

CHAIN LINK FENCING

*Indigenous Innovation To
Secure Livelihoods*



INDIGENOUS INNOVATION TO SECURE LIVELIHOODS CHAIN LINK FENCING INITIATIVE

One of the many chronic challenges faced by the farmers involved with Integrated Livelihood Support Programmed (ILSP) of Uttarakhand Gramya Vikas Samiti (UGVS) was animal conflict in the farm field. International, national and local expertise failed to address the problem. In the thirteenth year of operation UGVS took up a pilot and discovered the Chain Linked Fence is an irrefutable solution to keep the wild animals out of farm. Now the solution is adapted by many farmers and crop yields are nearly getting doubled. Demand of the fence has grown manifold and some farmers who have abandoned there fields are returning.

Villagers in Chamba district said, "we were least interested in farming as wild animals destroyed our hard work. Whatever little we sow was destroyed by wild boars, porcupines or monkeys." One of the villager said that ' We had no option but to leave our village and migrate to cities in search of work so that we can feed our families. But our situation took a U-turn since we have started using FENCE provided by ILSP-UGVS to protect our fields from wild animals. "



Wild Boars Destroying Corn Crop in a Farm

Uttarakhand is subject to many harsh realities for its inhabitants who struggle on a daily basis to meet their ends. Its farmers have always been exposed to various external risks like weather dependence, market prices, inputs availability etc. Another potent risk for farming is damage to crops by stray or wild animals like Wild Boar, Bear, Deer, Porcupine, Saul, Wild Rabbit and Monkeys etc. These animals cause significant loss either by simply feeding on crop, running over the field, trampling over the crops or tilling the soil and thus provoking additional financial problems.

Dealing with the man-animal conflict situation becomes even more difficult as most of these animals are protected by the law, making it illegal to kill them. As a result of crop destruction by wild animals, farmers had gradually lost interest in farming and are quitting agriculture.

In Uttarakhand most of the farming activities are carried out by women making it even more difficult to guard the fields. On top of that financial insecurities makes it even difficult for the farmers to tackle the problem. With an average household of four to six members surviving on an monthly income of a meager Rs 5,000 to 6,000, farmers have no means to fight to these intruders.

Destruction Statistics A survey conducted by Akhil Bhartiya Kisan Mahasabha in 2016-17 showed that only 20% of agricultural land in the hills is being cultivated while the remaining 80% is either lying barren or is sold for commercial purpose to outsiders.

The Census data from 11 hill districts showed the maximum number of 36,401 farmers migrated from Almora, 35,654 from Pauri, 33,689 from Tehri, 22,936 from Pithoragarh, 18,536 from Chamoli, 15,075 from Nainital, 11,710 from Uttarkashi, 11,281 from Champawat, 10,970 from Rudraprayag, and 10,073 from Bageshwar. The figures will be more gruesome if collected on a year on year basis.

According to the 2011 Census data, as many as 2,26,949 farmers left farming and migrated from their birth places. Migrated farmers were reduced to manual labourers in various cities for survival of their families. Women of these migrated men were left behind in villages to manage household work, animal husbandry and agriculture needs.

Historical Overview: The farmers since decades have been either manually guarding the fields or using tricks and methods like use of scare crow, crackers, fire to keep the wild animals away from their fields. Some also used dry fallen trees to make boundaries around the farm. These methods resulted only in restricted protection of crops due to human limitations of functioning in difficult terrain, inclement weather and night hours.

ILSP's (Integrated Livelihood Support Project) association with the farmers has been long, directly working at the village level it has closely seen the situation of the farmers worsening due to man-animal conflict in the state. The long partnership of ILSP with the farmers proved that it was not a touch and go kind of an organisation. It has stayed for long, has helped, guided farmers in various activities, over the years it has build reputation and trust amongst its beneficiaries.

ILSP is implemented by Uttarakhand Gramya Vikas Samiti (UGVS) in association with Government of Uttarakhand and International Fund for Agricultural Development (IFAD) with a goal to enable rural households to take up sustainable livelihood opportunities integrated with the wider economy. It is being implemented in 41 Blocks and 11 hill Districts of the state.

To end the menace of wild animals ILSP sought suggestions from various Universities / Research Institutions in the hills. The advices received were use of shinning tapes like video tapes or audio tapes, beating of bell, use of animal excreta, use of forate insecticide granule, electric fencing, keeping Honey Bees etc. After research and exploring practicable viabilities, these methods appeared to be either practically inviable, ineffective or too costly.

Indigenous Solution While number of alternatives were practiced by farmers to protect the crops from damage by wild animals, none assured over 80% success in crop protection. A simple technique of fencing called **Chain Link Fence**¹ was seen as ultimate solution. ILSP came across a pilot done by its Watershed Management Development team in a small farm land in Uttarakhand. Seeing its success in April 2017, UGVS proposed to use this Fencing technique as a solution to curb man-animal conflict in its projection areas.



Farm Protected from Wild Animal through Chain Link Fence

¹The fence used are made of metal wires woven together to form a physical barrier. These fences are effective, long lasting and require relatively little maintenance. (add specification from slide). Specification - 3"*3" GI Wire, Dia 3.15 mm, Height 1.5 meter, 1170 running meter (3 ha)

Pilot Chain Link Fencing as a solution to save the crops from wild animals was discussed with farmers associated with ILSP Livelihood Cooperatives. It was assessed that the average land holding per Livelihood Collectives was 40-45 Ha out of which 30-35 Ha was exploited by wild animals. It was decided to pilot the project initially in 7.5 Ha which was about one third of the total affected.

Under the Chain Link Fence Pilot, 85% cost i.e, the cost of fence was provided by UGVS. The remaining 15% i.e, cost of installation was beneficiaries contribution. The fence would be stored at each Livelihood Collective Center from where the interest member can rent out the required bundle of fence.

The rent rate was decided by the LC stakeholders unanimously. On an average the rent is Rs 100 to Rs 1000 per running meter based on area or duration. LCs also rent out the fences to non-member farmers for 20% extra rental cost.

UGVS procured 2340.00 running meter with 1.5 meter height of fence per Livelihood Collective. From April 2017 till September 2018, Chain Link Fence method has been used by 131 Livelihood Collectives reaching an average of 500 households. A total of 786Ha area has been covered using the fence.



Farmers being sensitized about usage of Chain Link Fencing

Files to Field stories: Rekha Devi lives with her husband, two children and old in-laws in Jujrali village, Pithoragarh. She is relieved after having fenced her farmland. Earlier they had to guard the fields at night, light fire to scare away the Wild Boar with limited success. They could not afford fencing. Chain link fence has successfully kept the wild animal at bay. Now she and her family are able to sleep peacefully at night. This season she harvested twice the amount of cabbage.

Mazhaarchola is a small village of 6 families surrounded by Pine and Oak forest in Garud, Bageshwar. The village is 1km away from the road. In the village New Jyoti Utpadak Samoh has been growing vegetables since year 2015. Often their crops were destroyed by wild animals. Bhopal Singh, president of the group reiterates that they used to suffer loss of around Rs 90000 every season because of wild animal invasion. When they heard about the Chain Link Fence initiative, they contacted ILSP representative and got their farm fenced. The group spend Rs 12000 in renting 1170 running meter fence and procuring 330 pillar. Earlier they had to be awake at night, at times shout, beat drums or lit fire using wood to keep the wild animals away. Now they are relaxed and hopeful. They have gathered courage to start growing off-season vegetables.



A Farmer in a Fenced Vegetable Farm

Advantages of Chain Link Fencing:

Crop Safety: The fence provided a physical barrier to control the sabotage of field from wild animals. It kept wild animals away from entering the fields and damaging the crops. It also controlled the movement of domestic animals in and around the fields thus saving crops from grazing.

Human-Animal Safety: The fence does not have electric current it does not physically harm the humans or animals.

Animal Safety: As the fence is like a closely spaced woven wire, it has a lower risk of animals getting entrapped or injured.

Easy to install: The installation process is simple with use of wooden pillars.

Long Life: The fence can last upto atleast 10 years as it is made of good quality components and materials

Assurance of Protection: It assured over 80% protection from wild animals.



Farmer Relishing Good Cabbage Production in a Fenced Field

Outcome of the Pilot:

Productivity Enhancement: It was observed by ILSP team that in the crop production increased in the fields which were protected by fences. An average income from farm produce rose upto Rs. 1.25 to Rs. 0.65 Lakh from 10-20 Nalis of farm land, nearly doubling the income.

Re-cultivation of Cash crops: Farmers started cultivating cash crops as they could believe in the safety provided by using fences.

Time Saver: The farmers were not required to manually guard the fields at day and during nights, thus resulting in saving their times.

Reduction in Women Drudgery: Women farmers could utilise their time in other household activities not worrying about the crop.

Recreating Interest in Farming: Enhanced production and respite from destruction from wild animals recreated the interest in farming among locals.

Increased farming: Good cultivation, better profits, increase household income resulted in more farmers restoring to farming activities.

Crop Diversification: Good harvest, good results from fencing resulted in building the trust and boosted farmers morale. Farmers started diversifying in crops.

Increased Demand: Seeing the benefits from fencing the farms, more farmers are demanding Fence from federation.

Increase in Livelihood Collective's Corpus: Rentals earned from letting the fence resulted in increase in LC corpus. It is estimated that the project would re payback the initial input cost in three years time.



Farmers working in Chain Link Fenced Farm

Recommendations:

Witnessing the success of securing farm and crop from wild animals ILSP propose following recommendations:

- i) State Government or Central Government may form a committee to study the feasibility of Chain Link Fencing in the States across India for crop protection. Based on the results replicate it in entire state.
- ii) Chain Link Fence method should be provided by the government to all the farmer facing man-animal conflict at a subsidized rates.
- iii) Chain Link Fence method should be included as an important tool in State's Farm Machinery Bank Initiative.
- iv) An advertisement campaign should be carried out which informs distressed farmers that there lies a solution for the chronic problem of man-animal conflict situation.
- v) Government must plan to identify and incentivize the migrated youth impacted due to man-animal conflict and encourage them to return, using chain link fencing in their farm land.



Paddy Field Beautifully Secured with Chain Link Fencing



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