

Agriculture + COVID 19

CONSULTATION AND STATUS REPORT

SELCO FOUNDATION

INDIA - MAY, 2020

Based on consultations held with experts in the Indian Agricultural Sector on 13-15th May, 2020

This document is the result of a Consultation Sessions held between the SELCO Foundation staff and prominent experts and practitioners in the Rice Value Chain. The discussion took place covering the challenges across three key aspects- the effects of COVID-19 on the agricultural practice and market, main challenges in the rice value chain and the ecosystem of solutions which can be devised to overcome them using technology, finance and linkages.

The consultation was held with the following people:

Malatesh Puttannavar,
District Agricultural Training
Centre, Karnataka

Satish
DDM, NABARD,
Karnataka

Dwarika Mohan Das
Scientist, KVK

Paamayan
Organic Farmer and Director
at ADISIL NGO, Tamil Nadu

Asaad Jaffer
Founder, Alto Precision,
Bangalore, Karnataka

Vishra
Vishra Agro Solutions,
Madurai, Tamil Nadu

V . Geethalakshmi
Director (Crop Management),
Tamil Nadu Agricultural
University, Tamil Nadu

Revathi
Organic Farmer & Director,
Inspire Foundation, Tamil Nadu

Mahendra
LEADS NGO, Jharkhand

Sharif Khan
TSRD NGO, East
Singhbum, Jharkhand

Chandrapati Yadav
LGSS NGO, Lohdaga, Jharkhand

Father Sylvanus
AROS

Ramkrishna
Rice Hulling Entrepreneur,
Karnataka

Table of Contents

1. Timeline

a. Lockdown - 3

b. Current Status - 4

c. Possible Future - 5

2. Value Chain

a. Inputs - 6

b. Production - 8

c. Storage, Processing and Markets - 10

3. Rice - 14

4. Pulses - 16

5. Horticulture & Forest Produce - 17

6. Way Forward - 18

7. Agriculture Ecosystem - 19



Lockdown

Transportation was a very serious issue as we couldn't send our produce to the market. Government had provided some transportation but locally it was a huge problem during the lockdown as the police had restricted transportation on ground.

Paamayan

Organic Farmer and Director at ADISIL NGO, Tamil Nadu

Ramkrishna

Rice Hulling Entrepreneur,
Karnataka

We usually depend on labour from neighbouring states as individuals from our region migrate to other areas in search of work. Accessing labour thus was quite a challenge due to the crises.

Revathi

Organic Farmer & Director,
Inspire Foundation, Tamil Nadu

We had produced nearly a 1000 kgs of paddy - we managed to sell a majority but 20-50% had remained. Processing of this paddy was of major concern to us as all mills had shut down. Hand pounding, a traditional technique was a lost skill as well as utilised tools which were no longer available.

V . Geethalakshmi

Director (Crop Management), Tamil Nadu Agricultural University, Tamil Nadu

Perishables like fruits, vegetables, dairy products, fisheries as well as cereals, grains, pulses were all majorly impacted due to restrictions of movement as well the non -availability of the migrant farm labour. These labourers play a major role during harvesting and post-harvesting operations — such as handling, storage , marketing . Even within the states labour movement between districts was severely restricted. This created havoc in the process of harvesting, processing and other operations.

Due to the sudden announcement of the lockdown consumers resorted to **panic buying a which lead to sudden surges in the prices.**

A lot **movement of vegetables normally takes place between the states of Tamil Nadu and Kerala but this was also impacted due to restrictions** imposed the direct effect was on the nutritional availability to the people at large.

Vishra

Vishra Agro Solutions, Madurai, Tamil Nadu

Due to the panic associated with COVID-19, **farmers are not ready to take the risk of holding onto their stocks of paddy which is now been exploited by traders who are taking advantage of farmers and purchasing at very low prices.** The milling community is controlling the cost of paddy via associations and holding stocks. Given the situation and past association of similar nature **millers in Tamil Nadu are supporting paddy growers with INR 2000-3000 per family.**



Current Status

Lands are lying fallow, everything has stagnated. In the village I am in, the practice of summer ploughing is very important for the incoming crop, and only 3 farmers were able to plough their land. For 350 kms crossing several districts, this annual activity takes place, but now most places are lying barren.

Farmers weren't able to sell their previous stock and now have no liquid money available. Landless labourers, employed by such farmers have to now find alternate sources of livelihood as farmers struggle to pay them

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

V . Geethalakshmi

Director (Crop Management),
Tamil Nadu Agricultural
University, Tamil Nadu

Taking a cue from Koyambedu, the biggest market in Chennai as well as a major COVID hotspot **we need to ensure that farmers and labourers in the supply chain are safe and protected.**

Satish

DDM, NABARD, Karnataka

NABARD is injecting additional liquidity into the system which is aimed at supporting farmers to hold on to their produce.

This has ensured that there is 50% more liquidity in the hands of the farmers so that they are able to hold on to the first crop produce and not engage in distress selling. Farmers usually hold onto their stocks for 3 months, this would ensure that they are able to do so for 3 additional months.

Malatesh Puttannavar,

District Agricultural Training Centre, Karnataka

The District Agricultural Training Centre has **shifted focus due to COVID 19 and is not carrying out any trainings for farmers at the moment.** They are however planning to **carry out village level trainings** where they would maintain social distancing. Technology and information can be provided at such trainings without having the farmer to travel.

Father Sylvanus

AROS

We need to find ways to **employ landless labourers and wagers** by involving them in the development of the farmlands or similar activities.

Safe options need to be provided to those migrating back to their villages.

Sharif Khan

TSRD NGO, East Singhbhum, Jharkhand

Financing for our next season of paddy in June was to be culled out from the proceeds of the previous sale. However our produce failed to sell through the conventional channels. Our Farmer Producer Company sold a small percentage. Larger traders and vendors have purchased produce and are now waiting for lockdown to be lifted.

Chandrapati Yadav

LGSS NGO, Lohdaga, Jharkhand

Lohdaga, the district we work in is majorly dominated by tribal communities. People from this community annually migrate to Punjab, Haryana, Delhi, Mumbai and the southern states. 30-50% people migrate with all family members. Being an annual migration, they return in the summer seeing work at home and migrate again in October and November. The communities, although hardworking people, struggle to find work locally through the whole year. For such communities, finding local work in the otherwise favourable periods would also be impossible.

Moreover, the community is taking the current crises very seriously to an extent that they are fearing a trip back to the city when the crises is over. Quarantining has been extremely strict, comparable to imprisonment.



Possible Future

Resilience has to be built. The government is focussed on restoring industrial production and MSMEs. Supply chain strengthening and the restoration of livelihoods is not a focus. In such a predicament, after the lockdown is lifted, a lot more time will pass before farmers can access funds. Thus, mainstream financial institutions must contribute towards crop raising for farmers be able to survive and grow.

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

Ramkrishna

Rice Hulling Entrepreneur,
Karnataka

The farmers are now ready for the upcoming harvest season which starts from July. Having access to extension input services like Raitha Sampark Kendra is helping farmers with the Agri inputs they need.

Chandrapati Yadav

LGSS NGO, Lohdaga, Jharkhand

We need to provide **short term immediate relief** to such communities as well as **devise a medium term plan which will help with income generation** - like vegetable cultivation which would provide returns in another one and a half months. Even a few decimals will help with this additional income. For this, solar pumps can be promoted using revolving fund models.

Father Sylvanus

AROS

We need to **enable farmers to diversify their livelihoods** - like rearing livestock for additional income

VALUE CHAIN



INPUTS

KEY CHALLENGES

Poor liquidity for farmers is now a constraint and is further compounded as other sources of income dry up. Traders want to take the most advantage of the situation and try to get the produce from the farmers, the second paddy crop at the best rate which would be worst rate the farmers point of view.

Satish

DDM, NABARD, Karnataka

Chandrapati Yadav

LGSS NGO, Lohdaga, Jharkhand

Seed supply is now a constraint both for hybrid and local varieties. In the case of local seeds, people save these from their older produce and exchange them with one another to conserve as well as consume - these varieties are now being eaten due to shortage of food. Hybrid seeds on the other hand are purchased from traders who are not yet currently functioning.

In the case of water access - community irrigation schemes haven't produced great outcomes. 80-90% water pumps under this scheme are lying defunct. This is **due to the problem of accessing costly diesel as well as capacity of farmers, handholding and ownership building within the community. These pumps, allocated to individuals, with them taking responsibility would work,** however we need to service and maintain them. We have had **good experiences with solar pumps for vegetable farming.**

Paamayan

Organic Farmer and Director at ADISIL NGO, Tamil Nadu

The government is now providing funds for the procurement of urea and other chemicals required for non-organic farmers. The government is supporting chemical based farming by providing a large amount of money towards chemical fertilisers however not towards organic farming. Subsidies are also awarded only to chemical based crops and fertilisers. There is no such support provided to the organic farmer who is struggling.

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

Usually farmers get loans from mainstream institutions like co-operations and societies, immediately after harvest, to raise the next crop . Currently, mainstream banks are not accessible. This has forced farmers to resort to borrowing from money lenders who would charge high interests. These money lenders are too doubtful about what the future would hold.

VALUE CHAIN



INPUTS

POTENTIAL SOLUTIONS

V . Geethalakshmi

Director (Crop Management), Tamil Nadu Agricultural University, Tamil Nadu

We need to **increase the holding capacity of our famers and for this governmental support is critical.** Famers may not have surplus money until the next cropping season and they wont be able to keep their produce for 3-4 months and thus would resort to distress selling. The government has to come out with **schemes that can promote alternative livelihoods or promoting integrated farming systems which will ensure immediate cash flow.** Besides agriculture livelihoods like animal husbandry need to be promoted so that they can save their produce until they get better prices for it.

Institutional interventions aimed at helping the small and marginal famers can make a difference. Clusters created in the form of **FPOs have to be evolved in the future as small & marginal famers are under server stress.** After COVID money flow will be further limited and under that situation **our immediate priority should be to provide inputs available as Kharif season is fast approaching.** Predictions about kharif season are positive, with the monsoon proving to be very good and start a little early. **Farmers have to be prepared and know about schemes being offered and make efforts to avail these for themselves** and don't miss the incoming season.

Satish

DDM, NABARD, Karnataka

NABARD has **recently injected INR 25,000 crores into the system through Cooperative banks & Regional Rural Banks** across the country which will enable additional fund flow to the farmers. This is in **addition to the INR 65000 crores that have been released already to the farmers for short term operations through KCC – Kisan credit card.**

We refer to this as **subsidised financing where farmer can avail loans at 7% interest rate** and in case, they promptly repay there eventual cost, it would **come down further to 4%.** **With these measures farmers don't need to face liquidity crisis or resort to distress sale** of their produce.

Malatesh Puttannavar,

District Agricultural Training Centre, Karnataka

For the upcoming requirements of the kharif season - **seeds are being provided at a subsidised rate for up to 5 acres;** for pulses like red gram up to 50% subsidy is being provided; **inputs like bio fertilisers are also provided through subsidised rates.**

Agronomic facilities are available - such as 10-12 **custom hiring centres in each district where farmers register and and get access to ploughers, rotovators, harvesters, ragi reefers to make farming easy.** These are available for hiring at hourly basis with **20-25% lesser rates than private suppliers.** These centres are **managed and run by NGOs** like SKDRDP, Varsha Associates, etc.

For marketing, farmers can register themselves on ENAM with products listed as per demand and quality of produce. Purchases quote prices and demand for stock.

For availing the above mentioned **subsidies enquiries and applications can be made to Rayta Sampark Kendra - Farmer Contact Centres. Inputs like seeds, fertilisers, sprinkler sets, drip irrigation tools are provided to farmers on a first come first serve basis through these centres.** The government is looking to further increase their seed supply points in villages of Karnataka.

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

To combat the water availability issue we need to promote natural farming and how to use local resources and decrease cost of cultivation in a big way. Only then can will small farmers survive. Natural technologies like green manure crops, introducing azola to control weeds, raising pulses in paddy bandhs, cross farming, insect and disease control in an integrated way need to be promoted. Farmers expenses can thus be controlled and if something happens to the crop, farmer should not lose too much. **The right information, knowledge, decentralised farm implements, access to energy — will be the right approach.**

VALUE CHAIN



PRODUCTION

KEY CHALLENGES

Sharif Khan

TSRD NGO, East Singhbhum, Jharkhand

On Farm equipments are usually brought us from West Bengal to Jharkhand by private equipment traders - like threshers, paddy cutters and harvesters. **Renting costs are expensive approximately INR 1100 per hour while it takes 1-2 days for a batch to be processed. Larger famers find this affordable due to economies of scale however those with small batches find it too expensive.** For smaller farmers, small equipments, hand held and manual machines can be made available. Some machine like tractors and rotators are fewer in number, and get booked early on.

We have **only one bank in our area who is reluctant to provide loans due to rising NPAs.** Over 40 lakhs of transaction have been carried out with this bank via the Farmer Producer Company.

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

A lot of **farmers store their paddy on open grounds in plastic temporary structures. These are at heavy risk of rats,** and rat killing mechanisms are needed as the population has increased. Farmers live in huts and **have very little space to store paddy in their homes and thus once they harvest their produce they immediately sell to the middle man or send to govt procuring centre.** However, due to the lockdown, **procuring centres have not started in many places and farmers are forced to hold onto their stock or sell at heavily discounted rates.**

Farm implements need to be decentralised so that farmers do not have to rely on large rental units. Farmers also get their **machineries from agricultural engineering depts however these are few in number and bookings need to be made well in advance. Maintenance of these machines is also very poor.** In this situation, timeliness is critical and larger traders provide services at 1200 INR vs INR 340 at government rates. This is further compounded as farmers are not able to make good on their dues to traders and thus traders would charge further more.



A govt. owned custom hiring centre for farm equipment in Baramati Maharashtra -

<http://www.kvkbaramati.com/impl.aspx>

POTENTIAL SOLUTIONS

Paamayan

Organic Farmer and Director at ADISIL NGO, Tamil Nadu

We have a network of NGOs who are working towards building and growth of FPOs. **We train and promote NGOs towards growing FPOs in a self sustainable manner through close monitoring and hand-holding.**

Results of these activities will be visible in January, 2021. Farmers cultivate as well consume their crop however cultivation rates are depleting. Mixed cropping is encouraged and practiced taking cues from more traditional techniques which had been lost with the onset of the green revolution and the promotion of monoculture.

VALUE CHAIN



PRODUCTION

POTENTIAL SOLUTIONS

V . Geethalakshmi

Director (Crop Management), Tamil Nadu Agricultural University, Tamil Nadu

Good practices like organic farming need to be encouraged and adopted. As people are more sensitized regarding healthcare and nutrition - one can promote organic farming and residue free food. Good agricultural management practices for all the crops are available and crop production guides contains all the package of practices that are required to enhance the yield as well as to protect the environment and soil health.

Use of remoted assisted technologies and apps can be promoted with farmers — for example carrying out responsive farming based on weather predictions. **If weather data is effectively utilised and steps taken, it can save 8-10% of cost on inputs and at same time 15-20% of output value can be increased. Overall one can see net benefits in the range of 25-30%.** Farmers need to be sensitised on these technologies like weather based response farming, integrated farming system , integrated nutrient management system, integrated pest management famers have to aggregate them selves to pool their produce so that they can sell for the better prices.

Other government programmes where **farmers or FPOs can approach the laboratories for soil testing should be utilised.** Famers can also access the app called decipher where the they can feed information regarding the soil and its suggests the remedial measures that can be taken.

Father Sylvanus

AROS

Farmers should be aided in **undertaking soil and moisture conservation** works in the farmlands. There is a need to **promote multi cropping** and to **promote water saving technologies** like drip irrigation.

Satish

DDM, NABARD, Karnataka

Farmers are also facing issues of harvesting of the standing crop - NABARD has coordinated with local authorities to allow farm machinery to come from other states like Andhra Pradesh and Telangana. Those issues have been sorted out and now free movement of machinery will be allowed

Sharif Khan

TSRD NGO, East Singhbhum, Jharkhand

In the case of financing, subsidies provide good results. Models of part subsidy, part loan, part grant are being followed.

For purchase on farm machineries loan products are available. For small machines - up to 1 lakh loans are provided via SHGs. For big machines - 2.5 to 3 lakhs is provided and FPCs are required to cater to the operating cost as for small farmers it is difficult to invest at this level. Schemes and subsidies are available to us via organisations like TATA Trusts have provided part grants with MFI organisations like Rang de were providing the loan component.

VALUE CHAIN



STORAGE, PROCESSING & MARKETS

KEY CHALLENGES

A major issue for our farming community was the depreciated price of paddy in the market. Due to the crisis, the market price of paddy in the market had fallen down to INR 1000/Quintal which was earlier INR 1800/Quintal. 7000 to 8000 (aapx. 90%) of the farmers from Sindanur - a major rice bowl in karnataka, decided not to sell their paddy until the price in the market picks up to the normal. They started to spread this solution among their FPO network to hold back the produce.

Sindanur has lots of government and private godowns which made it easier for farmers to hold onto their produce. Godowns charged 5 rupees per quintal for a month. 10% of the marginal farmers could not afford to avail these services due to a liquidity crisis and sold their produce at the lowest prices to traders.

Ramkrishna

Rice Hulling Entrepreneur, Karnataka

Sharif Khan

TSRD NGO, East Singhbhum, Jharkhand

Marketing of the agri produce is heavily influenced by the presence of capital which is largely controlled by traders and mills. Small mills are useful however, since the villages being small and scattered mobile milling solutions offered by the Farmer Producer Company (FPC) would be useful.

Doorstep grading would also be helpful as sometime farmers tend to mix empty paddy grains in their produce proving to be a loss for the FPC.

Chandrapati Yadav

LGSS NGO, Lohdaga, Jharkhand

Our region is remote and the tribal population is largely unaware. They are looking to sell individually with whatever produce they have in weekly markets to traders. The haats have also been erratic and traders are only purchasing based on demand.

Dwarika Mohan Das

Scientist, KVK

The major focus of KVK is to improve livelihood options under which processing would also major part of the future initiatives. Primary processing in Odisha has not gained momentum but in the future it could. The key issues that farmers are facing is of post-harvest losses where the produce whether it is cereals or pulses gets damaged due to lack of knowledge and processing capabilities.

For Value addition – minimum processing technology is essential but it has not reached to farmers especially those in parts of the state which are dominated by indigenous communities and same is the case with areas in states of Jharkhand or Chhattisgarh.

Paamayan

Organic Farmer and Director at ADISIL NGO, Tamil Nadu

Cold Storage infrastructure is dominantly provided by the private sector. Big farmers at times collect produce from small farmers as well and store it in cold storage. Small farmers prefer to sell their produce immediately after harvesting as they are in need of money.

For Processing - maintenance and knowledge of the machines has to be given as the farmers do not know how to use it properly.

VALUE CHAIN



STORAGE, PROCESSING & MARKETS

KEY CHALLENGES

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

The first choice for 80% of our farmers to sell their paddy produce is at Government Procurement Centres, however this is often slow and money in compensation for their produce takes a while. In case this option down not work out the second option is to sell at the APMC or middle men where one would bargain with volumes and current market trends. **Traders here bring their equipment, infrastructure and capital where farmers would be tempted to sell quickly in exchange for ready cash even if it were a bad deal. On the flip side, taking the produce back in the hope for a better rate would intake further transportation cost.**

Many a times, if **moisture of this paddy is more, traders and procurement centres ask them to hold their paddy for two days which makes it susceptible to rats and other pests and fungal infections.**

Decentralisation and promotion of organized ways of selling and more emphasis on collective marketing instead of single farmer sales should be undertaken. Even without forming formal institutions collective marketing can be carried out even if informal. Paddy farmers, even though they produce good paddy, need to resort to eating poor quality of rice from the PDS. If decentralised PDS systems are created, this paddy can be effectively utilised can locally consumed.

In the case of milling - large millers often only mill the rice if it is large quantity. This particularly effects organic farmers and those producing local varieties as these are grown in smaller quantities. Organic farmers have to wait 9-10 months to build up that quantity to be able to go to the mill.



Typical large mill in India -

http://newsfedpeddapalli.blogspot.com/p/rice-mills-information_29.html

VALUE CHAIN



STORAGE, PROCESSING & MARKETS

POTENTIAL SOLUTIONS

Satish

DDM, NABARD, Karnataka

Processing of agri produce is an excellent concept and I have been trying to advocate this with small farmers who are selling their produce. The idea is to optimise the return to the farmers — which is when the farmer is able to hold on to his produce and he is able to take advantage of the market based on the market condition. NABARD as an institution has given farmers the liquidity support so that they don't do make distress sales. Whatever be your primary produce be it Paddy, Bajara, Maize or any other crop - we need to promote it as movement where the farmer not only produces but there is some sort of processing done. It can even start with simple processing like grading and sorting which gives farmers a twin advantage - he holds on to his produce and produce is not directly sold in the market which further influences farmers to not go to market at the same time to sell their produce in the market because of which prices crash. Value addition gives farmers additional employment and an additional source of income beyond farming.

Liquidity and stock holding support is particularly needed for small farmers and not to big farmers who have access to capital and support structures. Small farmers can thus take small steps towards decentralisation to increase the value they receive - like milling, grading or cleaning and production of small amounts of consumable food. Farmers resort to selling traders as this gives them easy liquidity. Traders further provide easy and collateral-free loans with hefty interest rates around 26% to 36% which are a huge burden to the small farmer compared to a formal sector loan with an interest rate of around 4% to 16%.

Vishra

Vishra Agro Solutions, Madurai, Tamil Nadu

If more Farmer Producer Organisations get involved in processing then the farmers can earn more - this we need to ensure. **Processing systems created should be an integrated system in all small villages.**

Sharif Khan

TSRD NGO, East Singhbhum, Jharkhand

Marketing - promoted FPC - marketing is being centralized. Traditional selling through markets and vendors will be continuing, and FPC will be scaled meanwhile. If they can stock paddy. Decentralised mills at panchayat level (1-2 units).

Millers are a very important part of the value chain who have the capacity of holding and buying in a bulk. A farmer after owning a processing unit can not process at the scale of big centralised mills but can divide the produce. For example - if a farmer is producing 10 tons, 3 tons can be kept for processing and remaining for selling. This will not disturb the current value chain and will also enable the farmer to earn additional income. **Miller are highly integrated into the system and usually have good relationships with farmers, even though they exploit farmers. When it comes to money even farmers find millers to be an easy source of liquidity.**

Asaad Jaffer

Founder, Alto Precision, Bangalore, Karnataka

Ramkrishna

Rice Hulling Entrepreneur

I am part of the Kisaan Bharti Trust which has a 4000 to 5000 farmer network and they have a model among themselves, which is a kind of barter trading. For example - if a vegetable farmer needs paddy and paddy farmer need vegetables they come forward to exchange their produce and remaining will be sold in the market.

The trust is further working on getting permissions for interstate transport of migrant workers and harvesting machinery. The trust is also helping to educate regarding the liquidity scheme released by NABARD and helping them hold their produce, in total, they have around 2500 quintal of paddy in holding which should be sold in 6 months down the line. The trust is also ready to install a demonstration unit for processing facilities like a grader, huller and polisher in their centre.

VALUE CHAIN



STORAGE, PROCESSING & MARKETS

POTENTIAL SOLUTIONS

V . Geethalakshmi

Director (Crop Management), Tamil Nadu Agricultural University, Tamil Nadu

At the farm level - safe storage of produce and waiting for opportune time to sell their produce would be the best option. But **in the Indian condition famers are small or marginal and these farmers would require immediate cash flow.** The govt especially through its dept of agriculture should arrange for **procurement points which are close to block levels or for cluster of villages . Schemes for spot payment based quality of produce can be made.** This kind of initiative can negate the middlemen and the benefit can go directly to the farmers.

Unemployed youth or diploma agriculture holders can assist and act as mediators between farmers and consumers. They can collect paddy, carry out minimum processing taking help of collectives , pack it and directly supply it to the consumers. **If the produce is selling to the consumers at INR 100 and if the production cost is at around INR 25 the middle man actually takes INR 75 instead the farmer could get 20 % more and if the consumer can get it at 10% less price which would be welcome by both producers and consumers. This kind of employment of the rural youth as mediator between the producer and consumer can be piloted and can be very successful model.**

Additionally, shelf life can be improved with cold storage technologies. Farmers need to know where all the cold storage facilities are available and how they could access them. Government is giving free cost cold storage for the farming communities for perishable goods. Famers need to be enlightened that such facilities are available and how one can access, what is the minimum cost that they have bear, how to register, etc. **Indigenous technologies of storage can be revitalised for farm level storage.**

Dwarika Mohan Das

Scientist, KVK

Processing is important for sustaining agriculture, for livelihood and for ensuring nutrition availability for the farmers. **It can help is preserving rich diversity indigenous varieties and can attract and also hold the farmers in agriculture.**

With passage of the time the **knowledge about the traditional ways of processing and storage has been lost** with older generation of the famers gone. Newer generation of farmer have exposure to such techniques. We need to **introduce new technologies to save our agriculture, our communities and attract youth.**

Any produce that farmers are saving for our self-consumption needs to be processed. If for some reason that produce is lost the farmer will be forced to depend on the markets. This can also forces him/ her to divert the monies which he might have kept to meet his other needs towards buying the food items.

We need to develop model villages, which are self-sufficient, where processing will play a key role and would enable flow of money into the village. This would provide gainful employment to the youth, some of whom can be involved in variety of tasks — in production , processing, marketing, creating linkages. What would happen is the way a country is run a village can be run. In a way we able to tackle the issue of migration and unemployment.

RICE

Sharif Khan

TSRD NGO, East Singhbhum, Jharkhand

Paddy is an important source of income for our communities and the land is suitable for paddy farming as well. But production can be greatly increased. We need assistance to increase this.

In our communities, small scale mills are run by families for dehusking, however this are not of good quality. Although better machines are emerging we will not be able to divert 100% of the market from large mills. A percentage of the produce although can be branded and sold. Many households keep a part of the stock with them which they sell as per their need for cash, this stock of local varieties can be processed for higher returns although suitable business models will have to be worked upon.

Revathi

Organic Farmer & Director, Inspire Foundation, Tamil Nadu

The main impact of the COVID crises on paddy farming has been the limitation of regular practices due to the prolonged lockdown. We are in a delta area where groundwater sources are used to start a second crop. Raising of seedlings, land preparations and other tasks for paddy are labour intensive but this is not currently available.

Those regions who depend on groundwater have slower pace of activities which are spread out for a longer period of time. This time around, were not able to raise saplings and land preparation was not done in time

Paddy processing units are particularly needed in areas like ours where rice is both produced and consumed. Communities are forced to eat poor quality of rice which can be avoided with decentralised milling.

Chandrapati Yadav

LGSS NGO, Lohdaga, Jharkhand

In our regions, paddy is grown by the tribal communities when they return from their annual trip for livelihood migration. Every year middle men take advantage where INR 25 per kg worth of paddy is processed and sold in the form of rice at INR 60-70 per kg.

We have an SHG having 15 members who are interested - to mill and sell rice locally. They were hoping to procure a machine using a mix of individual contributions, grants and a loan. Market linkages were readily available, however now due to the crises they have spent the money saved and will not be able to procure the machines.

Satish

DDM, NABARD, Karnataka

We are a part of Raichur's rice bowl region of Karnataka. Most of the rice that is produced and exported — especially the variety of rice called Sona Masouri is a product of this region which widely grown and exported across the country.

Rice is a very important crop roughly 30% of cropping areas are irrigated and almost all the irrigated areas are taken up by the rice cultivation only. **Post COVID we have seen that there has been roughly a 10% decrease in the rates being offered by traders to the farmers. It would be good that if any agency or institution steps in to support the farmers by offering the price support.** One of the solutions that could be explored is to encourage farmers to retain their produce for longer duration and value addition through processing.

Vishra

Vishra Agro Solutions, Madurai, Tamil Nadu

There is a huge market for traditional rice and this market will further boost up post COVID which needs to be a focus in future. FPOs can start their own processing unit for local varieties of paddy grown by its own farmers, and also have a market locally

Currently, CEOs aren't able to cope and are not putting in enough effort to promote paddy processing. One FPOs CEO though is a success story has taken a loan and procured big machineries and started processing which eventually turned into a successful FPO later. This kind of risk needs to be taken by more FPO CEOs.

Asaad Jaffer

Founder, Alto Precision, Bangalore, Karnataka

There are two types of market systems in paddy processing - one is the farmer who grows and sells to the mill or process and sells it to the customer, second where a farmer will grow and consume himself or for his village only.

Due to COVID, the second system of market might increase which creates a market for our kind of small scale paddy processing machines. For this we need to create a marketing and servicing network at the rural level.

To achieve the best quality of rice comparable to modern large mills from small scale mills capacity building is required. **We need to handhold farmers and entrepreneurs at least for 3 months to give them confidence.**

RICE

Mahendra
LEADS NGO, Jharkhand

We are a local civil society organization LEADS based in Jharkhand. In our region Jeeraphool variety of rice growing families were selling raw rice to the traders INR 20 to 23/kg. With 67% - 68 % recovery of rice they were earning INR 30-32/kg of scented Jeeraphool rice. However, after milling and packaging of the same rice traders were selling it INR 52-55/kg

An intervention was designed to help the farmers of the region by capacitating them on the package of practices (POPs) like -selection of seeds, sowing and transplanting method, weed management and plant protection measures. Gradually adoption of such practices by farmers boosted the yields. **Despite the increased production it has not translated into the higher incomes for the farmers as they continued to rely on the traders/ middlemen, at times resorting to the distress sale etc. For the greater realisation of the price for their produce had to go for value addition which was possible if further processing of rice was done, but the problem was the remoteness of the region where few processing facilities were accessible to the farmers and was not economically viable to take the produce. It meant that availability of the processing facilities at local level which was possible when solar powered Rice huller & polisher was setup.**

Today the facility is run by group of local women who take care of different aspects related to the business some are involved in packaging, marketing , aggregating thus earning INR 100 – 150 per day per person.

- Processing facilities will help in better realisation for the farmers
- Adoption of the package of practices critical for higher yield such as SRI (System Rice Intensification)
- Cleaning, grading, packaging and branding are key differentiator which would aid in fetching higher price for the end product.
- Decentralised units provides additional employment opportunities locally for the community members.
- Such initiatives help in preserving the indigenous varieties of the rice.



PULSES

Paamayan

Organic Farmer and Director at ADISIL NGO, Tamil Nadu

In our region of Tamil Nadu pulses are **mainly cultivated by rained farmers. Due to rainfall issues farmers have now started cultivating maize.** There has been no support from the government for pulse cultivating farmers. **Pulses require minimal processing technology and most of the units are from south Tamil Nadu. Some govt and co-operative units have small units but they are not used properly. Most of the machines are kept ideal in many FPOs and no training is provided by the government department. Currently, many FPOs have taken up work on pulse processing.**

There are ongoing campaigns to raise awareness about the importance of millets but there are no similar campaigns for pulses. Pulses have further lost out to other sources of protein like meat and fish. The government has recently started a pulse production campaign but farmers are not very interested as a lot more support is provided to maize with hybrid seeds distributed specially for maize. Most of the pulses consumed in Tamil Nadu are from the north of India and outside India. There is a need for improving the cultivation of pulses in Tamil Nadu.

We are producing Madurai variety toor dal. Even though we produce 500 -1000 kg per month we don't have our own processing units and give it outside. We perceive solar powered machines to be more expensive than regular machines and hence some support would be required to procure these.

V . Geethalakshmi

Director (Crop Management), Tamil Nadu Agricultural University, Tamil Nadu

Pulses are highly susceptible to pest attacks if not stored properly. **The rabi harvest coincided with the pandemic which had a lot of negative impact on harvesting and processing.**

To protect farmers a few steps to avoid the pest attacks – farmers can reduce the moisture level by drying it in the proper sunlight to bring it up to desired moisture content . They can apply organic pest repellents which can be put in the bags where produce is stored. Mainly the moisture content should be reduced to 10% with which pest attacks can be avoided.

Since pulse farming is rain fed – response farming is the only option - where if one is confident about the weather forecast one can apply split doses of nutrient that will further enrich the yield.

One can also adopt drought mitigation technologies such as Pulse wonder that has been developed by TNAU which is mixture of micro nutrients application and can boost the production by 15-20%.

Dwarika Mohan Das

Scientist, KVK

The major pulse grown by tribal communities is Pigeon Pea where **indigenous storage systems had been developed over time. They are made of locally sourced materials like bamboo but currently they are not able to source them. Even if they are available locally they expensive to buy and hence they have also started to store in the bins made of metals.**

ITDA is supplying some storage structures, spiral separator, to SHG groups which are involved in pulse production. The KVK is trying to ring back the traditional pigeon pea varieties- and short duration varieties of 140- -150 days in the tribal pockets. This way yield can be enhanced and incomes increased. **We are also providing pulse threshers, for cleaning – winnowers, de-stoners and storage facilities. These are the primary things that needs to be provided to farmers and will immensely help the farmers to hold on to their produce for longer duration and sell at right price. Farmers can avail this equipment under various schemes offered by ITDA, Dept of Agriculture, and ICRISAT.**

Under the State Govt. of Odisha there are no direct schemes that can help farmers in improving processing. Cost effective processing plants/units need to be set up at potential pulse pockets to avoid farmers' hardships for transportation and carriage. Modern techniques of pulse production is the foremost thing without which, processing and value addition of pulses is not possible. Farmers, therefore, need upto- date techniques along with proper transfer of technology.

Malatesh Puttannavar,

District Agricultural Training Centre, Karnataka

Through the Rashtriya Vikas Yojana (National Development Scheme) Dal(Pulse) mills provided to FPOs. Subsidies are provided based on current rates of interest and fund availability.

In an intervention of ours we are enabling women farmers to combine pulses and millets and make malt. Market linkages for the same are created in cities. We feel there is a good market for this.

HORTICULTURE & FOREST PRODUCTS

Malatesh Puttannavar,

District Agricultural Training Centre, Karnataka

Organic growth of vegetables along with value addition has a lot of scope. In our region, an NGO, Sumukh is helping farmers in drying tomatoes and other horticultural crops with market linkages. .

A lot of FPOs today cater exclusively to horticulture. A farmer in our region grew 23 tons of watermelons. He sold it after holding it for 8 days with a profit of 8 lakhs. 3 lakhs more than usual as it was chemical free. Through eco-agri entrepreneurship strategies farmers need to study demands and market their produce accordingly. In this respect, Small Container Cold Storage Solutions, Vegetable Dryers, Small Solar Vehicles for selling vegetables and fruits fresh would be helpful for horticulture farmers.

Chandrapati Yadav

LGSS NGO, Lohdaga, Jharkhand

We have trained our farmers to grow vegetables alongside regular crops. In our climate, vegetables can be grown throughout the year which is not possible everywhere. **Inputs like water are as well abundant which makes this practice conducive. With the right strategies farmers can make quick incomes in 1.5-2 months.**

Dwarika Mohan Das

Scientist, KVK

Forest products are produced in large quantities in the parts of the Odisha, Jharkhand and Chhattisgarh. One such potential crop is Mahua which is being currently used only for oil extraction. Mahua has wider applications like flavouring agent in cakes and biscuits which can be manufactured at local levels.

There is also a large unexploited demand for tender jackfruit in the urban centers of Odisha, which is grown in large quantities in the few districts like Gajapati. These are transported but in the process the produce tends to get damaged, delays cause ripening of fruit that significantly leads to loss of value which directly impacts the earnings of the farmers. There is a need to bring technologies to the farmers as this would enable them to undertake some preliminary processing to enhance shelf life of the produce.

WAY FORWARD

SHORT TERM (>1 month)

Provide relief in the form of immediate working capital support for input purchases or to amend losses made from previous harvests.

Efforts should be taken to help farmers link to currently existing schemes issued by NABARD for liquidity support.

Efficient cold storage and milling units can be quickly deployed to either help farmers hold their produce for better prospective costs or to process their produce for sales or local consumption.

MEDIUM TERM (6 months)

Identify all nodal points with **technology interventions for on farm practices. Models should be created which are catered towards small and marginal farmers.**

Efforts should be taken to collaborate with and strengthen Farmer Support Centres and Contact Centres which are already issuing farming equipment.

Models for effective **local processing and consumption/marketing of paddy should be taken** including aspects like **ownership models, training and capacity building, access to finance and the right infrastructure** to process as well as store farm produce. Special attention could be directed towards **promotion of local varieties of crops, integrated farming, natural farming, sustainable use of resources.**

Models for **managing and safeguarding farm inputs should be created - including access to water, capital, seeds and fertilisers.** Efforts should be taken to locally manage these needs using local human and infrastructure capital. **Sufficient support should be provided in the interim to develop these systems.**

LONG TERM (12 months<)

Assess **impacts created by sustainable decentralised value chains, and document best practices to be adopted** by network partners, leading agriculture development NGOs and National agricultural missions and institutions.

Advocate and **influence adoption of models for larger scale** of such models using available schemes and policies, across all states.

Sharing learnings of piloting and scaling **innovations and processes globally** with countries facing similar issues.

Sustainable Energy driven and Energy Efficient Equipments and Infrastructure for Agri On Farm Equipment, Storage, Primary Processing, Secondary Processing, Value Addition and Cold Storage for Decentralised Settings. Utilising exiting governmental institutions, systems and facilities by collaborating and augmenting existing services.

Alto Precision, Vishra Agro, Blue Star Automachines, AIRC, Millet Machine and Tools, Inficold, Ecozen, RSKs, SKDRDP

TECHNOLOGY

TRAINING & CAPACITY BUILDING

Trainings and Cross learnings for Agriculture Best Practices, Supply Chain Management, Processing, Storage, Input Management as well as supplementary trainings like market management, book-keeping, branding, marketing, etc.

Working with existing available governmental channels for extending similar services and collaboration.

NABARD, RUDSETI, Dhan Foundation, Vrutti, Inspire Foundation, TABIF, KVKs, SnehaKunj, Bhartiya Vikas Trust, RSKs, Agri Universities, District Agricultural Training Centres

AGRICULTURE ECOSYSTEM

FINANCE

MODELS & LINKAGES

Unlocking financing and creating appropriate financial linkages and products for procurement of technology and infrastructure assets for grass-root organisations and small scale farmers and collectives. Linking of schemes and existing governmental programs.

NABARD, SBI, Bramaramba Bank, RRBs, Syndicate Bank, IOB, Canara Bank, NABFINS, KVGB, Vanahalli FPO, Bhoomika FPO, BOI-JGB-MFI(DVARA), SKDRDP, Rang De, TATA Trusts

Trainings and Cross learnings and Handholding for FPO and Agricultural Management and Collective ownership linkages and entrepreneurship development. NGOs and other nodal organisations should act as integrators of ecosystems and processes.

Rural Development Departments, Woman and Child development Departments, NABARD, NRLMs, District Administration, IFHD, Dhan foundation, Vrutti, Inspire Foundation TABIF, Individual Entrepreneur, Cherysh Trust, VRDS, RGVN, UDWIN, IGSSS, Sesta, MMM, LGSS, TSRD, Agragati, PRADAN, Arouse, RIDA,

POLICY

Unlocking of various currently available schemes for purchase of technology and infrastructure assets for grass-root organisations and small scale entrepreneurs.

NABARD, ITDA, Departments of Agriculture, ICRISAT, Rural Development Department, Women and Child Development Departments, Livelihood Missions

Agriculture + COVID 19

CONSULTATION AND STATUS REPORT

Thank You!
For more information
please get in touch:

covid19@selcofoundation.org
www.covid-19.selcofoundation.org

SELCO FOUNDATION

INDIA - MAY, 2020