

27th March 2018

Greetings from National Council for Climate Change, Sustainable Development and Public Leadership (NCCSD).

NCCSD is in sustainable development with focus on farmers in arena of climate change. Paris Agreement has highlighted need of “Food Security” and Food Productivity”. Answer to three question raised are dealt with from above context.

Where are we: We are aware that climate change and its adverse impacts are challenge to food security as food productivity. Both are under threat and so is livelihood of farmers. Later results in to migration – within and outside country and have had created social turmoil resulting in riots in many parts of the world.

Where do we go from here: In order to enhance food production for food security – we need to focus on ‘productivity’ and create situation where despite adverse impact of climate change – food productivity – agriculture production increases and provides farmers increased income – in fact in such a way that his income remains on par with other sector. If that happens challenge food security can be met with.

How do we get there: India has taken up this challenge. The Prime Minister – Shri Modi of country has called upon all stakeholders to “Double Income of Farmers” in five years – by 2022 in arena of climate change.

The country has launched comprehensive programme to reach out to farmers:


- Early Warning System – AGROMAT which is a division of Indian Meteorological Department (IMD) is providing farmers early warning – related to weather forecast – long term – medium term and concurrent – during seasons. This is accompanied by agro-advisory by Agricultural Universities – with contingency plan.
- Scientific Agriculture:
 - a) Soil health analysis of farm land and guidance to farmers to select crop which are suitable to their soil.
 - b) Encourage multi-crop by use of drip irrigation.
 - c) Massive programme of water harvesting and efficient use of water.

- d) Post-harvest guidance for time of harvest, storage, cleaning, sorting, grading, packaging and quality transport.
- e) Providing information to farmers for market related matters particularly prices.

This is backed by comprehensive safety net – by liberal crop income, Minimum Support Price and guaranteed employment for 150 days – during lean season.

The case studies of doubling income are as under:

GUJARAT STATE-INDIA

	Bumper profit – Use of plastic mulch with drip irrigation in watermelon cultivation
	<p>Special recognition :</p> <p>Farmer of Saipar village comes in contact with NCCSD- for getting more return from his traditional cultivation. He was inspired from KVK, Targhadia and NCCSD, to cultivate watermelon using plastic mulch and drip irrigation instead of traditional method. He was provided all the information such as cultural practices, use of plastic as a mulch with drip irrigation. The farmer was convinced through the information provided by the scientists of KVK and started cultivation of watermelon and got total production of 25000 kgs from 0.5 ha land during summer 2011. The product was sold directly to local trader at good rate.</p> <p>He earned a gross income of Rs. 2.5 lac a net profit of 2.0 lac from 0.50 ha land within three months period. This income is quite high compared to the income from other traditional crops. By observing this practice, numbers of</p>
<p>Name of Farmer : Dhirubhai Sothabhai Kagadia</p> <p>Address : Saipar</p> <p>Taluka : Rajkot</p> <p>Dist. : Rajkot</p> <p>Contact Number : 9687830314</p> <p>Age : 40 years</p> <p>Education : 7th Pass</p> <p>Land holding : 3 acre</p> <p>Crops grown : Groundnut, Cotton, Wheat & Water melon</p> <p>Livestock : Cow : 1 Bullock : 1 Jafrabadi buffalo : 1</p>	

farmers have initiated the cultivation of watermelon using plastic mulch with drip irrigation in this area. This cultivation has raised the living standard of Dhirubhai and he became the icon of watermelon cultivation in Rajkot district.



RAJASTHAN STATE -INDIA

KANTABEN SHANKAR BHAI

KANTABEN SHANKAR BHAI: QUALITY SEED PRODUCTION ACTIVITY

Kantaben Shankar Bhai belongs to schedule tribes resides in Balasindoor village of Kushalgarh taluka of Banswara district of Rajasthan. He has six members in his family and possess 1.25 acres of land. His family primarily involves and practices agriculture as primary occupation to earn their daily bread and butter. She prepared to associate himself with the Seed production Program of Banswara L I federation with village lift co operative members. The motivation of prevalent village LI cooperative leaders and community resource person helped him to strengthen his conviction that seed production can be beneficial and give high returns.

She was taking Rabi maize with the help of irrigation by L I scheme but yield was only 9 quintal worth Rs. 11250/- last year. Though Rabi season was possible only due to L I scheme but lack of adoption of proper package of practices could not give him increased returns.

With THF support, initiative on adoption of scientific method of cultivation including using improved variety of seed, maintaining crop geometry, seed treatment and providing timely inputs was started in the village by Sadguru Foundation. This helped him along with other

village members to go for maize seed production of Gujarat Maize-6 variety in Rabi season. During the Rabi season 2016-17, he produced 25 quintals maize seed. Out of this, graded seed of 21 quintals was sold @ Rs 2500/- per quintal and earning was Rs. 52500/-. Remaining maize was sold as grain @ Rs. 1,250/- per quintal and earning was Rs. 5000/-. His gross income from rabi maize was Rs. 57500/- and his investment was Rs. 7500/- giving him net returns of Rs. 50000/-.

INCOME REALIZATION IN GRAIN VS. SEED PRODUCTION

The following table gives us the comparison of income realized by the farmers before and after entering in to the Seed production program

Details	Grain production (Before entering in to seed production programme)	Seed production under THF programme
Yield (quintal)	9	25
Price (Rs./quintal)	1250	2500
Cost of production (in Rs)	4500	7500
Gross income (in Rs.)	11250	57500*
Net income (Rs.)	6750	45000

**includes income from sale of 21 Q of graded seed @ 2500 per quintal and from sale of 4 Q as grain @ of 1250 per quintal.*

Seed entrepreneurs have realized more as compared to normal grain production. Seed entrepreneurs have realized **Rs 38250** more than the grain production. This increased income realization by the seed entrepreneurs created interest among other fellow farmers to take up seed production.

Kantaben Shankar Bhai is happy to get very good returns from his crop and more so as he does not require to migrate to earn more and he says "he would continue doing this and provide better facilities in the upbringing of children.

There is very good change in the attitude of farmer like Kantaben Shankar Bhai in the village. The change is not just in terms of profit but in terms of people's action.

In his own words,

"My family is very happy as we never earned this amount in the past from this piece of land. I would continue my sincere efforts in adopting and scale up such agriculture practices in future."

MADHYA PRADESH-INDIA

Transformation through high value crops

Name of Farmer: Tersingh Magan Vasuniya

Village: Chokhwara Block: Thandla, District: Jhabua (MP)



This is another case study of Tersingh Magan Vasuniya of Chokhwara village with whom Sadguru Foundation with grant support from The Hans Foundation project engaged to increase his income better livelihood options. He is a 50 years old person having 6 members in his family including 2 daughters and 2 sons and has small land holding of 1.30 acre. The main source of livelihood of the family was dependent on rainfed agriculture of cereals for one season and partially gram during post rainy season. He has one open dug well with shallow depth and not having sufficient water during the critical irrigation period.

The family could not get sufficient food grains production from the field to meet food requirements round the year. Therefore, earlier Tersingh bhai and his sons were migrating in towns of Gujarat for more than five months in a year to work as labourers for livelihood. **Despite having cultivable land the family was facing difficulty mainly because of absence of water for irrigation. Rainfed crops could not provide them enough food grains.**

Tersingh also was one of the farmers in the group taken to exposure visit to Sadguru's project area of best practices. Under this project with technical guidance of THF project team of Sadguru Foundation he started creeper vegetable cultivation in 0.1 ha of land . Sadguru guided him to adopt Two-Tier Trellis system for vegetable cultivation in winter and summer season both. The availability of water was decreasing due to increase in temperature and poor monsoon, it was becoming difficult to maintain his crops under trellis and there were huge chances that plants may die. Then Tersingh bhai started watering plant to plant with the help of buckets. He was able to protect his vegetable crop.

To mitigate this problem, the work of deepening and lining of well and soil and moisture conservation was carried out in his farm land with support from The Hans Foundation programme.

Earlier his family was cultivating only maize but now he is growing Smooth guard, Bottle Guard. They are happy that with this initiative they all have not to migrate for livelihood in future. They have earned from the sale of vegetable in the summer to the tune of Rs. 15000/-. It is worth highlighting here that from 0.1 ha of land cereal crop of maize gives returns of merely Rs. 1500/- and the same piece of land under vegetable fetched him 10 times more. This is income earned in only two months of summer. Total earning of Tersing Bhai in a year from agriculture is Rs. 50000/- to 60000/- which more than double within a year.

By seeing sufficient amount of water and the result of his efforts, he has also planned to increase his cultivable area for cultivation of vegetable in next season.

What UNFCCC should do: UNFCCC is acting as facilitator. It has taken initiative for “Capacity Building”. Here main focus needs to be agriculture – with programme – learning material built for Farmers, Animal holders and Fishermen – further Women Farmers and Rural youths.

There are two organizations of UNFCCC – Green Fund & CCTN. Both need to focus on programmes related “Productivity” “Technology Transfer” and “Capacity Building”. In fact UNFCCC need to develop an action plan for these which can be discussed by parties forthcoming COP-24 – before it is too late.