PRAN's Progress Report
FY 2012-13

Preservation and Proliferation of Rural Resources and Nature (PRAN) is charitable trust registered in Gaya district of Bihar. It is working among rural community in general and poor and marginal communities in particular to enhance their food security. Registered in year 2012 PRAN works with its head office at Gaya and field offices at Sherghati in Gaya and Rajgeer in Nalanda. It builds capacity of local cadres and works through them on system of Root Intensification method of crop cultivation.

Progress at a glance

S.No	Particulars	Achievement till July 2013
1	Districts Covered	2
3	SRI-Paddy	26142families in 6914.68 acres)
4	SRI-Wheat	7368 families in 783 acres
5	SRI-Rapeseed	3205 families in 336.21 acres
6	SRI-Vegetables	586 families in 35 acres
7	Training of VRPs	824families
8	Awareness Events	238
9	Cluster Adhivesan(Kisandays) Held	23
10	Training to farmers	13550 families
12	SRI-EFY(New Crop initiated)	69 families in 10.2 acres
13	Low cost Vermicompost	420 units(330 provided by government)
10	State level Workshop Organised	1(RAU,Pusa)
11	District Level workshops	5(Gaya,Nalanda,Aurangabad, Nawada and Jehanabad)

we are promoting SRI method of crop cultivation in Gaya and Nalanda districts of Bihar.

Activity	Plan 12-13	Achievement
Number of households participating in SRI	26000	26142 families in 6914.68 acres

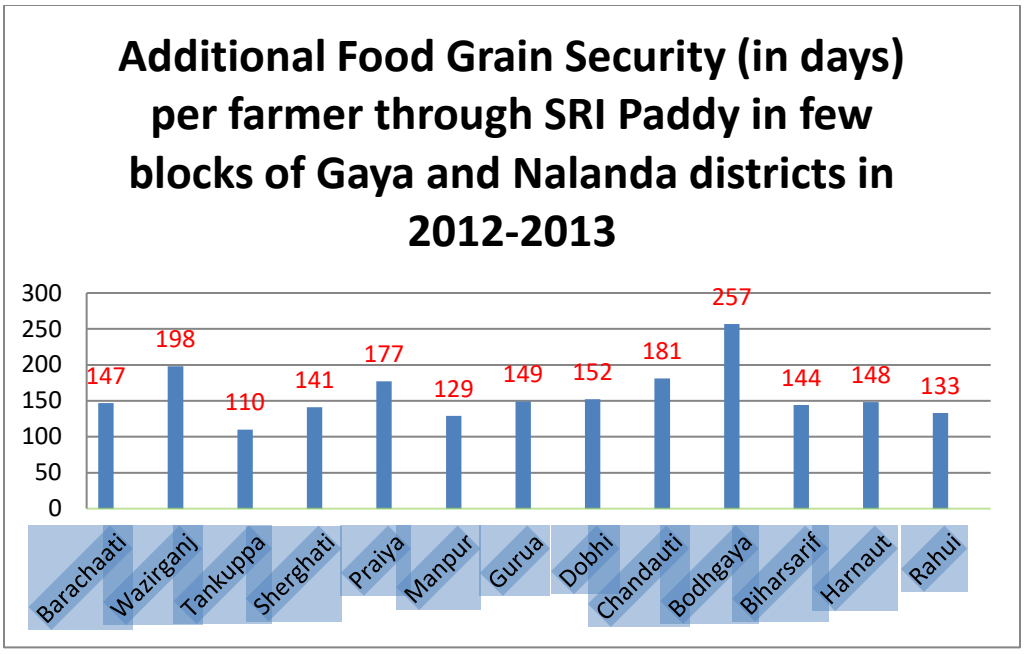
This year the rainfall though late was better as last year and we reached the required number of families. In Gaya and Nalanda in some pockets rainfall was a great problem and there farmers suffered also. In Gaya district in Paraiya and Atari block the conditions were problematic and 91 transplanted plots belonging to different farmers got completely dried and the farmers had to take new crops. In Atari block where our partner Pragati Gram Vikas Samiti faced dry conditions and could reach only 21 farmers who transplanted SRI in 3 acres only. Also the north Bihar faced dry conditions in Supaul,,Khagariya,Saharsa and also one block in Nalanda faced similar conditions. However overall condition of SRI project under SDTT was satisfactory. The growth and vigor of crops were as per expectation. This time also for such large numbers we had to raise central nurseries as per requirement in community. A large number of central nurseries helped us to provide readymade nurseries to the communities. The variation in climatic conditions in different parts of project area has affected the progress of SRI method of paddy cultivation. In same district there have been rains in some blocks while other blocks have faced dry conditions. Almost rainfall was negligible till July. The normal rainfall started taking place only in August. We kept very slow pace till rainfall came. The farmers raised series of nurseries to meet the instantaneous requirement of nurseries when rainfall comes towards end. We had also raised 162 central nurseries to meet the needs towards end.

SEW is providing training to a farmer in weeding his plot(left) while a farmer in her growing crop of SRI-Paddy in Sherghati block

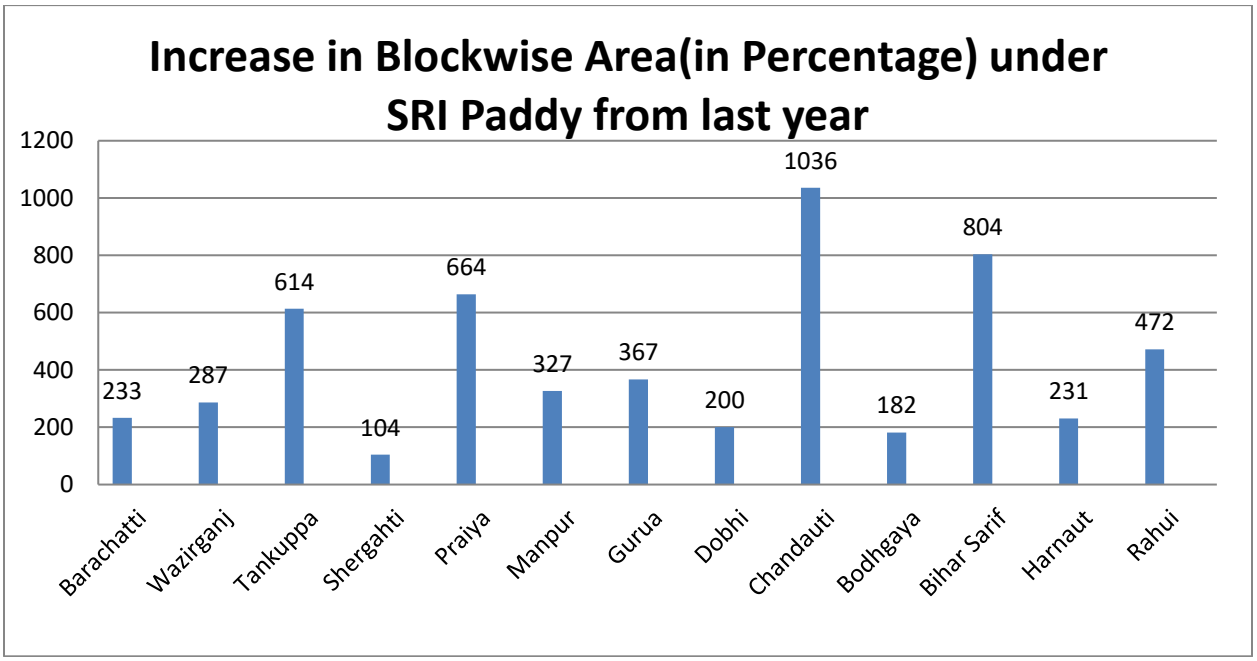
The acreage per household has been a problem in project during dry conditions hence we had strategic planning to increase the area per household. Also rainfall supported us and overall acreage per household came out to be 0.264 acres.

Yield obtained under SRI-paddy

The yield obtained under SRI method as usual has been encouraging. The average yield of paddy grown through SRI has been more than 6t/hec as against 1-2 t/hec of normal cultivation. As a result the food grain security of poor and marginal communities has enhanced from 3-5months to 9-12 months a year. Due to early maturity of crop the farmers are going for second crop in Rabi season. Most of the varieties were 110-125days duration. The Panna Mansuri variety in dry area of Gaya has become popular among farmers.



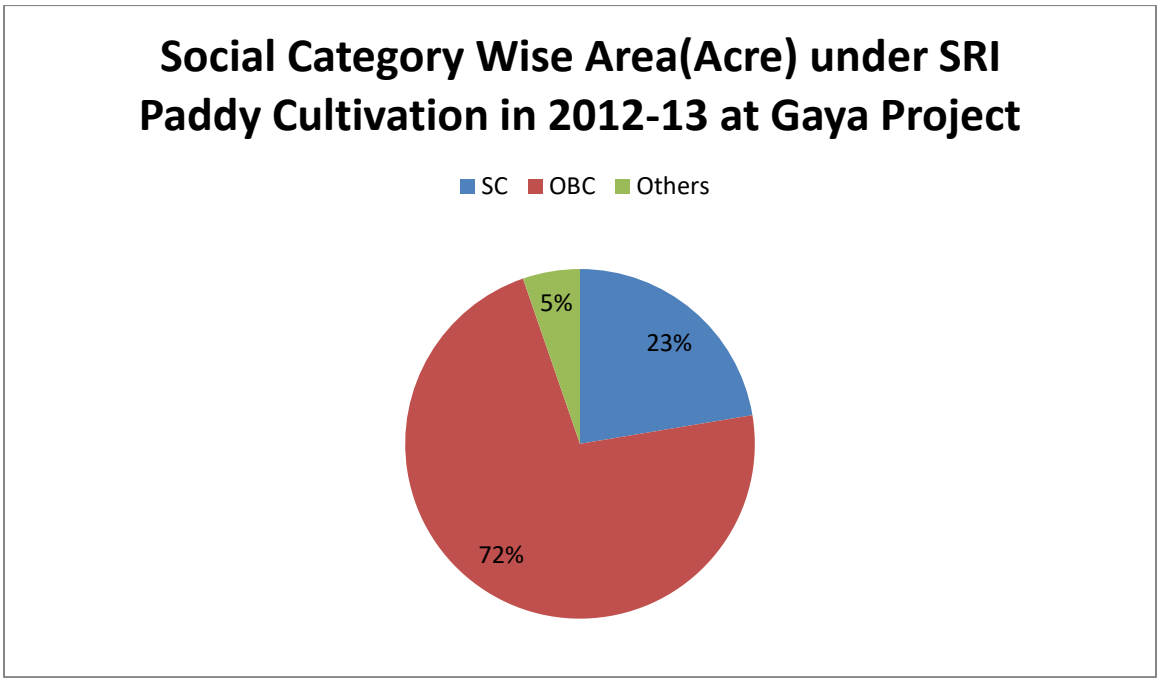
The additional food grains obtained through SRI method in Paddy are between 3 months and 8 months. This has happened due to increase in area over the last year. The average area per household this year was 0.264 acres. The minimum number of additional food grains is in Tankuppa block which is110days.This block is mostly rain fed and dry. Whereas additional food grains obtained in Bodhgaya block is for 257 days. This has also varied depending upon availability of quality soil and water conditions.

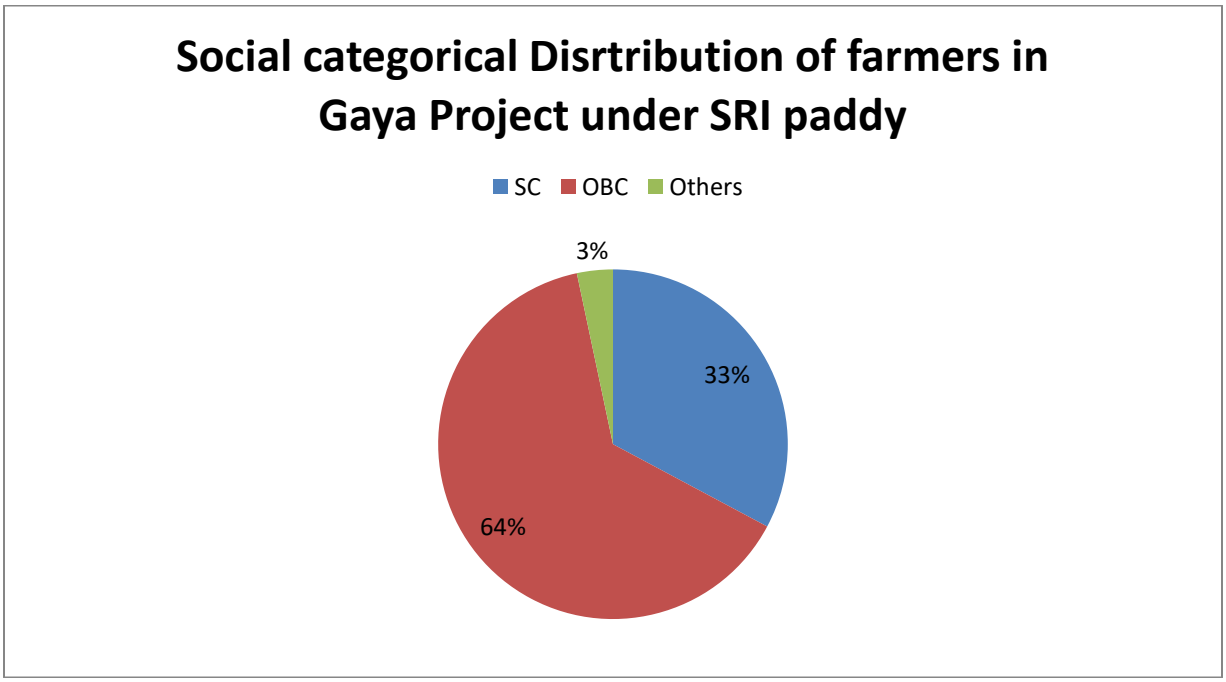


Since focus of the local team was on enhancing acreage per household,the impact is visible in additional foodgrains availability to poor and marginal farmers in the area.

Profile of participant families in SRI-Paddy

Number of families	Area in acres	No of SC families	Area in Acres	No of OBC families	Area in acres	Others	Area in acres
26142	6914.68	8574	1549.18	16700	5006.77	868	358.73





SRI-Vegetables

Having faced dry conditions we had alternate crops so that we could reach close to the target. With 586 families we did SRI in 34 acres. These families are not exclusive rather they are SRI-Paddy farmers also doing SRI-Vegetables. The average area covered under SRI-Vegetables is 0.059 acres.This was done by PRADAN only in its operational area.
In vegetables we are promoting Brinjal,Chilli,Bakla,Elephant Foot Yam,Tomato in different SRI clusters.Farmers are excited to see the results in the fields.

S.No	Block	No of farmers	Area in acres
1	BodhGaya-1	48	3.77
2	BodhGaya-2	12	1.81
3	Chandauti	25	2.81
4	Paraiya	7	0.88
5	Barachatti	98	5.25
6	Gurua	44	2.37
7	Manpur	28	1.96
8	Sherghati	25	0.92
9	Tankuppa	16	1.22
10	Wazirganj	31	1.18
11	Dobhi	170	7.59
12	Biharsarif	53	3.31
13	Rahui	14	0.93
14	Harnaut	15	1.0
	Total	**586**	**35**



Collective nurseries for taking up SRI-Vegetables at one place(left) and a farmer in his SRI-Bakla plot

Yield obtained under SRI-Vegetables

It was difficult to estimate the exact yield of vegetables as these are plucked in phases at different time interval.Of 586 farmers involved in vegetable cultivation through system of Root intensification method of crop cultivation most of the farmers shared the positive experiences of SRI method such as

- The per plant productivity enhances significantly.
- In terms of plucking the fruits the farmers share that instead of 1.5-2 baskets of vegetable fruits ,we harvest 3- 4 baskets full from same piece of land.
- Where water was a constrains the farmers shared that initial vegetation was very nice and encouraging but later on when we could not irrigate the crop got affected.

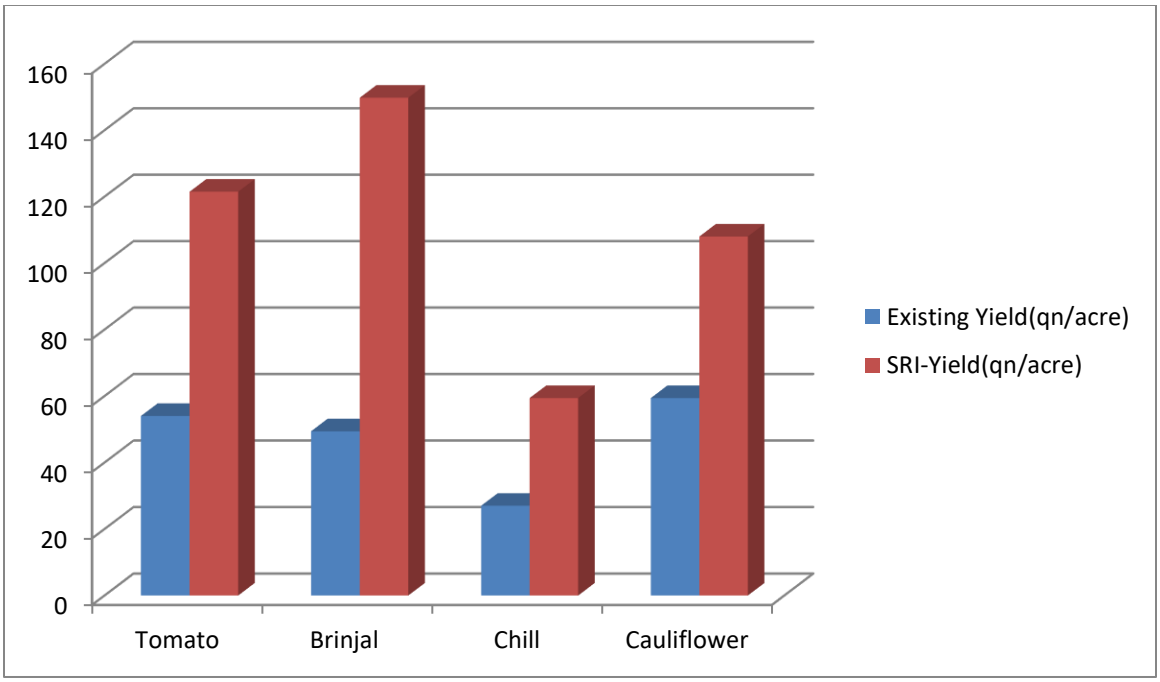
- The experience of using of Sripranamrit (Sri-fertilizer) has been positive. More number of farmers has started using the Sripranamrit where proper demonstration has been done.

The yield of vegetables through SRI method is as follows.

S.No	Name of crops	Number of farmers	Existing yield in quintal per acre	SRI-Yield in quintal per acre
1	Tomato	447	54	121.5
2	Brinjal	74	49.4	149.8
3	Chilli	133	27.0	59.4
4	Cauliflower	30	59.4	108

Note: some farmers did most of the vegetables but the net families is 586.Apart from above yields the farmers consumed at household level.

Comparative yields of various vegetables



This plot lasted long and farmer is still taking fruits out of it

SRI-Wheat/Rapeseed

Since the kharif crop got late due to late rainfall during kharif season the sowing of Rabi crops also got delayed. Since the impact of SRI-Rapeseed on farmers were good they went for wheat and rapeseed.In wheat we have been continuously improving seed drill.It has improved also but still perfection is required. This year in all the blocks we are working we have demonstrated SRI-Wheat using the revised seed drill.Though it runs on lighter soils and that with large number of precautions but creates problem in heavy soils.There is mixed response on seed drill among stakeholders.

It creates rows clearly and maintains distance between the rows but in a single line the distance between seed to seed within a row is not maintained.This needs further improvement for which some research institutes may also put their efforts to make this operational in varied conditions.A perfect seed drill is becoming hindrance in scaling up SRI-Wheat as sowing of seeds by hand manually requires more labour and patience.

Those farmers or VRPs who got intensive training on using seed drill shared encouraging experiences.As compared to 10 kg seeds under SRI-Wheat when manually sown the seed drill requires 13.5kg seeds.Labour component with seed drill is highly saved.As compared to 4 labour days for sowing 300 sqm of wheat land the drill requires only an hour when properly trained personnels use this.It further requires improvement to increase efficiency and decrease the weight of the machine by incorporating some plastic parts instead of iron parts.

Since these are being built locally the benefits of assets are also reaching to those rural blacksmiths.We organize training for these blacksmiths also and ask them to design these SRI-implements.Using these local small manufacturers we are able to test and validate as per the need of small and marginal farmers time and again.


SRI-Wheat sown using seed drill(left) and Vegetative growth stage of Wheat under SRI method(right)


Matured crop of SRI-Wheat in Sherghati Block of Gaya(left) and SRI-Rapeseed plot with siliqua

Coverage in rabi crops

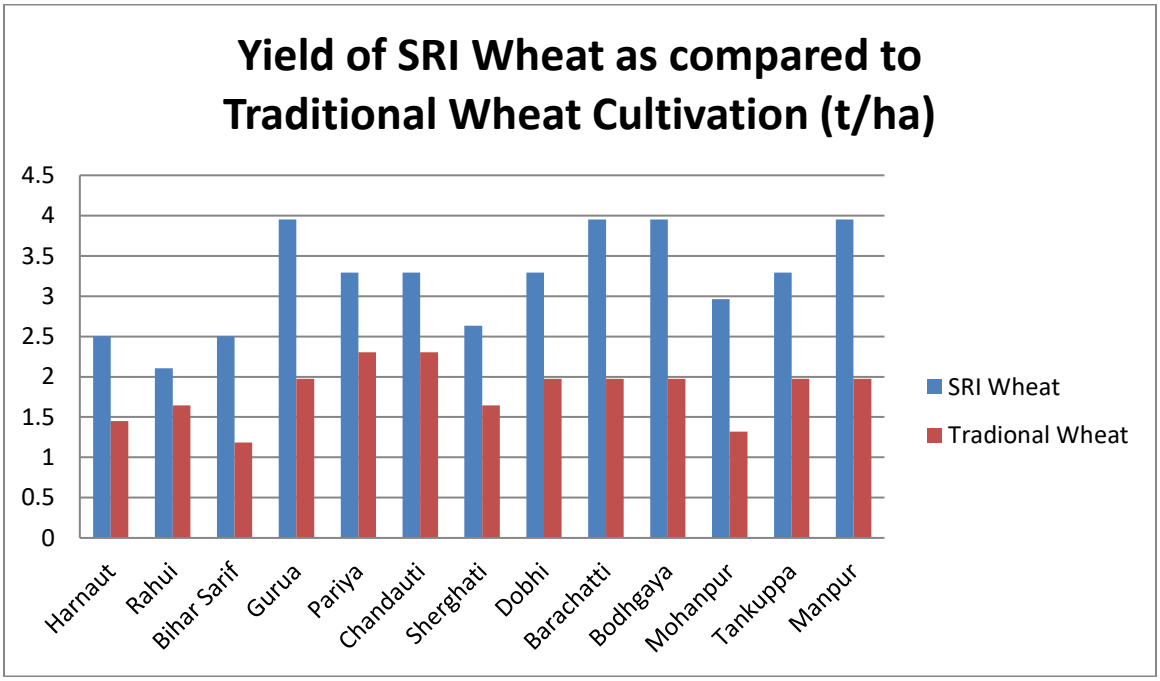
Agencies	SRI-Wheat		SRI-Rapeseed	
	No of farmers	Acres	No of farmers	Acres
PRADAN	6539	666.18	3075	323.61
partners	829	116.76	130	12.6
Total	7368	783	3205	336.21

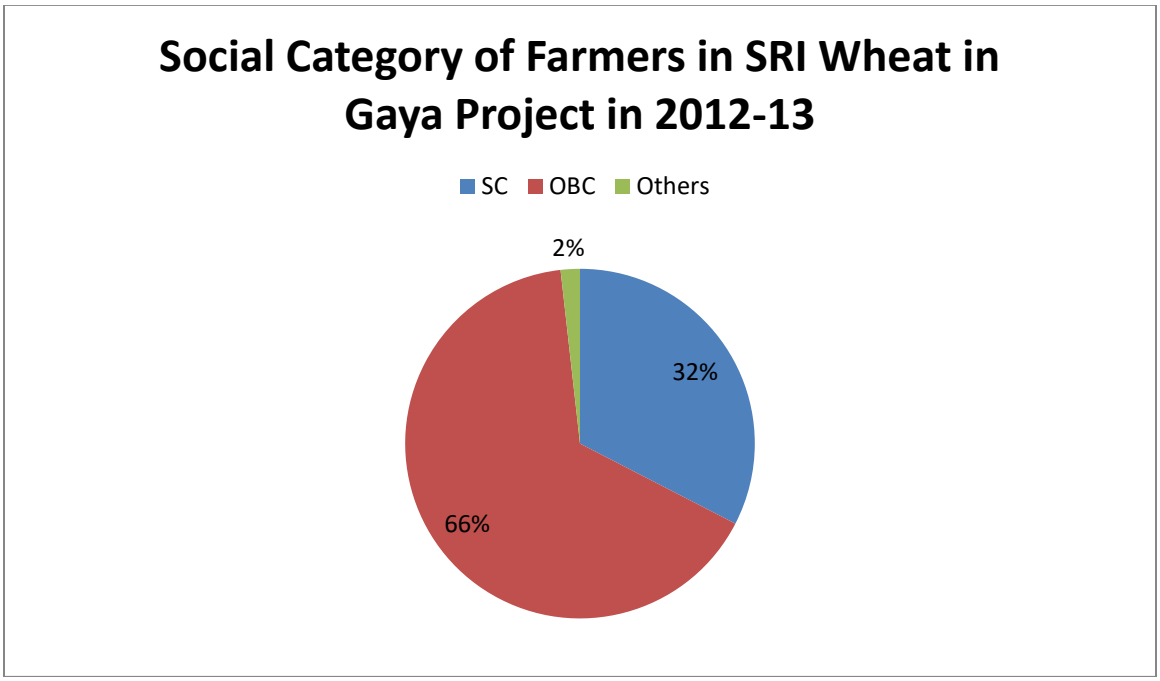
Profile of participant families

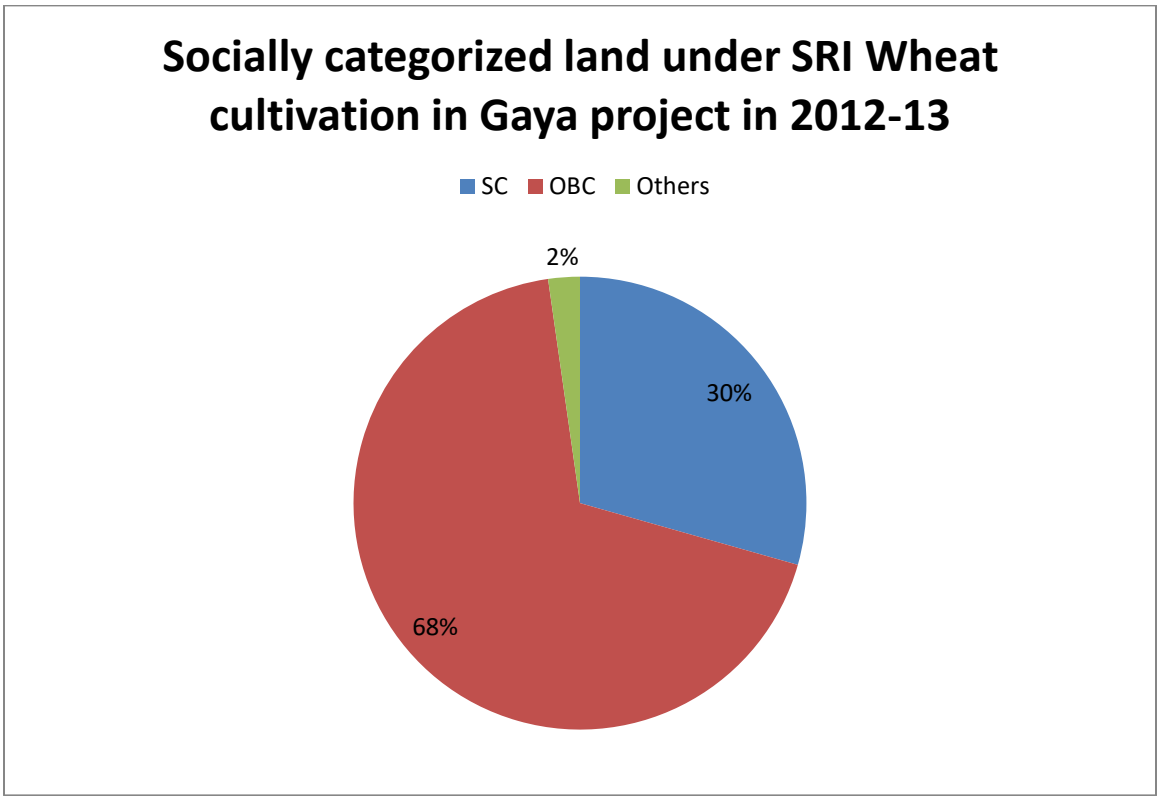
Cumulative No of farmers	Net no of families	No of SC farmers	No of OBC farmers	Others
10573	9451	3208	6039	204

Yield obtained under SRI-Wheat

As against 1-2 t/hec existing yield of wheat among the project participant families the average yield obtained under SRI method of wheat cultivation has been 3-4t/hec.This time we had deployed SRI-Wheat seed drill.Where farmers have properly sown using seed drill the result has been encouraging. Large scale special training on use of SRI-Wheat seed drill will help farmers continue scaling up SRI-Wheat.

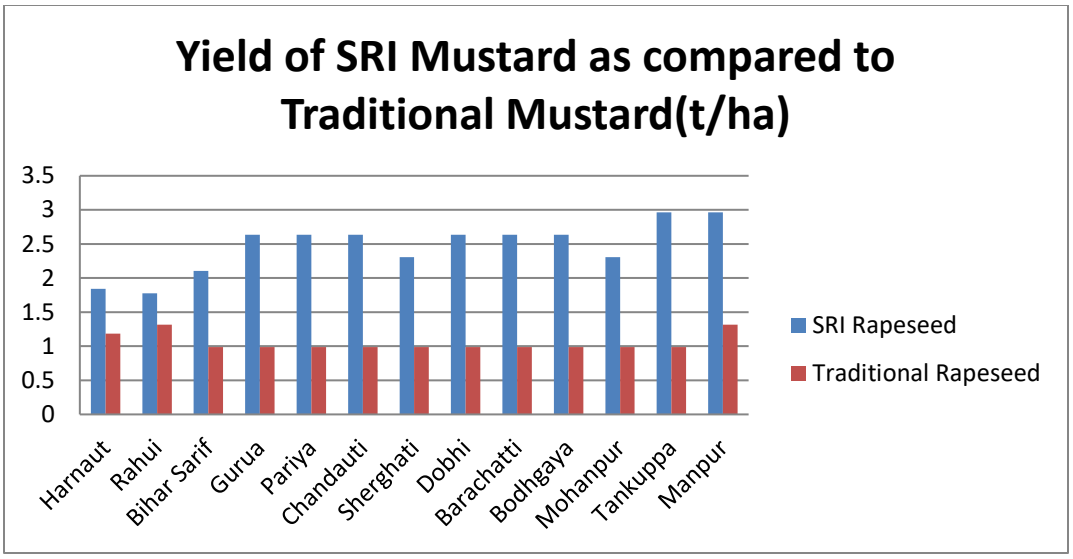


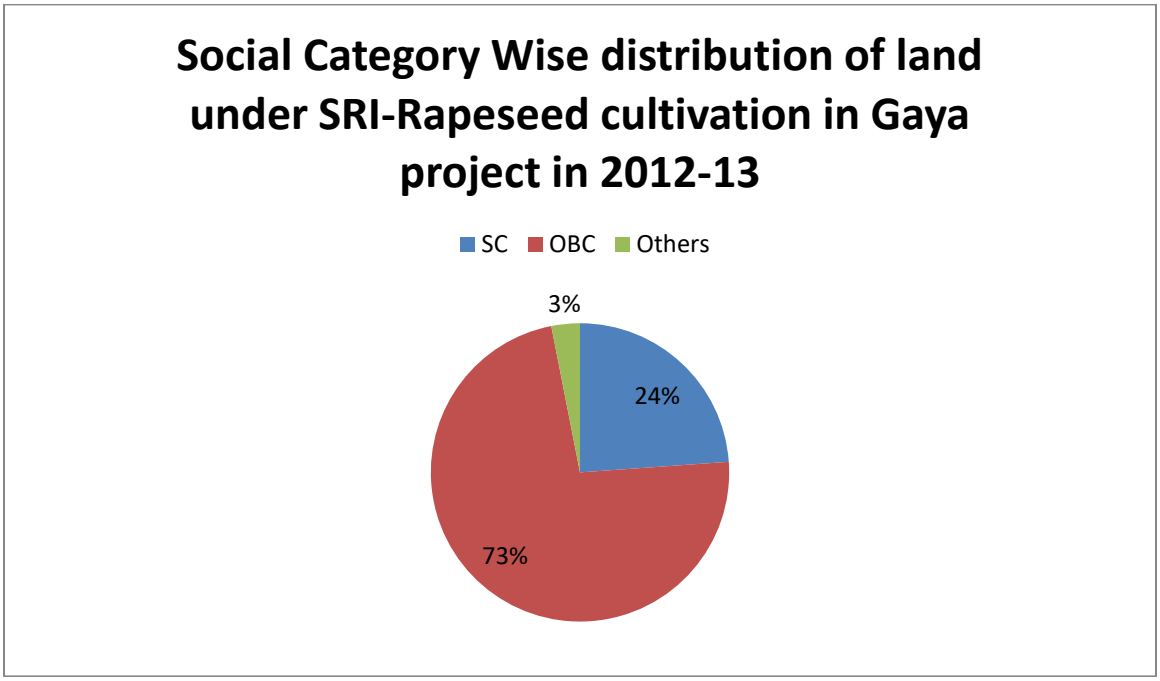


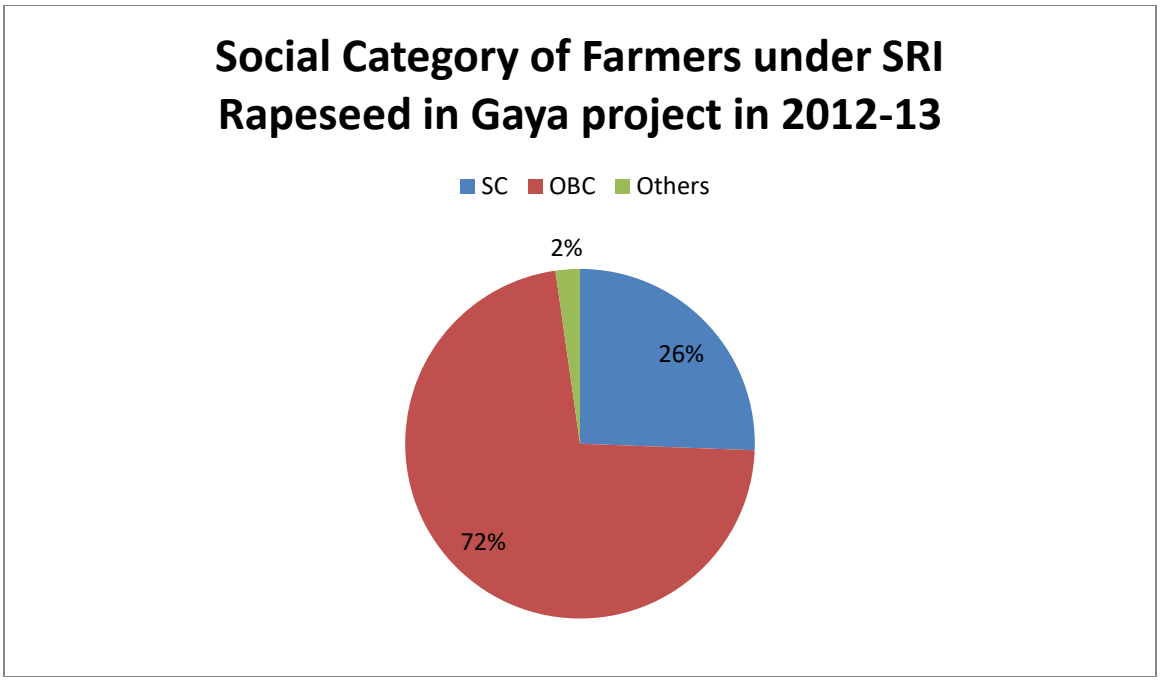


The yield obtained under SRI-Rapeseed/Mustard

Against very low yield of rapeseed mustard(0.8-1t/hec) the yield obtained under SRI method of crop cultivation is 2.5-3.5 t/hec.This is a cash crop and farmers are more attracted towards SRI method of RP-09 rapeseed variety where return is more.

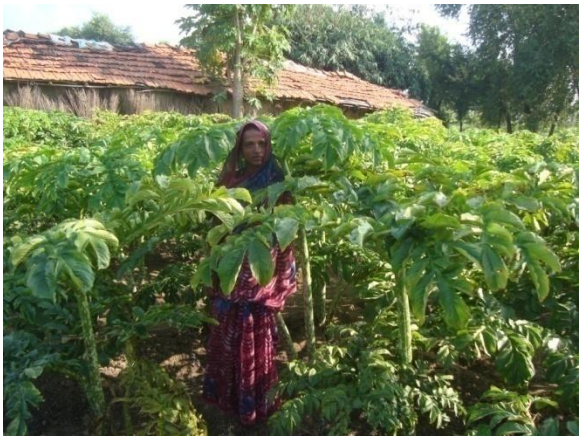

Yield of SRI Mustard as compared to Traditional Mustard(t/ha)
3.5
3
2.5
2
1.5
1
0.5
0
Harnaut
Rahui
Bihar Sarif
Gurua
Pariya
Chandauti
Sherghati
Dobhi
Barachatti
Bodhgaya
Mohanpur
Tankuppa
Manpur
SRI Rapeseed
Traditional Rapeseed


Social Category Wise distribution of land under SRI-Rapeseed cultivation in Gaya project in 2012-13
SC
OBC
Others
3%
24%
73%



Result of Piloting SRI-Elephant Foot Yam in Gaya

We had taken this pilot on SRI-Elephant Foot Yam with two families of BodhGaya block in Gaya district.Since beginning large number of stakeholders (government and non government) visited the plot at critical stages.All the process of SRI were deployed in this crop at both the places.At all critical stages officials belonging to ATMA and Department of Agriculture visited the plots at various critical stages.



A village woman in her matured crop of SRI-Elephant Foot Yam

A team of ATMA and Department of Agriculture jointly organized crop cutting and proper yield estimation. Many farmers from different villages and officials from Digital Green, Patna also

participated in the crop cutting event.The officials were already excited with the vegetative growth of the plant.

On yield estimation day these officials along with farmers from different villages ,president ATMA, BodhGaya and officials from digital green participated in crop cutting and yield estimation.Against 25-30 t/hec farmers practice and 60 ton/hec as recommended by Agricultural University,the officials tried to be conservative measured yield of 102.3 ton/hec. Digital balance were deployed for verification of yield.


Serious involvement of a government delegation measuring yield of SRI method of Elephant Foot Yam(left) and after estimation the officials provided yield certificate to the concerned farmer(right)

Women Farmer Club taking up SRI-Elephant Foot Yam

A women farmer club of Satgharwa village from BodhGaya block has planned systematically scaling up of the Elephant Foot Yam.This year under supervison of this farmer club 67 farmers are taking up the crop of SRI-Elephant Foot Yam in BodhGaya block of Gaya district.The executive body of the farmer club sit fortnightly to review the progress of the crop.As the planting time is between April-June, starting activity in May all 67 farmers have completed the transplanting of SRI-Elephant Foot Yam.Majority of farmers belong to two villages Satgharwa and Mocharim under BodhGaya block.During this period there is intense hot summer and farmers could save their crops efficiently. After initial establishment the crop growth is good.After having continuous demonstration for three years many learnings could be integrated.

30-35 days after transplanting(new crop of SRI-Elephant Foot Yam)

Good Keeping quality crops

We have been looking for crops which are high paying as well as the quality does not deteriorate when kept for some time or longtime.SRI method of Rapeseed and Elephant Foot Yam provide good opportunity for farmers to get high return as well as have low risks.In Elephant Foot Yam most of the irrigation requirement is fulfilled by rainy season and farmers have to provide supplementary irrigations only.These are the reasons why farmers are more excited with these crops.

SRI-Fertilisers and Pesticides

Sripranamrit a locally prepared fertilizer using poultry bits,oil cake and ash.The different proportion of mixing these with water and keeping that for four to five days gives very good NPK fertliser.Farmers have started using this in their crops.The result of this SRI Vidhi fertilizer Sripranamrit is becoming popular among farmers.

A group of farmers undergoing training on SRI-Fertilisers and Pesticides(left) and wall writing on SRI-fertilisers and pesticides(right).

A farmer in Wazirganj block of Gaya district showing his chilly plant grown using locally prepared fertilizers and pesticides(left) and women farmers preparing Sri Vidhi pesticides.

The farmers in Barsona and other villages have started using these locally made fertilizers and pesticides and getting exciting results.Offcourse the energy required to make this happen is much more and hence though slowly farmers are coming up for these.A large scale training on these fertilizers and pesticides and handholding will be fruitful for the community at large.

Awareness Events

In 13 blocks awareness events were organized in 230 villages while partners also organized 8 such events.In one block a group of two women and a man in a yellow dress went to the villages and sang 4 songs on SRI describing the package of practices of SRI of Paddy,Wheat and Rapeseed crops. After one song one package of practices of one crop was discussed and farmers particularly women A pamphlet describing SRI principles of various crops were also distributed among common villagers.on 26th January a Jhanki on SRI was organized at Gandhi Maidan,Gaya.We are creating awareness through songs,Sharing of principles in villages after every such song.Also wall writings on various themes of SRI is drawing attention and building thema of SRI vidhi cultivation.

SRI-farmers saluting the national flag and minister of Government of Bihar on 26th Jan13

SRI Vidhi Cluster Adhivesan

In all the SRI clusters, cluster adhivesan on SRI were organized where local public representatives and officials along with SRI vidhi crop cultivators celebrated the events by sharing their exciting impacted their households, how their confidence enhanced and they are able to share their experiences publicly.The best performers in SRI method of crop cultivation and best Village Resource Persons were awarded on the occasion.All the stakeholders participating in the cluster adhivesan applauded the SRI vidhi which is providing food security to poor and marginalized.We organized 23 cluster adhivesans in project area against 40 earlier planned.Two adjoining group of villages came together and organized collectively hence the number got down but participation was encouraging.Nearly 3000 women farmers participated in various cluster ahivesans organized in project SRI clusters.


In all the cluster adhivesans large number of women farmers participated

SRI farmers demonstrating SRI implements before minister and officials on 26th Jan13

Training of VRPs

The VRPs were trained in various aspects of SRI.Apart from SRI method of crop cultivation,SRI methods of fertilizer,pesticide preparation have also been covered by project workers.Old VRPs had under gone refresher training while in newer villages basic and advanced training were covered.Altogether 824 farmers were provided VRP training among which 75% were women.

Field training of VRPs in running a seed drill for SRI-Wheat

Training of farmers

Altogether 13550 (9150+4400 partners) small and marginal farmers were trained in SRI through various training events in project districts. The district administration of Aurangabad and Gaya asked us to provide VRPs for government training programme on nursery rising and transplanting. Nearly 30 VRPs acted as resource persons in various government forums.


Intensive training on SRI method of crop cultivation were organized in villages under SRI project in different project area.

Organic manuring

When there was no water in fields for green manuring we promoted low cost vermicompost among 315 farmers in 2011-12.These farmers are doing low cost vermicomposting.Also we are training VRPs and farmers for preparing SRI method of fertilizer and pesticide using local resources in villages.

A SRI Farmer with her low cost vermicompost pit

We again promoted 90 units of low cost vermicompost under the ongoing SRI project.Under this set we have again demonstrated the iron roofing of low cost vermicomposting which were highly appreciated by the government and seeing the successful demonstration of low cost vermicomposting the district administration sanctioned 330 small units under IAP(Integrated Action Project).All these are being operational in villages.

Repairing of roof every year was a great problem in villages.Our energy was also going for this repairing work every year.Thus we added this to sustain the efficient operation.Now farmers are also excited with the newly made low cost vermicompost units.

All women farmers raised their roof before installing the vermipit

Farmers have started earning from vermicompost.Those using as fertilizer are getting good returns and these families are also selling to local farmers.We facilitate farmers to use these fertilizers in their cultivation using SRI principles.

A big farmer who has got big vermicompost unit from the government(Rs 55 lakh project to support SRI) purchase from our beneficiary @5 per kg.In addition to use of vermicompost as organic fertilizer farmers are also going for earning cash income to meet the household requirements.Most of vermicomposts are used by farmers in SRI-vegetable cultivation.

Exposure to Local demonstration

In all the project blocks exposure of small and marginal farmers in general and women farmers belonging to these families in particular were taken to demonstration sites in project villages. The village women from different villages felt excited to see the crop grown through SRI and also observed the SRI-fertiliser and SRI-pesticides being prepared by farmers.Altogether 1320 farmers from new area were provided exposure.

Women farmers from newer areas were exposed to demonstration plots of SRI-Crops

Workshops Organised

One state level workshop was organized at Rajendra Agricultural University,Pusa, Samastipur,Bihar. All the chief scientists of various departments of RAU,Pusa alongwith scientists from kvks and farmers from all over state participated in the workshop organized at Directorate of Extension,RAU,Pusa.Deans of various colleges and PG courses alongwith Director Research participated in the workshop.Anibrat Biswas from Livolink Foundation provided overview of SDTT programme on SRI.All SDTT-SRI partners of Bihar also participated in the workshop.Women farmers and VRPs alongwith few partners shared their experience of SRI promotion.The Deans and Director Extension of RAU,Pusa stressed on need of training on various aspects of SRI to extension workers of the state.

Welcome song by SRI farmers on eve of state level workshop in September 2012 on SRI at RAU,Pusa

We also organized district level workshops in Aurangabad, Jehanabad, Nawada, Gaya and Nalanda districts. In all these districts all extension officials of department of Agriculture and scientists from Krishi Vigyan Kendra participated.In all these workshops farmers shared experiences of growing various crops through SRI method.

District Level workshop on SRI method of crop cultivation in Gaya district

Innovations done

Piloted SRI-Elephant Foot Yam successfully
Preparation of Sripranamrit a SRI Vidhi fertilizer
Fine-tuned the SRI-Wheat seed drill

Visitors

- Dr Dominic Glover, International Scientist at Nitherland
- Two senior Mustard scientists from NDDB/Mother Dairy
- TV Journalists from China Central TV Channel
- John Vidal, Jounalist from Guardian,London
- San Eton, International Journalist from Radio America
- NGO workers from ASEEFA /BASIX ,Monghyr and CRS,N.Delhi
- Rejina Hansda, a Phd student from Cambridge,UK
- ATMA, Simdega officials and farmers
- BMGF officials
- IRRI scientists

Plan Vs. Achievement (2012-2013)

S.No	Activity	Plan	Achievement	Reasons for variation
1	SRI-Paddy	26000 families in 6500 acres	26142 families in 6914.68 acres	
2	SRI-Wheat/Rapeseed	7000 families in 1050 acres	9451 families in 1119.19 acres	
3	SRI-Vegetables	-	586 families in 35 acres	
4	SRI-Elephant Foot Yam(new crop)	-	69 families in 10.2 acres	Just initiated
5	Awareness events	200	238	
6	Cluster Adhivesans-SRI	40	23	Nearby villagers joined together and hence this
7	State Level workshop	1	1	Organized at RAU,Pusa
8	District Level workshop	5	5	Organized in Gaya,Nalanda,Nawada,Aurangabad and Jehanabad districts
9	Training and handholding	26000 families	26142 families	
10	Low cost vermicomposting	-	410 units(330 supported by government)	Government sanctioned under IAP
11	Training of VRPs	300	864 persons	
12	Special training of farmers on SRI-fertilisers/pesticides/various crops	-	13550 families	
13	Exposure to local demonstrations	1000 households	1320 households	
14	SRI-Paddy and SRI-Wheat-Research	-	3 aspects in Paddy and 1 aspect in wheat	