

## CASE STUDIES/SUCCESS STORIES

### (1) Adoption of Integrated Disease Management of False Smut in Rice: KVK Kaushambi

**Introduction** - Total area under this crop is about 55000 ha. With average production 50-60 q./ha (hybrid rice) . This crop is affected by several fungal diseases from seedling stage to maturity stage. Now a days, false smut, become major problem in all major rice growing area of countries . In India, the disease has been observed in severe form since 2001 in major rice-growing states. Productivity of the Rice become low due to heavy incidence of false smut last two-three years in the district. The false smut is major disease because the fungi affect during reproductive stage and directly reduce the yield. Keeping these views KVK conducted field demonstration on integrated disease Management of False Smut in Rice

**KVK intervention** - Demonstration on paddy(Var. DRH-775) were conducted at 13 farmer field in an area of 6 ha, during *kharij*, 2018-19 to find out “Adoption of Integrated disease Management of False Smut in Rice (Seed Treatment with corbendazim 2g/kg seed and Spray of Propiconazole @ 1.5 ml/lit of water after 55 DAT) for the management of the false smut.

**Output** - An attempt was made to study the economic gain of this effective disease management approach up-scaling and the results/benefits accrued at farmer’s field. The averaged incidence of false smut on rice i.e. 2.5 percent was recorded in demonstration plot while it was 31.5 percent in farmer practice. On an average disease reduction was 78.7 with the use of IDM approach over farmer practice. Percent reduction in No of Infected grains/penicle 0.40 was observed in demonstration plot and 4.40 number of Infected grains/penicle in farmer practice. The yield enhancement was 9.6 %.

**Outcome-** Adoption of Integrated disease Management of False Smut in Rice (Seed Treatment with corbendazim 2g/kg seed and Spray of Propiconazole @ 1.5 ml/lit of water after 55 DAT) by awareness about the IDM practices time to time to the farmers are given by KVK scientist.

**Impact** - With the adoption of Integrated disease management practice, yield gain was obtained 9.6 % higher as compared to local check. This technology is spread neighboring five villages and 45 farmers were adopted. Innovative Farmers Groups have been developed with the participation of the farmers who are helping each other for cultivation of crop at their own level.



## (2) Development of KWG gloves to reduce the drudgery & increase work efficiency for harvesting okra: KVK Pratapgarh

This study begins with Kiran Maurya, Village Ainthu, Kalakankar Pratapgarh, who first tried KWG gloves because she indulges in okra production but while harvesting she faced too many difficulties because okra fruits have an almost hair-like bristles and prickly surface exposure to which is uncomfortable to the hands of the harvester. In extreme cases, persons with sensitive skin have developed sores or allergic reactions after a prolonged period of exposure to the pods during a harvest. Therefore, to minimize the above-mentioned problems, KVK Pratapgarh developed a suitable low-cost tool (KWG gloves) for okra harvesting, which is made by Krishi Vigyan Kendra in collaboration with (KWG) Kalakankar Women's Interest Group.



Plan, implement and support

Harvesting of okra is a laborious process; the hair on the fruit causes irritation to the fingers, and nowadays, labour availability is one issue. To reduce the drudgery in harvesting okra, KVK Pratapgarh evaluated the efficiency of KWG gloves.

Using KWG gloves increased the work output and reduced the operating cost per quintal (Rs. 20/g) of okra harvested. Due to the convenience provided by the KWG gloves, okra harvested per day per person increased to 128.24 kg/day from 110.08 kg/day when harvested without gloves.

**Output:** Mrs. Kiran Devi has used KWG gloves in 0.05 ha of land. Without using gloves, the harvesting capacity of okra was 1.25 q (40%) along with injuries. And after, as per suggestion of KVK, this drudgery reduction technology was used, and harvesting capacity increased to 1.57 q (50.24%) without any injuries. Kiran Devi is selling 75 kg okra/day @ Rs. 40.

**Outcome:** Okra crop is one of the major crops in summer and rainy season. KVK Pratapgarh conducted 100 demonstrations in KWG GLOVES in nearby villages of the district, and this tool has been disseminated in more than 25 villages of the district in an area of approximately 50 ha. Farmers are demanding these gloves for picking okra because of increased efficiency and protection to the skin, saving from cuts, wounds, and injuries, and cost-effective too. The outcome of this trial is that the harvesting capacity of okra per hour is increased compared to other methods of harvesting.

**Impact:** The technology adopted by Kiran has played a vital role in disseminating it in nearby villages, and now she has been able to save Rs. 4500/ha in okra harvesting operations apart from cuts, wounds, and skin injuries. Considering the result of the technology, the area of adoption has increased in 25 villages covering 50 ha in okra production, resulting in a saving of Rs. 2,25,000 only in harvesting operations in the adopted area. She motivated the farming communities not only for adoption but also for the formation of a vegetable growers' female group for the selling of vegetables in the market together, and this group is stitching KWG gloves and selling them for Rs. 50 to other farmers. Kiran is the one who adopted and is now selling the gloves to other farmers. She has set an example in her village. She is one of the progressive farmers after becoming a part of KVK activities and getting effectiveness for her own development.



### (3) Kashi Anmol becoming popular among vegetable farmers': KVK Bhadohi

**Situation Analysis:-** Shri Arvind Maurya, S/o Shri Mulchand Maurya, Village- Ghatampur, Post- Pali, block- Gyanpur, district-Bhadohi, a farmer who was selected for this demonstration of Chilli in his field. Earlier, he was using local variety which produces low yield.

**Plan, Implement and Support:-** KVK Bhadohi tried to popularizes the Chilli varieties Kashi Anmol from IIVR, Varanasi under the FLD programme. This variety was demonstrated among the different farmer fields in the district. The scientist from the KVK were fully involved from land preparation to harvesting. From the selected field the soil sample were collected, analyzed and recommend for the balanced dose of fertilizer. The variety was demonstrated at 32 farmer's fields in an area of 2.0 ha @ 0.5 kg seed /ha.



**Output:-** With application of balanced dose of fertilizer (N:P:K: 120:80:60) kg/ha in chilli the neighboring farmers were reported the yield of Var. Pusa Sadabhar was 124.7 q/ha where as the yield of Kashi Anmol was 153.6 q/ha with increase 23.18%. The economical gain in terms of gross income, net return and BCR were recorded as Rs 2.45 lakh, Rs. 1.76 lakh and 3.57 lakh, respectively.

**Outcome:-** Chilli is a major crop in Bhadohi district. The KVK has conducted field demonstrations in an area of 2.0 ha in 22 villages during 2018-19 at farmers' field with using leaf curl resistant variety with balanced dose of fertilizer. This variety has better performance regarding yield, size of fruits, attractive dark color and hardness for transportation. Shri Arvind Maurya is convinced with high yield, no incidences of leaf curl and higher income. He motivated the farming communities to replace old varieties with new variety.



Different stages of chilli crop at farmers field



#### **(4) Reduction In Cost Of Cultivation Of Paddy by using Drum Seeder: KVK Allahabad**

**Introduction** - Mr. Shiv SagarKushwah is a progressive farmer in Champatpur village in Chaka block of Allahabad district cultivating paddy for past twenty years. He was doing traditional method of raising paddy i.e. he used to prepare nursery for paddy and transplanted it manually with the help of labours. During peak crop season scarcity of labour, delayed monsoon and scanty rainfall. This affected the yield and more cost of cultivation. The problem can be solved with minimum water and labour.

**KVK intervention** - Looking into the problem of labour scarcity during peak season and high cost of transplanting KVK scientists suggested for mechanized paddy cultivation viz., accurate leveling of field, drum seeder usage (wet condition) for direct sowing of seeds. Drum seeder has been designed and fabricated for 8 row sowing of pregerminated paddy seeds. This equipment has come as a boon to the small and marginal rice farmers because of its low cost, easy to handle, adaptability and easy to fabricate by the local artisans. The device help to maintain plant to plant spacing and row to row spacing this in turn help to do the intercultural operations by using conoweeder. It helps to save 95% of labour requirement in transplanting and 25% of water. In case of delayed monsoon, water stress and labour scarce

areas this equipment is of great help to the rice farmers. There is no yield decrease is noticed by using drum seeder when compared with manual and mechanical transplanting methods. Since its cost is only Rs.5000/- Rs.7000/- the small and marginal farmers can afford to buy this equipment. By applying above technologies he reduced the cost of cultivation and gained more yield & income.



**Output** - As a result of using the above technology for three years continuously Sh. Shiv Sagar saved average Rs 900/- per hectare by using drumseeder as compared to manual transplanting. The yield also increased by 5%. The B:C ratio 5.50 by drum seeder as compared to 3.5 by manual transplanting

**Outcome** - The direct sown paddy through drum seeder has attracted all categories of farmers due to easy operation, less weight, line sowing with less seed rate ( 9-12 kg / ha) more tillers, early maturity etc., apart from savings in transplanting cost. The line sowing of paddy has also helped the farmers to utilise conoweeder for weeding. The drum seeder available at KVK is also used by farmers of Yamuna par region of Allahabad district districts.

**Impact** - The direct sown paddy has spread in and around his neighboring villages too after seeing the results of this technology.

#### **(5) Formation of Self Help Group : KVK Muzaffarnagar**

**Situation analysis/Problem statements** : Village Haidernagar is situated about 2 KM from Block Baghra. Population of village Haidernagar consists of all the caste and category. The village has two Primary Schools and two Anganwadi Centers. People belonging to Backward class ,Jogi. they have no land holding and work as a labor in

others fields. Women of this community also do their household work or work as a labor .Hence these community people belongs to economically weaker section.

**Plan, Implementation and Support:** Home Scientist from KVK Muzaffarnagar conducted Practicing farm women training in their locality and came to know the condition, and felt the need to form a SHG for their empowerment. Meetings were organized one after another among them and focus of those meetings was to make them aware of advantage of Self Help Groups, NABARD schemes, credit linkages as well as other Government schemes. Other local concerns of those women were also discussed .The discussion in three meetings with them helped in motivating them in setting up the Self Help Group.

**Out Put:** Sixteen women of that village got motivated with the idea of startng Self Help Group and they elected Smt Ravita W/Sh Nempal as their President and Durga Women Self Help Group was formed. The Bank Account in the name of Durga Women Self Help Group was opened in Punjab National Bank, Baghra on 24 April 2014.Each member of the group decided to deposite Rs 200 per month.

**Out Come:** Today the group has saving of Rs.2.52 lakh and also has an internal loaning of Rs 2.38 lakh. After formation of SHG the group members started a small cottage industry with the help of a NGO. They got the raw material for making brooms from NGO, Financial assistance was provided by NABARD. All the group members got the training and started making brooms with Rs 12 per broom making charge. In 2018 District Magistrate of Muzaffarnagar , Sh Rajeev Sharma passed an order to all the Primary and Junior high School of the district regarding school uniforms to be given to the students will be stitched and supplied by SHG members. Durga Women Self Help Group got the order and supplied uniform in both the schools of village Haidernagar. In this order the group members earned good profit up to Rs 20000/-

**Impact:** They earned good income which helped them in meeting their daily needs as well as education and medical service to their children. I feel worth mentioning here, Mrs Ravita ,president of the group belongs to a very poor family has a five years old daughter suffering from Muscular Dystrophy disease, she was not able to give her enough medical care due to financial crisis but now she is getting her daughters treated at Dehradun.

After being linked with Self Help Group the women have developed a better understanding on a wide range of issues which has brought about a positive change in their thinking and behavior . They have become stronger both socially as well as economically .as a result of growth of these women other women of their community also got motivated and four more Self Help Groups have formed in last five years.

#### **(6) Organic farming: a boon for Bundelkhand : Banda**

**Situation analysis/ Problem statements:-** Mr. Vigyan Sukha, village Attara Gramin, Post: Atarra block: Naraini, district: Banda, was given training on different aspect of organic farming.. He was earlier involved with traditional; agriculture. He was growing paddy-wheat/Gram/ Lentil in his 1.5 hac. Land. He was hardly getting net profit of 1.00 lakh Rs. Per year.

**Plan, Implement and Support:-** Scientist of a KVK Banda given training on different aspect of organic farming like preparation of vermicomposting, NADEP compost, bio-

fertilizers, bio-pesticide, mushroom etc. This KVK has encouraged the farmer for preparation and marketing of organic products.

**Output:-** Mr. Vigyan Sukla adopted the different aspect of organic farming as per suggestion of KVK's scientist for his 1.5 ha land. He has also opened a commercial dairy with 62 indigenous cows and 4 Murrah Buffaloes. Currently he is producing 220 litres milk per day and 5000 qt. vermicompost per year. The economical gain in terms of per unit expenditure gross income, net return and BCR are recorded. Rs 2.63 lakh, Rs. 15.82 lakh, Rs. 13.19 lakh and 6.01 respectively.

**Outcome:-** The outcome in terms of quality and price of produce motivated the other farmers to produce organic products. He is very happy on improvement in their income, livelihood and set forth example for others. He also promoted by Line department of Banda. He got sanction of opening Jaivik outlet centre under RKVY scheme.

**Impact:-** He is becoming one of the progressive and learned farmers for others with regards to popularization of organic farming in Bundelkhand region. This technology helps him for livelihood, empowerment and make him enthusiastic regards organic farming. He is one of the progressive farmer after a becoming a part of KVK activities and get their effectiveness for his own development. Mr. Sanjay Singh is very happy with this improved production and management technology and set forth example for other farmers of the district.



Farmer with Hon'ble MP, Banda and Chitrakoot and KVK's scientist



KVK, Scientists inspecting vermicompost unit

### **(7) Poultry cum fish farming - A good source of income and employment: KVK Ambedkar Nagar**

**Introduction:-**Mr. Anand Singh S/O Ram Keval Singh, Vill.-Sangrampur ,Post-Chanaipur, Block-Akbarpur, ,District-Ambedkar Nagar, age-29 years,education-Graduate level, size of land holding 1 Hactre. His income ranged from 1.5 -2.0 lakhs annually from rice-wheat -cropping system and was not sufficient for their 10 members family needs.

**KVK intervention:-** In year 2015-16, he participated in trainings organized on Scientific poultry farming by Krishi vigyan Kendra, Ambedkar Nagar & KVK organized demonstration on poultry farming of 500 birds on his farm .After that of he created awareness to start lard scale poultry farming as an enterprise and in guidance of KVK Animal Scientist he established 3000 capacity well developed poultry farm and his net income from poultry increased up to Rs. 30-40 lakh/annum. KVK Scientists organized training on composite fish farming in 2016-17 and created awareness to poultry farmers to start fish farming with poultry farm and utilize the 60 % poultry manure instead of

animal dung/manure for fertilization fish ponds. In this training Mr. Anand Singh also participated and in year 2017 he established a fish pond in 1 acre area beside the poultry farm and started 3000 composite fish farming with 4 fish species Katla, Rohu, Nain and Common Carp in ratio of 30:25:20:25 along with poultry farming. Poultry farming of 3000 broiler birds integrated along with fish farming made better utilization of resources, substantially with proper nutrition, diseases control and management provides more profitable income.

**Output:** Total annual cost of 15000 poultry birds (3000 birds/ batch of 5 batch/year) to gain av. wt 2 kg./bird @Rs.140/birds =Rs.21 lakh /-

Av. Income by selling of 14700 bird (2% mortality) @ av.Rs.170/bird of 2kg =Rs. 24.99 lakh

Av. Profit / year of 5 batch from selling of 14700 ready poultry birds = 3.99 lakh

Income by poultry manure of 15Q.@ Rs.1500= Rs. 22,500/-

Total annual income from poultry farm=Rs. 4.21 lakh /-

Total annual cost of fish farming in one acre ponds of 3500 fish /year) to gain av. wt 1.15 kg./fish @Rs.100/fish =Rs.3.50 lakh

Av.Income by selling of 3430 fish (2% mortality) @ Rs.160/kg. =Rs 6.31 lakh

Av. Profit / year of from selling of 3430 fish = 2.81 lakh

#### **Outcome-Annually profitable income-**

Total annual income from poultry farm=Rs. 4.21 lakh

Av. Profit / year of from selling of 3430 fish = 2.81 lakh

Total annual profitable income =Rs. 4.21 lakh+2.81 lakh = Rs. 7.02 lakh /year



**Impact-** Mr. Anand Singh is becoming one of the progressive and learned farmers to others with regards to popularization of Poultry cum fish farming. This technology helps him for livelihood, empowerment. Now this technology is adopted by 5 farmers by seeing and believing in nearby villages.

Integrated poultry farming of broiler birds along with fish production made better utilization of resources, substantially with proper nutrition and feeding, diseases control and management, provides more profit. Mr. Anand Singh's income increased three times which improved his livelihood and its example for others farmers to adopt this practice.



## **(8) Popularization of onion seed production: KVK Ballia**

**Introduction:-** The seed of onion is costly and farmers generally do not produce it, they know the fact that if it is grown at their field they will become capable of gaining a lot. Sri Ajay Kumar Pandey is an enthusiastic farmer and is always try to do something extra ordinary. He started to popularize the profit gain from the onion crop production as well as seed production. Some times their seed are not good quality but they have sown.. The fluctuation in the price of onion is very drastic. Once, Sri Ajay Kumar Pandey visited KVK, Sohaon, Ballia and met the scientist. They gave the idea about crop production as well as seed production of onion. Pandey got net cultivated 1.25 ha area and 3-5 ha on lease.

**Intervention :-** The scientists suggested to him for soil testing analysis first and contact to responsible organization for quality seed with full package of practices. He got profit in first year but faced labour problem for the cultivation. Further, he thought why not direct seeding. He directly seeded onion in the field and saved labour cost. The profit gained is very enormous as compared to other crop. The scientist suggested him to make a calendar related to agriculture for whole year. The scientist given him technique about inter cropping of onion with bottle guard.

**Output:-** Sri Pandey produce onion crop and seed production in the farm of direct seeded of onion and inter cropping of bottle guard from the year 2011 to till date. In this way he got more profit 3.63 lakh from a 1.125 ha area and their socio-economic status are increasing among the farmers. The technique direct seeded of onion with inter cropping are well popularized among the farmers of different villages of blocks of the district Ballia Uttar Pradesh.

**Outcome:-** This technology in spared about 250 ha. in 70 Villages with managing good agronomical practices. Sri Pandey is very happy on improvement with their income livelihood and is a role model for other farmers.

**Impact :-** He and his family is very happy due to additional gain by the onion crop, seed production and intercrop provides him additional income also.





### **(9) High density of banana cultivation: KVK Barabanki**

**Situation analysis/ Problem statements:-** Mr. Navneet Verma, village Tajwapur, Post: Tajwapur block: Trivedigaj Haidergarh, district: Barabanki, a farmer who was selected for this demonstration. He was earlier involved with the high density of banana this method no of plant are increase. After that Adoption of technology No. of plant increase and production are increased.

**Plan, Implement and Support:-** KVK Barabanki tries to make them aware regarding high density of banana cultivation . That starts from land preparation to harvesting. The scientists has encouraged to the farmer for soil testing and on the basis of that farmer was advised for high density plantation. The banana was planted on lines in the month of July, 2016.

**Output:-** Mr. Navneet Verma adopted the high density of banana used 3200 plants /ha, in high density of banana in 1 ha land. His local yield was 30-35 kg /plant. His yield increased 50.02% as compared to traditional planting. The economical yield in terms of per unit expenditure gross income, net return and BCR are recorded. Rs 9.25 lakh, Rs. 6.48 lakh and 2.30 correspondingly.

**Outcome:-** Banana crop is the minor fruit crop of the district. KVK Barabanki conducted 50 demonstrations in 4 villages during 2015-16 to 2016-17 in an area of 150 ha at farmers' field with using HYV G-9, and balanced dose of chemical fertilizer (N200: P600 :K300) g/Plant. This variety has been disseminated in 4 villages of the district in an area of 350 ha. The outcome of this demonstration motivated the farming communities to replace their varieties, non-descriptive varieties. Mr. Navneet Verma is very happy on improvement in their income, livelihood and set forth example for others.

**Impact:-** He is the role model to other farmers for popularization of G-9. This technology helps him for livelihood, empowerment. Mr. Navneet Verma is very happy with this improved production and management technology and set example for other farmers of the district.

### **(10) Integrated Farming System (Fishries+Duckries+Crops): KVK Basti**

**Situation analysis/Problem statement:** Radhey Shyam Yadav S/O Sri Dinai Yadav is a Farmer belongs to Vill-Vashawa Rai, Block-Parashrampur, Distt.-Basti (U.P.). His Aged 52 Years old and Qualification has M.A. The Vashawa Rai village located in 30Km away from District Headquarter and 8Km from Vikramjot on NH-28.

**Plan, Implement and support:** He has 10Acre Land and a small Kachacha House with one Milking Cow initially he adopted simple traditional crop rotation Paddy-Wheat-Sugarcane. Sri Yadav Participated in vocational Training Programme during 2008-09 at Krishi Vigyan Kendra. He emphasized in this training and requests to scientist visit his farm. Scientist advised him to reduce sugarcane area and prepare a fish ponds with duck Farming. The area is situated near his residence.

**Output:** Sri Yadav starting integrated fish farming after achieving technical knowledge. He has 3 ponds area 1 ha. and .4 ha as a nursery pond. 250 layer Ducks, 3 Cows, 2 Buffalos, 1 Gobergas Plant, 35 Papaya Plants, 45 Banana Plants, 4 Anola Plants, 25 Mango Plants and .2 ha Vegetables through out the Year, 1 Motercycle, 1 Diesel Pumping set and 1 Electric Tube well Etc.

**Outcome:** Income from fish ponds 85 q fish and 73000 eggs annually. He getting Rupees 45000 per month additional income from Fish and duck farming. His socio economic status is recognized as a Progressive Farmers. He builds a new house and better education of Son and daughter.

**Impact:** 37 Farmers are impressed and adopt integrated farming system after viewing the result demonstration of Integrated Fish Farming.



### **(11) Bee Keeping opens new avenues for additional income: KVK Hardoi**

**Situation analysis/ Problem statements:** - Mr. Rabindra Singh a resident of village-Ratnapur, block -Bharkhani, district-Hardoi is a young unemployed person with no earning earlier but presently having good earning with role model for farmers to get additional income by Bee keeping.

**Plan, Implement and Support:** - Mr. Rabindra came in contact with the scientists of Krishi Vigyan Kendra during the rural youth training programs and showed his keen interest in bee keeping. By taking the technical knowledge of bee keeping from KVK scientists. He started bee keeping with 20 bee boxes which costs approximately Rs 40,000 / -.

**Output:** - Today Mr. Ravindra Singh has a total of 400 bee boxes with earning of eight to ten lakh per annum. He is giving training to the other farmers also.

**Outcome:** - Encouraging results of Bee Keeping promotes him to set up a brand of honey of its own.

**Impact:** - Mr. Rabindra Singh is becoming a trainer among rural youths regarding bee keeping start up. Bee keeping helps him for uplifting their livelihood standards. He is involving in most of KVK extension activities for rural youths regarding bee keeping. Mr. Rabindra is very happy with his success and he is becoming an example for other rural youths of the district by getting more income. He is role model to other farmers of the district. The bees also help in the pollination therefore, the crop yield also increased to the tune of 20.25 %.



Mr. Rabindra Singh with his bee boxes in their field