



# Activity Report

December 2012 – June 2013

The Samdrup Jongkhar Initiative



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### **NOTE TO READERS:**

This SJI Activity Report was prepared for our main donor International Development Research Institute (IDRC) of Canada. It is, however a comprehensive report and gives an overall picture of SJI activities carried out during the period. Most of the appendices mentioned in the report are available on the SJI webpage.



## Abstract/Summary

The main theme of the Samdrup Jongkhar Initiative interim technical report to IDRC for the period December 2012-June 2013 is “sustainability”. Our activities in organic agriculture, appropriate technology, zero waste, and youth engagement all have built-in components of sustainability throughout the project cycles, from project design to implementation, monitoring and evaluation. However, we are now, as we approach the end of our 3-year IDRC funded project, consolidating our efforts to make our programmes and projects as firmly owned by and institutionalized in the local communities as possible, in order to ensure that they will continue to sustain far beyond IDRC support and SJI interventions.

As examples of how SJI is deepening its roots in the community through enhancing capacity, encouraging local uptake of initiatives, and dissemination of best practices, the following activities carried out during the latest 6-month period are highlighted:

**Organic Agriculture:** Local research capacity was developed through training of local staff in collecting baseline data. Collaboration with local key stakeholders such as Ministry of Agriculture and the National Organic Programme was strengthened for taking the organic transition forward. Organic model farms for inspiration and capacity development of local farmers were set up. Trainings of all agriculture extension officers in the district were conducted for enhanced capacity, outreach and institutionalization of organic farming practices in the entire Samdrup Jongkhar dzongkhag.

**Appropriate Technology:** Local solar engineers and carpenters successfully monitored and maintained the 23 solar driers installed in Lauri and Serthi gewogs, which have produced high quality solar dried produce for own consumption, marketing and sales. A pilot rainwater harvesting system for institutional purposes was set up at the Dewathang Primary School to supply the school with water for cleaning purposes and encourage further local uptake. The rainwater harvesting system was instituted by our local partners, the Centre for Appropriate Technology at Jigme Namgyel Polytechnic (which was the direct outcome of our IDRC-funded research) and the teachers at Dewathang Primary School.

**Zero Waste:** A baseline study of our pilot communities Dewathang and Wooling was completed, as well as a nation-wide study on the waste situation in Bhutan. Local zero waste trainers were trained, and zero waste committees were set up in our pilot villages to ensure that capacity stays within the communities and is locally institutionalized. A Zero Waste Training Manual, now adopted by the SJ Municipality, was developed to facilitate local uptake and up-scaling of the initiative through dissemination of best practices.

**Youth Engagement:** A youth and media camp on basic journalism was conducted in January 2013, attended by 33 students representing the whole dzongkhag. The high quality and dedication of the resource persons conducting the workshops, which to a large extent built on the research materials in the Samdrup Jongkhar Profile, significantly contributed to enhancing the creative and technical skills as well as leadership qualities of the youth, which in the end is the best guarantee for long-term sustainability of SJI interventions.

Disseminating and communicating our interventions and best practices has also played an important role in ensuring SJI project sustainability, and major emphasis was therefore put on SJI participation in local meetings, reaching out to media, nurturing multi-stakeholder collaborations,



and developing communication/training materials for dissemination of best practices on a larger scale.

To firmly build up a physical presence on the ground, SJI also established a larger walk-in SJI office, library, and community outreach centre to act as a visible community-based centre for SJI-related gatherings, discussions, learning sessions, and other activities. Although still struggling with attracting qualified staff to the SJI, the new office has indeed strengthened the existing SJI team both physically and in spirit, considerably enhancing the prospects for sustainability of the organization and its activities.

In consolidating our programmes and projects towards local ownership and institutionalization, we have also evaluated our activities in light of original project objectives, project completion, and the upcoming external evaluation. The last section of the report therefore highlights SJI achievements and developments in relation to the objectives stated in the original project proposal submitted to IDRC in 2010.

A preliminary assessment reveals that most project specific objectives have been or are well on the way to being fulfilled, although we highlight some outstanding challenges and changes in direction and timeline pertaining in particular to the organic agriculture research. We highlight issues related to development of local research capacity, difficulties faced in implementing what has been taught in farmer trainings, slower-than-anticipated movement towards fully organic methods, and the larger dissemination and local uptake of the research-based SJI development strategy.

In order to advance further towards fulfillment of these and other key outstanding project objectives, the SJI team is humbly requesting IDRC for a one-year project extension to December 2014. We are confident that an extension of the IDRC-funded project with a supplementary year will strengthen our research basis even further and bring wide-ranging benefits to the people of Samdrup Jongkhar, while also moving us closer to satisfying the overall objective of the SJI project. At the same time this additional year will further build local capacity and strengthen the sustainability of the SJI research and interventions after completion of this initial IDRC-funded project phase.



## 1. Introduction: Building Long-Term Capacity and Sustainability

A key theme of this 2013 mid-year interim technical report is establishing long-term project sustainability beyond the duration of IDRC funding. Thus, many of our internal Samdrup Jongkhar Initiative deliberations over the past six months, as well as key activities now being initiated to be carried forward over the next year, are geared more intensely towards creating the institutions, structures, systems, and capacity to ensure that the SJI is successfully sustained for the long haul in the most productive possible way.

One of our key present purposes, therefore, as reflected in this interim report, is to leverage these initial years of IDRC funding support as effectively as possible to deepen the roots of the SJI in the community and ensure its long-term benefit to the region, nation, and beyond.

Such initiatives and actions as described in the following pages include, but are not limited to:

- Building local staff capacity, particularly in agriculture research skills, to ensure that practical and applied research remains an integral part of longer-term SJI activities;
- Strengthening institutional bonds and collaborative activities with local government officials, particularly in the Ministry of Agriculture and its National Organic Programme (NOP) but also with other agencies, the Jigme Namgyel Polytechnic (JNP), and local schools;
- Creating a model farm and learning centre, the *SJI Sustainable Farming Centre*, which can demonstrate in living practice the best of the organic farming methods, techniques and understanding that have been communicated in the past two and a half years of IDRC-funded SJI/Navdanya organic farming trainings;
- Shifting the focus and emphasis of our organic farmer trainings from direct farmer trainings to training the local and regional agriculture extension officers, who will then have the capacity to follow up and monitor farmer implementation in the longer term, and to institutionalize the new knowledge systemically;
- Building on the capacity of the JNP-Centre for Appropriate Technology (CAT) (that was established as a direct outcome of IDRC-funded SJI research) in the fields of solar drying and rainwater harvesting — our two initial areas of investigation and testing. This capacity building also includes the local solar engineers and carpenters maintaining the 23 installed solar driers in Lauri and Serthi gewogs in order to secure proper functioning of the driers and sound produce for own consumption, marketing and sales. It also includes building on the experiences of installing the prototype rainwater harvesting system in collaboration with CAT in Dewathang Primary School, and encouraging wider local uptake;
- Institutionalizing the zero waste project through the local zero waste trainers and zero waste committees, taking the project forward now and beyond in their respective communities. Dissemination of the *Zero Waste Training Manual* for local independent uptake and up-scaling of the initiative;



- From a really long-term, and somewhat less tangible, perspective, we feel that our SJI emphasis on reaching out to and organizing activities for youth is perhaps the best guarantee of long-term project sustainability. The greater the investment of youth in the SJI and the more opportunities we can create for youth through this project, the greater will be their stake in its continuity, and the more we will be able to nurture leadership skills among our next generation of leaders. From that perspective, our recent youth media workshop not only provided high quality training to the participants but also created a bond between them and the SJI, and demonstrated to them the benefits of non-governmental work and activity. A direct outcome of the youth and media workshop was also the establishment of three community reading stations in Dewathang. In the long term, we hope that such training, actions, and local opportunities will begin to turn the tide of the massive ongoing youth rural-urban migration;
- Actively using and leveraging the detailed evidence and data in the IDRC-funded Samdrup Jongkhar Profile – our major initial research activity that launched this project – for a wide range of activities, most recently during the youth and media workshop, designed to get the information into the public arena;
- Continue to participate in meetings, media outreach and building multi-stakeholder relationships, including developing communication/training materials based on best practices for wider dissemination;
- Establishing a larger walk-in SJI office, library, and community outreach centre to act as a visible community-based centre for SJI-related gatherings, discussions, learning sessions, and other activities, firmly building up a physical presence in the community and strengthening the sustainability of the organisation on the ground;
- Assessing SJI achievements and developments in light of original project and overall objectives in order to address outstanding issues and requirements for project completion.

As the following descriptions indicate, these and other activities all have the common theme of ensuring the long-term structural and systemic sustainability of the Samdrup Jongkhar Initiative. We intend this also to be a key theme of our upcoming external evaluation, to which we are greatly looking forward.

We believe that our IDRC-funded project research, training, and activities in the first 30 months of our existence are already bringing considerable tangible benefit to the region, which we — in preparation of the upcoming external evaluation — are trying to summarize in the last section of this report, where we relate our achievements and developments to date to the original project proposal from 2010. In the last phase of IDRC funding, however, we are now at the stage of needing to integrate the gains and successes up until now deeply in the institutional structure of the community and region to ensure that the SJI realizes its considerable potential in the long term.

To put it in crude economic terms, which is clearly not our underlying philosophical perspective, we are in fact concerned to ensure that every dollar of IDRC funding in the last 30 months should yield effective and ongoing benefits for many years to come. The following examples from just the past few months (during our present six-month interim reporting period) will illustrate this focus of our current work.



## 2. Organic Agriculture

### *Agriculture research and capacity development*

A significant achievement in the course of implementing the agriculture research component of the IDRC funded project is the enhancement of the capacity of our local farmer liaison Mr. Sherab Dorji in conducting field research. Due credit goes to SJI lead researcher Ms. Emily Green-Tracewicz for providing quality counsel, guidance and training to Sherab Dorji during her 2012 field research. As evidenced by the high quality of the field interviews conducted by Sherab Dorji, the SJI is delighted to report that Sherab has been able to further improve the quality and value of field research and in the process to provide the SJI with much needed facts and information from the field.

At a deeper level, we also regard Emily's training and Sherab's growing responsibility for the agriculture research as first-rate local capacity building, which will greatly enhance the long-term sustainability of this project. After all, even if foreign researchers do outstanding research, but without building local capacity, the results will be shorter-term. The present partnership between Emily, as lead researcher, and Sherab as trainee is dynamic and evolving. Sherab's present role is primarily in the field of interviewing farmers, data collection, transcribing of interviews, and assisting in the refinement of the survey instruments, while Emily is undertaking the data analysis and writing up of results. However, we see Emily's guidance evolving over time into further training for Sherab in the areas of data analysis, compilation of results, sensitivity analysis, use of the results to improve implementation of the transition to organic methods, and other more refined areas of field research.

SJI was able to conduct 30 detailed and in-depth farmer interviews in the first half of 2013. Sherab covered the two gewogs of Dewathang and Orong with representative samples of farmers. The field interviews involved trekking for hours to reach some of the villages. 11 farmers were interviewed in Rikhey village under Dewathang gewog. 19 interviews were conducted in Orong gewog covering the villages of Lerong, Morong, Wooling, and Orong Melum.

In conducting these interviews, we received assistance from the local community, local government, the farmers, agriculture extension agents and the district administration. Thus, the agriculture research process itself has created productive new community bonds and collaboration for SJI, and strengthened our relationships with local officials and community members.

Overall, the strong emphasis on research, especially the documentation and monitoring of the transition to organic farming, has boosted the professional capacity and confidence of the SJI staff as a whole in conducting research of a high standard. In this regard, Sherab Dorji's direct hands-on training and experience has also been transmitted in many ways to the SJI staff as a whole.

Due to Emily currently being on maternity leave, we have requested IDRC for an extension regarding the submission of the analysis and results generated from the data collected during the first half of 2013. That research report will be submitted to IDRC shortly.

### *SJI organic transition and Ministry of Agriculture*

One of SJI's key goals is strengthening the nexus between our non-governmental initiative, local government officials, and farmers. In order to be effective and, again, to ensure the long-term sustainability of the Samdrup Jongkhar Initiative, we feel strongly that we must continue to focus on building effective and long-lasting partnerships. Thus, if we can bring organic methods into the



existing system, we can be far more effective institutionally than simply by training farmers on our own. In that regard, please see the section below on the organic agriculture training we have provided during this present reporting period to our Samdrup Jongkhar agriculture extension officers.

At all levels, our relationship with the Ministry of Agriculture (MoA) continues to be fruitful, dynamic, and productive at both the field and the national level. Indeed, after the parliamentary elections end in mid-July, a team from the Ministry's National Organic Programme (NOP) will be visiting Samdrup Jongkhar along with officials from the National Plant Protection Centre and the National Soil Service Centre for a consultative meeting. During the meeting a common coordinated plan will be worked out between the SJI and the Ministry of Agriculture. This initiative comes at the behest of the Director-General of the Department of Agriculture, after an extensive and highly productive consultation with SJI staff.

It is noteworthy that this effective emerging partnership with the Ministry and NOP would not have been possible without the kind funding support of IDRC that made our initial creation of the SJI and our organic farmer trainings possible. Indeed, prior to the launch of the SJI in December 2010, NOP had no programmes at all in Samdrup Jongkhar. Our invitation to the NOP head to participate in the SJI launch, her subsequent appointment by the Ministry of Agriculture as official MoA liaison with the SJI, and the official incorporation of Samdrup Jongkhar as a priority region in the country's transition to organic agriculture have all been triggered by this IDRC-supported SJI organic initiative.

Nevertheless, major challenges remain, particularly in the human resource area. While the SJI has wanted to expand its team of professionals, finding committed and qualified personnel continues to be a pressing challenge for the organisation. Nationally, the sad reality is that the educated and the qualified seek work and professional advancement in the capital city and the major urban areas. Located in Dewathang, in a sleepy and semi-rural setting far from Thimphu, attracting qualified personnel therefore remains SJI's biggest challenge.

Despite strenuous recruitment efforts, the agriculture coordinator's position therefore still remains to be filled due to several unforeseen circumstances, and despite our hopes that this position would begin in January this year, as previously reported.

Despite these challenges, the government remains committed to its offer of finding and appointing an agriculture coordinator for the SJI. Indeed, the Director-General of the Department of Agriculture personally looked into finding an immediate solution to fill the post of the agriculture coordinator. Upon his assistance, the agriculture extension agent of Martsala gewog of Samdrup Jongkhar was selected to be the SJI agriculture coordinator starting in January. Unfortunately we found out too late that this selected candidate had also applied to pursue a degree course at the Royal University of Bhutan's College of Natural Resources in Lobeysa, so she was suddenly unavailable to us.

As an interim measure and gesture of support, the National Organic Programme has recently deputed its senior trainer Mr. Ata Tshering Pethey to SJI to further enhance the capacity of farmers and extension agents. With the country in election mode till mid-July, activities which involve public gatherings are not encouraged during this period, but consultative meetings with agriculture extension officers and with community leaders in the field for planning the upcoming trainings have already taken place. The trainer stayed with SJI during the first half of June for planning purposes, and will return to Samdrup Jongkhar to conduct the trainings after the election period is over. SJI is bearing minimal expenses to host the NOP's lead trainer.



Besides enhancing capacity of farmers and extension agents, this senior NOP trainer spent a significant portion of his time with SJI staff in Dewathang. As he is on the verge of retirement, and once he leaves the civil service, he will be taking a wealth of information, knowledge, skills and understanding and experience in organic farming with him that we hope to tap during this coming period. The SJI has already begun work on developing a series of audio materials (similar to radio programs) on organic farming with materials gleaned from extensive interviews with this NOP senior trainer.

Towards this end, SJI executive director, who is trained in broadcast journalism and previously headed the radio service of the national broadcasting station of Bhutan (the Bhutan Broadcasting Service Corporation) has already conducted in-house classes on the basic skills required for producing broadcast quality radio programs. SJI appropriate technology coordinator Cheku Dorji and farmer liaison Sherab Dorji have participated actively in these in-house trainings.

Once these organic agriculture audio interviews are completed, we will be in a position to significantly expand the reach of the new knowledge, improved practice and technologies that we have introduced during the IDRC-funded farmer trainings to date. A primary concern arising from the findings of our research and our interactions with farmers and extension agents is that low literacy rates among farmers mean that applications of new knowledge and practice become a challenge to farmers. As a result, printed advocacy materials have less of an impact. As well, most farmers do not have the literacy skills to take notes during trainings and therefore cannot remember the correct mixtures for different kinds of composting materials and biological pest control agents. Based on what we have learned on this front in the last two years, we feel that the proposed audio materials can be more effective in future in enabling farmers to implement what they have learned during trainings.

To further the reach of the audio materials, our plan is that they will also be distributed to bus, truck and taxi drivers. SJI also plans to utilize the services of educated youth in the villages to load the programs onto the mobile handsets of farmers.

### ***Model farm set up***

Mr. Pema Gyalpo was one of the 22 Samdrup Jongkhar farmers who visited the Navdanya organic training farm, Bija Vidyapeeth in Dehradun, for extensive in-depth training in 2011. The visit was organized by the SJI and funded by IDRC. Pema Gyalpo lives in a modest single storied house located 100 metres below the national highway in the village of Bangtsho in Dewathang gewog. After the Navdanya visit, Pema Gyalpo accompanied SJI teams on several trainings in the villages.

He has enthusiastically adopted and is implementing the organic farming methods, techniques, and understanding he has learned from the Navdanya trainers both in Dehradun and during these trainers' several IDRC-funded visits to Samdrup Jongkhar. Indeed, Pema Gyalpo's farm today expresses and represents the impact of new knowledge, exposure, capacity development, and regular monitoring and support that was made possible through the IDRC-funded organic farming trainings of the past 30 months.

Gazing north from his fields, one sees maize planted on sloping fields. Looking down, one finds a series of lush green flat areas on ground that has been cut into what was once an infertile field. As an active participant in the SJI conducted activities and working as an SJI focal person, Pema Gyalpo has successfully applied the information, understanding and skills acquired to improve not only the fertility of his field but also the overall wellbeing of his family.



The abundant manure from his cattle and the readily available biomass from the nearby forests have been converted into quality compost. Packed in sacks and covered by wet jute bags, this high-quality organic compost will be used at the times when it can be most effective, as instructed by the Navdanya trainers — most of it will end up in Pema Gyalpo's own fields, but many sacks will also make their way to fields of fellow farmers and to a local monastery where monks are also experimenting with organic farming as part of their curriculum. At a zero waste festival organised by the SJI in 2012, we provided prime space to showcase Pema Gyalpo's excellent compost.

Smack in the middle of Pema Gyalpo's farm is what looks like a threatening weapon-like protrusion of a bamboo that has been sliced into half and that Pema has introduced to perform a very useful and highly innovative function, based on what he has learned from the Navdanya organic farming trainers. In fact, the mouth of the bamboo brings its intended produce to a plastic drum that has been placed on the ground. The bamboo has been placed at the end of a drain in his cow shed where all the cow urine ends up. This ingenious contraption could very well be the first *Cattle Urine Harvesting System* in use in Bhutan. Cow urine is an important ingredient in manufacturing quality compost and organic pest repellents.

The story of Pema Gyalpo encapsulates the challenges and potential inherent in contemporary Bhutanese farms – difficulties like the endemic shortage of labour (due to rural-urban migration, particularly among youth), leading to non-production of essential inputs such as seeds and fertilizer, and also the ability to solve such problems in innovative and intelligent ways.

Pema Gyalpo's experience, and above all his strong motivation and positive attitude even in the face of adversity, and his willingness to learn and apply what he has learned from the IDRC-funded SJI farmer trainings, also demonstrate the potential of the Samdrup Jongkhar Initiative to make a difference, and they are a practical living testimonial to the value of IDRC's investment in this initiative.

For all these reasons, and also to ensure the long-term sustainability of the SJI project after IDRC funding ends, we have decided it will be most appropriate to make Pema Gyalpo's farm into a "model organic farm" from which other farmers can learn. This is a new concept not included in earlier proposals and reports to IDRC, but it has emerged naturally from our experience to date as a potentially very useful and highly productive direction, which we have discussed intensively during the last few months of this present reporting period.

There is another very good reason for us to proceed with this model farm project: As a result of the IDRC-funded SJI/Navdanya organic farming trainings of the last two and a half years, many farmers in Samdrup Jongkhar have opted not to continue using chemical fertilizers as they previously had. As a result, however, there is increasing pressure on the SJI to come up with and demonstrate viable organic alternatives, particularly to ensure high productivity and to deal with inevitable challenges like pests and crop disease.

For example, one of our planned roadmaps for the future, discussed by SJI in depth over the past year, is to place due emphasis on the local commercial production of quality compost. It would indeed be a sad day for Bhutan if we start to import organic compost in order to support organic farming methods. Blessed with abundant forests, which ensure plentiful biomass and vibrant dairy farming practices at the household level in our region, many parts of Samdrup Jongkhar can potentially become commercial producers of high quality compost for use in parts of Bhutan that have fewer cattle but that still aspire to adopt organic methods. To this end, and on an experimental



basis, SJI has therefore provided Pema Gyalpo with a small seed fund to start a composting shed for the commercial production of compost.

Inside Pema Gyalpo's kitchen, one can also see the traditional methods of storing seed. A large dried gourd hangs alongside bunches of garlic and, like an artist proudly displaying his work, Pema Gyalpo takes out a cloth bundle and opens it to reveal the seeds that he has carefully stored using techniques learned from the Navdanya farmer trainers to keep the seeds fertile and free from pests.

A keen learner and a hardworking farmer who is dedicated to organic farming, Pema Gyalpo has proven over the last two and a half years to be a pioneer in his own right, and has often, with humble pride, suggested that this streak of his might be recognized and documented by SJI for the benefit of other farmers who could learn productively from his own positive experiences. SJI has happily obliged this request wherever possible, as for example on the day Pema Gyalpo was prodding a stubborn bull to slice the slope of a hill for another farmer who also wanted his fields to be terraced in the way Pema had effectively been able to do during the last two years, again on the advice of the Navdanya trainers.

In sum, the SJI team has immense faith that Pema Gyalpo and his farm can become a fertile learning ground for the farmers in the Dewathang area and beyond to observe, learn, and acquire best practices in organic farming. We have already found a name for the model farm: *The SJI Sustainable Farming Centre*. Indeed, the word "sustainable" here deliberately has a hidden double meaning, as for us, this direction also constitutes a way to make the SJI organic farming work sustainable in the long term after IDRC funding comes to an end. For this reason, especially, we plan to make the establishment of the SJI Sustainable Farming Centre a high priority in the coming months and year.

A report on Pema Gyalpo's model farm is appended to this report.

### ***Agriculture extension agents training***

While a strong component of our organic agriculture programme has been to enhance the capacity of the farmers, implementation of the best practices learned during the SJI trainings has not met our expectations. As outlined in our previous technical report and submission on the external evaluation, the shortage of labour and illiteracy have been identified in our organic transition research findings as some of the possible factors leading to inadequate implementation in the wake of our trainings.

In conducting these farmer trainings and in analyzing the organic transition research results to date, as well as in several interactions with agriculture extension officers, we therefore felt that it was equally important, if not more so, to enhance the capacity of the local and regional agriculture extension agents whose daily job it is to support the local farmers and troubleshoot the challenges they face. Again, we have felt that such SJI/Navdanya organic training of the region's agriculture extension officers appointed by the Ministry of Agriculture can also greatly aid the long-term sustainability of the SJI and of the organic agriculture trainings conducted to date, since this will bring that knowledge more deeply into the system and institutional structure than just training farmers alone, as we did during the first two years of the SJI.

In April-May 2013, therefore, the first batch of seven Samdrup Jongkhar agriculture extension agents went on a capacity development institutional training visit to Navdanya's Bija Vidyapeeth organic training farm in Dehradun. As planned in our budget for this year, this training has again been kindly funded by IDRC, and in this case that IDRC funding has leveraged additional funding



support from the Ministry of Agriculture. Thus, the Samdrup Jongkhar District Agriculture Office shared the costs of organizing this capacity development institutional visit to Bija Vidyapeeth. A second batch of agriculture extension officers will be sent for similar training this summer.

At Navdanya's Bija Vidyapeeth, the following topics were covered:

- Organic farming overview
- Living soils
- Soil food web
- Soil fertility management
- Seed conservation
- Pest and disease management.

The training included careful inspection of the Bija Viydapeeth farm's multiple facilities, such as its high quality seed storage facilities made from local materials, and practical training on different techniques of organic farming.

As an appendix, we include herewith the report produced by the participants after their training.

In addition to aiding capacity building, institutionalization, and long-term sustainability, it should be noted that our SJI/Navdanya trainings of these extension agents are very productively and effectively building our working ties, collaboration, and relationships with local officials and with the Ministry of Agriculture as a whole. This is part of our longer-term and ongoing effort to forge effective SJI ties with community, government agencies, schools, universities and other institutions and stakeholders in Samdrup Jongkhar district.

### **3. Appropriate Technology**

#### ***Solar driers***

We are pleased to report that the IDRC-funded solar drier training, prototype development, and testing — as the first collaborative project between the Samdrup Jongkhar Initiative and the Centre for Appropriate Technology (CAT) at Jigme Namgyel Polytechnic in Dewathang — has now generated another significant milestone:

With subsequent funding from the GNH Commission of the Royal Government of Bhutan and UNDP, the Samdrup Jongkhar Initiative has now successfully disseminated solar driers to the remote gewogs of Lauri and Serthi. 23 solar driers were installed in several villages with the SJI team making three visits to the project sites. This effective application of the initial 2011-12 IDRC-funded research phase demonstrates the very practical utility of the development research to which IDRC is committed.



By enabling the people of these two remote and non-electrified gewogs to secure sustainable livelihoods by increasing their productivity, the project aims to contribute to equitable and balanced socio-economic development and poverty alleviation.

The main guiding principle behind the project has been to further enhance the skills and capacity of the six women solar engineers whom SJI had sent to the Barefoot College and Barli Development Institute for 6½ months of training, and of local Lauri and Serthi carpenters to construct and maintain such solar driers. The building of such local resources not only ensures local ownership but also contributes to the sustainability of the project.

The improved quality of the solar-dried fruit and vegetable products also opens up better marketing possibilities, thus creating more opportunities for income generation. Villagers have reported very high levels of satisfaction with the driers – including improved nutrition, taste, colour, hygiene, and quality – compared to the previous open-air drying system.

### ***Rainwater harvesting***

In Dewathang, the CAT completed yet another phase of the rainwater-harvesting project that was also initiated by the Samdrup Jongkhar Initiative. With the active participation of JNP faculty and students, CAT recently completed the installation of the rainwater harvesting system at the Dewathang Primary School.

Again, it must be recalled that none of these activities would be happening without the initial IDRC funding that enabled us to undertake the background research, concept paper, and establishment of the new Centre for Appropriate Technology at JNP. The existence of this centre and its current activities are a direct result of that IDRC-funded research undertaken by SJI with support and guidance from GPI Atlantic researchers.

SJI places on record its appreciation to the JNP faculty and students for their enthusiastic involvement in the project. We are also gratified to note the equally enthusiastic contribution of the Dewathang Primary School principal and teachers in this project. All of these developments further fulfil the SJI goal of making our research and development initiatives sustainable and locally owned.

Through the CAT projects, we are also forging a new form of community-based research in the Kingdom of Bhutan by demonstrating the power and utility of a multi-stakeholder research partnership between a civil society organization like ours, the Royal University of Bhutan, government, and community. SJI believes this kind of research partnership has immense potential to bring real and practical benefit to the people of this country and of its rural areas in particular.

The reports on the solar drier and the rainwater-harvesting projects, as well as the newly developed logos for the solar dried produce from Lauri and Serthi are appended to this summary report.



## 4. Zero Waste

### *Researching the waste situation in pilot villages and beyond*

Since the latest reporting period, the SJI zero waste team has put a lot of effort into continued research on the waste situation in our urban and rural pilot villages, Dewathang and Wooling respectively, as well as on the waste situation in the country as a whole. This research is essential both for the SJI zero waste project to rest on a solid foundation of the ground realities in which we are operating locally and also to ensure that our work in Samdrup Jongkhar can become a potential model for the region and hopefully for the country.

Our zero waste trainers in Dewathang, Mr. Karma Dhondrub, and Wooling, Mr. Ata Yongba, have undertaken a baseline study at the household level in their respective villages, providing a sound basis for more targeted interventions in those communities. In particular, the studies have highlighted the differences between the waste situations in urban and rural settings, from which it will be possible also to draw some general conclusions for future up-scaling of our zero waste initiative to other villages.

The main findings so far show that less non-biodegradable waste is produced in the rural setting as compared to the more urban setting, with bio-degradable waste used primarily for cattle and other animals/kitchen gardens/compost to a larger extent in Wooling than in Dewathang. They also show that waste management practices vary considerably between the rural and urban settings due to the urban context having a municipal waste collection/dumping system in place, whereas in the rural village there is no such waste collection system, calling for more creative and sustainable waste management solutions. As a result of these findings, therefore, a material recovery facility (MRF) for storage, reuse and sales of non-biodegradable waste has recently been set up in Wooling village on a pilot basis to test out its effectiveness on reduction, reuse and recycling in a rural context, where the common practice has hitherto been to burn the waste.

Our zero waste researcher and artist Ms. Taylor Cass Stevenson, who completed an internship with SJI from July-October 2012, returned to Dewathang in the end of February 2013 as a consultant for a period of five weeks. During her first stay with SJI, an extensive amount of her time was devoted to researching the waste situation in Bhutan as a whole, with particular references to our two pilot villages. In addition to an extensive literature review, data were collected from various sources ranging from meetings with government officials, environmental NGOs and private recycling companies in the capital Thimphu, to interviews/interactions with religious leaders, local leaders, youth, schools and other institutions in Dewathang and Wooling.

Ms. Stevenson's research has now been compiled into a paper titled *Beyond the Dustbin: Bhutan's Changing Values of Waste and Want* and was recently presented as her Master's Thesis at the International Christian University in Tokyo, Japan. The findings particularly draw attention to the rapidly changing consumer and waste disposal patterns in Bhutan, and the need for Bhutan to adopt a zero waste approach for reducing waste and coming up with sustainable waste management solutions in a timely fashion. The paper is strongly linked to the work of SJI, and will be used extensively as a frame of reference for our future zero waste project design and implementation work in Samdrup Jongkhar. It will also be disseminated to relevant stakeholders.

The SJI household level baseline questionnaire is attached to this report together with the paper *Beyond the Dustbin: Bhutan's Changing Values of Waste and Want*.



## **Zero waste training manual**

Upon Ms. Taylor Cass Stevenson's return to Dewathang in February, her main task was to develop a *Zero Waste Training Manual* together with the rest of the SJI team. This manual will now be used as a tutorial for our local zero waste trainers as they conduct their workshops to create awareness and promote zero waste strategies and practices in Samdrup Jongkhar communities. The manual was developed during the course of three months involving extensive discussions among the SJI team and with feedback from resource persons and stakeholders, in order to make the training material as relevant and useful as possible. With an increasing demand from various communities and institutions to start up their own zero waste initiatives, SJI's aim is also to distribute the manual to a wider audience.

This new Zero Waste Training Manual, developed during the current reporting period, has been specifically developed for the Bhutanese context, and gives an accessible and user friendly introduction to the concept of zero waste and how it can be applied in any community and/or institution in Bhutan. It can be used in community meetings as well as for training in institutions, ranging from schools, hospitals, and government offices to military institutions and religious bodies.

We have now strongly encouraged feedback on the manual, as our intention is to continuously develop and update its content to make it as relevant and applicable as possible to local communities and to Bhutanese society at large. The manual will always be available for download from our SJI webpage, and soon a Dzongkha version of the manual on which we are currently working will also be available. We are moreover planning to have the manual narrated in English and in Dzongkha and have it screened on national television to further enhance outreach. In these ways, our Samdrup Jongkhar Initiative is already penetrating the national context in Bhutan.

The mayor of Samdrup Jongkhar municipality launched the Zero Waste Training Manual on 5<sup>th</sup> June 2013 in commemoration of World Environment Day. The municipality also funded the printing of the first copies of the first edition, again demonstrating how initial IDRC funding is leveraging wider partnerships, funding, and government and community buy-in at various levels.

The creation of the Zero Waste Training Manual and its distribution can also be seen as another significant achievement of the SJI towards a knowledge-based development initiative. SJI acknowledges the IDRC's important role in the foreword to the manual:

*We would like to thank our Zero Waste artist and educator, Ms. Taylor Cass Stevenson – who has made the wonderful illustrations in the manual – for bringing creativity into the Zero Waste Project and for her unstinting commitment and dedication. SJI would also like to thank our donors, CSO Fund Facility (CSOFF) and International Development Research Centre (IDRC), without whose continuous support the SJI Zero Waste Project would not have been feasible. We are also very grateful to the Samdrup Jongkhar Thromde, through the UNDP-Danida ECP mainstreaming CD grant, Department of Local Government, for funding the printing of this manual.*

The release of the Zero Waste Training Manual is further mentioned in the communications and dissemination section below. The full manual is also appended to this report.



## **Training of local zero waste trainers**

Besides developing and illustrating the Zero Waste Training Manual, Taylor also conducted the first training of our local zero waste trainers in Dewathang and Wooling during her consultancy with SJI. The training was held on 29<sup>th</sup> March in Wooling for Mr. Karma Dhondrub and Mr. Ata Yongba in the presence of the Wooling tshogpa (community leader), SJI executive director Tshewang Dendup, and zero waste coordinator Pia Lindström. The training simultaneously functioned as a testing ground for trying out the comprehensibility and applicability of the illustrations and text in the manual, and fruitful discussions were held and comments received, the outcomes of which were then incorporated into the manual, further strengthening the user-friendliness of the material.

The first zero waste trainings conducted by the local zero waste trainers will be held during the month of June and continue up until the end of August, starting with a sensitization of the Samdrup Jongkhar municipality and schools. Trainings will subsequently be held in the communities and institutions of Dewathang and Wooling. The last training will be conducted in connection with the zero waste festival in Wooling planned for mid August.

The SJI zero waste project has, throughout its project cycle — from project design to implementation, monitoring and evaluation — had a strong emphasis on promoting and establishing local ownership over the project. This is in order for the SJI zero waste interventions to be as relevant to local needs and conditions as possible and for the project to become sustainable beyond SJI involvement. The sustainability aspect of the project is particularly manifested through the set-up of local zero waste committees and training of the local zero waste trainers in Dewathang and Wooling.

Through these initiatives, the aim is that zero waste becomes institutionalized and part of the agenda in the targeted communities through these committees, and that capacity is developed and sustained through the local zero waste trainers. The actual development of a physical manual and easily available and accessible training material adapted to local conditions will also increase the outreach and sustainability of the project beyond its current scale and scope, as it will facilitate independent local take-up of zero waste initiatives in other interested communities and institutions in Bhutan.

### **Local uptake of zero waste initiatives**

As examples of how zero waste is already becoming institutionalized and sustainable in our pilot villages and beyond, largely in response to the SJI zero waste initiatives of the past year, the following outcomes need to be mentioned:

1. Dewathang Primary School has since the beginning of the semester in March 2013 set up a *Waste Management Plan and Policy* together with an *Action Plan on Waste Management*, and it has integrated these into the school's health club activities *Action Plan for Health Club*. These ambitious policies and plans are attached to this document as an excellent example of how zero waste is becoming locally owned and managed.

Some waste collection activities were already taking place at the school before SJI started its zero waste awareness component in Dewathang. However, SJI's extensive training of Dewathang students in recycled art/crafts, the zero waste festival (where Dewathang Primary School participated with their own projects), and the teacher trainings by our zero waste resource people have directly contributed to the expansion of the waste management



programme at the school and have certainly made it far more zero waste oriented and environmentally sustainable than the simple collection/anti-litter focus that existed prior to SJI interventions.

2. The Jigme Namgyel Polytechnic already had a “Waste Disposal Club” set up before SJI interventions in Dewathang, with 16 male students including one lecturer collecting and segregating non-biodegradable waste on the campus. After the SJI zero waste festival generated new interest and enthusiasm, the number of JNP Waste Disposal Club members increased to 29 including 5 lecturers and 5 women. Previously no women had been involved in the club. In addition, in recognition of the important work the club is carrying out at the campus, the group received 7,000 Nu for maintenance of its carts and other equipment from the JNP management. It was the first time the JNP Waste Disposal Club was provided a grant from the Institute.

During an SJI staff follow up meeting with the Club in late March, it was mentioned that the number of members had now increased to 33, of which 10 were female and 5 were lecturers. Also a broadening of initiatives is planned in line with SJI zero waste initiatives, including making compost out of the organic waste and using it for kitchen gardening at the campus. Planned SJI collaboration with JNP in this area also involves a joint partnership on designing “zero waste segregation centres” to be set up at the Chogyi Gyatso Institute Shedra in Dewathang as part of the UNDP-GEF funded Climate Change Mitigation project, which will be implemented from October 2013 onwards.

In sum, SJI zero waste activities and awareness programmes are not only generating increasing interest in sustainable waste disposal solutions, but also expanding and deepening the focus of existing collection and litter prevention programmes to incorporate longer-term more sustainable solutions involving composting, reduction, re-use, and creative uses of recycled waste materials.

3. The Samdrup Jongkhar municipal environment officer has openly acknowledged that in Dewathang community as a whole, segregation is now taking place to a much large extent, largely due to the sensitization activities undertaken by SJI. For example, while scrap dealing of glass bottles and other materials already took place in Dewathang before SJI interventions, it now appears to be happening far more regularly and effectively at the household level as a result of awareness created by SJI activities.
4. In Wooling, the practice of burning waste has practically stopped since SJI interventions. The SJI zero waste trainer has instead institutionalized a monthly clean-up, where waste in the village is now being collected, stored and segregated in the material recovery facility for further reuse and recycling.
5. Following the SJI zero waste festival, Samdrup Jonkghar municipality thoroughly took ownership of zero waste actions with the launch of a “zero waste pilot colony” on World Environment Day. As a first step towards zero waste, waste segregation is now being implemented in the colony, starting with separation of organic and non-biodegradable waste. The non-biodegradable waste will be recycled to the greatest extent possible, whereas the organic waste will be used for municipal compost. If waste segregation proves successful in the pilot colony, the municipality intends to scale up the initiative also to other segments of the municipality. On-going consultations between SJI and the municipality in these areas include use of SJI materials like the Zero Waste Training Manual described above.



The above developments all bring great enthusiasm and encouragement to the SJI team, since — in a very short period of time — the zero waste project is in a way already “living its own life” and is being taken up and spread in ways unforeseen at the time when the SJI zero waste project was designed and initiated. This indeed bodes well for the future sustainability of the project, and indicates that this particular SJI priority area has fallen on very fertile and receptive ground to meet a pressing need in the region and country.

## 5. Youth Engagement

In the last week of January 2013, the SJI conducted the first ever youth media workshop in Samdrup Jongkhar. 33 students, primarily from Samdrup Jongkhar, but also from different schools spread throughout Bhutan, who were in Dewathang on their winter break, attended the five day training on basic journalism.

The editor-in-chief of Kuensel, Bhutan’s first and only daily newspaper, facilitated the training. Veteran Bhutanese journalist Mr. Tashi P. Wangdi, who has trained most of the present corps of Bhutanese journalists working in the various newspapers based in Thimphu, the capital city, was the lead trainer. Funding for the program was obtained by Mr. Phuntsho Wangdi as part of the Bhutan Alumni Project competition administered by the United States Embassy in New Delhi.

Both our facilitator and lead trainer are nationally recognized journalists and the SJI was very fortunate to have the training conducted by these two highly experienced, skilled, respected, and hardworking journalists.

As in many of our outreach activities where the emphasis is on knowledge creation, capacity development and training, the youth media workshop was characterized by a marked majority of girls outnumbering boys. Although this gender imbalance was certainly not intended, it has been a pattern in our youth outreach activities, and we feel that our SJI youth activities are therefore also playing a role in empowering the next generation of women.

The media workshop featured interviews with SJI organic agriculture focal person Mr. Meme Sherab, reporting on the Prime Minister’s recent meeting with the people of Samdrup Jongkhar, and the participants also had the opportunity to interact with local correspondents of major news outlets in Bhutan.

A key feature of this youth media project was our effort to leverage the original IDRC-funded research that launched this project 30 months ago as the basis for real deliberation and discussion. Thus, the participants were provided with extensive literature produced by the SJI over the past 30 months, including sections of our extensive Samdrup Jongkhar Profile, on the basis of which they were then trained to write news stories about the region.

In particular, the section of the Profile on rural-urban migration and labour shortages was printed and distributed to participants at the start of the workshop as required reading, and became the basis of an intensive investigation, discussion, and writing exercise. Several quiz competitions were held during the workshop on various sections of the Samdrup Jongkhar Profile to increase participants’ grasp of local development and governance.



On the final day of the workshop, the students were asked to debate the question: Rural-urban migration: is there a solution?

We are pleased to report that in engaging in a lively debate backed with credible data and youth perspectives on a national issue, the participants made excellent and practical use of this information from the Samdrup Jongkhar Profile, and also effectively referenced their interviews with the SJI organic agriculture focal person; used data, information and statements from the Prime Minister's meeting with local residents; and referenced other materials from journals and magazines.

An enduring follow-up to the youth media workshop is the installation of the first ever community newspaper reading stations in Dewathang town. One of the key recommendations of our trainers, which confirmed our own longstanding wish, was to improve the reading habits of the local youth.

Thus, the promotion of reading in the community has become, in this present six-month reporting period, one of the main components of the youth engagement initiative of the SJI. To this end, the SJI executive director has donated his collection of children's books and Bhutanese and regional literature to form part of the mini library at the newly established SJI office in Dewathang. Bringing such services into the community at a physical and institutional level is also geared to ensuring the long-term sustainability of the SJI.

In the last few months, the three new newspaper reading points have slowly established themselves as mini-learning centres. We are also pleased to report that the collection of the newspapers from the local vendor to put them in the newspaper reading points also has an active youth engagement spirit. While many local residents were keen to volunteer in the newspaper reading points venture, SJI was explicit in our explanation that we wanted this to be a purely youth-run operation. Today, we have a list of youth waiting to be enlisted to be enrolled as volunteers on this project.

We feel that such opportunities and activities geared to local youth may help to make a small dent in the pervasive nationwide youth rural-urban migration trend, will demonstrate to youth that innovative activities can happen at the non-governmental level, and will hopefully gradually build a longer-term youthful leadership component in the SJI.

Our newly established SJI office is also pleased to report a generous donation made by a prominent retired journalist, Mr. Thinley Tobgay. The donation consists of a brand new audio mixer, a professional TV monitor, used non-linear video editing suite (desktop computer and two monitors) and speakers. In making the donation, Thinley Tobgay noted the positive impacts made by the Samdrup Jongkhar Initiative not only in Samdrup Jongkhar but in the country and beyond.

The editing set will be used to provide classes on audio and video editing and to create audio-visual products such as radio programmes, documentaries and archiving of oral histories of the region as part of the youth engagement programme. Such oral histories will also add a new community-based indigenous knowledge dimension to our on-going SJI research activities.

A report on the youth media workshop including a photo journal is appended to this document.



## 6. Dissemination and Communication

### *From Samdrup Jongkhar to Sherubtse: The Research Connection*

On 7<sup>th</sup> April 2013, the SJI executive director, Tshewang Dendup, travelled to Kanglung in the eastern district of Tashigang to deliver the keynote address at an important event in the research calendar of Bhutan. The invitation, and the event itself, epitomized the value of the IDRC investment in the Samdrup Jongkhar Initiative, as it highlighted the vital role of research in development. Indeed, even in the short time span since the inception of the SJI and of IDRC funding for the initiative, this model is now already being looked on as paving the way for applied community-based research in Bhutan.

We wish to highlight in this report that there was nothing SJI did to publicize or promote this position. However, it seems to have come naturally to the attention of the Royal University of Bhutan through two avenues:

- a) our 2011 forum with policy makers in Thimphu at which we presented the results of our IDRC-funded Samdrup Jongkhar Profile (and at which the RUB Vice-Chancellor was present), and
- b) our close working partnership with the Jigme Namgyel Polytechnic in Dewathang in the establishment of the new Centre for Appropriate Technology – also founded on IDRC-funded SJI research.

In writing to SJI, a Royal University of Bhutan (RUB) official Mr. Changa Dorji noted the following:

*We would like to thank you for kindly agreeing to be a keynote presenter for the 4th RUB Research Meet to be held at Sherubtse College on 8 & 9 April. The meet is a biannual event organized by the Department of Research and External Relations to provide discursive forum to RUB faculty and international researcher to share insights, experiences and perspectives of their research and related scholarly works. The meet also features keynote presentations by scholars and practitioners whose works have impacted knowledge, policy and practice in their field of engagement locally and globally.*

*As discussed during our telephonic conversation yesterday, we would like to request you to talk on how research is being used to advance and improve practices at grassroots through SJI. Given your active engagement and impact that your team have made at the grassroots, we would definitely learn from your experiences and get insights and perspective to make academic research more practical and consumable in future.*

Besides the singular honour bestowed upon the SJI by the RUB through this keynote invitation, the participation at the research meet allowed SJI to forge further close ties with the RUB family especially in the field of research. These ties will also deepen the long-term sustainability of the Samdrup Jongkhar Initiative and will ensure that research remains a core component of activities in the future. That in turn has every potential to create a model for research and evidence-based integrated development in the country as a whole, through RUB's institutions and networks throughout the land.



The SJI executive director also spoke to students of the media studies program of Sherubtse college on the sideline of the research meet. The keynote presentation made by SJI executive director Tshewang Dendup as well as the Sherubtse webpage narration from the event are appended to this report.

### **Media**

We are also pleased to report that SJI executive director joined via phone a panel of experts during a live debate on national TV on the topic of Bhutan going 100% organic. The discussion which was aired during prime time, in Dzongkha and English, also featured a story on SJI trained farmer Pema Gyalpo's organic farming experience.

As part of the United Nations initiative to shape a global agenda and establish the next global development goals, Bhutan conducted "National Consultations for Post 2015 Development Agenda" in March 2013. With the SJI executive director on the panel, SJI participated in the debate on the future poverty eradication/sustainable development goals that will build on the Millennium Development Goals (MDGs) during a public meeting held in Samdrup Jongkhar and later broadcast on national TV.

A newspaper article on the launch of the Samdrup Jongkhar municipality zero waste pilot colony appeared in *Bhutan Today* on the 9<sup>th</sup> June 2013 including the launch of the SJI Zero Waste Training Manual, which happened simultaneously. The manual and the SJI Zero Waste Project as a whole were also presented in the same newspaper on the 13<sup>th</sup> June 2013. The two articles are appended to this report.

### **Multistakeholder meetings**

As the SJI builds a sound foundation for the initiative to become sustainable and community owned, our participation in events such as the above provide an effective platform for our message to reach a wider audience and to forge stronger ties with stakeholders and partners in the district and beyond. On May 20, SJI was invited to a public consultation and stakeholders meeting for the Motanga Industrial Estate project. The proposed site of the estate is 7 kilometres to the east of Samdrup Jongkhar town. An environment impact assessment is being carried out by DHI INFRA, a company under Druk Holding and Investment, Bhutan's "sovereign wealth management and creation organization".

As part of SJI's participation in this process, SJI provided DHI INFRA a copy of the research document written by Linda Pannozzo, author of the Profile of Samdrup Jongkhar entitled *In with the Bad: Ambient Air Quality and Transboundary Pollution in Bhutan*. This particular paper, highly relevant to the environmental impacts of proposed industrial development in the region, is based on information contained in the Profile of Samdrup Jongkhar. In such ways, our initial IDRC-funded research is already seeing wider applicability and utility in the region as a source of evidence-based decision making.

Also in May 2013, on invitation, SJI executive director Tshewang Dendup and farmer liaison Sherab Dorji attended a consultative marketing meeting organized by the Regional Agricultural Marketing and Cooperatives Office (RAMCO). Together with the six eastern districts, RAMCO and the Research and Development Centre of Wengkhar and SNV have initiated the Vegetables Value Chain



Programme for the East (VVCP-E). Under the programme, two of the 11 gewogs of Samdrup Jongkhar are involved in the production of summer vegetables.

At such meetings, SJI takes the opportunity to share with and learn from the best practices of other agencies. It also ensures that there is no duplication of activities and provides us an opportunity to report on our own work to a larger specialized audience, and to outline the importance of organic farming in the Bhutanese context. Once again, the IDRC-funded research basis of our work is crucial in enabling us to do this credibly and in ways that have relevance to the wider region.

### ***World Environment Day: Launch of Zero Waste Training Manual***

The SJI Zero Waste Training Manual was launched on World Environment Day on 5<sup>th</sup> June this year. Approximately 50 people attended the launch including the Samdrup Jongkhar thrompon (mayor), the executive secretary, municipal environment officer and media. Our manual was officially released by the Samdrup Jongkhar thrompon, and was thereafter excellently presented and explained by SJI executive director and zero waste trainer Karma Dhondrub during an hour long session for the chief guests and residents living in the section of the municipality (colony) where the zero waste pilot is now being implemented. The Samdrup Jongkhar municipality kindly offered to print the first 15 copies of the first edition of the SJI Zero Waste Training Manual, and also to spread and to use the manual for zero waste trainings at the Thromde (municipality) and in Samdrup Jongkhar schools. The first training for the Thromde is already planned for the coming week.

Even more remarkably, SJI zero waste initiatives are now being incorporated directly into the municipality's own waste management plan. Again, to use crude economic terminology, the IDRC investment in our zero waste coordinator is already yielding far greater returns than we could ever have anticipated in the much wider dissemination throughout the region of our successful SJI pilot projects and initiatives. This success is largely due to the time and care put into cultivating good and constructive relations and partnerships with local and regional government and education officials, and other agencies.

Apart from continuing attending meetings, figuring in media and building multi-stakeholder relationships, developing more communication/training material similar to the Zero Waste Training Manual, — such as, for example, the earlier mentioned organic agriculture audio shows — will be a major focus for SJI future activities in order to upscale our programmes/projects and make them sustainable. By documenting and disseminating best practices in appropriate forms, outreach will expand and local independent uptake including mainstreaming into local policy will be facilitated, thereby enhancing impact on a much larger scale than our previous, more pilot-oriented approach. Those pilot projects and initiatives together with the IDRC-funded research, trainings, materials development, and initial baseline research in the Profile, have formed the basis for developing these best practices that are now starting to be adopted on a wider scale.

## **7. Organizational and staffing Issues**

While our location on the ground provides unrivalled access to the local community and to our stakeholders, it has, as earlier mentioned, impeded SJI in attracting highly qualified national staff, due to our location in a remote rural area with limited facilities, and offering relatively modest



salaries/living conditions. The agriculture coordinator position is still vacant, having put a long-term strain on the organic agriculture programme due to lack of internal expertise. The lack of a pool of interested and qualified candidates generally also increases the risks for the organisation, as it makes us vulnerable to potential resignations.

Other challenges pertaining to staff are that conditions in Dewathang are to some extent difficult, in particular during the monsoon seasons, at which time heavy rainfall and landslides often affect movement in the district. This poses a risk to project implementation in the field, particularly in more remote villages, as activities are sometimes postponed out of necessity. The monsoon season also brings with it risks with water borne diseases affecting staff health and well being. Typhoid, for example, remains a major risk for our staff, with a serious recent outbreak in our area. Dewathang also suffers water shortages during the dry season, while water is frequently unsafe during the monsoon season, and normal facilities like electricity and internet connection are considerably less reliable and more intermittent than in urban areas.

With the new office in place, and with the team spirit of the small dedicated staff growing stronger and stronger, the basis for SJI to become sustainable is, however, still very promising. Having a permanent presence and physical set up in the form of a spacious office, which will simultaneously function as a community centre, has indeed strengthened SJI both physically and in spirit.

Our core staff of four is often supplemented by interns, volunteers, and specialized assistants. From December 2012 to February 2013, for example, Ms. Choesang Lhamo undertook an internship with SJI primarily assisting SJI in administrative matters and with the youth media workshop. By the beginning of August, our zero waste researcher and artist, Taylor Stevenson, will again join SJI for a long term assignment, further improving the staffing situation. If future funding allows for it, SJI also aims at hiring 6 additional staff by the end of this year, which will equip SJI for up-scaling and further development of programmes and projects, and at the same time make SJI less vulnerable to potential resignations.

## **8. SJI Achievements and Developments in relation to original Project Proposal**

While currently focusing on firmly institutionalising our presence and programmes/projects on the ground in Samdrup Jongkhar district, it is also time for us to look back and relate our achievements and developments to date to the original project proposal from 2010, in order to assess to what extent our projects are satisfying the objectives originally specified, and also what changes have been required or necessitated by our research results and experience to date. After all, a key purpose of research is to provide the evidence needed to correct and shift course if required. This retrospective look at our original project proposal also allows us to assess and re-evaluate our overall project objectives in light of evidence, experience and impacts to date.

This is of significant importance at this time in the light of the upcoming external evaluation, for which this preliminary and very brief assessment could form a basis for more extensive and detailed analysis. This review also forms the basis for identifying outstanding issues, more specifically to identify which specific programme/project objectives have not yet been met, and which are not likely to be met during the ongoing project cycle, and to recommend possible steps forward in order to address these outstanding issues. In these ways we hope to focus our work in the coming 18 months to fulfill certain stated objectives and complete particular project objectives,



and to agree on required changes of direction, while not compromising the project's long-term sustainability. All this is intended as grist for the mill of discussion with our external evaluator in July.

The specific project related objectives described below were mentioned in the original proposal from 2010. An attempt is here made to assess to what extent these objectives have been met. In this assessment, the achievements and developments from the whole 3-year project cycle will be taken into consideration, rather than going year by year.

### ***Specific objectives***

#### **Year 1**

1. *To continue and expand the participatory consultative process within local communities started in early 2010, based on both one-on-one interviews and focus groups, to identify the best ecologically-friendly development opportunities.*

As has been mentioned in this mid-term report, as well as in previous reports to IDRC, the participatory consultative process within the local communities has been considerably strengthened over the past two years, while building up a solid network involving all relevant stakeholders ranging from community members, local leaders, local institutions such as schools, the hospital, and monastic bodies, to national government institutions and representatives, civil society and private sector. The strong connection built with our stakeholders over the past 30 months has indeed increased our ability to identify the problems faced and the solutions suggested in the communities for promoting ecologically-friendly development. This connection has also greatly enhanced opportunities for project sustainability well beyond the IDRC-funded phase.

These consultative processes, together with the research findings emanating from the ongoing implementation of our pilot projects in SJI's four programme areas (identified by the baseline research in the Samdrup Jongkhar Profile) have provided an excellent foundation for identifying relevant economic diversification opportunities for the upcoming 3-year period, which will involve both horizontal and vertical up-scaling of activities within the existing four programme areas. The following ecologically-friendly development opportunities have so far been recognized:

- a) **Organic agriculture:** Large-scale production, marketing and sales of compost and organic pest control agents in order to promote the transition to organic farming, while at the same time generate income for farmers.
- b) **Appropriate technology:** (i) Continuous marketing and sales of solar dried produce from Lauri and Serthi gewogs in the capital Thimphu and during the upcoming Organic Festival in New Delhi planned for November 2013, where Samdrup Jongkhar farmers will present their organic products. (ii) Development of the initiative "one-village-one-skill (OVOS) aiming at training youth in highly sought after vocational skills (such as plumbing, carpentry/furniture making, masonry) in order to create economic opportunities for youth in the villages and thereby contribute to mitigating the rural-urban migration trend.



- c) Zero waste: (i) Intensify training, marketing and sales of eco-friendly handicraft with a particular focus on the reuse of plastics (cushion, mattress making, weaving). (ii) Set up of other “zero waste businesses” such as recycling, composting, repairing businesses as well as businesses producing local alternatives to imported/packaged foods/goods in order to minimize waste.
- d) Youth engagement: Developing capacity and creating income for youth through the OVOS-initiative (b ii above).

It is anticipated that more ecologically-friendly development opportunities will be identified also through our continuing organic agriculture research and on-going one-on-one interviews specifically focusing on getting an understanding of the underlying traditional knowledge that can help inform/shape future development projects within the agriculture sector in the dzongkhag. Our baseline data sample, however, needs to be further expanded in order to strengthen the statistical rigour for relevant conclusions to be drawn. In the separate report on organic agriculture research, which will be submitted by our lead researcher Emily (currently on maternity leave), the development of the organic agriculture research problem, methodology, findings, and development of institutional/local research capacity will be elaborated further.

- 2. *To develop a comprehensive and thorough regional profile through existing data analysis and field research. This initial research phase will also investigate and report on best practices locally, nationally, and globally, which can act as potential models for the Samdrup Jongkhar Initiative.*

After an extensive review of the IDRC-funded Samdrup Jongkhar Profile, all final necessary corrections have now been made to the document, and the 300-page Samdrup Jongkhar Profile has been published on the SJI website. It is scheduled to be officially presented and disseminated to SJI’s key stakeholders during the month of July 2013. The Profile has to a large extent contributed to the identification and design of Samdrup Jongkhar Initiative’s programmes and projects and will continue to inform SJI’s programmes when up-scaling our activities, in particular in our work towards mainstreaming best practices into local government policy for larger reach and impact.

Moreover, after it is officially presented to the regional administration next month, we are confident the Profile will become a valuable source of information for various stakeholders in the Samdrup Jongkhar district and beyond, as it has already been for our own SJI uses to date. As well, particular parts of the Profile are regularly referenced on an ongoing basis for particular projects. To give just one example, mentioned above, the section on rural-urban migration was extensively used and referenced during the recent youth media workshop.

- 3. *To carry out in-depth quantitative and qualitative investigations related to agriculture, including identification of controls, monitoring of the transition regime, impact of incentives, market analysis, and use of fertilisers, to ensure that both local and regional data are accurately collected and analysed.*



Due to human resource shortages, in particular the lack of a full-time agriculture coordinator and researchers on the ground, as well as not having succeeded in training a sufficient number of farmers in organic agriculture methods, we have not yet been able to monitor the transition to organic farming to the extent and effectiveness originally planned. Rather, our focus at this time still remains on collecting the necessary baseline data through expanding the sample size in Dewathang and Orong gewogs in order to increase statistical significance, while also ensuring that enough farmers in Dewathang and Orong gewogs have received organic farming training for us to follow up with and monitor their progress.

There have been other obstacles to achievement of this objective referenced above. The illiteracy of most farmers, for example, has not enabled them to take notes during trainings, as a result of which they are often uncertain on the correct quantities and ingredients for biological compost mixtures and pest control substances, leading to inadequate implementation of what they have learned. As noted, we have learned from our experience to date and are now focussing our organic agriculture trainings on the local agriculture extension agents who have the opportunity to work directly with farmers on an ongoing basis. However, such challenges have made the transition to organic farming slower than anticipated.

Completing the necessary baseline survey will require i) more time, ii) more human resources to carry out the actual research in the field, in particular for being able to identify additional ecologically-friendly development opportunities within the agriculture sector emanating from the data. A network of farmer liaisons is about to be developed with Sherab Dorji being an excellent example of how the collaboration with our lead researcher Emily has enhanced local research capacity, but training more farmer liaisons in research methodology will still need considerably more time and additional resources.

This 2010 objective, in short, is one that is going much more slowly than originally anticipated and will therefore be a major focus of our activity in the coming 18 months.

4. *To identify selected locations and/or individuals for implementing and assessing specific actions identified in the first local consultations, namely **organic growing** methods (this action is subject to close monitoring and research to ensure that the transition to organic methods enhances rather than undermines economic viability), and **minimization of waste**.*

As discussed previously in this review report, we are now establishing model farms to act as organic learning centres, with Pema Gyalpo's farm in Dewathang being selected as *The SJI Sustainable Farming Centre*. This model farm will serve as an experimental site for implementation of organic farming methods and to assess the economic viability of these actions for inspiring and developing the capacity of other interested farmers.

Plans together with the Ministry of Agriculture and the National Organic Programme for the coming 3-year period are to further consolidate focus on Dewathang for it to become the first organic gewog in Samdrup Jongkhar. To advance this process, Rikhey village has been selected as the pilot organic village, and a network of trained village focal persons in Dewathang gewog will be developed to take the organic growing methods further into their respective villages.



Moreover, SJI will continue to expand its farmer liaison network to be trained in research and monitoring techniques for collection of necessary baseline data and to monitor the transition regime. Data collection has already been centred on Dewathang, after this locality was selected as the main area of intervention for organic farming. In our efforts to promote organic agriculture in the region as a whole, all agriculture extension agents including the district agriculture officer in Samdrup Jongkhar district have now been trained in organic farming methods in India by our partner Navdanya — a training kindly funded by IDRC. We are convinced that this activity will substantially increase impact and sustainability of our organic agriculture trainings, as it will allow for continuous capacity development of the farmers, follow-up on implementation, and regular assessments.

In sum, the obstacles and challenges we have encountered in implementing the transition to organic farming in Samdrup Jongkhar has prompted us to adopt new strategies, such as the training of agriculture extension agents and establishment of model farms, which we did not anticipate in our 2010 proposal to IDRC. But these strategic shifts in direction have also slowed down our monitoring project. We actually regard these shifts as a highly positive outcome of our research to date, since it has been our initial research results that revealed to us that many farmers were not implementing what they learned in our organic farm trainings. Our research has therefore enabled us to examine unanticipated challenges and to explore new directions designed to meet those challenges.

The zero waste project has been implemented in two locations. Dewathang was selected as the pilot urban village, and Wooling as the pilot rural village. The full assessment is still to be made by the end of the project cycle (which will finish by the end of August 2013), and will be carried out as an ex-post facto exercise compared to the ex-ante baseline study and other research undertaken to date. Local uptake of zero waste initiatives have, however, already taken place (see zero waste section of this report), which have contributed to the minimization of waste being burnt and going to the landfill. Instead discarded materials are being reused or recycled to a larger extent in the targeted communities. The local zero waste trainers and zero waste committees have played, and continue to play a decisive role both in the actual implementation and assessment of the zero waste initiatives carried out.

##### 5. *To train farmers in low-cost **appropriate technologies**.*

Farmers in Lauri and Serthi gewogs have been successfully trained in low-cost solar drying technologies. Altogether six women solar engineers and several local carpenters have been trained in fabrication, installation and maintenance the 23 solar driers currently in use. Rainwater harvesting systems for institutional purposes have been installed at Dewathang Primary School, which will possibly also serve as an example for further discussions on up-scaling the implementation of rainwater harvesting systems for farming purposes. Mr. Pema Gyalpo has set up what is probably Bhutan's first cattle urine harvesting system for manufacturing of organic compost at his model farm. Our intention is to market this appropriate technology also to other interested farmers, in particular in light of SJI's aim to focus more on economic diversification through large-scale production and sales of organic compost.

##### 6. *To support **educational reform** that raises the awareness of local residents and introduces GNH-based curricular materials that support ecologically-friendly community-based development*



*initiatives while still achieving standard learning objectives. In the first project year, a pilot project on science classes that support school vegetable gardens, composting, and waste minimization will be introduced.*

A sample five-lesson GNH-based science curriculum module was developed during the first project year, and turned into radio plays that were subsequently recorded with the kind assistance of the Bhutan Broadcasting Service (BBS). These were broadcast on BBS throughout the summer of 2011 and distributed to the Royal Education Council (REC) and the Samdrup Jongkhar district education officer. The radio programmes were also disseminated to teachers attending GNH-based curriculum development workshops, and were successfully tested out in a class at the Chokyi Gyatso Institute (CGI), the local monastery in Dewathang. A broader-based GNH-based curriculum has now been developed and is presently being tested and applied at CGI. While this classroom work continues, we have expanded our original education work into a broader youth outreach initiative aimed at providing opportunities for local youth and thereby to help stem the endemic youth rural-urban migration trend.

*7. To assess the preliminary impact of activities undertaken under 4, 5, and 6.*

Preliminary impact assessments of our projects under our four programme areas organic agriculture, appropriate technology, zero waste and youth engagement (the education component was expanded into a wider youth engagement programme) have been continuously undertaken during the course of implementation. An extensive set of reports has been drafted for all our projects including preliminary analysis of activities, inputs, outputs, outcomes, impacts and sustainability. These progress reports on specific projects have been regularly forwarded to IDRC as appendices to our biannual technical reports.

The plan is to carry out the overall impact assessment of our programme activities towards the end of the third project year with the assistance and guidance from the IDRC external evaluator. The larger scale organic agriculture programme would, however, require a more extensive implementation of farmer trainings and more rigorous baseline data collection and monitoring before a more solid impact assessment can be carried out. That particular aspect of our original project objectives is therefore now understood as a much longer project than originally anticipated, and is likely to take three more years before fully implemented.

*8. To draft a preliminary Development Strategy for the region (to be finalized and validated at the end of the 3-year period).*

The Samdrup Jongkhar Profile serves as the basis for the initial development strategy pursued by the Samdrup Jongkhar Initiative in the district. The research findings emanating from the Profile have been directly translated into practice through our programme/project design and project implementation on the ground, from which now further research findings derive and lessons are learned. Through this process, a set of best practices are currently being formulated and translated into various training materials, such as the Zero Waste Training Manual and the organic agriculture radio programmes for further dissemination and outreach in the region. The local uptake of the zero waste initiative by the Samdrup Jongkhar municipality as well as the multi-stakeholder collaboration on organic agriculture with the Ministry of Agriculture and National Organic Programme are excellent examples of how the SJI development strategy, although not yet formalized, is also being integrated and mainstreamed into government policy.



Based on our pilot projects, ongoing research, and experience in the first four years, we now aim to have a more comprehensive recommended Development Strategy ready in writing for presentation to IDRC and to local and regional stakeholders by the end of 2014.

## **Year 2 and 3**

- 1. To identify and implement on a pilot basis economic development initiatives to raise living standards according to the preliminary Development Strategy.*

SJI is working towards realizing the overall objective of the initiative by pursuing a development strategy based on the research findings in the Samdrup Jongkhar Profile. Since the inception of the project, pilot economic development initiatives have been carried out within the four identified programme areas. While contributing to all components in the overall objective of the Samdrup Jongkhar Initiative, our aim is that the implementation of these projects will contribute directly to raising the living standards of our target beneficiaries in a sustainable way. The preliminary impact assessment scheduled for the end of this project year, will be helpful in evaluating to what extent this development has taken place.

One example of a very specific ecologically friendly income-enhancement strategy is given earlier in this report: As a result of the SJI solar drier initiative in the remote and poorest districts of the region – Lauri and Serthi gewogs – farmers and villagers have already been able to save money by substituting their own solar dried produce for previous market purchases. As well, the high quality of the solar dried produce is now leading to an SJI-led initiative to assist Lauri and Serthi farmers to market their dried produce (such as banana chips, chillies, and other fruits and vegetables) to supplement their incomes. As also noted above, initial work is also beginning on waste-based cottage industries, commercial production of high quality organic compost, and other potential income-generating activities flowing from our four main programme areas.

- 2. To train selected farmers in sustainable farming methods based on recommendations from the preliminary Development Strategy and agricultural research.*

Based on recommendations in the Samdrup Jongkhar Profile and from the agricultural research, more than 500 farmers have now been trained in sustainable farming methods to date, with these trainings funded by IDRC. Recently all agriculture extension officers including the district agriculture officer of the Samdrup Jongkhar district went to Navdanya in India for intensive trainings in organic farming techniques. Additional trainings by the National Organic Programme's lead trainer are also planned for July-August 2013. Navdanya's lead trainers will also come to Bhutan during the latter part of this project year for further trainings of agriculture extension officers and farmers in three different gewogs.

- 3. To train farmers in composting methods (particularly use of animal manure) and to implement effective use of composting in every district in the province.*



While segregation of bio-degradable waste for composting is one of the major components of the zero waste project and has been systematically taught to our beneficiaries, the zero waste project similarly teaches that the bio-degradable waste could also be used for other purposes, like animal feed, kitchen gardening or bio-gas. The important thing is to separate the organic waste from the inorganic, but the actual application of the bio-degradable waste varies depending on the specific characteristics of the community. In other words, our bio-degradable waste initiative has gone well beyond the original composting focus.

We have not yet implemented these methods “in every district”, as originally proposed in 2010. Instead, we have sought initial success in two pilot projects in Dewathang and Wooling villages, as described above. However, we are now expanding these efforts, including moving towards large-scale production and sales of compost, which should create new economic opportunities in organic agriculture in the district. This initiative will expand significantly in the coming 3-year period.

4. *To contribute to reduction of rural-urban youth migration by supporting innovative initiatives in fields like appropriate technology applications.*

Students at the Jigme Namgyel Polytechnic have participated actively in and been greatly inspired by the solar drier and rainwater harvesting projects of the new Centre for Appropriate Technology that was set up on the initiative of the Samdrup Jongkhar Initiative. As well, the workshops and seminars conducted under our youth engagement programme have been led by professionals with the highest standards. By bringing such innovative high quality projects for youths in semi-rural settings like Dewathang, we have laid the ground to provide services and opportunities that can rival, if not outshine the ones in the urban areas.

Our first youth engagement activity was conducted by Bhutan's leading artist Mr. Kama Wangdi and senior students from the world-renowned Kala Bhavan Academy of Visva Bharati University in India. Our highly popular zero waste recycled art workshops, attended by hundreds of Dewathang youth, were conducted by our top rated recycled waste artist Ms. Taylor Cass Stevenson from the United States. The youth media workshop in January 2013 was conducted by Mr. Phunthsho Wangdi, the chief editor of Bhutan's national newspaper, Kuensel, and Mr. Tashi P. Wangdi, who has trained the present corps of young journalists working in various media houses in Thimphu.

These projects will now be complemented with more permanent interventions such as the “one-village-one-skill” project under the appropriate technology programme, directly targeting the issue of rural-urban youth migration by developing new skills and economic opportunities for youth in the villages.

*A broader objective throughout the three-year project is to monitor and evaluate closely (a) the activities listed above; (b) the specific development initiatives that will emerge from the first year's research; and (c) the degree to which economic, social, agricultural, and broader environmental outcomes that are in accord with GNH principles and practices are attributable to project initiatives.*



As mentioned, our programmes/projects have been continuously monitored and evaluated throughout the project cycles and a preliminary impact assessment for the SJI project as a whole, in particular trying to identify to what extent SJI projects have contributed to GNH-related goals, will be carried out by the end of this year based on recommendations from the external evaluator. Project-specific progress, monitoring, and evaluation reports have been submitted to IDRC in the form of appendices to our technical reports.

### **Overall objective**

*The overall longer term development goal of the Initiative is to raise living standards in Samdrup Jongkhar rapidly and establish food security and self-sufficiency, while fully protecting and enhancing the natural environment, strengthening communities, stemming the rural-urban tide, and fostering a cooperative, productive, entrepreneurial, and self-reliant spirit that will break the culture of dependence and endemic poverty that have characterized the region.*

As for the overall objective, the preliminary impact assessment will be carried out by the end of the project year with the help and guidance of the IDRC external evaluator, assessing to what extent the above objective has been achieved and to what degree SJI programmes and projects have contributed to realizing these GNH-related goals. Although no aggregated impact study of our projects has been done so far, continuous project specific assessments have been carried out throughout the project cycles and submitted to IDRC as appendices to our technical reports, as noted above. Based on these project specific reports, although not exhaustive, we could make the following preliminary indicative comments regarding SJI's contribution to the overall objective:

- Keeping in mind that the overall objective refers to a *longer term* development goal and vision, it would be unrealistic to assume that the impact of SJI activities would contribute significantly to the overall objective and GNH-related goals within a period of just three years. In particular, to ensure proper testing and initial success in the various project areas, initial SJI interventions have focussed on developing small-scale pilots that can serve as initial models after wrinkles are ironed out, and that can later be scaled up once success is demonstrated. Rather, the overall objective should be seen as a much longer term vision towards which the SJI should continuously strive.
- To date we can confidently say that the SJI organic trainings of farmers, agriculture extension agents, and district agriculture officer, and the established multi-stakeholder platform for cooperation between the Ministry of Agriculture, National Organic Programme, Navdanya, SJI and other stakeholders have provided a sound basis for environmentally sustainable development in the agriculture sector of Samdrup Jongkhar district. That, in turn, should contribute to raising living standards while also enhancing food security and self-sufficiency in the dzongkhag.

Similarly, the successfully implemented and community owned solar drier project in Lauri and Serthi gewogs does already contribute to increased food security and self-sufficiency for the targeted villagers, and it can potentially further raise living standards and reduce poverty in these remote gewogs if marketing and sales of the solar dried produce proves profitable.

Implementation of the zero waste project has contributed to protecting and enhancing the natural environment in Dewathang and Wooling pilot villages through minimization of waste



and introduction of more sustainable waste management practices, while at the same time fostering a cooperative, community owned spirit in the initiative.

The creative and high quality projects conducted as part of the youth engagement programme have laid a potentially sound foundation for stemming the rural-urban tide among the youth of Samdrup Jongkhar district through fostering a productive, entrepreneurial spirit that could spur the start-up of new local innovative and environmentally sustainable initiatives, projects and economic opportunities in the dzongkhag.

Since these and other SJI projects are still in the pilot phase, it is too early to predict large scale impacts. But we can say that our early small scale successes, based on strong research, testing, and monitoring, have proved their potential to have a larger impact as these projects are scaled up and disseminated more widely.

- As we gradually move beyond the initial pilot-testing phase, which has basically laid the ground for fulfilling the overall objectives, it is anticipated that we will increasingly move closer towards fulfilling the overall project objective and vision outlined in our 2010 proposal to IDRC. This will happen through our planned up-scaling of SJI programmes and projects, expansion and deepening of our activities on the ground, a larger focus on economic diversification, and an enhanced focus on disseminating the research-based SJI development strategy for mainstreaming into local government policy. Smaller-scale pilot-testing of our projects has, however, been a necessary step in order to establish relevant and sustainable models on the ground, from which replication can be done and best practices disseminated on a larger scale.

### ***Recommendations for project completion***

The SJI has achieved some success in fulfilling many of the key specific objectives outlined above, and we anticipate further movement towards these project objectives in the coming 18 months. The notable exception to these successes pertains to the slow pace of the transition to organic farming, the challenges in implementing what has been taught in farmer trainings, and the consequent required adjustments to the organic agriculture research. Here some changes in direction have been necessitated, with initial research providing excellent pointers to the required strategic shifts, such as substituting training of farmer leaders and agriculture extension agents who interact regularly with farmers for direct training of farmers. We have also built the enhancement of local research capacity into our agriculture research strategy to ensure its long-term sustainability.

In the coming period we also intend to focus on the wider dissemination and local uptake of the research-based SJI development strategy. In order to work further towards fulfillment of these incomplete project objectives, to overcome some of the aforementioned challenges, particular in the transition to organic agriculture, and to move further towards the objectives, goals, and vision outlined in the original 2010 project proposal, the SJI team is humbly requesting IDRC for a one-year project extension to December 2014. The new proposal to IDRC for 2014 will include (but not be limited to) the following components:



- Completion of organic agriculture baseline study;
- Monitoring of the transition to organic farming in connection to more widespread implementation of organic methods by a larger base of farmers trained in sustainable farming methods and assisted by agriculture extension agents;
- Identifying and developing the research capacity of a network of farmer liaisons in order for them to assist in baseline data collection and monitoring;
- Final impact assessment of the organic agriculture programme and its contribution to GNH principles and practices;
- Continuous usage and dissemination of the Samdrup Jongkhar Profile research and research/lessons learned from project implementation in order to encourage local uptake of best practices, in particular for mainstreaming the SJI development strategy into local government policy.

The above components will be further elaborated in the actual 2014 project proposal that will be submitted to IDRC by early September. In the meantime, the SJI team would like to express its gratitude to IDRC and Dr. Loredana Marchetti for her excellent support and assistance throughout, and for giving us the opportunity to move forward with the SJI project in a well-informed, evidence-based manner thanks to the solid research foundation on which the initiative rests.

We are confident that a one-year extension of the IDRC funded project will strengthen our research basis even further and bring wide-ranging benefits to the people of Samdrup Jongkhar, while also moving us closer to satisfying the overall objective of the SJI project. This is particularly true since we will focus in part on overcoming challenges in the transition to organic farming. As most Samdrup Jongkhar residents are farmers, the more effective our research and action in the field of organic agriculture is, the larger the benefits and impacts are likely to be. By December 2014, we also intend to have a comprehensive recommended Development Strategy in place that will serve as a blueprint for up-scaling initial pilot SJI programmes and projects, for disseminating the research-based SJI development strategy in the dzongkhag at large, and for enhancing the outreach and impact of our initiatives to the country at large.

Finally, one key objective of the coming 18 months will be to further build local capacity to ensure the sustainability of the IDRC funded research findings and interventions well beyond completion of the initial IDRC-funded project phase.