Project Report 2017

On

First Ecological Agroforestry model farm in Bihar.

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INTRODUCTION

In Bihar, rural population constitutes approx. 85 - 90 % of the total population and agriculture is the main occupation of majority of rural households. In fact agriculture is at the core of Bihar's economy, employing 77% of the workforce. Agro-ecological situation of Bihar is quite favourable for production of various crops, fruits, livestock, fish etc. However, due to stagnation in agricultural productivity and increase in input prices, crop production turned to be a losing business for farmers in Bihar resulting in the decline in public and private investments in agriculture. We are also witnessing a decline in per agricultural worker employment opportunities. As a result, a large number of labourers migrate to outside state due to uncertainty of employment in agricultural activities. Moreover, use of chemicals fertilisers and pesticides in the farm has posed further challenge to the natural fertility of soil. There is also a dangerous trend of shrinking food basket limited to few crops and varieties. Biodiversity within the species and among the species must be restored. The challenges of climate change are also becoming more and more apparent. So, in order to resolve these challenges, there is a great need to look for and adopt viable alternatives based on some natural integrated and organic approach to farming. To make farming sustainable and profitable in Durdih, Bihar, Khetee is going to introduce a farmer focused intervention model based on ecological agroforestry.

Our Khetee team, in its pre-organizational phase have visited various farms present in different states of our country. We also participated in various events and activities and even organized some of them in our village Durdih situated in Lakhisarai district of Bihar where we are working continuously to create and promote small profitable, sustainable and ecological agroforestry model. Our vision is to make farming
ecologically feasible and economically viable. We are focused on introducing a farmer centric intervention model by promoting ecological agroforestry so that even small farmers can make a good and reliable income by practicing agriculture in their small piece of land. Moreover, by adopting this model they will be contributing to the environment in various ways. Ensuring enriched biodiversity, taking care of natural soil fertility, integrated natural pest management, utilisation of less water and making no use of chemicals and tilling practices in their land are some of these aspects. We along with other farmers went for experiential training of natural farming and agroforestry at various places. The learning and understanding we got were crucial to lay the foundation of our vision and it paved our way in the same direction.

MEETINGS AND EVENTS

We organized meetings with farmers and community volunteers to aware them regarding various issues of environmental degradation, climate change issues and the possible intervention for them in the form of ecological agroforestry. We also visited nearby villages to understand the concerns of farmers and rural community along with the problems and challenges they are facing. Some of them are doing well in farming by adopting innovative techniques and methods. They helped us in enriching our understanding regarding the possible intervention in agricultural crisis and environmental degradation at community level. For example, in January 2017, we visited Kedia village, popular as first eco-agricultural model village where farmers have combined innovative science, traditional knowledge, and their own experiential wisdom to restore the soil and community health. We went their along with other farmers from

Fig. 1 Visiting Kedia village and discussing on organic farming on 18th Jan, 2017
our community and have some fruitful dialogues with them regarding various practices related to organic farming (Fig. 1).

Besides, having some normal meetings in our own community with some youths and farmers, we organized a large meeting addressing 80 farmers in September 2017 at Krishi Bhawan, Ramgarh Chowk, Lakhisarai. We called it as Tendril meet. In Botany, Tendril means a specialized stem, leaves or petiole with a threadlike shape that is used by climbing plants for support and attachment. We named this meeting **Tendril meet** because we have similar idea in our mind i.e., to connect and reach out as many farmers as we can in order to develop a network supporting each other to understand and adopt...
Innovative, eco-friendly agricultural practices and methods. We talked with them in detail about the crisis our farmers were facing in the area in terms of high investment and low returns, irrigation problems, decreasing soil fertility and increasing dependency on chemical fertilisers and hybrid seeds. We discussed the concept and practice of ecological agroforestry which was very new to them. We discussed various benefits of such farming and how it can address the adverse impacts of climate change and environmental degradation as well as livelihood issues of farmers (Fig. 2 & 3).

We also used to help students from agricultural university to conduct their research and surveys in rural areas by providing them access to such areas. In between 13th to 20th nov. 2017, a PhD Student from Czech republic university of Life Sciences, came to Lakhisarai district for conducting a survey on the topic aging population in rural India. Volunteers from our organization helped him out in the entire venture (Fig. 4 & 5).

We developed trust and good will with the Czech Republic University and they promised us to continue this faith further by considering our organization in future also whenever needed. On completion of the survey after one week, we organized a small farewell for Vladimir (Fig. 6).
FARM VISITS

In order to get some understanding of cultivation in different areas with uniqueness of various farming techniques and methods being practiced, We visited various farms in India in different geographical and climatic location. These farms were the laboratories of nature where different lives use to flourish in a co-dependent and coexisting way. We can learn about various aspects of horticulture, such as the climatic condition required for the growth of...
certain crops and the harvesting methods deployed for the same and the financial investment needed for particular kind of farming. It also helped us in understanding the relationships with farmers and local community sharing the agricultural heritage and rural lifestyle prevalent in various areas. During our venture we visited Palm agroforestry farm in Banglore, biggest fish farm in Bihar,

Fig. 8 Visiting Biharsarif biggest fish farm in Bihar on 23rd may 17.

Fig. 9 Pomegranate Farm Visit in Maharashtra on 26th June 17

Fig.10 Karnataka Organic Farm on 30th June 17
Pomegranate Farm in Maharashtra, Organic farm in Karnataka and observed organic and fruit farming in Bangalore at another place. In August 2017, we also visited farms in Pondicherry to know about the experiential training regarding natural and organic farming in Sristi Village as we were planning to provide the same for farmers at our place. We also visited the farm of a local farmer Vetri who had adopted agroforestry in his farm. We got practical illustration of ecological agroforestry (Fig. 12).
We were going to implement agroforestry projects in our village based on the principles of natural farming, organic farming, mixed farming, permaculture, conservative agriculture and Regenerative agriculture. So, we needed to learn various innovative, scientific and ecological methods and farming techniques along with some other farmers from our place. We had already spent a considerable time to understand these things. But the knowledge must reach out to other farmers from our community. We went to Pondicherry on 10th Oct. 17 for experiential training on
ecological agroforestry (Fig. 13). It was an adventurous journey and we learnt many things from the experiential training at Sristi Village in Pondicherry. We learnt how to prepare trench and beds in the field, how to prepare the organic manure Jeewamrita (Fig. 14), Organic Pest controlling substance Neemastra and Substance used for seed treatment, Beejamrita using Cow dung, Cow Urine, Jaggery, Lime, and leaves of plants with medicinal qualities like neem and aak. Farmers not only learnt preparing these significant things but also volunteered (Fig. 15) there apart from farm work like cooking food for the Sristi village. There was another farm situated near by Sristi Village which belongs to a farmer named Vetri (Fig. 17). He was also practicing various farming methods in his field along with agroforestry. We all went to Vetri farm to see how agroforestry farm looks like.
We also get theory classes there on various topics and techniques, like on agroforestry, zero budget natural farming, live fencing, systematic plantation of various crop plants and trees in a proper sequence ensuring natural crop protection and sustainability. There are other farmers and volunteers from different parts of our country and the world. We learnt to practice all these innovative, scientific and ecological farming methods in Sristi village. After One week of experiential training, before leaving the place, one of the farmers from Khetee team prepared a cot (Khatiya) and gifted it to the Sristi Village (Fig. 18 & 19). All members of Sristi village gathered with us to commemorate the closing ceremony.
Besides Sristi Village and Vetri farm, we also visited Auroville in Pondicherry. Auroville is an experimental community in southern India founded in 1968 as a town where people from all over the world could live in harmony. Auroville Botanical Gardens protects the region's tropical dry evergreen forest. We discussed along with farmers the making of auroville community and the work going on there on voluntary basis.
In November 2017, Our Khetee team also arranged an exposure visit to farmer in Kedia, Bihar (Fig. 22). The place is just 50 km away from our own village, Durdih. Kedia has got the privilege to become first eco village where farmers have utilised various government schemes with the support of Green Peace to have its own vermi compost, Animal Shade, Biogas Plant and Ecosan Toilet (Fig. 23). With the help of crowdfunding done by Green Peace, the farmers in the village also got the facility of Solar powered cold Storage (Fig. 24). Farmers in Kedia are now directly connected to their customers for selling their agricultural produce.
Our Khetee team and other farmers from Durdih observed all these facilities and talked with the farmers of Kedia about their experiences. We also visited the community hall and the office of Living Soil farmer Committee (Jeevit Mati Kisan Samiti). A farmer, Krishna Dev from Kedia had also come with us to get experiential training in Sristi Village, Pondicherry. He was honoured for his enthusiasm and endeavour by Khetee team (Fig. 25).
While returning, we also went to a local nursery near Kedia to find out availability of suitable and desirable plants there for our agroforestry project going to be implemented soon in Durdih. We got some required plants there for rest we decided to visit other nurseries later.

PARTICIPATION IN DIFFERENT EVENTS

Fig. 27 Participating in an event organized by Story Of Makers in Mumbai on 25th March 2017
Besides organizing meetings with farmers, visiting various farms, providing experiential training to farmers at various places, The founder of Khetee organization, Kumar Neeraj also participated in various events with an objective to enrich our future project and plans with excellent ideas and concepts as well as to get various kinds of support. He used such platforms to put forward his ideas for making a more just, equitable, sustainable and healthy society by developing our rural community and adopting ecological agroforestry. In March 2017, Neeraj, presented his Smart and Organic Farming Model in an event organized by Story Of Makers in Mumbai (Fig. 27). He shared his ideas about sustainable, profitable and ecological farming by adopting organic methods and agroforestry practices. In July 2017, a seminar was organized under Tata Social Enterprise Challenge which is a joint initiative by the TATA group and the Coalition.

Fig. 28 Participating in Thinking Social Seminar in Patna on 22 July 2017

Fig. 29 Participating in the events organized by The Coalition, 15th-17th Set. 2017 in Bangalore
the Indian Institute of Management Calcutta (IIM Calcutta), a National Level challenge to find India’s most promising social enterprises. In this Thinking Social Seminar, Neeraj also presented his paper and put forward his ideas (Fig. 28).

During 15th-17th Sept. 2017, Neeraj also participated in the event organized by The Coalition group. Neeraj had had couple of days listening to the innovative ideas and the motivation behind them from different speakers. He also shared his ideas and views regarding his project work and his vision (Fig. 29).

In December 2017, Neeraj again participated in Kanthari Talks (Fig. 30). Kanthari Talks is the platform where change makers of the society working or intending to work in the areas of protecting environment, human rights, alternative learning and empowering the marginalized, put forward their ideas. In just 10 minutes, each participant educates, entertains and humbles the audience with their stories, dreams and action plans for a better society.

**CHALLENGES AND LEARNING**

Like any endeavour we faced some challenges while working out, talking to different stakeholders, convincing them seeking their support and interest, visiting various places, organizing meetings and participating in various events. But they are crucial for our learning. We learnt lots of things and went through some technicalities, developed some understanding between the difference between propounding concepts or ideas and working on them in real grassroots situations. In a nutshell, we can summarize some of the challenges and learning as follows:

**CHALLENGES**

**Convincing farmers for adopting agroforestry:** In our area, monoculture particularly that of rice and wheat crops is a very prominent practice. However, in this crisis phase of agriculture in rural area, all farmers are also not equally enthusiastic for that as well. Convincing them about some new concepts like agroforestry, natural farming, live fencing, mixed-farming is a difficult task as far as implementation of such
ideas in their own fields is concerned. So, we tried to give them some exposure and experiential training as well. How much our efforts remain fruitful will be apparent in coming time.

**Finding suitable land from our community:** - After organizing meetings with farmers and community members and providing them some exposure and training, we are looking for some motivated and interested farmers willing to adopt agroforestry model in whole or some part of their land. We are getting some hopes. Soon, we will find some interested farmer.

**LEARNING**

**Understanding various farming methods:** - We developed an understanding of various farming methods and techniques that can be used to make farming economically feasible and ecologically viable. Our farmers also got experiential training regarding these methods.

**Working on community development projects with community members:** - As an organization the phase was crucial for us to understand different technicalities of working on community development projects in a particular community. Apart from visiting various places, attending seminars and participating in events, we also spent significant time with the community members and farmers for whom and with whom we are going to conduct our program and project in a long run. We learnt a bit of engaging with them through conducting events, meetings, providing them training and exposure. Rest we have to find out a lot of things during coming expedition.

**CONCLUSION**

It was an adventurous journey. We participated in lots of activities, events and meetings. We made several visits at different places to understand various knowhow of farming including different methods and techniques related to agroforestry, organic farming, inter-cropping, permaculture, conservative agriculture and regenerative agriculture. We also build relationship with farmers and their community while visiting farms and getting exposure and organized dialogues within our community to prepare an environment for further project implementation.

Thanking Farmers, Colleagues, Volunteers, Supporters and Collaborators who believed and supported us in our endeavour.

“Revolution will be planted!”