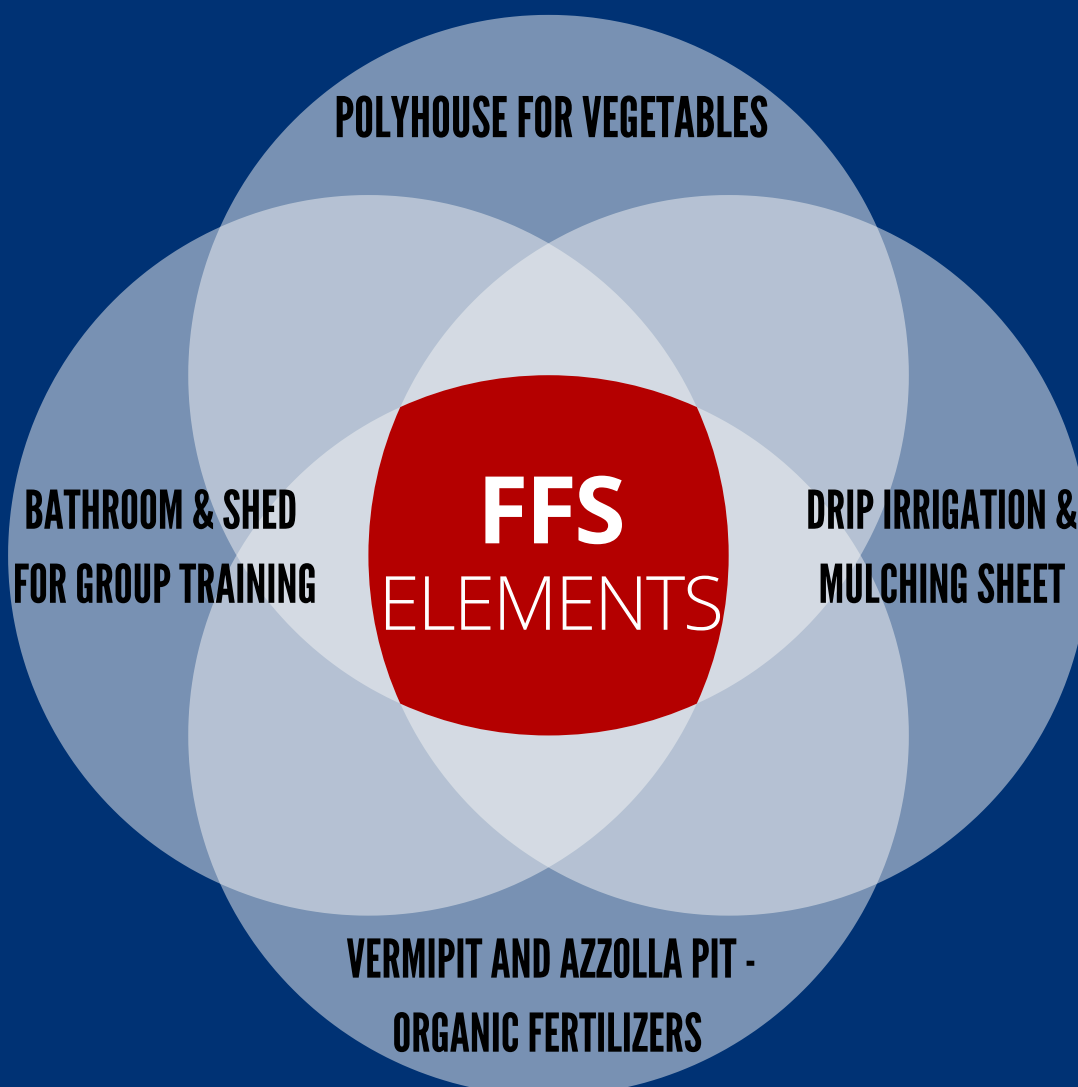




FFS : FARMER FIELD SCHOOL

FFS - A TOOL TO TRANSFER AGRICULTURAL INNOVATION TO FARMERS THROUGH DEMONSTRATION AND FOSTER COLLABORATION BY ENCOURAGING FARMERS TO SOLVE THEIR PROBLEMS THROUGH PARTICIPATION, INTERACTION AND JOINT DECISION MAKING.





The Centre for Advanced Research & Development (CARD) is a non-government organization established in India in Madhya Pradesh. We are a thriving non-profit organization, with our research, evaluation, documentation, and program execution running nationwide. We promote innovative action research and apply its findings for the protection and development of society and the environment.

Parivartan- A holistic rural development project undertaken by the HDFC bank was launched for the integrated development of the rural community, focusing on finding sustainable means of livelihood, infrastructure development, skill development, financial literacy, and educational empowerment of the rural community. CARD has been involved in implementing the project since 2017 in about 40 villages of India, covering Punjab, Haryana, Maharashtra, and Uttarpradesh. Through Parivartan, HDFC BANK reaches out to communities and enables them to shift from vicious cycle of poverty to a virtuous cycle of growth.

THE BACKGROUND

In largely agrarian blocks of Chhachhrauli and Bilaspur, farmers have been following traditional farming methods to grow traditional crops such as paddy, wheat, and sugarcane. These methods, handed down the generations, are outdated. Although some innovations to supplement income such as planting poplar trees, have happened, there is still a scope of significant innovation and adoption of the latest agronomic practices. These practices over time have not resulted in the economic progress of the farmers. Due to the harvesting time of these crops, Farmers can only sow their fields twice a year. As a result, the farmers don't have a regular monthly source of income. Even after practicing animal rearing to supplement their incomes, the farmers face problems covering their monthly expenses after paying for the labor, fertilizers, pesticide, irrigation, seed, and transportation costs. In addition to exacerbating economic issues, the practices result in other problems as well.

Irrigation Problems

Traditional agriculture uses flood irrigation that is not set up to distribute the water ideally; most of the water used does not get absorbed by crops but evaporates.

Pesticide Failure

The extensive use of pesticides leads to a cycle wherein more, or different combinations of chemicals are used, making pests resistant & increasing chemical content of the soil and the crops.

Fertilizer Problems

Due to manual broadcasting, fertilizer application is nonuniform, reducing the productivity. These chemicals only temporarily boost yield & excessive use causes Nitrate leaching, causing water pollution and excessive oxygen absorption.

Soil Degradation and Erosion

- Traditional farming tends to leech the land of its nutrients, such as organic carbon, gradually resulting in undernourished and eroded soil.
- The use of machines such as tractors and harvesters that are used for traditional crops loosen topsoil and inhibit vegetative cover growth, hence making the soil prone to erosion.

Peripheral Risks

Problems associated with this practice are exacerbated when a single variety or cultivar of a species is grown. Such a strategy allows the farmer to reduce costs, but it also makes the crop, and thus the farmand community, susceptible to widespread crop failure.

FFS AN INTRODUCTION



To tackle the above problems, we adopted an approach of introducing farmers to practices that gradually encourage them to embrace innovation.

Farmer Field School (FFS) is a hands-on educational activity through which the agricultural experts teach farmers agricultural best practices through demonstration. The farmers learn in a controlled environment called the Demo Plot, which is around 0.5 acres of land equipped with basic amenities such as a shed and a bathroom to facilitate group learning activities. In the demo plots, latest agronomic practices & sustainable agriculture techniques & processes are used to grow seasonal fruits and offseason vegetables, motivating the farmers to improve and enhance their agricultural practices. FFS also serves as a platform of collaboration, helping farmers share the results of their innovations and techniques among themselves.



TOTAL
FFS ESTABLISHED : 13
NO. OF VILLAGES : 13
BLOCKS COVERED : 2

1 PROGRESSIVE
FARMER SELECTED
PER VILLAGE FOR
SETTING UP OF FFS
IN 0.5 ACRE OF LAND

TRAININGS
CONDUCTED IN FFS
FROM
AUG 2020 - DEC 2020

FFS - Technical Specifications

Polyhouses - 30 x 5 m



Polyhouse is a type of greenhouse where specialized polythene sheet is used as a covering material under which the crops can be grown in partially or fully controlled climatic conditions. Polyhouses allow farmers to grow vegetables under controlled conditions. The farmer can grow crops throughout the year and thus do not have to wait for any particular season.

Mulching Sheet



Mulching is the process of covering the soil/ground to make favourable conditions for plant growth, leading to efficient crop production.

Additionally, it plays a positive role in water conservation by reducing evaporation. Material - Polyethylene, Width : 1 - 1.2 meter, Thickness - 30 Micron

Drip Irrigation



Drip irrigation is a type of micro-irrigation system that saves water and nutrients by allowing water to drip slowly to the roots of plants, either from above the soil surface or buried below the surface. PVC or Polythene hoses are laid on the ground with holes that irrigate the roots, minimizing losses.

ORGANIC FERTILIZERS

Azolla Pits



L x B x H :
10 ft x 3 ft x 1.5 ft

Azolla is a free-floating water fern consisting of short, branched, floating stem-bearing roots, which hang down in the water. It's a kind of green fodder grown on a water surface and has the property of fixing nitrogen in rice crop.

Hence in addition to being used as fodder, it is used as common bio-fertilizer in rice fields.

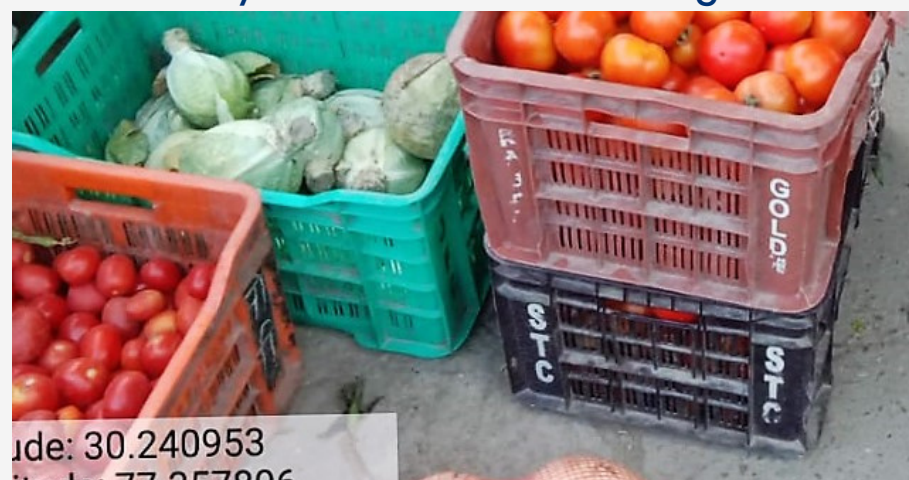
Vermi Pits



L x B x H :
10 ft x 3 ft x 3 ft

Vermicomposting- A process of generating organic fertilizer by recycling waste naturally with the help of organisms that catalyse the break-down of waste producing nutrient rich organic material. It is a natural & sustainable way to increase farm yields without the use of chemicals. Cement - mortar vermibeds were constructed and worms were procured to breakdown the waste material.

The FFS training was concluded in Dec 2020. It was followed by the planting of vegetables in Jan 2021 such as Tomatoes, Seedless Cucumber, Strawberry, Muskmelon, Brinjal, Cauliflower, Cabbage, Bottle Gourd and Bitter Gourd. The plantation was concluded in Mar 2021. Seeing our results in the 13 demo plots, 20 additional farmers have adopted individual elements of the FFS such as mulching, drip irrigation, and vermicomposting and have moved away from traditional farming.



Our success stories



Sarbjeet Singh Taranjet Singh
Village Mukaribpur



OUR IMPACT

Although this initiative is still in its early stage, we have observed tangible positive economic and environmental effects. The interest of the farmers in the FFS and the latest agronomic practices is high. The farmers have registered their interest in the FIG meeting for support in the installation of Azolla pits and the Drip irrigation system.

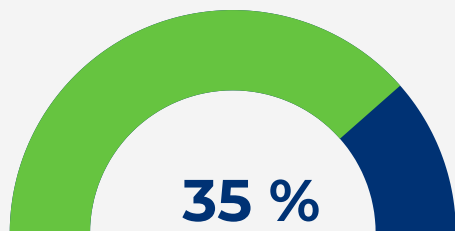
We plan to work with 130 farmers in the next quarter (JULY - SEPT 2021) to provide 65 Azolla pits and 65 drip irrigation systems, respectively. The results obtained have been recorded through the following stats:



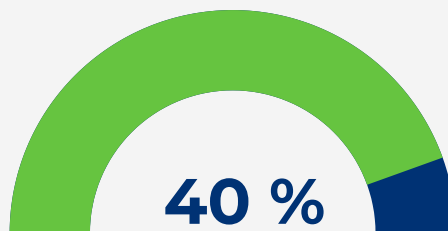
4 Training Sessions
2 Exposure visits
in last **6** months



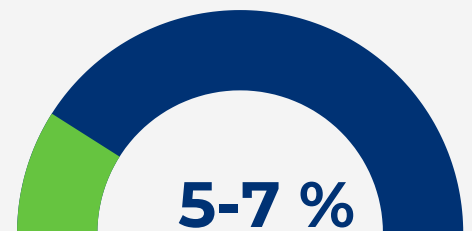
520
Total
Farmers
Trained



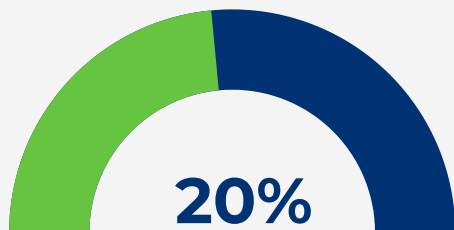
Avg Annual Income
Increase / Farmer



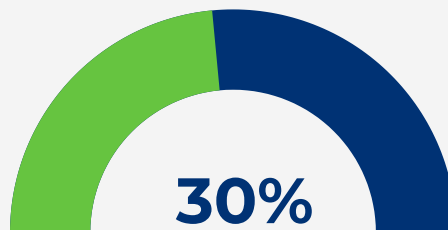
Reduction in the water
used for irrigation



Increase in land under
vegetable cultivation



Reduction in the use
of Chemical Fertilizers



Annual reduction in
Electricity Usage

Soil quality
has also
improved due
to increase in
organic
carbon

SDG'S COVERED

