CHINTHANA FOUNDATION

BIOCHAR FOR SUSTAINABLE AGRICULTURE AND ENVIRONMENT

Annual Descriptive report from 1st May 2024 to 30th April 2025

Introduction:

Biochar for Sustainable Agriculture and Environment promotion was undertaken with the financial support from long time partner and funding agency PPI - USA (People for Progress in India). It is very innovative project aimed at addressing the environment pollution, deterioration of soil health, wastage of biomass and low crop yields. The project area consists of 4 villages in Ajjampura Taluk of Chikkamagalur district in Karnataka-India. Initially the project identified 100 beneficiaries from interest farmers and supported them with awareness, technical knowledge and distribution of Biochar production units in the first year.

Summary of the project:

The project began in the month of 1st May 2024. The project was commenced with all the conducive feasible conditions with an aim of producing Biochar with the locally available natural biomass with free of cost. Chinthana procured Biochar production units made with MS metal with burning chamber, lid and a Chimney. Interested 100 farmers were identified and were supplied with Biochar product units. Later Capacity building trainings were organized for these beneficiaries, educated and motivated them to go for Biochar production and its application to their farm soils to achieve soil fertility and increased crop yields. Practical demonstrations were organized with the technical support from Indian Biochar and Bio-resource Network. The production of Biochar was slow during the first 4 months as it was monsoon season with heavy rains. Later the beneficiaries began to produce Biochar one by one. As it was new concept, some of the farmers were bit hesitant and few others commenced with the knowledge gained in the demonstrative trainings. Few farmers faced some challenges during trails. After repeated process they got the confidence and by the end of the first year 100% of beneficiaries have begun Biochar production. On an average they have produced 750 to 800 kgs of Biochar and have applied the same to their crops. It is expected that the production of Biochar reaches its optimum level in the second year of the project. The results were very positive with increased crop yield by 20%.

In the meanwhile several persons from reputed organizations visited the project and appreciated Biochar production project and they shown keen interest to adopt the same in their respective areas.

Along with Biochar project, Chinthana put all the efforts in taking care of tree plants planted in nearby 5 schools (Arabala Gollarahatti, Garagadalli, Mugali, Bankanakatte and Bhuthanalli) in the previous years with the support of the PPI. We were able to

maintain the trees with regular watering and protect from any predators. It was observed that more than 90% of survival rate among planted trees.

Main objectives of the project:

1. To produce Biochar with the available biomass resources at free of cost
2. Better utilization of natural biomass available in plenty of agriculture waste every year that could be converted into Biochar
3. To add sufficient carbon into soil to increase moisture and nutrients in the soil
4. To reproduce micro organisms in the soil
5. To Improve top soil fertility and crop yields
6. To make it beneficial to poor, dry and acidic soils
7. To lower soil acidity
8. To reduce the burden of synthetic fertilizers upon farmers
9. To It remains in the soil for hundreds of years.
10. To generate employment and extra income
11. To reduce carbon dioxide (Co2) in the atmosphere
12. To contribute for reduction in global warming and climate change

Benefits of Biochar for small agriculture holders

Biochar making did not involve huge investment. Raw material for Biochar was available at the door step of farmers. Biochar application made the farmers land fertile to ensure sustainability. It reduced the need and burden of chemical fertilizers. Biochar is not perishable; it can be stored and sold to earn an income. It proved to be a simple Technology which suits even average farmers to adopt. It was scientifically feasible.

Technical support:

Technical support was availed from IBBN (Indian Biochar and Bio Resource Network). Progressive Farmer and resource person Mr.Prabhakar was the key person in creating awareness, educate and motivate the farmers. He shared technical knowledge and practical demonstration on how to produce Biochar.

Achievements of Biochar project by Chinthana in 2024-25

1. Base line survey was conducted in the 4 villages and identified 100 beneficiary families.
2. Conducted 4 village level awareness program to educate and motivate farmers to produce Biochar
3. We have identified totally 100 farmers from the four villages of Begur 34 Siriganahalli 44 farmers, farmers, Begur Thandya 10 farmers and Aarabala Golarahatti 12 farmers
4. In the beginning 100 soil sample tastings were done at the farmer's soil. The necessary soil testing equipments are available at Chinthana
5. Procured and distributed 100 MS metal drums to the 100 interested families for production of Biochar
6. Demonstration programs where organized to educate the farmers to show practical production of Biochar.

7. All the 100 farmers have produced Biochar in the first year
8. Each of 100 farmers have produced an average of 750-800 kgs
9. About 25 farmers have applied Biochar to their farm soil and the remaining 75 farmers have stored it to be applied in coming monsoon
10. The production of Biochar is a continuous process whereby the farmers keep on producing Biochar whenever they find leisure time and there was no shortage of biomass.
11. Significant positive differences were found in the crops yield (+20%) where Biochar was applied compared to non-Biochar crops.
12. Dependency upon chemical manures reduced by 60% in the first year
13. 100% better utilization of biomass available in the farm. Before the project, the farmers used to discard such valuable biomass as waste or burnt away.
14. Contributed to the cleaner environment by containing CO2 by not emitting into the atmosphere in the form of Biochar

Details of 100 beneficiaries.

Sl.No	Name of the Farmer	Village Name	Sl.No	Name of the Farmer	Village Name
1	S.E.Veerabhadrappa	Siriganahalli	51	Nataraj	Begur
2	S.R.Shivananda	Siriganahalli	52	Pradeepa	Begur
3	S.J.Rajakumar	Siriganahalli	53	Bharath	Begur
4	S.S.Chandrappa	Siriganahalli	54	Karibasamma	Begur
5	M.Teerthappa	Siriganahalli	55	Kamalamma	Begur
6	S.S.Kumarappa	Siriganahalli	56	Jayamma	Begur
7	S.E.Girish	Siriganahalli	57	Bharatamma	Begur
8	S.B.Virupakshappa	Siriganahalli	58	Annappa	Begur
9	S.T.Pradeep	Siriganahalli	59	Geetamma	Begur
10	S.H.Thippeshappa	Siriganahalli	60	Harish	Begur
11	S.E.Kantharaju	Siriganahalli	61	Manjamma	Begur
12	S.M.Kallesh	Siriganahalli	62	Anusuyamma	Begur
13	S.N.Basavarajappa	Siriganahalli	63	Sidramappa	Begur
14	S.S.Jayakumar	Siriganahalli	64	Lilavathi	Begur
15	S.N.Ashokappa	Siriganahalli	65	Shakuntamma	Begur
16	S.H.Ningappa	Siriganahalli	66	Harish	Begur
17	S.N.Chandrappa	Siriganahalli	67	Eshappa	Begur
18	S.N.Mallikarjunaswamy	Siriganahalli	68	Bhartamma	Begur
19	S.S.Umapathi	Siriganahalli	69	Manjamma	Begur
20	S.B.Lokeshappa	Siriganahalli	70	Shivakumar	Begur
21	S.E.Jayanna	Siriganahalli	71	Madhu	Begur
22	Gangamma	Siriganahalli	72	Ravi	Begur
23	Girish.S.J	Siriganahalli	73	Marulasiddappa	Begur
24	Bommappa	Siriganahalli	74	Ramesh	Begur
25	Prasanna Kuamr	Siriganahalli	75	Gundappa	Begur
26	Kishan	Siriganahalli	76	Parameshappa	Begur
27	Sudha	Siriganahalli	77	Danappa	Begur
28	Thippeshappa	Siriganahalli	78	Bharathi	Begur
29	Rathnamma	Siriganahalli	79	Savitha Bai	Begur Tandya
30	Manjappa	Siriganahalli	80	Shashikala	Begur Tandya

31	S.S.Maheshwarappa	Siriganahalli	81	Loli Bai	Begur Tandya
32	K.Bhagamma	Siriganahalli	82	Bharathi Bai	Begur Tandya
33	Jayamma	Siriganahalli	83	Dharma Naik	Begur Tandya
34	S.J.Srinivasa	Siriganahalli	84	Vishala Bai	Begur Tandya
35	Maheshappa	Siriganahalli	85	Roopa Bai	Begur Tandya
36	S.N.Mallikarjuna	Siriganahalli	86	Rathnamma	Begur Tandya
37	S.N.Shankarappa	Siriganahalli	87	Shruthi	Begur Tandya
38	S.B.Ramesh	Siriganahalli	88	Kamali Bai	Begur Tandya
39	S.S.Gangadharappa	Siriganahalli	89	Puttappa	Arabala Gollarahatti
40	S.B.Karibasappa	Siriganahalli	90	Shivanna	Arabala Gollarahatti
41	Hemavathi	Siriganahalli	91	Shivamurthy.T	Arabala Gollarahatti
42	S.S.Mallikarjuna	Siriganahalli	92	Puttalingappa	Arabala Gollarahatti
43	Chandramma	Siriganahalli	93	Parameshappa	Arabala Gollarahatti
44	Nijalingappa	Siriganahalli	94	Chethan	Arabala Gollarahatti
45	Parameshappa	Begur	95	Erappa	Arabala Gollarahatti
46	Mohan	Begur	96	Suresh	Arabala Gollarahatti
47	Rudresh	Begur	97	Raghavendra	Arabala Gollarahatti
48	Shekharappa	Begur	98	Santhosh.K.G	Arabala Gollarahatti
49	Shanthamma	Begur	99	Kallaiah.V	Arabala Gollarahatti
50	Mallika	Begur	100	Rajappa	Arabala Gollarahatti

Positive outcomes

- Better utilisaton of biomass
- Arecanut and coconut crop yield increased after application of Biochar
- Increased crop yield of cereals and pulses after application of Biochar
- Increased soil moisture by 20%
- Carbon containment
- Increased micro organisms in the soil
- Soil fertility increased
- Reduction of usage and expenditure on chemical fertilizers
- Biochar is having long life and a permanent solution for soil health

Challenges faced

- Farmers were hesitant in the beginning to adopt and produce Biochar.
- Some farmers were waiting for other progressive farmers to do it first and follow them later
- Some farmers failed to make Biochar in the correct form. Instead of Biochar it turned to ashes. After repeated efforts they got correct form of Biochar
- Biochar production was slowed down during rainy season
- Farmers were preoccupied with agricultural activities which hindered to reach optimum level of production

Experience sharing of farmers

- Some farmers wanted to make Biochar in bulk by pit method.
- Farmers need to spend time about 4 hours
- Farmers need to check the burning of biomass at regular intervals
- Some more farmers were influenced and coming forward to participate in production of Biochar
- More than 75% of farmers have got better understanding of technical knowledge and expertise on Biochar production.

Future Plans for second year:

1. Collection of baseline data and identification of 100 beneficiaries from 4 to 5 villages in Begur Panchayath for the second year.
2. Procurement and distribution of Biochar units for second year beneficiaries.
3. Awareness, capacity building and Demonstrative trainings for the new beneficiaries.
4. Facilitation for farmers to produce the Biochar
5. Technical supporting for farmers to use of Biochar to increase the soil fertility
6. Soil test for the farmers and analysis the soil test report (Before and after application of Biochar)
7. Regular communication, feedback and support for farmers and enhance the knowledge and production of Biochar
8. Analysing the economies of savings by production and application of Biochar in comparison with chemical fertilisers

Visitors to the project site

- Robert and Ghislaine af Sandeberg from Sweden
- Steven Cutting from Asian Rural Institute-Japan
- V.S.Roy David-Coorg Oganisation for Rrual Development
- Munesh and staffs from Pragathi Charitable Trust
- Channaraju -Research scholar, Pipal Tree

All the above visitors appreciated the Biochar production by Chinthana in support of PPI and some of them shown keen interest to replicate the same in their respective operational areas.

Conclusion:

The first year attempt of Biochar project was a great experience for Chinthana. The positive response from farmers and the level of production of Biochar by utilization of wasteful biomass has created a valuable bio fertilizer in the form of Biochar in the direction of making the soils fertile. The project was also attempted to contribute for the cleaner environment by containing the Co2 in the form of Biochar. All these efforts gave us a confidence to implement the project effectively and make it success in the coming years with the proactive support of PPI.

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