**Bharati Kursange – A Confident farmer of Village Vihirgaon**

- Profile of Mahila Kisan :

| | |
|---|---|
| Name: | Bharati Giridhar Kursange |
| Village: | Vihirgaon |
| GP: | Chikhali |
| Block: | Ralegaon |
| District: | Yawatamal |
| Livelihood Group Name: | Jagrit Kisan Mahila Shetakari Samiti. |
| Food Security Level: | She cultivates food grains- pigeon pea, wheat, sorghum, bajra -and vegetables in her farm. She consumes variety of wild vegetables in rainy season i.e. kunjar, kukuda, ambadi, chuchu, gophan, tarota, etc. She has no space in her front yard for growing kitchen garden. She cultivates vegetables on her farm as inter crops. Thus she fulfills the requirement of vegetables in winter. Her neighbors share fruits from their garden |

- Existing Resources:

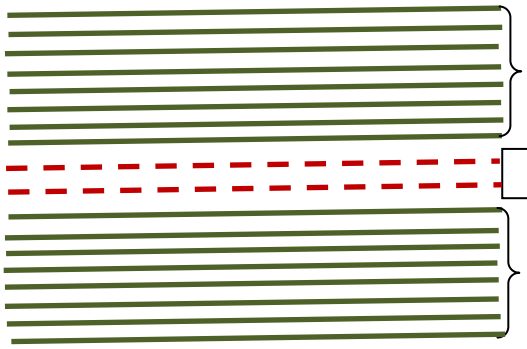
Bharati's family owns 3 acres of land. Her land is of light medium quality with low productive potential. In *rabi* season her land receives water supply from canal. She does not own any agricultural implements other than a spraying pump. Since 2013, she borrows necessary agriculture implements from the Common Facility Centre initiated by MSSRF. According to her this Centre is a boon for providing timely access to implements.

- Area of Land Intervened

Bharati started practicing sustainable agriculture techniques only after she became a member of the *samiti*/MKSP. She is practicing sustainable agriculture practices in the current year i.e. 2013-2014.

- Pre-Intervention Scenario
  Till last year Bharati was doing conventional farming and cultivating only cotton and pigeon pea.

***Cropping patter in 3 acres of land in year 2012-2013***




*Spacing between cotton and pigeon pea – 2.5 ft x 2.5 ft*

Description of Intervention Planned and Process Undertaken

Bharati adopted following sustainable agriculture practices.

1. Soil testing – She tested soil sample from her farm for knowing nutrient requirement of her field
2. Farm bunding – She formed farm bunds in the year 2013
3. Sowing across the slope – She sown seeds across the slope for soil and water conservation
4. Seed treatment - She treated seeds with biofertilizers
5. Use of yellow sticky traps and bird stands – She grown sorghum along all borders of farm which was used as bird stands
6. Mix cropping – She mixed vegetable seeds, sesame seeds and minor millet seeds with pigeon pea and in the gaps of the crop
7. Intercropping – She cultivated green gram and black gram as intercrop in cotton and pigeon pea
8. Trap crops – She grown marigold, Jowar and castor as trap crops
9. Integrated fertilizer – She mixed biofertilizer in the organic manure and applied near the growing crops
10. Green manuring – She mixed the residues of green gram and black gram in the soil after harvesting of pods and planted glyricidia on farm bunds. She has 12 plants of glyricidia on her farm bund.
11. Use of biopesticide – She used *Nimarka* for controlling the pest.

- Trainings Attended pertaining to SAP
    a. Soil and water conservation practices
    b. Integrated nutrient management practices
    c. Integrated pest management practices
    d. Seed treatment
    e. Soil sample collection

f. Kitchen gardening
g. Mixed cropping and intercropping systems
h. Seed management
i. Biofertilizer application
j. Technical back stopping

- Adoption of Technical Protocol

  Adoption of practices across all four major components of sustainable agriculture has been undertaken.

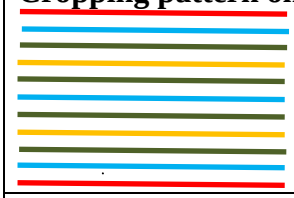
| Component | Adopted Practice |
|---|---|
| Soil and water conservation practices | Farm bunds<br>Sowing across slope,<br>Opening of Ridges and Furrows |
| Seed Management Practices | Seed Treatment |
| Integrated Nutrient Management | Soil Test;<br>Green Manuring<br>Inter Cropping/Mixed Cropping<br>Integrated Fertilizer<br>*Biofertilizer* |
| Integrated Pest Management | Yellow Sticky Traps<br>Bird Stands<br>Biopesticide- *Nimarka*<br>Trap Crops<br>Pheromone Traps |

- Post Intervention Scenario

  From the current year, 2013-14, Bharati is practicing sustainable agriculture. She has sown soyabean, green gram and black gram along with cotton and pigeon pea. She cultivates sorghum along the borders and this attracts birds to her field which in turn is helpful in controlling sucking pests such as thrips. She has also grown marigold and castor as trap crops. She cultivates vegetables like ladies finger, bringal and tomato as mixed crops in her field. In the pigeon pea line she has sown sesame and *Motitura* (minor millet) which she has retained for household consumption. Following was the pattern of sowing:

***Cropping pattern in year 2013 -2014***

**Cropping pattern on 2.5 acres of land**



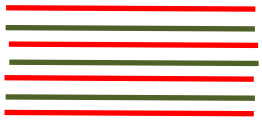
Spacing between two cotton rows – 2.5 ft x 2.5 ft

Spacing between cotton and gram rows – 1.25 ft

Spacing between cotton and pigeon pea row – 3

Pigeon Pea Cotton Green gram Black gram

**Cropping pattern on 0.5 acre of land**




Spacing between soyabean rows – 2.5 ft

Spacing between soyabean and cotton rows

Following tables shows the input cost on various agriculture intervention and gross income in both years.

| **Agriculture Interventions** | **2012-2013 (Cost in Rs)** | **2013-2014 (Cost in Rs)** |
|---|---|---|
| Ploughing (tractor) | 1800 | - |
| Farm bunding | - | 1750 |
| 1st Harrowing (tractor) | 1200 | 1200 |
| 2nd harrowing | 1200 | 1200 |
| Stubble collection | 400 | 400 |
| Transportation of organic manure (3 trolleys) | - | 1000 |
| Labour charges for broad casting of organic manure | - | 600 |
| Preparation of furrows | 700 | 700 |
| Purchasing of seeds<br>Cotton<br>Pigeon pea | <br>6510<br>325 | <br>5580<br>240 |
| Sowing of seeds | 400 | 1100 |
| FYM + biofertilizer application | - | 400 |
| 1st hoeing | 700 | 700 |
| Weeding | 1000 | 1500 |
| Cost of chemical fertilizer | 1920 | 2200 |
| Labour charges for first application of chemical fertilizer | 400 | 500 |
| 2nd hoeing | 700 | 700 |
| Spraying | 5500 (4 spraying chemical) | 725(2 times Nimark + 1 chemical) |
| | 800 | 600 |
| 3rd hoeing | 700 | 700 |

| | | |
|---|---|---|
| Weeding | 1000 | 1000 |
| Labour charges for second application of chemical fertilizer | 400 | 400 |
| 4th hoeing | 700 | - |
| Harvesting<br>Cotton<br>Pigeon pea<br>Soyabean<br>Black gram | <br>5000<br>400 | <br>7800<br>1665<br>760<br>370 |
| **Total input cost** | **31755** | **33790** |

**Production and Sale details on Bharati's land:**

| Crops | 2012-2013 | | 2013-2014 | |
|---|---|---|---|---|
| | **Production** | **Sale (Rs)** | **Production** | **Sale (Rs)** |
| Cotton | 10 qt | 41000 | 13 qt | 62140 |
| Pigeon pea | 2 qt | 6000 | 4.5 qt | 16290 |
| Soyabean | | | 1 qt | 3200 |
| Green gram | | | | |
| Black gram | | | 7 kg | 350 |
| **Gross income** | | **47000** | | **81980** |

**Cost benefit analysis –**

| **Financial turnover** | **2012-2013** | **2013-2014** |
|---|---|---|
| Total input cost (Rs) | 31755 | 33790 |
| Gross income (Rs) | 47000 | 81980 |
| Net profit (Rs) | 15245 | 48190 |
| **Cost benefit ratio** | **1 : 0.48** | 1 : 1.43 |

Comparing the yield of cotton per acre between 2011-12 (when conventional agricultural practices were adopted) and 2012-13 (when sustainable agriculture practices were adopted) it is clear that the increase is from 3.3 quintals per acre to 4.3 quintals per acre, an increase of 30 %. In addition to the increase in cotton yield another significant output is the drastic reduction in expenditure on chemical pesticide from Rs 5500 in 2012-13 to Rs 725 in 2013-14. That is a significant reduction of 87% in cost incurred on pesticides. The current year 2013-14, has not been a good agriculture year for farmers. Inspite of that Bharti is certainly not in loss. She gives credit for her happiness to the trainings on sustainable agriculture and overall guidance provided

by MSSRF. She said that it is only because of sustainable agriculture practices cultivation has become viable in comparison with other farmers of the village.

- Plan Ahead

Bharati has become confident about the merits of sustainable agriculture and this year she has leased in 3 acres with irrigation facilities to cultivate rabi crops. Based on her exposure to various trainings and experience of sustainable agriculture practices, Bharati wishes to continue farming with sustainable agriculture practices in future. She also wants to start small scale enterprise of preparation of *Papad* from green gram and black gram. She feels proud to say that her income rose as a result of practicing sustainable agriculture practices.