton farmers in a more sustainable way of producing cotton.



PAN and ISD staff visiting IPM treated cotton field



A cotton field

The training took place in Farmer Field Schools i.e. schools without walls used to train farmers in groups about plant protection and agronomic practices which can help them increase their crop production. Various alternative pest management methods were introduced including a new technique called food spray, which had been invented in Australia and trialled in Benin and found to be effective. The project involved more than 2,000 smallholder farmers in nine villages in the Gamo Gofa Zone before it ended in December 2014.

The project has resulted in several significant benefits for the communities involved. First, trained farmer were able to identify major cotton pests and their natural enemies. Previously, farmers used to perceive that all insects on their crops were pests which actually weren't. Following the project intervention with practical learning sessions, trained farmers know how natural enemies can be useful in pest management by suppressing pest population in cotton fields. Second, Smallholder farmers have stopped using pesticides for cotton production.

The awareness of cotton producer farmers about the importance of sustainable cotton production and the adverse human health and environmental impacts of pesticides has been raised via the training and demonstration sessions. This was vital for farmers to start using IPM as their pest management option. Third, Farmers increased their income as the cotton yield increased. A survey conducted before and after the project in between 2013 and 2015 has indicated that cotton production has improved from 8-10 quintals per hectare for conventional smallholder farmers to up to 33 quintals per hectare for the trained farmers. Also, the project has led to the organization of smallholder farmers into

cotton producers' cooperative in 2014. It was then linked to the national cotton market which helped them acquire better price for their cotton. In addition, the cooperative was linked with the Ethiopian Industrial Inputs Supply Enterprise and sold about 23 metric tonnes of lint cotton and secured a total sale for 960,000 birr.

As hand spinning is one of the common and traditional ways to make traditional cloths in Ethiopia, PAN-Ethiopia organized women cotton farmers in each of the three project sites to women cotton-spinning associations.

These associations are now linked to local traditional cloth weaving microenterprises so that they can easily sell their hand-spun yarn.



This was an essential step forward for women farmers to generate their own income.

There were some challenges in implementing the project. Towards the beginning of the project some farmers asked to be paid for the trainings; that was not in the plan. After discussing the objectives of the project and how important the training would be for them the farmers agreed to take the training. The farmers also resisted when we proposed that they establish cooperatives. They feared that they would fail like other cooperatives they had known that didn't succeed. With unreserved support

from the Cooperatives and Marketing Department, Plant Health Clinic and Agriculture Department of the Zone the farmers established the first cooperative in Shelle Mella.

Pesticide Action Nexus Association (PAN-Ethiopia) is an Ethiopian residents NGO established to work on environment and development so as to enhance and promote safe and sustainable environment protected from harms posed by pesticides and other hazardous chemicals by promoting the close collaboration of government, non-governmental organizations, civil society interest groups and urban and rural communities.

The Role of ISD in PAN Ethiopia's cotton project

PAN Ethiopia has implemented different projects in partnership with ISD. One of them was the cotton IPM project in Arba Minch. ISD was involved in the women empowerment aspect of the project via its gender coordinator. Trainings on women empowerment on socio-economic aspects of the community was one of the main activities performed by ISD. Women cotton farmers in the three villages of Shelle Mella, Chano Mille and Faragossa were organized into cotton spinning associations producing hand spun yarn with the help of a gender coordinator from ISD. The associations were also linked with traditional cloth producers so that they can sell their hand spun yarn.



Azeb Worku
Senior Community Facilitator
ISD Addis Ababa

We had various activities in Gembichu Wereda (District), North Shoa Zone, Oromia Regional State. The first was introducing planting with space in straight lines and the second was spreading ecological organic agriculture. We started by introducing planting with space in 5 out of the 33 Kebeles (Sub-districts) in and around Chefe Donsa town in Gembichu Woreda (District). This work was started in the Bishoftu Agricultural Research Centre by Dr. Tareke, a researcher in teff (*Eragrostis tef*) and gave a high production.

The Director of ISD, Mrs. Sue, myself and an organization called Sasakawa Global 2000 jointly made the farmers try the system. We made them plant teff (*Eragrostis tef*) with compost, with chemical fertilizer and without any external input. The result was encouraging.

The teff planted with space using compost did not lodge as it usually does.

If a farmer plants teff in the traditional way by strawing the teff seed on the farm, he needs about 25 kilograms per hectare. But if he plants with space, he needs only 2.5 kilograms of teff seed per hectare. ISD, funded by Oxfam America, introduced planting with space to the farmers growing teff, wheat, barley, faba bean and chick pea. The farmers obtained high yields because the individual crop plants grew well. For example, the stems of the faba bean became so strong that birds perched on them and they still remained standing straight. The seeds also became bigger. We organized a farmers' day for other farmers to see the rewarding outcome.

In 2008, I went to Sweden and Uganda and was trained on organic agriculture. When I returned to my country, I decided to apply what I learned. Therefore, we tried the system in Gimbichu, which is known for its lentil and wheat. Mr. Bayissa, from ISD and I chose model farmers and trained

and Mr. Bayissa translated it from Amharic to Oromiffa. We bought the needed instruments to make the organic pesticide and showed the model farmers how to use them. We also showed the model farmers how to use a magnifying lens to see the pests. This was to help them

distinguish harmful insects from beneficial ones. One of the demonstration sites we used in Chefe Donsa District was destroyed by flooding. Nevertheless, we received positive results from this effort. Also in 2009, we showed the model farmers how to prepare and use compost.



Tree nursery preparation training for students - Addis Ababa 2004

them to grow lentil organically. Lentil is often attacked by aphids and cutworms. Instead of using chemical pesticides, we used garlic, ginger, chili pepper, oil, soap and various other medicinal plants to kill the aphids and cutworms and showed it to some model farmers. This was in 2009. We obtained the information from the O.I.S.A.T. website through Mrs. Sue. I translated the information into Amharic

However, since ISD had already popularized compost in the area, our main focus remained on organic pest control.





Compost preparation training for farmers - Chefé Donsa 2004

We encountered difficulties in data collection from our efforts in this project. To provide objective evidence, the crop yields had to be weighed and recorded. We bought scales and gave them to the farmers to weigh their produce. However, we had difficulty in getting reliable records. Nevertheless, though not statistically testable, sufficiently informative data were obtained. In addition, the chosen farms were not all accessible especially because of flooding in the rainy season.

In addition, walking to some of the farms took 2 to 3 hours in the rain. Therefore, it was not possible to visit those farmers. This happened because we had not known the area well enough when the farmers were chosen. The Gimbichu Woreda Administration was giving us all the help that it could. Unfortunately, the project was terminated for lack of funding. However, the work has spread in other parts of the country.

SCI: INTRODUCTION AND EXPANSION

Basically SCI (System of Crop Intensification) consists of either directly sowing seeds or transplanting young seedlings in rows along with compost with or without a small amount of chemical fertilizer. The seeds or seedlings are put in the soil with wider spacing than usual between the rows and seeds or seedlings within the row. Farmers in Ethiopia call this “planting with space”. Weed control is done with simple implements that cut through the roots of the weeds and also disturb the soil enough to make it better aerated as well as letting rainwater easily enter the soil.

In September 2009, Mrs. Sue met Prof Norman Uphoff of Cornell University in the United States who visited Ethiopia and learnt from him about the System of Rice Intensification (SRI) practices developed in Madagascar in the 1980s to increase rice production without having to clear more of the forest for growing rice. In addition she also learned about experiences with other crops such as wheat in India. Between 2009 and 2010, with support from Oxfam America, ISD collaborated with the researchers, Dr Tareke Berhe and Mr Zewde Gebretsadik, to apply SCI to teff.

The experiments on teff were carried out in Debre Zeit Agriculture Research Center side by side with farmers in Ada’a around Debre Zeit near Addis Ababa, and in Tigray in Aksum Agriculture Research Center, Tigray Agriculture Research Institute, Kalamino Special School, Mekelle University, Aksum University and with the farmers already familiar with SCI for finger millet near Aksum. Results in nearly all the places were very encouraging but especially in Debre Zeit Agriculture Research Center and neighboring Ada’a farmers as well as farmers in the Aksum area of Tigray.



SCI IN TIGRAY

Hailu Legesse

Former Crop Development Expert, Tahtay Maychew District

In 2009 we collaborated with ISD to introduce planting with space, a system of crop intensification. We saw successful results applying this system in teff, finger millet and even onion and tomato plantations. This system provides every crop plant an opportunity to use the nutrients in the soil without competition enabling it to grow well. This system is now widely used in areas where there is low rainfall especially in planting finger millet. It was ISD that first introduced planting with space to our District and to Tigray Region.

Abadi Redehegne

Farmer

Adinefas Station, Tahtaye Maychewe



We first applied planting with space on our maize field. Now we are using it on bean and millet crop fields. These means of planting enable the plants to have stronger stems and resist disease on a better level. Each stem carries a great number of seeds we have never seen before. Now, every farmer applies planting with space in their farmland. Though we have tried applying it on teff fields not every farmer does it.

ISD is doing such a great work just like its name—Sustainable Development. Especially Dr. Tewolde Berhan and Mrs. Sue have put in a lot of effort; they have worked themselves tired. They go into farmers' houses and fields to work together; we have seen the results. However, the work should also be as sustainable as the name implies. ISD has done so much work in our community. It is our life and has changed so many peoples' lives. So much honors and gratitude for ISD!



A slurry fluid from a biogas plant used for compost making

Endris Mohammed
Community Facilitator, ISD Dessie

Now, ISD is working to revive the Integrated Pest Management program that had been launched and discontinued. We are focusing on promoting and introducing the knowledge of environment friendly pest management schemes from some farmers to the vast majority. Farmers have a wide variety of traditional herbs with eradicating value against pests and plant diseases; it is only because we haven't paid attention

to these indigenous pest prevention methods that we had not been benefiting from them. They have tried the organic anti-pests on crops and medicines on animals and they have succeeded. We are helping them. For years researchers have been coming from universities in the United States of America to study these herbal medicines before we ever made effective use of them.



Ali Mohammed Seid
Member Farmer
Integrated Pest Management Association
Tehuledere District
013 Kebele

Our association was established in 2000 G.C. Twelve of us voluntarily started working in this group. Now we are 21. At the time, the extension officers at the agriculture office mobilized us. They took us to a district called Guba Lafto to learn about this traditional yet effective pest management technique. For our IPM group every member brings various ingredients for the pesticide preparation. We have pesticides for stem borer, aphid, shoot fly and orange scale insects. We provide this service for free. We only require farmers to bring ingredients like cattle urine in exchange for the pesticides. We store all the urine in one barrel. The longer we store it the better it becomes to make the pesticides. We constantly improve the preparation based on distinct

characteristics of the pest, the crop, etc. in our area. We always try out the pesticides in our own farmland before we say that it's safe to be used by other farmers.

These preventive measures are now limited to eradicating crop pests. In addition to these we know about various herbs that can be used to protect cattle and chicks from snake attack as well as prevent threat from hyena and eagle against cattle and chicks respectively. We acquire this knowledge from elders in our community. We visit the homes of old, bed ridden elders to learn this ancient wisdom. They even give us information about herbs that defend cattle from warts, swelling and various other infections. We don't get paid for doing what we do here; it's not about the money. For us the

most important thing is the experience sharing with other communities. We are committed to showing the community what we know about pest management. ISD is a key supporter in these exchanges and pest management endeavors. It supplies all the necessary supplies like stationery materials that help to document the process, procedure and ingredients; as well as gloves, plastic containers, and protective suits to prepare the pesticides.

We started working with ISD a year ago. ISD together with Wollo University have provided us technical support. ISD focuses on experience sharing. For example, we went to the shores of Lake Haike to learn about organic agriculture. On the other hand we trained these young farmers how they could prepare and apply natural pesticides on their organic farm.

ISD also provides financial support for our IPM group.

In the future we wish to buy a machine that can help us produce the pesticides in a powder form. These pesticides are harmless compared to industrial pesticides applied on crops. Industrial

pesticides affect the health of our liver, our eyes and even our mental state. Therefore, it is important to use natural pesticides instead. I urge the government and state officials to focus on supporting IPM in different communities.



A slurry fluid from a biogas plant used for compost making

Yemam Ali
Farmer, Ambassel District, 04 Kebele

It was the district agriculture office that first introduced biogas technology to me. But it was ISD that trained me on how I could effectively use the bioslurry and prepare compost from it. We started working with ISD in 2014. I used various measure and various traditional ways to improve the fertility of the soil I worked on. ISD staff appreciated what I did and approached me with a better solution-making and using compost. They even showed me how I can prune coffee and other seedlings. At first I was suspicious. I even feared they came to destroy my crop. Then as they explained how crowded I sow the seeds and explained how important it is to prune I came-around. They asked me to let them

use three coffee plants in my farm to demonstrate how important the new technique was. In three months time there was an obvious difference in the crop productivity between what I used to do and what they demonstrated in the sample coffee they planted and pruned. It was evident that was very critical to the growth of coffee and other plants. I immediately pruned all the coffee plants I had on my farm. I also saw how important compost was in having a good crop yield. ISD staff encouraged me to dig another compost pit and I have.

All of this coffee that you see is a result of that.



My family and I have been very satisfied with our lives since we started using bioslurry. My children used to fight over a kerosene lantern when they studied at night. Now thanks to the light from the biogas my house is the brightest at night. My children study well at night and I don't spend any more money to buy kerosene. My wife doesn't collect firewood anymore—no early mornings in the forest. She now prepares coffee and tea, cooks food, and does everything in the house. There is no more wood gathering in the evening. And we stay up as long as we want into the night.

ISD also brought orange, avocado, coffee and papaya seedlings having seen how committed I was on my farm. Before this I was only focused on producing crops. I never thought I could earn extra money from vegetable gardening. I now produce both crops and fruits and vegetables twice a year. I have a thriving production. I am also collecting coffee to sell. I also intend to sell teff beyond household consumption.

I haven't been using my farmland as effectively as I should have. Now, I am; look at this vegetable garden;

see how beautiful it is!



So much has changed in my life. After I started my vegetable garden and started selling fruits I make at least 150 Birr (7.5 USD) per day. I have no worries about money. Now, I am self sufficient.

I really appreciate ISD for the fruit and vegetable seedlings they brought me; for showing me how to prepare compost and for training me on how I can prune fruit seedlings. I can now prepare seedlings in my own tree nursery and prune them on my own. I thank ISD very much for everything.



Ali Mohammed Ali
Member
Haik Estena Organic Vegetable and
Fruit Producers Association

In the past we used to apply chemical pesticides to prevent pests from our crops. Now we have learned natural ways of preventing pests using traditionally reinforced plants. ISD has done so much work. I am really grateful to ISD for they have taught us such harmless ways of crop protection; and consequently other community farmers have adopted these practices to apply in their farmlands.



Ali working on his vegetable garden



Hailu Legesse
Former Crop Development Expert
Tahtay Maychew District

Recently ISD has introduced Push-Pull Technology to us. This is a new means of controlling striga weed and stem borer pest infestation and increasing crop productivity. The plants used for this work enhance soil fertility and are also used for animal fodder. This technology is now expanded to many other districts like Kewanit, May Siye and other areas. This is a result of our strong work and cooperation with ISD.



Sorghum Crop

Endris Mohammed
Community Facilitator, ISD Dessie

In 2011 experienced Kenyan and Ugandan organizations joined hands with ISD to give us four days of training on the technology at Melkasa Agriculture Research Center. After the training we applied Push-Pull on farmers lands back home. It was productive. When we first started the technology was implemented by two farmers: a man and a woman.

Now there are over 350 farmers applying it on their crops. The technology has also been tried out in Ambassel, Kebi, and Werebabo as well as three Kebeles in Sirinka of South Wollo and 13 farmers training centers and three seedling stations in one district and two Kebeles in Amhara Region, Oromia Special Zone.



Yasin Mohammed Ali
Farmer, Ambasel District
03 Kebele Sokokit Leyu Gote

I came to know ISD five years ago. I have traveled to Wekro with Dr. Hailu to share the experiences of farmers there. I have also received other trainings in Dessie on several occasions. I plant my sorghum crop in line. I try new things. I now am well aware about food security and self reliance. I am trained on the Push Pull Technology /PPT/ and practice it on my farm. I used to have a Striga infested field, but now since I started planting Desmodium and Brachiaria amongst the crops I have a Striga-free crop field. I have not encountered any problem applying the PPT on my crop production. In fact I now harvest much more quantity of

maize with a much better quality from a smaller plot of land than I used to plough. I use the Desmodium and Brachiaria to produce the fodder for my cattle. I have also tried reproducing Desmodium seed for sale but it was destroyed by cattle in uncontrolled grazing.

I really appreciate ISD and I thank them very much. I know they are making a difference with green development in Ethiopia. They bring new technology and knowledge for farmers to improve productivity and eradicate poverty from the country. I would like to say, keep it up!



Desmodium plant



THE BEGINNING

Dr. Fasil Gebeyehu **The Cultural Biodiversity Program** **Former Coordinator, ISD**

It was in 1998 when ISD staff including Mrs. Sue, Mr. Arefayne and Mr. Million went to Tigray to visit the projects that Mr. Million met an old colleague of his, Debesay Tekle Muz, who was working as a teacher in Tilahun Yigzaw High School in the town of Maichew, and they started discussing the activities of Environmental Education Clubs (EECs) in schools.

After Sue and Million returned to Addis, they picked up the idea to start activities with teachers and students of 'Segon' EEC in Higher 12 Senior Secondary

School in Addis Ababa. Their idea was to help students make a connection between what they eat and the plants used to produce their food, because students (particularly those from urban areas), could not even identify the typical crops grown by the farmers. At that time, in 1998, agriculture was still one of the subjects taught to high school students and the teacher of agriculture, Assefa Mitiku, was the coordinator/patron of 'Segon' EEC.

Assefa and the students were encouraged to conduct a simple experiment to compare the effects of artificial fertilizer and natural/organic fertilizer in the form

of compost on the growth of some local crops. Assefa had already started teaching the students various methods for making compost, and ISD supported him to make compost using the pit method being promoted among farmers in Tigray, as well as the more intensive method called Nadep. Segon EEC became one of the model clubs in the expansion of the Cultural Biodiversity (CB) Program and also began practicing ISD's activities with youths who had left school, but wanted to continue environment-based activities in groups.

The CB Program of ISD was designed to highlight the importance of indigenous or local/traditional knowledge for the successful implementation of sustainable

development and for combating poverty. The Program was practiced in high schools because ISD believed that students who complete their high school education are the people who later become the policy and decision makers at all levels of government.

So in 2001 with the support of the Gaia Foundation, a one-week workshop was held in Holeta, a small town about 30 kilometres from Addis Ababa, the capital city of Ethiopia. The aim of the workshop was to introduce the concept of 'cultural biodiversity' to teachers and school directors from 17 high schools with functional environmental clubs. The schools were selected from all the regions of Ethiopia and were trained



Dr. Fassil discussed with community elders about the importance of cultural biodiversity- Mekdela 2005



Former Ethiopian President, HE Girma Wolde Giorgis laid the cornerstone for the natural park in Wolisso town - 2002

in basic methods for interviewing local people and how best to document their findings in the “Discovery of Cultural Biodiversity” process. The workshop was also attended by representatives from the local administration and education offices.

After the workshop a lot of written and physical material was brought together from the schools and it was not possible to reflect the diversity and variety of these materials in a single publication. It was therefore decided to bring the teachers and student representatives from the participating schools together to exchange experiences and to show and celebrate their achievements in a combined meeting and exhibition. This resulted in

the first national celebration of cultural biodiversity in July 2002. The celebration was hosted by ‘Walga’ Nature Club of Dejazmach Geresu Duki Comprehensive Secondary School, Wolisso, in Oromiya Region, 100 kilometers southwest of Addis Ababa.

The exhibition was organized as a partnership between the local authorities and the school, with ISD providing the logistic support. Also, the local authorities used the occasion to identify various plant species, and dedicated an area with trees and open grassland as a natural park in the town. The dedication was marked by the then Ethiopian President, HE Girma Wolde Giorgis, who also led

a tree planting ceremony. Other senior government officials also attended the exhibition, including the Minister for Women's Affairs.

16 participating schools displayed traditional clothing, samples of food and beverages, drawings and models of traditional houses, cultural items used in houses and traditional ceremonies, collections of local seeds and herbarium specimens of important local plants. The participant students wore their traditional clothes throughout the 3-day celebration and entertained visitors with songs and dances of their respective communities; they explained the uses of the traditional materials they had collected. Each school also put on a show; plays, songs and dances with environmental themes. At the end of the event, prizes were given to the best displays: Chamo Nature Club from Arba Minch High School won first place.

Other government institutions and local NGOs like the Institute of Biodiversity Conservation and the Ethiopian Wildlife and Natural History Society were also invited to participate.

The exhibition attracted a great deal of interest and attention from both the media as well as the local inhabitants of Wolisso and the surrounding area. It was

estimated that well over 3,000 people came from Waliso and the surrounding area and saw and heard from the students. A selection of the stories and poems with environmental themes sent in by the students and teachers had been edited and printed as a booklet in Amharic under the title of "Bahlawi Hiwetawi Habt Le-astemamagn Hiliwuna: betemehirt betoch ayen".



A girl dressed in Sidama cultural cloth



Mrs. Sue and participant students from Afar in the CB Celebration

The students summed up their experience at *Holeta* as follows;



CB Celebration participants planting tree seedlings



Participant students from Harar in the CB Celebration

“Now we see all of Ethiopia together in one compound we will always respect each others’ cultures and traditions in the future”.



Students looking at a spice display at CB Celebration exhibition



**Gizaw G/Mariam
Program Manager, ISD**

I was a teacher at Arba Minch Secondary and Preparatory School when ISD came to Arba Minch to introduce the Cultural Biodiversity Program in 2002. They linked with the Chamo Environment Care Club. Back then I had no part in the Club; I was not a member. ISD invited the Club Coordinator Mr. Bayissa Geleta and the school Deputy Director Mr. Baye Dema together with some students to attend an

informative workshop about the Cultural Biodiversity Celebration in Holeta. In a short time the Club caught the attention of students and teachers. In May 2002 Chamo Environment Care Club took part in the first Cultural Biodiversity Celebration in Walisso and won first place for its outstanding performance in the celebration.

In 2004 I was assigned to be Director of the school and got the chance to lead the Chamo Environment Care Club. That same year my school got the opportunity to prepare the Cultural Biodiversity celebration. This was how I got acquainted with ISD and its employees. We prepared the celebration and invited former Southern Regional State Administrator current Prime Minister Hailemariam Desalegne as a guest of honor in the opening. The guest of honor launched the celebration. Many people took part in the ceremony and admired the success of the occasion.

Chamo Environment Care Club raised its activity and got much recognition. Members of the club were always the first to mobilize people to control natural and manmade wild fire at the Nech Sar National Park.



The Club used to be known as Ambassador for Environment care.

After I started working as the director I became more involved with the Club. Since I was a biology teacher and I had a personal interest in environment I followed the Club closely. Every year school clubs used to receive some money for running cost; and I used to lobby up to 10,000 Birr [approximately 500 USD] for the Chamo Environment Care Club. As a member of the club I also collaborated

with aid organizations, prominent people and the business community to raise money for the club. As Director of the school I also prepared prizes and educational trips for the Club members at the end of the school year to promote goodwill and encourage the members.

Chamo Environment Care Club has always been applauded in Cultural Biodiversity Celebrations where it always maintained to show unique scenes.

Every school year students compete to be a member of the Club. Due to the achievements of the Club former Club Coordinator Mr. Bayissa Geleta, who is no longer alive, was granted an opportunity from ISD to take part in a workshop about environmental activism and traditional knowledge in South Africa. Then, since ISD was looking for a project coordinator for an environmental rehabilitation intervention it launched around Arba Minch, Mr. Bayissa left his job as a teacher and joined ISD. The Club continued to shine. I continued to follow-up the club and at the same time developed close relations with ISD. After four years as Director of Arba Minch School I was transferred to the zonal education bureau as a senior education expert in January 2008.

Chamo Environment Care Club members continued to uphold the reputation of the Club. Though I left my job at the school, I continued to lookover the Club. I worked at the Zone Education Bureau for two years. I was then invited to join ISD; since I was well aware of its operations and sought the position I left my long-lived career at Arba Minch for good to join ISD in Addis Ababa



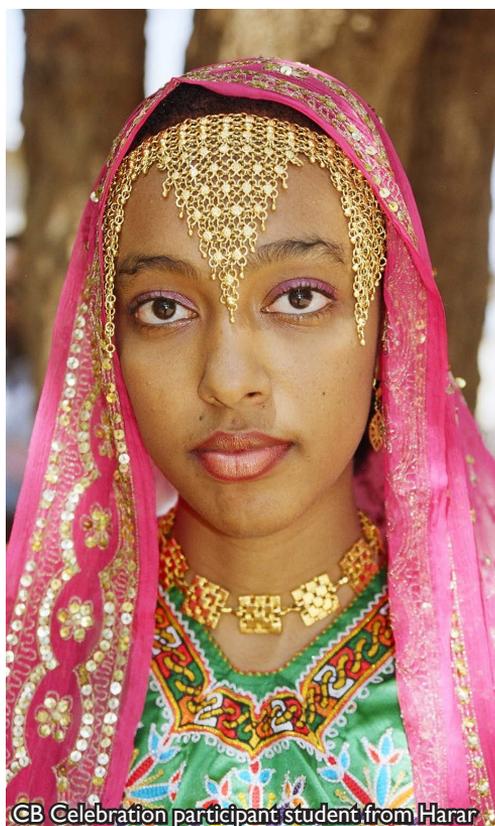
in 2011.

We work on the minds of youngsters in high school. It is an investment in a generation but returns are not immediate. However, we have seen some of the results. There are former students, school club members, with exemplary work in their areas of expertise. Some are public servants who practice and promote ISD's pro environmentalist activities.

We have been implementing the Cultural Biodiversity program for over 10 years. However we have not been able to prepare measures to record its practical impact. That has been a challenge of our project. We do not have a tool or a timeframe to determine how we have affected change. We also have financial difficulties preparing the Cultural Biodiversity celebration on a regular basis. Donors usually require immediate tangible results; but we work on the mindset and the results are not immediate. Because of this we cannot present to them any measurable results.

Regardless of the financial limitations ISD maintains to train students and teachers in organic vegetable production, compost preparation and keeping tree nurseries of endangered endemic tree species. The Institute also runs the 'learning from the root' program. It takes students and teachers on journeys to selected communities to learn about traditional knowledge. The program aims to help students to integrate traditional knowledge with their personal experience and modern knowledge to have a worthy life experience.

We have helped all 24 schools in the program to establish stakeholders' forums hoping to create a sense of ownership and a capacity to prepare the Cultural Biodiversity Celebration on their own. Led by local administrators, the forum is aimed at supporting school clubs to mobilize resources and raise money to continue their activity when ISD has fund shortages to assist them. Some schools have made a good use of this plan, but not all of them have succeeded in doing so.



CB Celebration participant student from Harar

Alemayehu Ayalew
Senior Community Facilitator, ISD

The Cultural Biodiversity program of ISD has contributed to the birth and realization of Ethiopia's Nations and Nationalities Day which is celebrated every year on 8 December. Especially, the 3rd Cultural Biodiversity celebration in Addis Ababa in 2004 had a great input for the realization of this annual celebration. Mr. Dereje G/Michael, former Program Manager at ISD made repeated efforts and succeeded in inviting the Minister of Culture and Tourism at that time, Ambassador Mohammed Drir and former Minister of Youth and Sport, Mrs. Aster Mamo among other officials.



Former Culture and Tourism Minister Mohammed Gease opening the CB Celebration in Addis Ababa



Benishangul Region



Former Culture and Tourism Minister Mohammed Gease visiting CB Celebration exhibition in Addis Ababa



Afar Region



Oromia Region

CB
Celebration



Southern Region

Participant
Students



Amhara Region



Tigray Region



Ayele Kebede
Country Director
Panos Ethiopia

I knew ISD in 2006 when I was a teacher at the Gambela Secondary School. During that time I was also the coordinator of an environment club in the school. Our activity in the club was recognized by non-governmental environmental protection organizations like Lem Ethiopia. Our school was recognized to be among the hundred with best performing environmental clubs in the country and was awarded for it. This information was with the Ethiopian Wildlife and Natural History Society as well as Lem Ethiopia. This information was passed around various organizations to understand who was doing an effective work in different areas. That is how we started working together with ISD.

At that time ISD was preparing a three day Cultural Biodiversity Celebration at Weliso. We participated in the three-day festival. I learned of so many cultures I hadn't known

about from the celebration: I learned not as a teacher but as a student. I understood that paying attention to my surrounding and my environment was the basis of all knowledge; to gather the names and information on the plants and animals around us is as important as having a university degree or a distinguished education. I had a degree but failed to understand my environment. After taking part in the celebration however, I learned to become a better observer. I used to think that culture and tradition were outdated: I now believe this notion is wrong. I have changed and I have been able to influence people to think positively about culture and tradition. ISD has helped me establish my career. It has helped me broaden my perspective and build connections with people. It is ISD that enabled me to continue from the Region and the job that I was in and come to Addis

Ababa and start my present job.

Having worked together with ISD I have had the privilege to increase my understanding due to the many workshops I attended. The knowledge has boosted my confidence on formal and informal knowledge both in academia and extracurricular activities like HIV/AIDS and environment education. It was a great opportunity for me to understand the different circumstances throughout the country. I received various publications from ISD that have helped me further my academic knowledge. It was also my gateway to have received several trainings which have come in handy at various occasions. I have a multitude of connections and contacts all thanks to the people and organizations I met while working with ISD. All of these personal and professional benefits are because of ISD. In addition, I have taken part in workshops in other countries. I have attended trainings both as a participant and a research presenter recommended by Sue Edwards.

After I started working for Forum for Environment as a Deputy Director and later for Panos Ethiopia as a Country Director I have always worked closely with ISD. Also,

when I worked at Heinrich Böll Foundation we had provided some logistics for ISD to run some projects.

Students who used to take part in the school club at Gambela High School are now active public servants and Bureau Heads in various government offices; some are medical doctors and some have taken my previous position as school teachers.

I would like to thank ISD. I owe my current profession and status to the institute. It may be hard to put a price on it but the institute has greatly influenced my life. Happy 20th Anniversary for ISD to all of us! I would like to extend a greeting to previous and current employees of the Institute who are responsible for the great institutional success towards carrying out successful environment protection activities in the country. A special thanks goes to Sue Edwards who is like a mother to me. Now ISD is a grown up; an institution that has succeeded with several projects. Its small initiatives have been adopted by the government and extended throughout Ethiopia. It is a big success!



Bogale Bitane
Water Supply Engineer
Arba Minch Secondary School
Chamo Environment Protection Club
Former Member

Since 2005, when I became a member of Chamo Environment Club, ISD has been an inspiration for me and my friends to be active participants in protecting and caring for the environment. After we left school the Institute helped us establish Egnan New Mayet compost processing association. We were able to clean up the lakes and use the waste from the town to prepare the compost. This initiative later led to a 42,000 Euro grant from the European Commission to make the association a center for research. We have also traveled to different parts of the world to learn from similar experiences. The association is very successful. Its achievements have been reported on the British Broadcasting Corporation /BBC/.

ISD is the source of all this achievement.

Personally, the cultural biodiversity program has laid a base for who I am today; it has influenced my career choice. When I was in school I used to aspire to be a software engineer. However, my experience in Chamo Environment Club has led me to choose working with the environment; that's when I decided to become a water supply engineer.

I would like to admire ISD for taking the initiative to work with young people. It is admirable that the Institute also takes young students to culture-rich rural communities to have a practical learning experience. It is a great opportunity for youths to learn by doing; to understand

how to overcome challenges and train to be leaders.

ISD works with so many young people that are no more in school. However, it has not been able to follow up their performance and evaluate their status. It is important to monitor how youth groups are doing; to understand why failed groups did not succeed and help them maintain success and support them to reach the expected achievement.

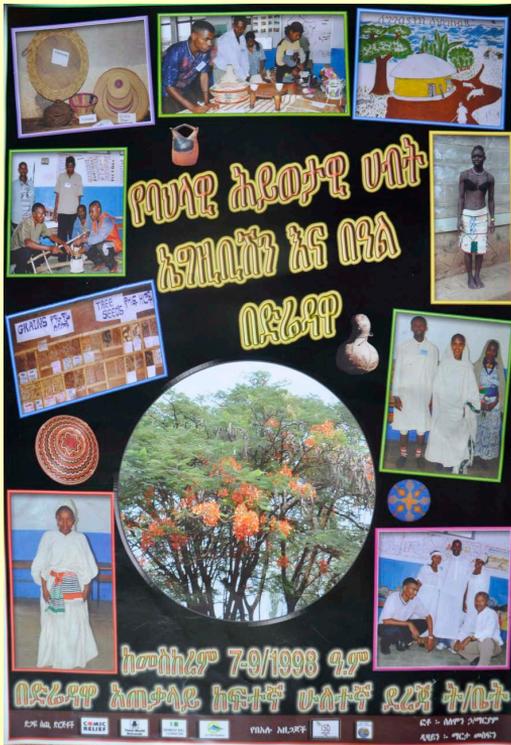
Mrs. Sue and Dr. Tewolde Berhan are the cores of the organization. In order to continue their legacy and maintain their effort for sustainable development there has to be an organized system to carry on the initiative. I also believe it is good to consider local fund raising opportunities that will free ISD's

operations from depending on funds from abroad. Moreover, it is important to help school clubs to develop their capacity and fund raising skills so that they would administer and enhance their own financial resources. On the other hand, to succeed with the aims of the cultural biodiversity celebration on a larger scale, the current participating schools should try to mobilize private and public schools in their respective areas to promote culture and biodiversity.

As we celebrate ISD's 20 years of service I ask that we pay tribute to the late Bayissa Geleta who played a considerable role in promoting environmental care and protection with the young generation. I also wish that God will grant long life and health to Mrs. Sue and Dr. Tewolde Berhan.



Bogale Bitane (standing alone, left) with Alemayehu, ISD staff (in a black jacket) and Egnane Newe Mayete Compost Producing Youth - Arba Minch 2007



The poster for the 3rd Celebration and Exhibition of Ethiopia's Cultural Biodiversity Celebrated at Diredawa General Secondary School in Diredawa town between September 17 and 19, 2005

The poster for the 4th Celebration and Exhibition of Ethiopia's Cultural Biodiversity Celebrated at Ethiopian Assembly Center in Addis Ababa City between July 13 and 15, 2006





The poster for the 6th Celebration and Exhibition of Ethiopia's Cultural Biodiversity Celebrated at Konso Secondary and Preparatory School in Karat town (Konso) between July 14 and 16, 2012

The poster for the 8th Celebration and Exhibition of Ethiopia's Cultural Biodiversity Celebrated at Tilahun Yegzaw Secondary School in Maichew town between July 27 and 30, 2016



Fozia Tesfaye

**Theater Arts Student, Addis Ababa
University**

**Hote Secondary and Preparatory School
Yegofe Environment Protection Club
Former Member**



I became a club member five years ago, when I was in grade 11. We promote the community and culture we came from using theater and other art forms; in ways people can remember.

In our school we have a vegetable garden where we plant vegetables and pass them to students from low income families so that they may care for them and finally benefit from the sale of the products. We have a variety of tree species in the compound. We plant two new tree seedlings for every old tree that is cut down.

I have participated in three cultural biodiversity celebrations ISD prepared in Konso, Basketo and now in 2016 in *Mai*

Chew. Participating in the celebration is having the opportunity to see all Ethiopia in one place. It is a venue where we exhibit all Ethiopian cultures; where we learn from other cultures and share our own. It is a place where we learn about social life, tolerance and coexistence. We meet new people and make friends across cultures. Thanks to the celebration, I personally have cultivated a sense of patriotism.

All the people taking part in organizing the cultural biodiversity celebration are true patriots. The founders, Mrs. Sue and Dr. Tewolde Berhan, are playing a great role in fostering culture and identity in the new generation of Ethiopian youths. Long life and health for the founders!

Abebe Alemu

**Social Work Student, Gondar University
Aykel Secondary and Preparatory School
Environment Club, Former Member**



I became a member of the school environment club when I was in 6th grade. Now I am studying social work at Gondar University where I have established Maraki Gebi Environment Club; we are working together with the Departments of Agriculture and Geography.

The cultural biodiversity program has introduced me to so many people. I have had good connections with members and leaders of the community I lived in as well as with young people from other parts of the country. The program has also helped me to choose social work as a career in order to work with communities.

ISD is an Ethiopian organization, working for the people across the country. We know it is an organization with a lot of potential, striving to protect the environment and maintain sustainable development. I would like to extend my gratitude to Dr. Tewolde Berhan, Mrs. Sue and all staff members of ISD for their investment on young people. I believe ISD should extend its cultural biodiversity program into universities; it should also engage more stakeholders in its activities to strengthen its impact.



Harar Region

Cultural Biodiversity Celebration



Southern Region

Benishangul
Region



Participant Students

Amhara Region



Afar Region

Rahma Fedlu
Dire Dawa Comprehensive Secondary
School Environment Protection Club
Former Member



I became a member of the club when I was in 9th grade. I have not stopped participating in the club even after I left school. Our club is actively engaged in promoting culture. We have a regular mini-media program every Wednesday in the school; we try to create awareness of students to know about their country and culture.

I have learned a lot of life lessons participating in the cultural biodiversity celebration and the back-to-root program: I am well aware of other cultures and learn as much as I can from them. Having participated in these programs, I have developed love for others and good friendships with so many people.

ISD gives us a regular fund to support club activities. At one time we received about 24,000 Birr from ISD. We used the money to build a water tanker in our school which helped reduce water shortage. In addition the Institute also gives us trainings on such matters as tree nursery care which helps to care for the environment.

I would like to admire ISD's initiative to work with young people. It is quite worthy that the Institute overcomes so many challenges to bring youths from all corners of the country to exchange their cultures. It should keep up its effort to help out of school youth.



Mohammed Hayat Ali
Electrical Engineer and Lecturer
Semera University
Dubti Secondary School, Lucy Environment
Protection Club, Former Member

I started participating in the environment protection club in 2006 when I was in 9th grade. I have participated in cultural biodiversity celebrations held in Addis Ababa, Jigjiga, Arbaminch and Dessie up until 2009. I have learned so much participating in the celebrations; it has laid a foundation to my personality. The knowledge and experiences I have acquired through the program has made me a committed person that can overcome challenges.

In our community people are less informed about culture and biodiversity. By taking this limitation into consideration I have kept on assisting the school environment club to develop its capacity.

I believe it is important for ISD to hold the cultural biodiversity celebration on a regular basis. Every year new students join secondary schools and it is vital to educate the new generation about their cultural biodiversity. In order to maintain our culture and knowledge across generations the cultural biodiversity celebration should be continued just like regular education. The schools also need to be continuously monitored and assisted.

On the other hand, community members, stakeholders and schools have to work together to alleviate some misconducts in the students that might threaten the integrity of the cultural biodiversity program.

Finally, I would like to express how grateful I am for participating in the 8th cultural biodiversity celebration in Mai Chew. Happy celebration for Dr. Tewelde Berhan, Mrs. Sue and all ISD staff!



Kefeyalew Tefera
 Teacher,
 Hote General Higher Secondary School
 Representative,
 Yegofe Environment Protection Club

We started working with ISD since 2004. It played the biggest role in establishing the club. Since its establishment the club has carried out several initiatives. Our activities as a club have increased every year. Consequently, we have advanced our knowledge and skill as a club.

Planting indigenous trees is one of our main duties. We have a tree nursery where we seed trees and provide the seedlings to churches, mosques and individual community members so they would care for them and create green areas. We also grow vegetables in the school compound and sell them for a small price to the surrounding community. We have planted 12 apple trees of four different varieties and they are growing well. We also have a sample plot to reproduce various local and imported grass seeds. These different plants are used for cattle fodder, for shade



An apple in one of the trees planted by Yegofe Environment Protection Club

and compound decoration. They also have a role in preventing soil erosion. We have a documented and compiled set of plants that are used as medicine. Our club has over 250 indigenous plants in its record—their medicinal purpose, preparation and application—put together in a set of documents. The club also has the list of ingredients and the mixing procedure for fumigants, incense and spices famous in Wollo.

Our club also gathers cultural heritages. We have various traditional ornaments from different cultures of Ethiopia. Students learn about these items and their purpose in the respective society. The club is responsible for keeping a list

can be harvested from a hectare of land, the market demand for the crop and so much more.

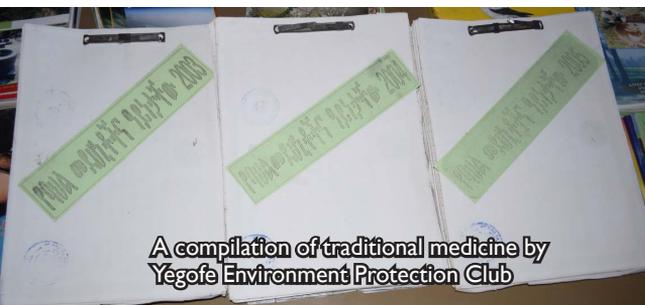
The club promotes the scientific name of trees. We introduce the side effects of heat trapping and atmospheric warming



Cultural ornaments collected by Yegofe Environment Protection Club

of gas in the environment and the importance of using renewable energy. We beautify the school compound with trees and other plants. Members of the club provide community work. Yegofe shares its working experience with other clubs and learns new things in return.

Our club has an outreach program. In this program we have established relationships with the 46 schools in Dessie and provide technical and financial support for students and teachers to set up environment protection clubs. During panel discussions we organize every now and then, we exhibit all the cultural and



A compilation of traditional medicine by Yegofe Environment Protection Club

of all indigenous trees in Ethiopia, even those that have vanished from existence. We have documented what kind of crops farmers sow, the time of year they sow it, the period of harvest, etc. We have compiled what is produced in the various climatic conditions, how much produce

traditional ornaments we have in our club's museum. We prepare question and answer programs, dramas and other art works for the school and the surrounding community to raise awareness on culture and environment. We also publish and distribute informative brochures, fliers and other publications for students and surrounding community members.

Our club meets some challenges in the school community when it comes to protecting the environment. The students do a good job in planting trees and other plants. Yet, they don't pay attention to watering and nurturing these trees and plants until they are fully grown.

We named our environment protection club Yegofe after the name of a state owned forest sanctuary in Kombolcha. Recently this forest was in danger of total extermination. We as a club decided it was our obligation to rescue the forest. We persuaded clergy men in the church at that district to help prevent the deforestation and made a pact with one priest who played a great role in protecting the forest. His name is Aba Mefker; he was an opinion leader in that community and influenced many people. Wherever he went he started denouncing

the damages people were inflicting on the forest. Because of his efforts people stopped cutting down trees from the forest and it was saved. It is in memory of our involvement in this intervention we named our club Yegofe Environment Protection Club.

ISD is playing a key role in changing Ethiopia. Its staff are dedicated. We learned enthusiasm from them. ISD has helped many youngsters with their careers and their future. I really admire ISD. I wish you a happy 20 years anniversary!



Currency notes and coins collection by Yegofe Environment Protection Club

MAJOR ACTIVITIES OF ENVIRONMENT EDUCATION CLUBS

Collecting and conserving medicinal and other plants

Documenting food items and learning their preparation

Collecting and planting diverse seeds

Collecting Cultural Stories like folktales and folklore and drawings

Collecting Herbarium specimens

Making and caring for vegetable gardens

Preparing meetings and workshops

Preparing natural fertilizer

Organizing and participating in exhibitions

Preparing and engaging in educational tours

Building traditional houses within school compounds

Producing club magazines

Creating a link with communities through a program called back to root program

Reaching out to other schools to establish similar clubs



Alemayehu Zewdu
 Coordinator
 Yegofe Environment Protection Club

I have learned a lot in my three years of membership in the club. The Back to Root program of ISD has made me realize my culture, custom and identity. ISD has taught us how we should keep our culture in different aspects of our life. I have traveled

a lot and seen many places in Ethiopia. I have learned about many cultures, people and their unique ways of preserving their environment and biodiversity.

ISD has taught us about renewable



energy and environment friendly life style. We know about compost preparation. We have prepared it in our school after learning about the preparation from farmers. We use it to nurture our vegetable garden. We had a tree nursery in our school where we reproduced indigenous trees and distributed the seedling to other schools. We also shared with the schools how they could make their own tree nursery.

ISD has also taught us about drama, folk arts, proverbs as means of learning tradition. Accordingly we have documented and compiled traditional medicine herbs which have been passed down generations through the word of mouth. We also have the list of all communal holidays and festivals and

unique different social cultures of Ethiopia. Our club is determined to play a key role in maintaining a close tie between the young generation and its traditional culture, belief and custom.

We are celebrating 12 years journey of our club as ISD celebrates its 20 years anniversary. We organized a big festival in our school in memory of our anniversary. We are also planning an educational field trip to the town of Kombolcha to witness environment protection initiatives. ISD has bestowed on us the responsibility of spreading environmental protection to over 200 club members, 3000 school students here at Hote Secondary School and much more.

Happy 20th Anniversary!



Yegofe Environment Protection Club Members
caring for a lettuce garden

Saladin Seid
Member

Yegofe Environment Protection Club

Because of our club, we do several activities in our school; we nurture our vegetable garden and educate students about culture and environmental protection. Because of these endeavours the school community understands its culture and environment.

Every plant we seed counts when it comes to protecting the environment just as 5 and 10 cents add up to billions. My neighborhood is not convenient to practice everything I learn about protecting the environment. However, I try to apply what I learned about plants and vegetables and also share what I know with my neighbors.

Since I joined this club, I have started valuing even the smallest of plants. I know how important any plant is in

Dawit Lema
Member

Yegofe Environmental Protection Club

this era of climate change. Because of our club I have come to realize the importance of caring for plants. I also understand how crucial it is to preserve and reproduce indigenous trees to pass them on to future generations.



It has been two years since I became a member of this club. After I joined Yegof I have learned how to use nature

Mesud Berhanu
Member

Yegofe Environmental Protection Club

to treat nature itself. For instance, I know planting trees can help prevent climate change and applying compost can enhance soil fertility and increase crop productivity. ISD has also trained us on how we can use traditional herbal medicine instead of pesticides to protect crops from pest infestation. I believe it is important to spread ISD's project to other schools too. It is a means of creating awareness and initiating students to protect the environment as well as preserve culture and biodiversity.



Carrot Garden / Yegofe Environment Protection Club

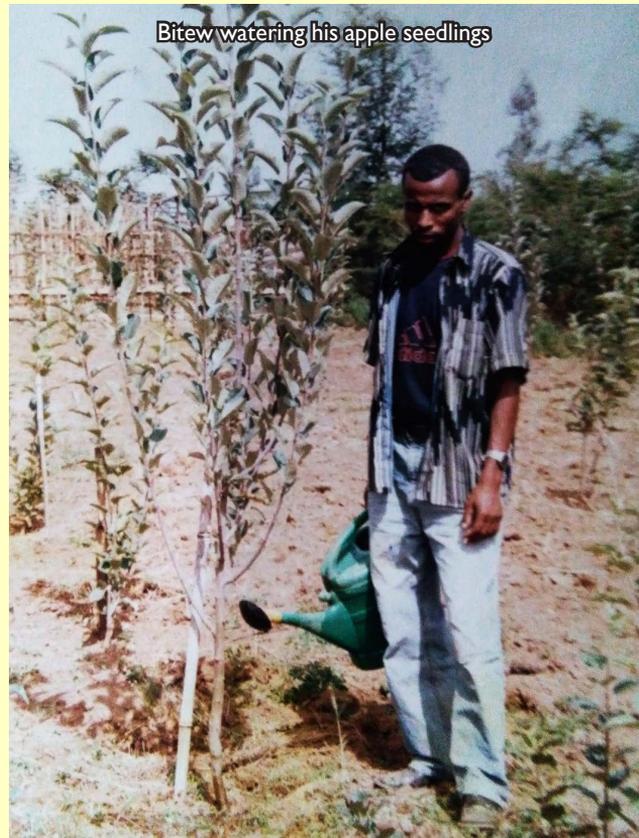


I joined the Nature club at our School when I was in 6th grade. Despite various pressures to leave the club I kept on participating. Although I was originally from a rural family and knew about farming, I learned more about agriculture in the club. ISD used to invite us to various trainings. I got the idea and practical skills for my business when I went on a field visit to Chenchu that the Institute facilitated. ISD's trainings have helped me cultivate the culture of saving. I have also developed self-confidence and self-esteem. I have come to believe that I could make things happen and that I am capable of changing circumstances.

Bitew Kassa

Young Businessman and Former Member Kosober Primary and Secondary School Nature Club

I and My family, we were poor. Now, thanks to my participation in the club and the trainings I received, I earn a minimum of half a million birr every year selling apple seedlings. Many people have started to change their situation through agriculture after they saw my change. I measure my success not only by my income and achievement but mostly by others whom I have guided to start businesses.



Bitew watering his apple seedlings

Maru

Bitew's Former Teacher Kosober Primary and Secondary School

I taught Bitew academically but he trained himself for life. I gave him theory but he educated my mind and heart. I and many others have benefited from ISD indirectly. This was the true education. Bitew has helped me with the apple farm I own. I am now living a true life. When I compare my academic life for the past 21 years with the recent three years when I started my apple farm, it is quite incomparable.



Bitew also rehabilitated a degraded plot of land that is now well kept. He has been a gift for our town.

Kedesegn Wogi

Woliso Town Former Mayor and Former Member of Nature Club in Woliso Secondary School

I became a member of the nature club when I was in high school. I was still an active member when I came back to the school as a teacher and then became the school director. I did not stop participating in the club when I became a mayor. As a mayor, I was very conscious about the environment. I closely worked with the school and encouraged the school's administration to invite students to become members of various clubs.

We receive a lot of information in school and college, but we need the true meaning of education which can be applied in everyday life. I believe that, if you are aware and ready to learn, the school club is a place for forming positive habits and good character traits. It is a place for cultivating your strength and learning self-discipline. Having participated in the environment club at my school, I have gained tangible knowledge that was assisted with practice. My value for team work also started in school. The most important lesson I have learned in my school club is that I have to at least save myself from becoming the cause of or part of a problem.

Dr. Fasil Gebeyehu
The Cultural Biodiversity Program
Former Coordinator, ISD

ISD also works with out of school youngsters who may or may not have passed through the education system, but are unemployed. These “out-school youth groups” comprise of young volunteers who support themselves. ISD’s youth development team has been assisting these groups to be organized and become legally recognized by their respective local authorities in different parts of Ethiopia. Some of the members in these groups were members of the Cultural Biodiversity programs when they were in school. ISD provides long term support to these youth groups to function as self-supporting and income generating groups so that they can contribute to the wellbeing of their respective communities and the environment. In order to achieve their goal, ISD provides a range of

capacity building packages including training on social, technical, business, and environmental management skills which help young people to develop confidence and access to quality leadership.

Additionally, the institute provides money for seeds and helps the youth groups to generate income through different activities such as the production of organic vegetables, poultry farming, ornamental plant rearing in nursery development for raising seedlings. Most of these out-of-school youth groups have been successful in terms of supporting themselves and achieving their conservation goal. Their exceptional activities have been recognized both nationally and internationally through various awards granted.







Nib Environment Protection Association member explaining about their activity for various stakeholders

Nib Environment Protection Association BiretDildye, Kebele 02, Yeka Sub-City Addis Ababa

We, the founders of Nib Environment Protection Association, were members of Segon Environmental Club in Higher 12 Secondary School. After completing high school we established the Nib Environment Protection Association to engage in environment protection activities. The district administration allowed us to use more than 2000 square meters of land. Our activities are related to protecting our environment by planting indigenous trees, making

compost, vegetable gardening and thereby earn income and create awareness in our community to protect the environment. Many people in our community are not aware that some of their habits and behaviors may threaten the environment and their own health. The environment was among many issues that was never discussed among our people. We believed this situation has to be changed by promoting environment protection and other themes.

One of the things that is threatening the environment is deforestation. In Ethiopia, juniper tree is cut for Christmas holiday and as a result, this indigenous tree is threatened.

We thought that this serious issue must be addressed by the community and we have to contribute something to stop the destruction because cutting juniper tree for Christmas is a harmful practice; it was not part of our belief and culture to begin with. So, in 2005 we organized a workshop under the title “Celebrating Christmas by Cutting Juniper Tree is not our Belief and Culture”, and invited community elders, kebele (sub-district) administration officials, school communities and journalists to address the problem.

Again in 2006, around the Christmas holiday, we started a campaign titled “Let’s Celebrate Christmas without Juniper Tree”. We posted banners and distributed fliers to create awareness. We held the campaign in schools and Sub-cities in Addis Ababa city. And also during the Christmas holiday in 2007 we were part of various awareness creation discussions in

different media, environment protection conferences and workshops. We have won the hearts and minds of the community and helped stop cutting the juniper tree. Our effort to save the threatened juniper tree species has been recognized by the Addis Ababa City Administration which awarded us as second in The Green Award Program both in 2007 and 2008.



One of the mango plants planted by Nib Environment Protection Association members

WOMEN: CHANGING CLIFF TO FARM

Hibret Silk Association
Kazanchis, Woreda 06, Yeka Sub-City
Addis Ababa



There was a wasteland on the bank of the Kebena River; it was more than 500 m² and the villagers used to dump waste and people used to go down there to relieve themselves. It was a very polluted and dirty place. It was also very unlikely that anyone would clean it up and use it let alone a bunch of women. We asked the Kebele administration to give us the land to develop it as there were no other places in the wereda to carry out our planned activities. At first, the officials were hesitant that we might not be able to clean it up. However, having seen the spirit and moral of the members, they let us have the place. They said we have to be an example for others by changing and doing well with the place. As we started cleaning up, some people in the community discouraged us: they said how unattainable it was for a bunch of women.

We gave no attention to such rejection. We were committed to realizing our plan to produce silk based on the training from Melkasa Agriculture Research Centre. We also had the capacity to produce other things like vegetables. Therefore cleaning and leveling the cliff was a must for us. The first challenge was to fill the steep place in order to level it and make it plain. We discussed about it and one idea from a member stood out. There was a dump of house ruins in what is now Hotel Jupiter around Kasanchis. We asked the people responsible for the place and they agreed to let us take the ruins. About 150 trucks brought the soil and dumped it in our place for free. Then, we all brought hoes and spades from home, brought all our families and with the assistance of other associations that have similar objectives like us, we leveled the place

more quickly than we expected. The community of the area and the wereda administration officers were surprised to see the arrangements we made because before we received the place it was given to seven associations, all of whom failed to rehabilitate the land.

We have been working on our land since 2005. Based on the training we got from Melkasa Agriculture Research Center, we started silk worm production. The Gulo (Ricinus) plant we planted before the production was an important source of food for silk worms. However, after one productive year something unexpected happened. The gulo plant, the food for the silk worms, was destroyed by a plant disease. We therefore decided to move to other line of production. Using the small profit we had earned we purchased 70 chickens to try out poultry farming. Once we saw how promising the poultry farming is we purchased more chickens with a loan from Addis Credit and Saving and bought additional 250 chickens.

ISD helped us by providing different trainings on vegetable gardening, poultry production, and compost making.

In addition to the poultry ISD helped us with bee keeping. It bought us the first seven bee hives. Now we have 11 bee hives and produce honey. Although all of us have been trained on bee keeping we have brought in experts and have come so far with the production. We produce up to 200 kg of honey every year for the market.

All of us take the vegetables home to our families and also sell them in the market. We also have fruit plants like avocado and papaya. We prepare compost to nurture the soil.

We, the members of Hibret Silk Producers Association have succeeded in developing the plot of land which was considered barren and non productive. Today, by creating job opportunity for ourselves the association's capital is increasing and every member lives a better life.



The gulo plant, food for the silk worms



Alemayehu, ISD staff (in a black jacket) and Egnane Newe Mayete Compost Producing Youth with their greenhouse - Arba Minch 2007

THE UNDERVALUED MINERAL AND THE DYNAMIC YOUTH

Egnane Newe Mayete Compost Making Association Arba Minch Southern Nations and Nationalities Region

Arba Minch is endowed with natural resources. It is a tourist destination located about 505 kilometers from Addis Ababa. Irrespective of its attraction it has a poor and disintegrated waste disposal. Rivers and lakes were dumping grounds for waste. They are polluted and affect the peoples' health and aquatic life in Lakes Chamo and Abaya.

Egnan Newe Mayet, an association established by ten concerned, strong and hard working youths, is found in this town working against waste management problems in Arba Minch. After establishing the association they devoted to collect waste in the town to reduce the sanitation problem and at the same time convert it into compost.

This changed the name waste to gold.

Before we organized under the association we were jobless. On October 2006 ISD gave us a three days training on compost making in Arba Minch High School. Based on that training we took the initiative to prepare for compost making by collecting the waste dumped in every corner of town. After collecting the waste we brought it to our production place which is about 2,750 M² large. The town administration gave us the land when we were legally organized through the Micro and Small Scale Enterprise under the Bureau of Trade and Industry in that same year. Some people were not very supportive of our plan to collect and change the waste, but it didn't stop us from doing it. Instead, alongside the compost making, we used to promote

the use of compost and create awareness by providing trainings to the community, farmers and vegetable producers.

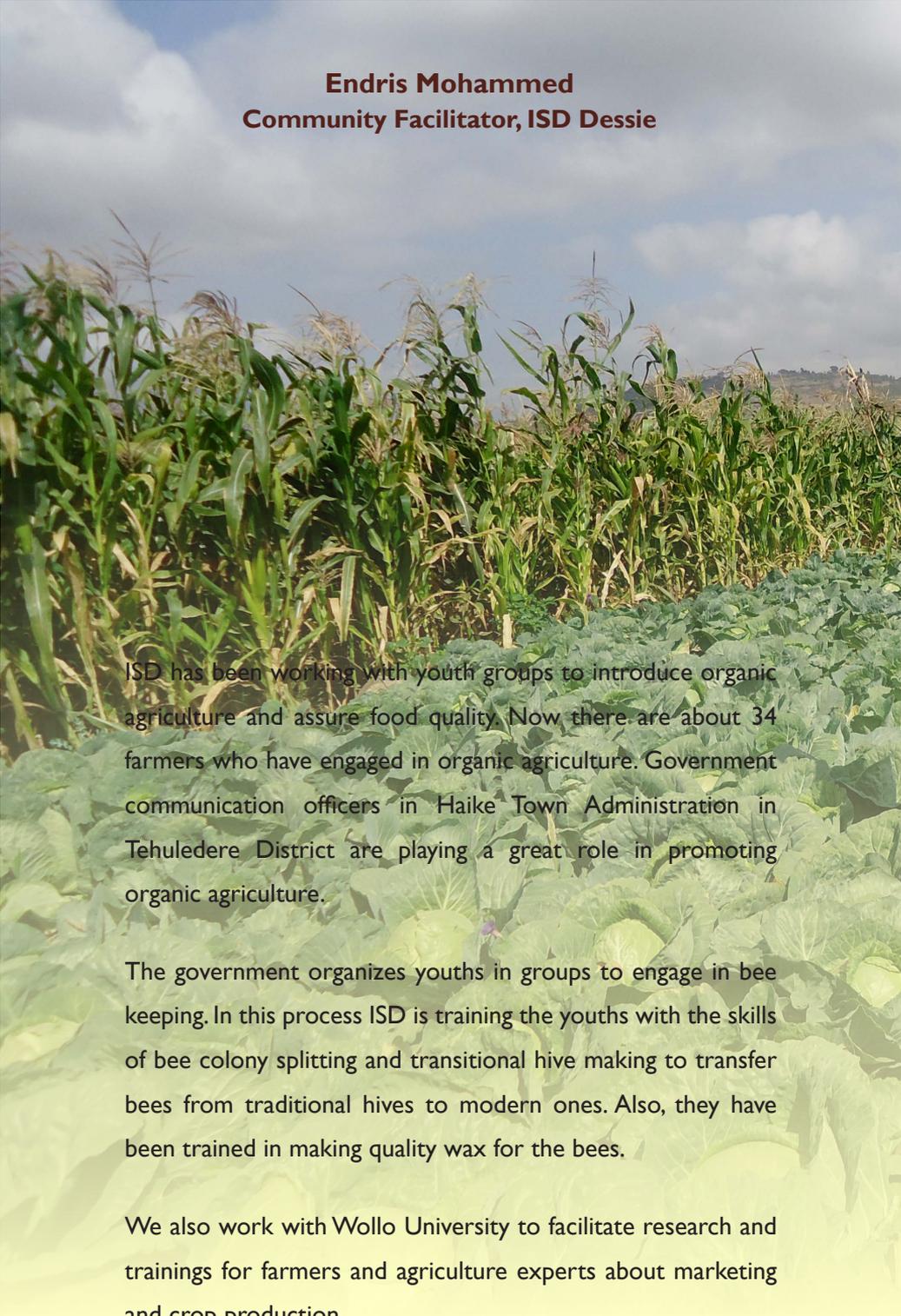
In the mean time we also got a chance to work with Arba Minch University and ROSA, a charity organization, on how we can collect and reuse human waste and food leftovers as natural fertilizer to reduce infectious diseases.

Our association gradually started getting money by selling the compost and doing other income generating activities like producing vegetables and decorative plants. Our income has been increasing time after time and all members have become self-sufficient.

Waste for Egnan New Mayet is income!

A dazzle of zebras in Nechisar National Park, Arba minch





Endris Mohammed
Community Facilitator, ISD Dessie

ISD has been working with youth groups to introduce organic agriculture and assure food quality. Now there are about 34 farmers who have engaged in organic agriculture. Government communication officers in Haike Town Administration in Tehuledere District are playing a great role in promoting organic agriculture.

The government organizes youths in groups to engage in bee keeping. In this process ISD is training the youths with the skills of bee colony splitting and transitional hive making to transfer bees from traditional hives to modern ones. Also, they have been trained in making quality wax for the bees.

We also work with Wollo University to facilitate research and trainings for farmers and agriculture experts about marketing and crop production.



Hussain Endris
Chairman
Haike Estena Organic Vegetable and
Fruit Producers Youth Association

We are children of farmers. We have completed secondary education up to grade 10. Since we didn't have the results to join higher education, we started working with our parents on traditional farming. It was in December 2012 that Alemayehu from ISD came to me and a friend of mine. He explained that the place we lived in was very suitable to produce vegetables. He advised us to form and work in an association. We took his advice and formed a group of 12 youngsters in our village who were not addicted to Khat or cigarette. After that ISD facilitated training for us at Hote Secondary School in Dessie. Then we started a saving account

with 2,250 birr initial deposit which was raised from all 12 members from the per diem we got for the training. Then ISD staffs came to the homes of all our parents and convinced them to give us land so that we could all work on it. They taught us about modern agriculture and compost preparation and use. ISD also took us on several experience sharing visits in different parts of the county. We learned about different techniques in agriculture. We encountered several challenges when we started producing organic vegetables. Yet, once we got used to organic agriculture we became very productive.

Before ISD introduced vegetable production we only produced maize twice a year. Now, thanks to the different production and farming techniques we learned we also produce vegetables.

Our youth group has received a space in Haike Town to display and sell its produce. Consumers don't know the difference between organic vegetables and inorganic ones. As a result, the price of both products is the same. In addition since we sell our produce in a shop consumers assume it's expensive. Now, as a solution to this marketing problem ISD has helped us create links with distributors and hotels.

After seeing our result, ISD mobilized another organic vegetable producing group of 11 youths. We have benefited a lot working in associations. We now have

ease of access for more farmland and even financial credit to extend our work. In the future we plan to increase our vegetable produce distribution in Haike Town and even reach markets in Addis Ababa. We now have 20,000 Birr (1,000 USD) in our saving account.

ISD is like a second parent to me. I am happy I learned so many farming practices from different parts of Ethiopia. I appreciate ISD staff for their motivation and relentless effort to help us improve. They have shown us how we can use natural means of preventing pest, improving crop productivity and much more. We in turn have shared this knowledge with farmers in our community. ISD is like a parent for us and our community. I wish ISD would grow from being 20 to 40 years old and more.



Young vegetable and fruit producers' round-headed cabbage garden



Seid Endris
Member
Haike Estena Organic Vegetable and
Fruit Producers Association

Knowledge is the greatest thing we have acquired from ISD. Traditionally, we produced maize and sorghum. Now, we have seen how productive it is to grow vegetables. Before ISD we used to produce vegetables only once a year. Now, after receiving training from ISD, we harvest vegetables three times in a year.

ISD taught us the advantages of working in an association and that has enhanced our saving scheme and habit. We had no prior custom of saving or of analyzing how much we spent on our farm and what we earned in return.

I really admire ISD. We have taken several other trainings but ISD's is different because they have a continuous hands-on follow up on our practical work. ISD staff make relentless effort to check our status. They bring visitors from state offices and other regions and districts so they can learn from our best practice; that is a great encouragement for us.



**Mekonnen Damtew
Beekeeper and Chairman
Yesma Nigus Development and
Exchange Cooperative
Ambassel District, Tis Aba Lima**



At first, the Ambassel District agriculture office trained us about bee keeping. As we were being trained we chose to work together on bee keeping. After launching our project, we had about 106 bee hives. Then because we used low grade wax from the market, we lost the bees from 48 modern bee hives. We felt as though the government introduced the new hives to kill all our bees. We decided not to use modern hives and to keep using the rest of the traditional bee hives we had.

We also thought that agriculture extension workers were working against us.

Then the ISD came.

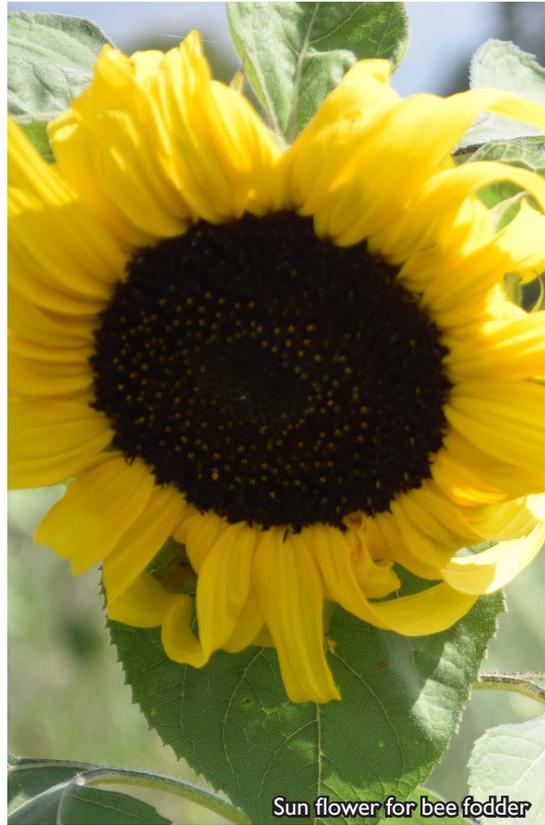
In 2014, the Institute trained us on how we can prepare good quality wax. It was a three day training that included how we can clean the wax and transfer bees from traditional to transitional and modern bee hives. We are now



A transitional bee hive

producing clean wax for our use and also for selling in local markets. When we use our own wax for the bees, they continue to flourish in the modern hives. ISD has also trained 50 people about transitional hives, wax production and hive splitting. ISD has thus taught us good practices. In addition to the training, ISD bought us two modern bee hives the first year, and two the next year. Our bees give us honey twice a year; on June and October.

Now we have about 110 bee hives: 30 modern, 30 transitional and 50 traditional hives. If it rains and the bees get enough flowers, we plan to split the 30 modern bee hives to 60 bee hives.



By working on improving bee resources of the country, ISD is also promoting crop reproduction, which in turn accounts for crop productivity. Thus, ISD is contributing to the security of Ethiopian farmers and Ethiopian people.

Happy 20th anniversary!





Vegetable produce around Akaki River

The Strategic Climate Institutions Project (SCIP) undertaken for disadvantaged persons living along the bank of the Akaki river in Addis Ababa was implemented by ISD (as lead agency) in collaboration with the Ministry of Environment and Forest and 5 non governmental agencies: Environmental Development Action Ethiopia (ENDA-Ethiopia); Tena Kebenana Ginfilen Enatsda Mahber (TKGEM); Action Professionals Association for the People (APAP), Organization for Social Development (OSD); and Pesticide Action Nexus (PAN). It aims to change self polluting

and inefficient SMEs (small and micro enterprise) into clean, environmentally aware MGEs (micro green enterprise) with viable incomes for all their members. This has been done by promoting the SMEs to use an organic system i.e. compost and/or bioslurry that sequester carbon in producing vegetables instead of emitting greenhouse gases, particularly by using chemical fertilizer and pesticides. The project also aims to add value to their produce through improved harvesting and marketing.

Accordingly ISD has been implementing

the SCIP project since 2014. Because of the project hundreds of members of MGEs located in Akaki Kality, Kolfe Keranyo and Nefas Silk Sub Cities in Addis Ababa have received theoretical and practical training on technical skills for producing organic vegetables as well as internal, social and financial management and business planning. The trainees were provided with suitable work clothes, planting tools and maintenance grants. The project also secured offices, stores and greenhouses for the MGEs. Also in 2014, two biodigesters were constructed in Kolfe Keranio (for Woreda 5 Consumers Association Club) and Akaki-Kality (for Addis Ababa Science and Technology University). The biodigesters are connected to public toilets and the toilet outlets of student

dormitories. The energy obtained from the biogases has helped Kolfe Keranio Consumer Association Club to undertake efficient cooking, while reducing energy supply by half. On the other hand, the biogas digester constructed in the university has been of immense use to students undertaking internships, as well as to the Chemical, Biological and Biotechnology departments. In 2015, a third biodigester was constructed and handed over to a Consumer Association in Woreda 6 of Bole Sub-City. ISD has also helped construct a check dam in 2015 for 'Tekaligne, Helen and Their Friends Association' in order to protect their vegetable land from Kebena river flooding.

Source: ISD Annual Report



Vegetable produce around Akaki River

HEAVEN ON EARTH

Midre Genet Vegetable Producers Association

The members of this association are engaged in urban agriculture around Akaki River in Addis Ababa. Most of them came from rural areas and have practiced traditional agriculture since their childhood. They are all housewives living in the same vicinity. They became fed up with staying at home and thus organized themselves and decided to work together. They applied to their district administration to be recognized as a legal body and receive a piece of land in their neighborhood to produce vegetables. They succeeded in establishing Medre Genet Vegetable Producers Association. The name of their association can be literally translated to Heaven on Earth Vegetable Producers Association.



We have benefited a lot from our vegetable production. We can get vegetables for our home whenever we want. We also are confident about their quality. Above all, we are earning money and we don't stay at home the whole day; we use the time for working outside.

The project has motivated us to work and to have a profound knowledge about vegetable production. The financial management trainings and the green technical skill trainings we were given are the most significant. After the training we have opened a bank account for our association to save some money.

We Go Forward!

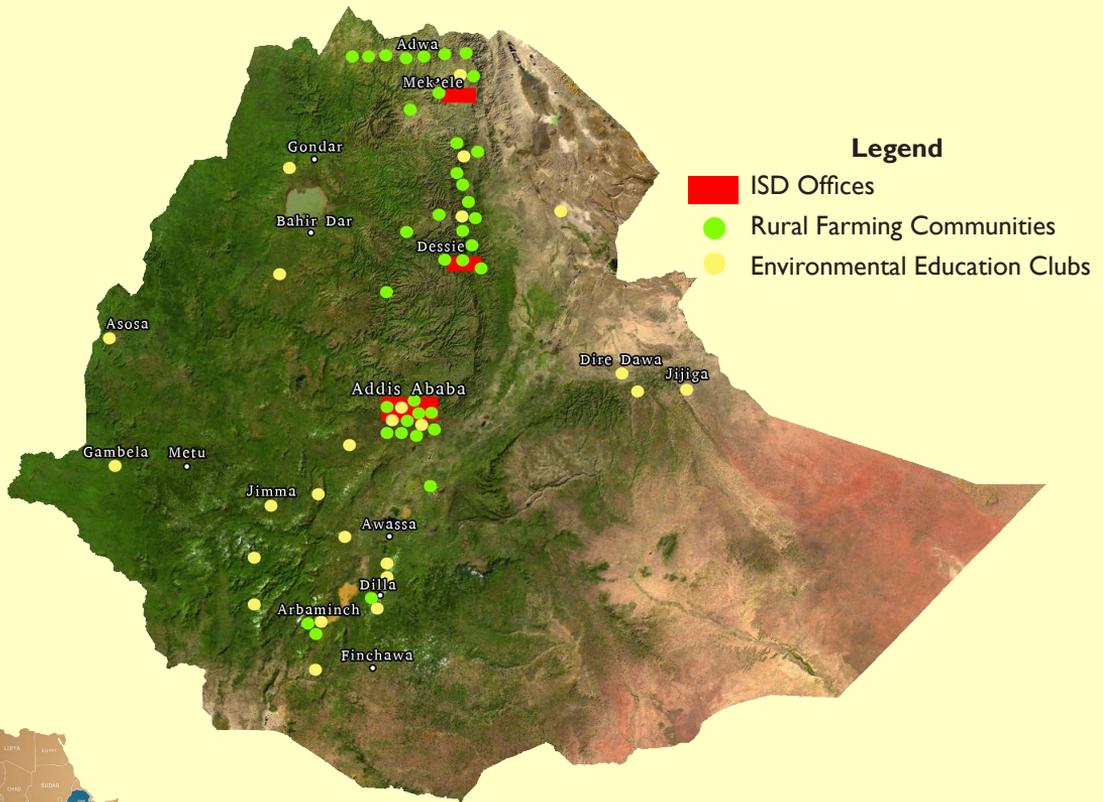
There are two major plans I have for ISD. One is that we have always focused on women's role in agriculture.

We have managed to do quite a lot to recognize this and make sure that women are incorporated in our programs. With the new Sustainable Development Goals /SDGs/ and their heavy emphasis on women I want to establish the operational units we have as teams. This will help all of the other projects to be better on addressing the involvement of women. It would also bring us some more money for the operation. I am terribly curious to understand the role of women in a farmer's household and to find out the challenges they are facing. We aspire to look at how we can integrate and bring better balance and understanding of the contribution of women in the process.

The other one is that we now have 33 universities here, graduating a huge number of people. In the past, graduates expected to get a government job in what can be called the major sectors like health, education and agriculture. It is no longer the case. I have plans to introduce young people to our interventions so that they could carry it on to the next generation. As well, we would like to work with the youth to keep them on the farms instead of migrating to towns.

So this is a turning point in our twenty years.

Sue Edwards
Director, ISD



ISD Intervention Areas

12 woredas in Central East, Central West, Eastern and Southern Zones of Tigray Region, plus 2 secondary schools

8 woredas in East Gojam, West Gojam, Oromiya Special, South Wollo, and Wag Himra Special Zones of Amhara Region, plus 4 schools and 3 out-of-school youth groups

6 woredas in East Arsi, and East Shewa Zones of Oromiya Region, plus 4 schools and 4 out-of-school youth groups

3 woredas in Arba Minch Zuriya, Guragi and Sidama Zones of Southern Nations, Nationalities and Peoples Region, plus 6 schools and 3 out-of-school youth groups

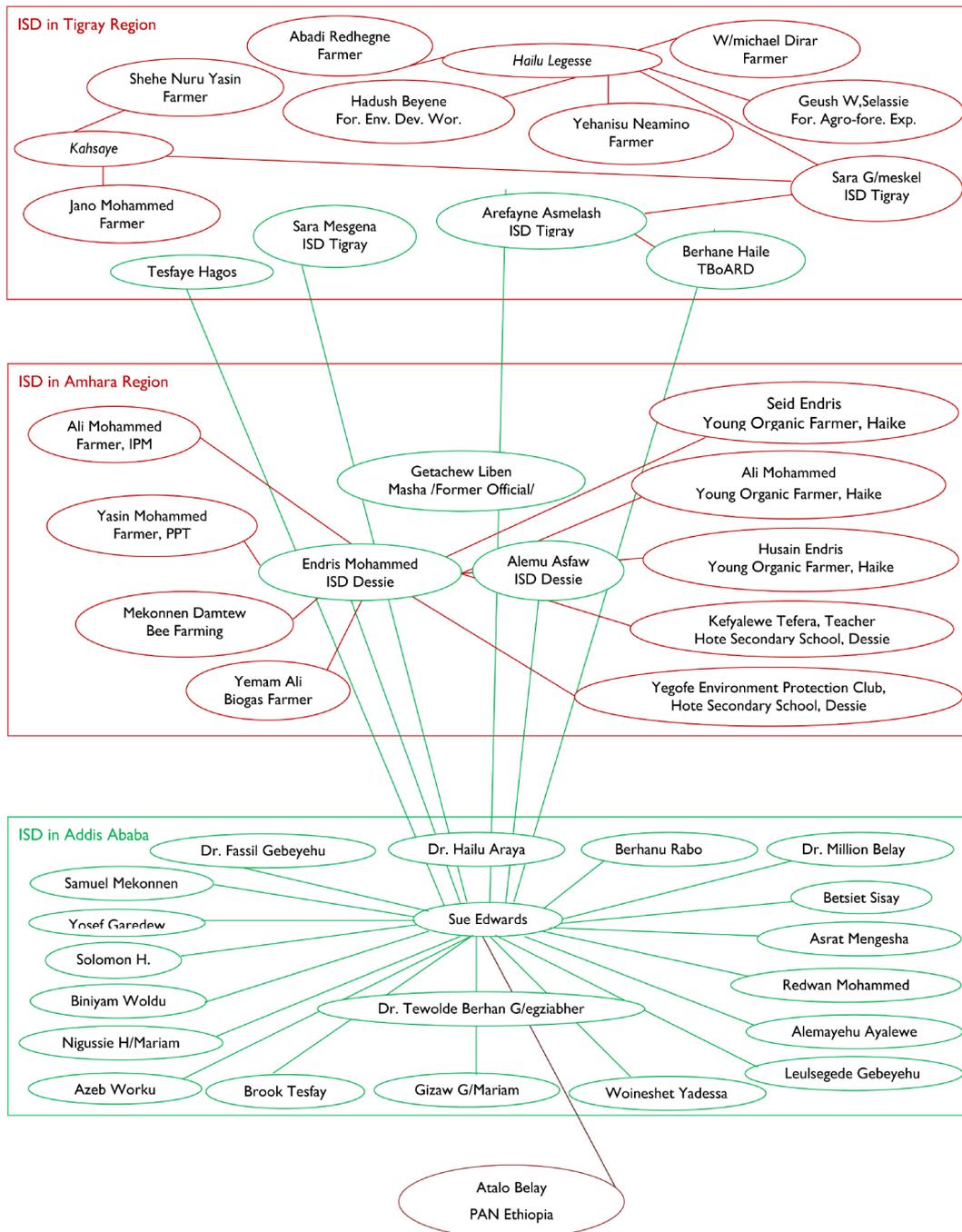
2 woredas in Afar Region, plus 1 preparatory school

3 woredas in Gambella Region, plus 1 secondary and preparatory school

2 woredas in Somali Region, plus 1 secondary and preparatory school

10 schools, 1 each in Dire Dawa and Harar, as well as 8 in Addis Ababa

Mind Map of ISD's 20 Years Story





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Message from The Producer

Eleven months ago, in mid-November 2015, I sat together with Ms. Sue Edwards, Director of the Institute for Sustainable Development /ISD/; Dr. Hailu Araya, Ecological Agriculture Advisor for ISD; Yosef Garedew and Biniam Woldu Communications staff in the Institute to discuss how to go around making this 20-year documentation.

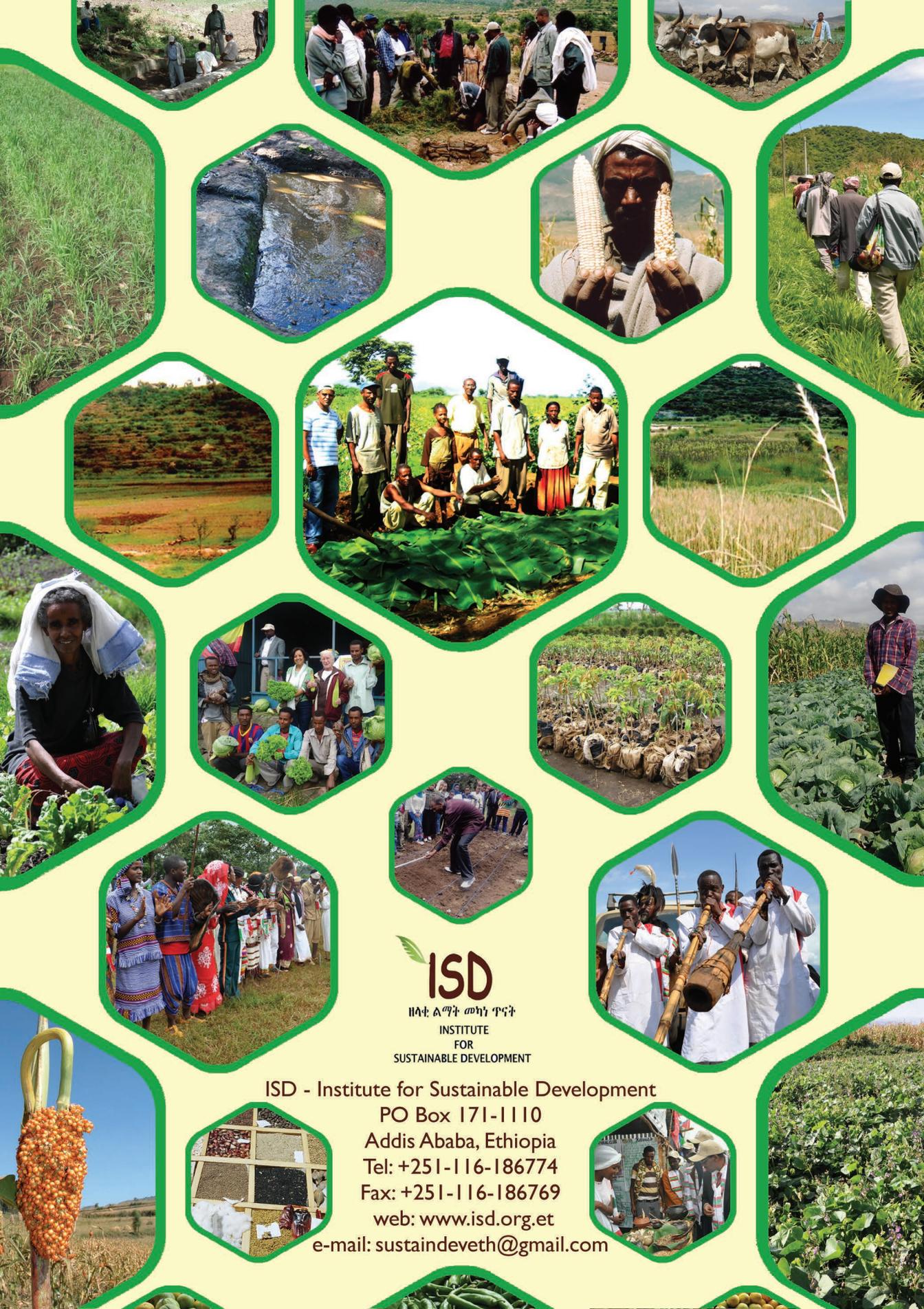
I began my exploration in northern Ethiopia just like the beginnings of ISD. I first went to various ISD work sites in South Wollo Zone of the Amhara Region. My travels to Masha town of Mekdela district and the Tis Aba Lima area in Ambassel district were particularly important. The difficult and dusty dirt road to Masha and the two hour walk I took with Mr. Endris Mohammed, ISD staff member, across the arid and sun-drenched Tis Aba Lima area elevated my sincere views of the strength and integrity of farmers. The journeys have also been a great time for me to appreciate the works of government extension workers and those ISD staff like Mr. Endris who tirelessly serve farmers across Ethiopia's poorly accessible rural areas. Cheers to their commitment and determination!

After my stay in Amhara Region I went to Tigray Region to meet with ISD partners: farmers, development agents and government bureau heads who have been working with ISD for two decades. I spoke with such people as Mr. Arefayne Asmelash, who is the first ISD employee and a dedicated servant of farmers; I also had an interesting talk with some government employees who have contributed their share for improved rural lives; it was an informative experience. I have come to understand that all the farmers and development workers I met in Tigray are much stronger than the difficult circumstances they face; they work diligently for a better result and a better life.

ISD has inspired these movements; I have seen that so many farmers, students and youth have made a positive impact in their respective environments, all thanks to the Institute; many of them have changed their lives for the better as I have tried to show in this book. I would like to extend my gratitude to the ISD for all the lives, families, communities and environment it impacted for good as well as the nationwide contributions; both those discussed in this publication and beyond. I would love to extend my respect to Dr. Tewolde Berhan Gebre Egziabher and Ms. Sue Edwards because ISD is a realization of their dream and commitment to improve the lives of rural and urban communities.

I admire Ms. Sue's absolute support and guidance in realizing this publication which was initially thought to last under two months, yet actually took nine more to complete due to the long list of works ISD performed over the past 20 years. I also thank Dr. Tewolde Berhan who has kindly put in his special skills in memory, language and writing to elevate the publication up to the present standard. My special respect goes to Mr. Endris Mohammed, Mr. Arefayne Asmelash and Ms. Sara G/meskel for showing me courtesy and service to provide the necessary inputs I required while I gathered information from the field. I also appreciate Ms. Beruktawit Fikere, Ms. Woineshet Yadesa, Mrs. Bezuayehu Gugsu, Ms. Bethelhem G/hiwot, Mr. Alemayehu Ayalew and Mr. Mifta Ahmed as well as all committed Institute for Sustainable Development staff.

Respect for all the mighty farmers who are the bases for our food security!



ISD
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