PROJECT FOR SCALING UP THE CULTIVATION OF TRV (TRADITIONAL RICE VARIETIES) AND CREATING MARKETING LINKAGES FOR FARMERS GROUPS : A REPORT ON THE OVERALL ACHIEVEMENTS AND IMPACT OF THE PROGRAMME IMPLEMENTED BY CIKS WITH SUPPORT FROM SUPRAJA FOUNDATION

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I. BACKGROUND

Supraja Foundation supported CIKS through a three year programme from 2019 to 2022 for the cultivation and scaling up of TRV (Traditional Rice Varieties) and creating market linkages for farmers groups for selling these varieties. The total amount provided as support was Rs. 151.29 lakhs over this period. The activity was spread over several districts of Tamil Nadu State. This report has been prepared by referring to the various records and based on consultations with all the participants and stakeholders. The idea has been to capture a summary of the following -

- 1. The scope and coverage and what was achieved
- 2. The constraints and limitations and
- 3. An overview

II. COVERAGE AND BENEFICIARIES

- A. Eleven Districts Chengalpet, Kancheepuram, Tiruvannamalai, Viluppuram, Mayiladuthurai, Thanjavur, Tiruvarur, Nagapattinam, Pudukkottai, Dindigul and Ramanathapuram.
- B. 27 Taluks, 39 Blocks, 187 Panchayats and 234 Hamlets.
- C. Number of FPCs covered: Eleven FPCs Valanadu SAPCL, Pudukottai OFPCL, Neithal SAPCL, Kuirnji SAPCL, Mullai SAPCL, Vadamadurai SAPCL, Chengam SAPCL, Pudupalayam SAPCL, Managiri SAPCL, Marutham SAPCL and Seeds SAPCL.
- D. Direct beneficiaries 7297 beneficiaries
 - Gender wise beneficiaries breakup
 - Male beneficiaries 5238 (72%)
 - Female beneficiaries 2059 (28%)

Total beneficiaries- 7297



E. Landholding wise beneficiaries

Landless - 217 (3%)

Marginal farmers – 1745 (24%)

Small farmers - 2703 (37%)

Medium farmers - 1617 (22%)

Large farmers – 1015 (14%)

- F. TRV Cultivation : Overview
 - 1. Number of varieties cultivated : 30
 - 2. Marketing linkages created (MTs) -8652 MTs
 - 3. Total procurement value (Lakhs) Rs. 1700
 - 4. The farmers and FPCs have received 100% of the value of TRV sold
 - 5. Overall net profit from sales for the FPCs (Lakhs) Rs. 5.17 + Rs. 10.15 Rs. 21.51= Rs. 36.3 Lakhs

III. IMPACT OF TRV CULTIVATION

A. Benefits of TRVs Cultivation by Farmers

The key direct benefits are:

- 1. Reduced cost of cultivation
- 2. Greater straw yield from TRV as compared to improved varieties

- 3. Proper weighing, farm gate sale, immediate payment, and assured price
- 4. Higher average price/kg of grain
- 5. Increased net income from sale of grain
- 6. Improved knowledge in methods of TRV cultivation
- 7. Field monitoring and technical inputs

B. Higher Average Price/Kg of Grain

- Average procurement price/kg for TRV: Rs. 25.7/kg
- Average procurement price/kg for equivalent / comparable, improved Variety: Rs. 16.33/kg
- Average increased price/ kg for TRVs: Rs. 9.4/kg

C. Increased Net Income From Sale of Grain

- 1. Increase in income resulting from saving in input costs: Rs. 6,500/- to 7,000/- per acre
- **2.** Increase in income from cultivating TRV which fetches higher price: Rs. 2,500/- to 3,000/- per acre
- 3. Total average increase: Rs. 9,000/- to Rs. 10,500/-

D. Reduction In Cost of Cultivation (CoC) In Traditional Rice Varieties

On an average, the cost of cultivation reduction in TRV cultivation is Rs. 6,500/to Rs. 7,500/- acre.

E. Proper Weighing, Farm Gate Sale, Immediate Payment and Assured Price

- Benefit from Correct Weighing: ranging from Rs. 75 to Rs. 100 per bag (2-3 kgs in every 75-kg bag)
- **2.** Farm gate Sale: Saving in transportation, loading, unloading, and gunny bags for sale, leading to a saving of Rs. 50-75/bag
- **3.** Immediate Payment

F. Grain And Straw Yield In TRVs

1. On an average straw yield per acre of TRV was 1000 kgs **more** and average grain yield per acre of TRV was 750 kgs **less**, compared to improved varieties.

G. Continuous Field Monitoring of TRV Cultivation and Technical Inputs

Offered as part of the project, this has been valued greatly by the farmers who were covered by the project

H. Improved Knowledge in Cultivation Methods/Technologies and TRV Cultivation

- 1. SRI: Reduction in seed quantity usage, reduction in labour cost, increased yield with net profit, and conservation of water.
- 2. Usage of organic manure and growth regulators reduced the expenses on manure for the farmers.

I. Other Impacts

- Traditionally areas under Seeraga samba were in Ranipet and Vellore. Now, there are clusters in Tiruvannamalai, Kancheepuram, Chengalpet and Viluppuram that are cultivating this variety with farmers obtaining regular benefits.
- Several independent farmers and farmers groups are entering into arrangements with local traders and mill owners to scale up TRV with buyback arrangements. These are outcomes of the project though these farmers have no formal links with the project.
- 3. An important learning is the possibility and potential for scaling up TRV cultivation and benefitting farmers by linking with newer FPCs and farmers clusters with a revised plan and lesser investment.

S. No	Name of the FPC	Name of the Variety	Wholesale trader		Retail Trader (Sempulam & CIKS)		Non Project Farmer		Project Impact in Marketing price / Kg (Rs.)	Increased income (%)		
			Quantity Sold (Kgs)	Average Price / Kg (Rs.)	Total amount received (Rs.)	Quantity Sold Kgs	Average Price / Kg (Rs.)	Total amount received (Rs.)	Name of the Variety	Sale price / Kg (Rs.)		
1	Seeds SAPCL	Seeraga Samba	125003	31	3925140				White Ponni	20	11	57.0
2	Pudupalayam SAPCL	Seeraga Samba	771375	30	22841283				White Ponni	20	10	48.1
		Kaivari samba				1366	28	38248	White Ponni	20	8	40.0
		Rasakadam				250	28	7000	White Ponni	20	8	40.0
		Sivappu kowni				632	28	17696	White Ponni	20	8	40.0
		Mappillai Samba				2526	32	80832	White Ponni	20	12	60.0
		Sivapppu Seeraga samba				731	32	23392	White Ponni	20	12	60.0
		Kitchili samba				2028	30	60840	White Ponni	20	10	50.0
		Panangattu kudaivazhai				590	30	17700	White Ponni	20	10	50.0

IV. CONSOLIDATED TABLE OF INCREASED INCOME IN TRV CULTIVATION THROUGH SUPRAJA PROJECT

Soorankuruvai		2230	30	66900	White Ponni	20	10	50.0
Kamban Samba		243	30	7290	White Ponni	20	10	50.0
Poovan Samba		345	30	10350	White Ponni	20	10	50.0
Samba		1403	32	44896	White Ponni	20	12	60.0
Kadaikazhuthan		711	32	22752	White Ponni	20	12	60.0
Salem Samba		835	30	25050	White Ponni	20	10	50.0
Karungkuruvai		3020	29	87482	White Ponni	20	9	44.8
Ottadai		506	30	15180	White Ponni	20	10	50.0
Mullan kaiama		382	30	11460	White Ponni	20	10	50.0
Anaikomban		344	28	9632	White Ponni	20	8	40.0
Anandanoor sanna		763	28	21364	White Ponni	20	8	40.0
Thooyamalli		580	30	17400	White Ponni	20	10	50.0
Arikiravi		904	28	25312	White Ponni	20	8	40.0
Kottara samba		780	28	21840	White Ponni	20	8	40.0
Valan nel		92	32	2944	White Ponni	20	12	60.0
Kaliyansamba		268	32	8576	White Ponni	20	12	60.0

		Sivappu kuruvikkaar				878	28	24584	White Ponni	20	8	40.0
		Karuppu kowni				1655	55	90650	White Ponni	20	35	173.9
		Pachaiperumal				90	28	2520	White Ponni	20	8	40.0
		Sanna Samba				407	30	12210	White Ponni	20	10	50.0
		Kullakkar				1472	27	39258	White Ponni	20	7	33.3
		Kaatuyanam				1500	40	60000	White Ponni	20	20	100.0
		Kallurundaikar				75	93	7000	White Ponni	20	73	366.7
		Kothamalli Samba				233	30	6990	White Ponni	20	10	50.0
3	Valanadu	Kitchili Samba	42000	21	882000				BPT 5204	16.5	5	27.3
	Agriculture	Mappillai Samba	38000	19	722000				BPT 5204	16.5	3	15.2
	Company Limited	Seeraga Samba	10350	24	245812				BPT 5204	16.5	7	43.9
4	Kurinji Sustainable Agriculture Producer Company Limited	Kuzhiadichan	860000	13	11541091				CO -51	11.53	2	16.4

5	Mullai Sustainable Agriculture Producer Company Limited	Kuzhiadichan	430500	13	5777434				CO -51	11.53	2	16.4
	Tota	al	2277228	20	45934760	27839	32	887348	0	16	4 to 16	

V. PUDUKKOTTAI DISTRICT

Activities in the Pudukottai district were started only during the third year of the project and this was when the work was extended to this area involving an FPC that was formed and supported by an NGO other than CIKS. Since this has some specific features this is being reported separately, as shade by them.

A. Impact of the Traditional Paddy Cultivation

- Our traditional rice varieties fetched farmers 33 to 144% higher prices than conventional high-yielding varieties.
- 2. The hay stock yield was so impressive that has been recorded to be around 200 percent increase. The length of the each plant measured to about 6.1 feet. The 6 feet long straw enable the farm cattle enjoy healthy fodder for longer period. Return to traditional paddy cultivation provided space for development of animal husbandry as it increased the hay-stock into many folds. Extra hay stock, extra milk means more income and more health for women.
- 3. This project has proved to be successful in bringing down the cost of chemical inputs almost to zero. Non-application of synthetic chemical inputs in the soil and on crop, consequently enhanced the soil health and rejuvenated the fertility of the plots. It is an alternative to the dwarf and short duration paddy crops that required huge inputs, chemicals, water etc.
- 4. There is significant **increase in the awareness** among the common people, particularly among the middle class, on the **negative impacts of consumption of polished rice**. This is because the Tamil Nadu state is one of the hot-spots of growing number of diabetic patients in the country. This has resulted in the rising demand for traditional rice varieties that have medicinal and nutritive value. All the participants' farmers of this project have easily marketed their paddy at a premium rate of Rs. 20 to Rs.40/per Kg when other farmers sold their normal paddy at the rate of Rs.15.

- 5. 70 percent of the investment for land preparation for the next crop has been saved, thus consequently around Rs 1000-2000 has been retained in each family.
- 6. The new initiative paved way for emergence of medicinally and nutritional valuable rice varieties. Some varieties were said to be useful in the treatment of diabetes and blood pressure while some other varieties helped to increase nutritional value, iron, fiber etc.
- 80 percent of the rural households consume polished rice. However, the traditional rice varieties have a high potential to ensure the nutritional security of the communities.

B. Comparative Analysis of Outcome

In the following table there is a comparison between cultivation using chemical methods and traditional methods looking at seven different factors.

	Factors	Chemical- based Water- intensive Farming System	Traditional Paddy Cultivation – SRI method	The impacts
1.	Seed used /Kg/per acre	60 kgs	20 kgs	Investment reduction
				 Family economy improves
				 Savings of farmers /reinvestment of savings
2.	Irrigation water used (liter/per acre)	7,500,000	2,500,000	 Pressure on groundwater table reduced
				 Farm soil quality improved
3.	Length of each plant at harvest	60 cm	162 cm	 An average one foot of crop residual left over the land as soil cover/composting for making the soil fertile by retaining the soil humidity
4.	Number of tillers in each plant	10	29	 Seed conservation Enough seed conserved for covering more land
5.	Average No. of grains per tiller	120	190	Increased yield
6.	Average Yield of straw at harvest /ton/per acre	1.5 t	3.25 tones	 Duration of fodder availability increased three fold
				• Cattle enjoy the fodder
				 Milk yield increased more than 50 percent
7.	Own usage of hay-stock	150 days/ one	540 days/one	
	(days/animals)	COW	cow	

VI. QUALITATIVE AND GENERAL OBSERVATIONS AND CONSIDERATIONS FOR THE FUTURE

- Proper documentation of field activities: Quarterly reports have really helped us to take note of quantitative data of the TRV cultivation. Regular photo documentation through WhatsApp has helped in documenting the activities.
- Regular team meetings have given rise to new ideas and suggestions for achieving the targets. For example, capacity building training on Seed quality, storage, etc.
- Having team meetings from various field areas helped in knowledge sharing, and suggestions during problems and challenges (such as floods, heavy rains, etc).
- Through this project, we did a survey of traditional rice cultivation in Tamil Nadu and identified certain new varieties.
- 5. Even though the TRV cultivation was badly affected with unseasonal rainfall, were able to achieve our target with available resources.
- 6. Farmers are in need of quality traditional paddy seeds for the cultivation. Most of the seeds available are cultivated for grain purpose only, but not for seed purpose. Focus has to be given in the area of seed cultivation of traditional paddy varieties in order to get better performance of each of the variety.
- 7. By creating market linkages of FPC with traders, we are able to scale up the TRV cultivation in some of the newer areas too. By creating such type of linkages, we were able to promote more traditional varieties.
- 8. One of the important learnings and impact from the project is that when cultivation is done on a large scale there is a possibility to develop value added products which can be given to the customers throughout the year. On an experimental scale we had done value addiction of products in the form of porridge mix, rice flour, rava, aval. There is an excellent potential market for these products.

9. We had also done experiments with sweets and savouries using traditional rice varieties for two festivals namely Janmashtami and Deepavali. There was an excellent reception from the consumers for this and these products will be developed throughout the year. For developing these products throughout the year that should be a supply of these rice varieties also throughout the year which means cultivation goes up, farmers are offered a better price and consumers get a good product.

VII. CASE STUDIES

In this section we have provided case studies of different kinds drawn from various geographic areas.

A. Organic Vs Chemical Cultivation : A Comparison

We have given below comparisons for the cost of cultivation and other details for two traditional varieties (cultivated organically) with two equivalent modern varieties cultivated chemically.

Cost of cultivation difference between Seeraga Samba and Co – 51 Paddy Varieties Area – 1 acre

S. No	Particulars	Seeraga Samba (Rs.)	Co - 51 (Rs.)
1	Nursery preparation	700	700
2	Seed cost	1,460	1,200
3	Main field preparation – ploughing, bund trimming, plastering and levelling	6,000	6,000
4	Seedling plucking	1,500	1,500
5	Seedling transplanting	2,000	2,000
6	Weeding expenses	1,500	1,500
7	Fertilizer expenses	2,000	5,000
8	Plant protection	600	2,000

	expenses		
9	Harvesting expenses	3,500	2,500
10	Winnowing and other processing expenses	1,500	1,500
11	Total expenses	20,760	23,900
12	Yield (Kgs)	1,500	2,000
13	Expected straw yield	3,000	2,000
14	Income through grains sales	49,995 (Rs. 33.33 /Kg)	33,320 (Rs. 16.66/ Kg)
15	Income through straw sales	3,000	2,000
16	Total income	52,995	35,320
17	Net Income (S. No: 16- 11)	32,235	11,420

In Seeraga Samba cultivation expected cost of cultivation is comparatively lesser (Rs. 3,140/) than the improved paddy variety cultivation. Expected Net profit per acre is Rs. 20,815/- higher than other variety along with other benefits like soil fertility and other environmental protection.

B. Cost of cultivation difference between Mappillai Samba and Co – 51 Paddy Varieties

S. No	Particulars	Mappillai Samba (Rs.)	Co - 51 (Rs.)
1	Nursery preparation	700	700
2	Seed cost	1,460	1,200
3	Main field preparation – ploughing, bund trimming, plastering and levelling	6,000	6,000
4	Seedling plucking	1,500	1,500
5	Seedling transplanting	2,000	2,000
6	Weeding expenses	1,500	1,500
7	Fertilizer expenses	2,000	5,000
8	Plant protection expenses	600	2,000
9	Harvesting expenses	3,500	2,500
10	Winnowing and other processing expenses	1,500	1,500
11	Total expenses	20,760	23,900
12	Yield (Kgs)	1,875	2,000
13	Expected straw yield	3,500	2,000
14	Income through grains	56,250	33,320
	sales	(Rs. 30 /Kg)	(Rs. 16.66/ Kg)
15	Income through straw sales	3,500	2,000
16	Total income	59,750	35,320

Area: 1 acre

C. Technology Impact : Some Notes from the Sirkazhi Field Area

- a. Modified SRI Out of 300 Farmers, 31 % farmers have adopted SRI Techniques (either 2 or 3 principles) which has assured good crop growth and higher yield in Traditional paddy varieties
- b. Use of Biofertilizers and disease management using cow dung extract with Pseudomonas foliar spray has been extensively adopted by the farmers under the project.
- c. Seed production techniques Training on seed production, traditional paddy seed production adopted under field conditions and procurement under FPC is the key impact created under the project. Totally 50 farmers were involved in seed production of traditional paddy varieties.

D. Reduction in Cost of Cultivation in Traditional Rice varieties

Farmers involved in traditional paddy cultivation has saved Rs.2200 to Rs.2800 (on an average) under nutrient management and pest / disease management practices.

Overall income obtained under traditional paddy variety cultivation compared to improved variety cultivation has been proved to be on increasing mode (Rs. 3000 minimum to Rs.10000 maximum)

S. No	Particulars	Mappilai samba (TRV)	BPT 5204 (HYV)
1	Nursery preparation	1200	1200
2	Seed cost Kgs @ Rs / Kg	20 kg Rs- 1400 70/kg	30 kg Rs- 1050 35/ kg
3	Main field preparation – ploughing, bund trimming, plastering and levelling	5000	5000

CASE STUDY (RAVICHANDRAN, ALLIVILAGAM) Year 2021

4	Seedling plucking	3000	4000
5	Seedling transplanting	4050	4050
6	Weeding expenses	2250	3325
7	Fertilizer expenses	1000	2495
8	Plant protection expenses	1100	3200
9	Harvesting expenses	5000	4050
10	Winnowing and other processing expenses	1000	1500
11	Total expenses	25000	29870
12	Yield (Kgs)	1500 kg	1800 kg
13	Expected straw yield (Kgs)	60 bundles	40 bundles
14	Income through grains sales	(Rs.22.50 /Kg) 33750	(Rs. 20/ Kg) 36000
15	Income through straw sales	3000	2000
16	Total income (S. No 14 + S. No. 15)	36750	38000
17	Net Income (S. No: 16-11)	11750	8130

E. Karuppu Kavuni

This variety has been introduced under Supraja project in Vedharanyam block, Nagapattinam district. This variety has fetched good market price compared to other varieties.

CASE STUDY

Name of the beneficiary: M. Veeramani

Address : S/o Murugaiyan, 4/41, Perumaikonkadu, Panchanathikulam, Vedharanyam

Total land holding – 2.0 acre

Total area under organic farming -1.0 acre

Total area under conventional farming –0

Name of the traditional paddy under grain production - Karuppu Kavuni

Area –1 acre

Seed rate adopted - 30 kg/acre

Duration of the crop – 135 days

Technologies adopted – Application of FYM, Neem seed powder and foliar spray of pseudomonas and cows urine

Method of planting - Direct sowing

S. No	Details about cost of cultivation	
1	Direct sowing expenses	400
2	Main field preparation expenses	5000
3	Organic inputs used-quantity	2000
4	Pest & disease management	1500
5	Weed management	6000
6	Water management	
7	Rouging expenses	1200
8	Harvest expenses (machine)	3000
9	Yield obtained	960 kg
10	Paddy grain yield (kg)	900 kg
11	Paddy straw yield (bundles)	15 bundles
12	Total expenses	19,100
13	Post harvest technologies adopted	1200
14	Total expenses	20,300
18	Total income obtained (Grain + straw)	38,700 + 900 = 39600
19	Net profit obtained	19,300

Details about buyer - Sold paddy grains to traders from Coimbatore

Rate Per Bag- Rs.2580/-, Rate per kg - Rs.43 /kg

Total bag sold – 900 kg, Total income obtained- Rs.39,300

Quantity of grains kept AS SEEDS -60 kg

F. Comparison Between Modern Paddy Varieties and Traditional Paddy Varieties

(Method of cultivation, Cost of cultivation, Agronomical characteristics)

S. No	Component	Traditional paddy variety	Conventional variety
1	Cost of cultivation	Expenses Low	Expenses high
2	Agronomic character	Plant height, panicle long size	Small size
3	Pest and disease occurrence	Resistant to pests and diseases	Susceptible to pests

G. Farmers Involved in Traditional Paddy Seed Production

Seed production of traditional paddy varieties has fetched additional income of Rs. 4000 to Rs. 5000 per season.

Total farmers trained under seed production - 50 No's

Total area under seed production - 45 acres

Name of the beneficiary : S. Sellappa

Address : 1/119, Selliyamman Koil street, Ilaiyamathukoodam, Sirkazhi

Total land holding – 3 acre

Total area under organic farming –3 acre

Name of the traditional paddy under seed production - Kitchili samba

Area – **1 acre**

Seed rate adopted - 30 kg/acre

Duration of the crop – **120 days**

Technologies adopted – Application of neem seed powder and biofertilizers, Foliar spray of Neem oil soap (2%), Modified Panchagavyam foliar spray

Details about the training undergone during the cropping period -

Seed production techniques, Rouging techniques, post harvest – storage of paddy seeds

S.No	Details about cost of cultivation	
1	Nursery expenses	900
2	Main field preparation expenses	7200
3	Organic inputs used-quantity	600
4	Pest & disease management	1200
5	Weed management	2400
6	Water management	
7	Rouging expenses	4000
8	Harvest expenses (machine)	6800
9	Yield obtained	20 bags (20 x 60 kg)
10	Paddy seed yield (kg)	1200
11	Paddy straw yield (bundles)	20 bundles (value – Rs. 1200)
12	Total expenses	23100
13	Post harvest expenses	2200
14	Total expenses	25300
15	Total seed obtained after processing	`1000
16	Quantity of seed kept for own purpose	60 kg
17	Details about sale of seeds	940

Method of planting - Conventional method

18	Total income obtained through seeds (A)	32,000
	Total income obtained through grains obtained after processing (116 kg xRs.12/kg) + straw yield (B)	2592
	A + B	34592
19	Net profit obtained	9292

Rate per kg – Rs.32 /kgTotal quantity sold – 940 kg

H. Seed Supply

Valanadu FPC has supplied traditional paddy seeds to State Seed Farm, Thirukadaiyur and Nagamangalam, Maiyiladuthurai District. Totally 20 acres were covered under traditional paddy seed production .Totally 500 kg seeds comprising of three varieties were supplied during Samba season 2022. Valanadu FPC Team R.Manikandan and Chellappa. S (BOD) visited the farm and trained farm labourers in rouging operations. Both the farm has produced 14800 kg of seeds which were distributed to farmers of Kuthalam block, Sirkazhi block and Sembanarkovil block. Total area covered during samba season 2022 – 2023 works to 390 acres.

Due to this activity, farmer involved in seed production and FPC got profit in the past two years.

VIII. PROBLEMS, CHALLENGES AND FAILURES

While reviewing the project we summarized the following limitations and failures. We have also identified a few external factors which seriously affected execution of the activities and this imposed limitations.

A. Problems and Challenges

We identify the following key factors which are the problems and challenges faced.

1. During the project period the Tamil Nadu State faced a series of natural calamities and disasters which severely affected Agriculture in general and our project activities. They are -

- Severe drought during the years 2019 2020
- Cyclones and unseasonal rains during the years 2020 2021
- Unseasonal rains during the period 2021 2022

2. Covid 19 pandamic

This started during the 3rd quarter of the first phase of the project and has come to an end (we hope!) during the last two quarters of the 3rd year. This led to very severe problems including -

- Reduced face to face interaction with the farmers
- Decreased field visits and monitoring and restrictions in training
- Inputs of various kinds had to be moved and provided with these restrictions
- Procurement and Marketing linkages had to operate which huge limitations in transport and banking
- The FPCs and Farmers groups in turn faced huge problems and limitations
- Some staff members and several farmers were affected at various levels due to this

B. Failures

We recognise and take note of the following as failures with a few observations about the reasons -

- 1. Under achievement in seed production this was partly due to overall problems of weather as well as insufficient capacities of farmers groups in seed production.
- 2. Insufficient sale of TRV through retails sales, online sales and value added products since this required tremendously more time and capacity building than what was possible under the project time frame
- 3. Problems of FPOs and organising their activities for example once linkages were created between the farmers groups and rice mills and traders initially, during the subsequent seasons some groups of farmers tried (some succeeded!!) to bypass the FPCs and strike a deal directly with the buyers. This was due to multiple reasons such as the economic distress due to Covid which affected the farmers greatly and also insufficient identification of the farmers with the FPCs.
- 4. Change of locations because of major problems of weather and unseasonal rains we had to shift the project locations to new areas and / or increase activities in some other areas and this caused delays and problems

IX. IN CONCLUSION

Overall, we have experienced huge positives as a result of this project and we share some of our thoughts on this matter -

- 1. CIKS started out with experience and track record which was largely confined to research, documentation and characterisation and the major challenge was to move on to scaling up cultivation and marketing. While this was an entirely new requirement the fact that we were able to progress to 5000 MT in three years has infused us with enormous confidence.
- We identify new varieties, expand to additional ideas and forged several new partnerships.
- We now have a good understanding of all the links in the "Seed to Market" chain.
- 4. This has also provided the momentum not only to continue these efforts even after the formal conclusion of the project support but also opened up new thoughts and avenues for work including – working on inputs for sustainable agriculture through green enterprises, expanding the work to traditional varieties of fruits and vegetables etc.
- 5. We recognise that the support provided by Supraja Foundation was not only very substantial in terms of the funding, but also the quality of support was very high due to factors such as highly supportive method for reporting and monitoring, ensuring that cash flow was never a problem and a willingness to listen to voices from CIKS and field and provide us with flexibility for changes whenever and wherever it was required.