

BIO-DIVERSIFIED INTEGRATED NATURAL FARMING : A SUCCESS STORY

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Aman Lakra, 63 years old and an ex-servicemen, the resident of Abhaypur village of Bareilly district (U.P.) paved the success of natural integrated farming. He is post-graduate in economics and served in Indian Army, Military Engineering Services and Life Insurance Corporation. He had shifted from Latihar district of Jharkhand to Bareilly (U.P.) in 1992 with his small family consisting the wife and a son. Presently, his son is pursuing higher education in Mechanical Engineering at Bengaluru in the Karnataka state. Initially, he had purchased 1.5 *bigha* land in Abhaypur village with left over saving received at the time of retirement from the government service. But, now he is the owner of 55 *bigha* land, absolutely earned by adopting Natural Integrated Farming System with the continuous guidance and information support of Krishi Vigyan Kendra - IVRI, Izatnagar. Subsequently, he had attended various trainings on mushroom cultivation, piggery, vermi-composting etc organized by Krishi Vigyan Kendra-IVRI. In Natural Integrated Farming System, he is rearing *desi* poultry bird (*Aseel*), duck, goat, pig, buffalo and also generating income from fish production, bee-keeping, cereal and oilseed crop cultivation, as well as fruit and vegetable cultivation in the same piece of land with all possible lowest inputs in traditional ways.



Common enclosure for livestock and poultry



Interaction with farmer

Buffalo rearing

He had established varied income generating agricultural and animal husbandry based entrepreneurial units at his farm. He had 6 buffaloes, and presently 3 are in lactation, yielding 15-16 litres of milk/day. With his goodwill among the consumers and the purity of milk, he is selling milk @ Rs. 50/litre and earning Rs. 750 per day from the milk itself.

He is feeding buffalo twice in a day i.e. morning and evening and leaving in afternoon for pasture grazing. Mr. Lakra is investing very low on feeding since most of the feed ingredients are procured from his own farm. However, only during the period of scarcity, he needs to purchase wheat bran and straw from the market. In winter season, he is additionally providing mixture of jaggery, cumin and mustard-cake twice in a week to buffaloes, as he perceived that it prevent animals from the severe cold. Berseem clover and oats of his own farm are fed to them. Neither he has vaccinated his buffaloes nor observed any infection of contagious disease in livestock so far. As we observed, buffaloes were in healthy condition and the milk production was also satisfactory. His monthly expenditure on feeding was Rs. 5000. Although, he is not using mineral mixture in buffalo feeding, but as per suggestion made by KVK personnel, he has planned to use the mineral mixture on regular basis for better health, productive and reproductive performance of buffaloes.

Poultry Rearing

He is rearing 55-60 indigenous birds including very high demanded fighting bird 'Aseel'. From this flock, he is producing on an average 25 eggs/day and selling @ Rs. 5 to 7/egg and thus earning Rs. 150 to 175/day from his economically viable and sustainable poultry units. The mortality rate in birds as reported by him is about 5-6 % which is mainly due to the predators and adverse climatic conditions only. He is also fetching handsome price by selling live birds @ Rs. 250/kg which had very high demand in vicinity. Thus, he is earning Rs. 4000 by selling live birds and Rs. 4500 to 5250/month by selling the eggs. *Aseel* birds as popular fighting breed of poultry has much demand in neighbouring districts viz. *Badaun* and *Pilibhit* and earning about Rs. 45,000 to 50,000 annually by selling the *Aseel* poultry.



Poultry Rearing Unit

Crop residues obtained from own farm is used for feeding the poultry birds. The poultry units' daily requirement for feeding is 5 kg *bajra* (pearl millet), 4 kg wheat bran and 5 kg boiled fish for the flock of 55-60 birds. Sometimes he adds duck eggs in poultry feed to increase the protein content in poultry's diet. He purchases 5 kg of *sorghum* @ Rs.15/kg from the local market to fulfil the feeding requirement of poultry birds. He reported that since the inception, no major disease incidences prevailed in his semi-intensive poultry rearing unit. Further, he reported that he adds 15-20 drops of honey in drinking water as nutritional feed supplements and use neem's water weekly as an antibiotic to poultry birds. He has made four small houses/cages for laying and hatching, where brooding and hatching process occur in quite natural situation. In day time, all birds are kept in open range and in night all are kept inside closed vicinity. Thus, due to natural integrated farming system his expenditure in poultry rearing is very minimal. Every year, he is purchasing 15 days old chicks during March and September to maintain sufficient flock size at farm.

Goat Rearing

He also owned 4 goats of *Black Bengal* breed and rearing them in a very natural condition. Tree leaves, banana leaves and other green fodder are using for feeding these goats. All these fodder he is getting from his own farm. He is selling 3-4 goats/year and thus earning Rs. 10,000-12,000 annually from the goat unit. He increases his herd size of the goat after winter, every year.



Goat Rearing Unit

Pig Rearing

He is rearing very prolific white Yorkshire breed of pig and earning very handsome money from this small unit of the pig. The white Yorkshire breed of pig, he bought from pig unit of IVRI. *Berseem clover*, banana stumps, wheat and salt are used for the feeding. At present, he owned 6 pigs and selling the pigs at 1.5 years of age. On an average, he is selling 7 pigs/ annum @ Rs. 80 – 150 per kg body weight and thus he is earning Rs. 12,000 to 26,000 per pig. Nearly about one lakh rupees per annum he is earning from this pig unit.



Pig Rearing Unit

The feed of pigs involved 4 kg of sorghum and wheat bran in morning along with *berseem clover*, if available and afterwards about 30-40 kg of chicken waste, in afternoon, which he purchases @ Rs. 5/kg from the meat shops. The size of the shed is 250 square yard which has the semi-closed as well as open area. He himself castrates the piglets and apply the paste of turmeric, ash and mustard oil on it which cure the injury in 10-15 days, as he reported. The mortality in piglets is mainly caused by crushing under nourishing mother. Therefore he is planning to build farrowing crate to reduce the mortality at pig unit. He is also willing to increase the size of pig drove.

Duck cum Fish Rearing

He had two fish ponds of the size 3000 and 2500 square yard for duck-cum-fish unit. Mostly *magur*, *rohu*, *catla*, grass carps and common carps breeds of fish are reared by him. For feeding of *magur* fish, he is using slaughter house waste 40 kg / month which he is purchasing @ Rs. 5/Kg. Further, the wastage of poultry, goat, buffalo units including *berseem clover* are also used for feeding of fish. The annual fish production at his farm is 10-12 quintal *magur* and 8-10 quintal other fish, generally he harvest fishes in March, June and October and thus earns income Rs.2 –3 lakhs per annum from fish production only. He purchases one inch size catfish @ Rs. 1 and 2.5 inch fingerlings of Rohu/Catla @ Rs.250/kg from the local fish hatcheries.



Duck-cum-Fishery Unit

Along with the fish he rears 75-80 ducks within the same ponds. He reported that earlier the demand for duck and duck's egg was negligible but now its demands have increased. He has plan to renovate his pond as per the standards of KVK –IVRI demonstration farm, since in previous years large number of fishes were flown in flood which were caught by local dwellers and which has caused him heavy loss. His further planning is to divide the ponds in four parts for rational harvesting of fish. He applies lime and potassium permanganate in fish ponds to prevent contamination. He also adds two buckets of cow dung weekly in fish pond as nutritional supplement of catfish. Keeping the catfish, *Rohu* and *Catla* together in one pond is the unique practice followed by him. He reported that if there is sufficient feed provision for catfish, then catfish will never eat other fish.

Bee Keeping

He had kept 7-8 boxes of the honey bee of Italian species, out of these he is producing about 20 kg honey in 10-12 days in the season and selling it @ Rs.300/kg. The honey of his farm is very popular in nearby areas because of the purity as well as the product of natural conditions; many times he extracts the honey in front of the customers on their demand. In the previous year, he had about 30 bee boxes but it gets destroyed in flood, now he is again planning to increase the number of bee boxes and

also learning the manufacturing of box himself. He had cultivated mustard crops in his field and planning to sow sunflower for the food of honey bee.



Bee-keeping unit

Labour Management

He is generating the income by following diverse entrepreneurial activities and is providing employment to the unemployed youths. Regarding the labour management, a unique thing was observed that he employed only college student, who worked on part-time job at his farm on an hour basis. As per the availability of labour, he delineated the work for the labourer viz. cleaning the shed cum feeding the animals, milking of animals cum supervision of all units, pasture grazing of buffaloes, milk distribution to the customers and bringing slaughterhouse waste. Currently, he is paying Rs. 30/hour to the labour for the work he assigned to the labours. He employed five labours daily. Thus, on an average he required working 4 hours for cleaning the shed cum feeding the livestock, 7 hours for milking the animals cum supervision of all units in a day, 4 hours for grazing of buffaloes, 3 hours for milk distribution and 2 hours for bringing slaughterhouse waste. So, as per the informal rules of his farm he pay Rs. 600/day towards labour wages. A room for accommodation is provided to those labour who works for more than 7 hours per day . Although, he mentioned that non-availability of permanent and committed labour for daily farm operation is being perceived as more severe constraint..

Beside livestock and poultry, he is cultivating cereal crop (wheat, rice) oilseed crop (mustard), legume fodder like *berseem clover*, vegetables like pumpkin, spinach, Drumstick, *Kundru* etc., fruits plants like Banana, Papaya, Date Palm, *Pindara*, Sapota, Pears, Orange, Lemon, Mango, Coconut, Water Apple, Custard Apple, Fig, Star Fruit, *Jamun*, Guava etc spices like Dalchini, Tej Patta, Turmeric, etc along with Teak, Arjun, Tapioca trees. Biodiversity is being maintained in reality with utmost care of each and every plant and animal at his farm.



Banana plantation

Futuristic planning:

In future, he is being planned to expand and modernize his farm by applying scientific practices to increase the production and productivity of his farm for commercial purpose. He is very keenly willing to establish other commercial units of mushroom production, vermi-compost and to develop eco-tourism with the help of Krishi Vigyan Kendra- IVRI, Izatnagar.
