

## Success stories:

### SUCCESS STORY 1: MULTI-FARMING FOR LIVELIHOOD SECURITY

Low productivity, increased disease and pest infestation, degradation of soil quality, decreased biodiversity, crop failure risk, seasonal income and unbalanced crop residue utilization associated with single crop/commodity/enterprise based agriculture, have prompted for planning and practicing of viable alternative agricultural production systems. Out of various alternatives, multifarming agriculture with greater diversification has better potential of sustainability, long term profitability and climatic resilience. Changing consumption-demand patterns and emerging marketing cum trade opportunities are now offering ample scope for greater diversification of agriculture systems to suit the declining size of land holdings in India. Therefore, shift from single crop/commodity/enterprise based farming to multifarming combination of crops, dairy, horticulture, fishery, poultry and floriculture is called for to generate regular income, year round employment and to ensure efficient resource management for improving water, nutrient and energy use efficiency on the small land holdings.

The operational multi enterprise agricultural system practiced by Mohammed Ashraf at Bragam Anantnag through the co-ordination with KVK Anantnag, has revealed the supplementary effect within different components of the multifarming agriculture. Integrated cultivation of apple, pear, walnut, maize, oats, oilseed, floriculture crops along with dairy, poultry, compost making and vermicomposting has resulted in assured supply of income to the farmer. A gross income of Rs. 500-700/day was generated from less than one hectare land area through the integration of various enterprises and recycling of residue within the system. Realizing the profitability of the multifarming agriculture system, Mohammed Ashraf has also set up biogas plant, vermi wash, fish pond and azolla units with technical assistance of KVK Anantnag, which will add to the economic efficiency of the adopted system in due course of time.

In addition to being a progressive farmer with operational multifarming agricultural system, Mohd Ashraf has been facilitating the awareness and training of the upcoming farmers. Besides co-ordinating the links between allied farmers and commercial agencies for ensuring economical viability of their agricultural enterprises, he has played leading role in spreading of the novel agricultural technologies through the intervention of Krishi Vigyan Kendra Anantnag. Keeping in view the tremendous potential of multifarming agriculture in Kashmir, Krishi Vigyan Kendra, Anantnag is making all possible efforts to popularize it by convincing farmers about its importance.

<b>Name of Farmer</b>	Mr. Mohammad Ashraf Mir	
<b>Address</b>	Bragam, Doru Shahabad, Dist. Anantnag, Kashmir	
<b>Age</b>	53 years	
<b>Land Holding</b>	55 kanals -Irrigated 30 K (1.5 ha) Rainfed 25 K(1.25 ha)	
<b>Crops/Enterprise</b>	Crop/ enterprise	Area/Capacity
	Paddy	20 K (1 ha)
	Oats*	08 K (0.4 ha)
	Oilseed*	5.5 K (0.26 ha)
	Maize*	07 K(0.35 ha)
	Apple	10 K(0.5 ha)
	Pear	9 K
	Walnut	28 trees
	Floriculture	04 K(0.2 ha)
	Dairy Unit	10 litres/day
	Backyard Poultry	7 birds
	Vermicomposting Unit,	4Pits
	Vermiwash Unit Azolla Pond	(15Qts/cycle)
	Biogas Plant	100 litres/month
		2kg/day
		Sufficient to fulfil energy needs of a 5-6 member family.

#### Traditional Practice

Mohammad Ashraf used to rely on traditional cropping pattern of rice (Budji China, Kamad, etc.), local maize and vegetables, which hardly fulfilled his household consumption. He was unaware about the production potential of new varieties of crops, economic profitability of floriculture and sustainability of multifarming agriculture. He was also unacquainted with the importance of proper time of application and dosage of fertilizers and pesticides.

#### KVK Intervention

Taking into consideration the suitability of village Bragam for multifarming agriculture and keen interest of Mohammed Ashraf, various training programmes involving farmers were conducted. Due to the need and vitality of agricultural enterprise diversification, it was decided to develop new cropping pattern by active involvement of the scientists of KVK Anantnag. For bringing about the intended diversity in the agricultural system, new crop varieties with higher production potential, vermicompost production, backyard poultry and modern techniques of marketing were adopted.

The farmer was motivated to take up the following practices

- Use of new varieties of Paddy(Jehlum), Maiz(Maize Composite-15, Shalimar Maize Composite 3,4 & 5), Oilseed(Gulchin) and Oats(Sabzar).
- Commercial cultivation of flowers (Gladiolous, Liliium).
- Rearing of backyard poultry (Wanraja, Croiler)
- Establishment of vermi-compost and vermiwash units.
- Establishment of azolla and biogas plant.
- Scientific management of apple, walnut, pear, etc.
- Leaf and soil testing for proper dosage and judicious use of fertilizers.

### Productivity and Economics of Different Enterprises

#### 1. Agriculture:

Enterprise	Production	Net return (Rs)	B:C ratio
Paddy	35 qt.	32,000/-	2.90
Maize	30 qt.	40,000/-	6.00



Standing crop of Paddy (Jehlum)



Standing crop and cobs of Maize (C-15)

#### 2. Floriculture:

Enterprise	Product ion	Net return (Rs)	B:C ratio
Lillium(Cut flower) (Bulb)	3000 1000	27,000/	4.0
Gladiolus (Spikes)	1000	2,500/-	3.5



Mohammed Ashraf displaying Gladiolus

### 3. Animal Husbandry

Enterprise	Production	Net return (Rs)	B:C ratio
Dairy (Milk)	3600 kg/y	45,000/-	2.12
Poultry (Eggs)	500 eggs/y	2,500/-	5.56



Poultry (Vanraja)

### 4. Horticulture:

Enterprise	Production	Net return (Rs)	B:C ratio
Walnut	320 kg	71,000/-	15.20
Apple	100 boxes	35,000/-	3.34
Pear	120 boxes	38,000/-	2.90



Walnut spread for drying

### 5. Integrated Farming System:

a) **Vermicomposting Unit:** Pit type vermi-composting unit with four pits covered with GIC sheet, was established for the production of vermicompost. He produced 12 quintals of vermicompost worth Rs. 1500/qt and used it for floriculture, vegetable and rice production.

Enterprise	Production	Net return (Rs)	B:C ratio
Vermicompost	12 qt	13,000/-	3.60

**b)Biogas:** Biogas unit has recently been established which will be functional shortly.

**c)Azolla:** Azolla pond has been established and inoculated with azolla seed.



**Biogas-unit**



**Azolla Unit**



**Vermiwash unit**

**6.Horizontal spread of Technology:**

The spread of new technology to the progressive farmers and its spontaneous impact on the adjoining farmers is the success of KVK Anantnag, Mohammad Ashraf being the leading example in this regard. In 2014-15 he sold 640, 225, 400 and 45 kg seed of paddy, maize, oats and oilseeds respectively, thus bringing about horizontal spread of improved seed varieties of paddy, maize, oats and oilseeds over an area of 8.0, 7.5, 4.0 and 3.0 ha. The impact of the performance of Jhelum variety of paddy has been such that whole of the village Bragam has been brought under its cultivation. Earthworms bred from his vermicomposting units are also being procured by the farmers for the establishment of new vermin-composting units.

## 7. Conclusion

To overcome the problems associated with the single crop/commodity/enterprise, multiple enterprise agriculture has been adopted by Mr. Mohd Ashraf Mir at Bragam with co-ordination of KVK Anantnag. Field crops, fruits, flowers, dairy, backyard poultry and organic input production (vermicompost, vermiwash) are the working components of the adopted system. Better input use efficiency, enhanced waste recycling within the system and improved economic profitability realized over the years, speak of the viability and productivity of the system. Supplementary effect of various components on the performance of each other has been striking feature of the system. In future, this effect will be exploited, as it is the foundation to sustainability.

### SUCCESS STORY 2: THEMATIC AREA: SOIL & WATER CONSERVATION (Protection Bund & water Harvesting Pond)

**Mohammad Yousuf Parry**  
Son-in-law of Mohammad Ramzan Padder  
Kreri, Anantnag, Jammu Kashmir



Profile	Description of Initiative/Innovation
<p><b>Age:</b> 56 years</p> <p><b>Education:</b> Matric</p> <p><b>Land Holding:</b> 1.5 ha</p> <p><b>Farming Experience:</b> 30 years</p> <p><b>Crops grown:</b> Paddy, Apple &amp; Walnut</p> <p><b>Livestock:</b> Cattle &amp; Poultry</p> <p><b>Social Recognition:</b> Felicitated with Certificate &amp; Trophy by Central Soil &amp; Water Conservation Research &amp; Training Institute (ICAR) Dehradun during 22-24<sup>th</sup> March 2014, in “<i>Conference on Farmers First for Conserving Soil &amp; Water Resources in Northern region (FFCSWR-2014).</i>”</p>	<p>Soil erosion of forest land, erosion of fertile soil, silt &amp; sand in sloppy lands, water scarcity in plantation crops during active crop growth period drastically reduces the production &amp; productivity of the crops. Mr. Yousuf took the initiative to create location specific soil &amp; water conservation techniques through the construction of 500 feet long bund of stones having 2 feet width held together by wire mesh through which 25 ha of paddy land has been conserved. He also constructed concrete pond of dimensions 10x10x10 feet (Length x Width x Depth) for water harvesting through which 15 ha of land under walnut &amp; apple got irrigated at critical stages of growth</p>



Concrete pond



Protection bund

**REVIVAL PROGRAMME OF SHALIMAR KISHAN GANGA-2 (KG-2)**

<b>Year and season</b>	<b>Source of seed</b>	<b>Seed Quantity available (Kg)</b>	<b>Area planted (Kanals) and Location</b>	<b>Quantity produced after selection (Kg)</b>	<b>Remarks</b>
*2012 <i>Kharif</i>	DARS Budgam	07	03	10	Half sib selection approach was followed for selection of authentic samples (as per the descriptor of the variety) after harvesting the crop at MCRS Larnoo.
**2013 <i>Kharif</i>	MCRS Larnoo, Anantnag	10	03 (Dudwangan, Qamar, Anantnag)	485 (4.5q)	The seed production was undertaken in rice grown area to accomplish sure isolation distance in the farmer's field. The entire quantity was procured by DARS, Budgam
***2014 <i>Kharif</i>	2013 seed source	40	Qamar Anantnag(5), Kapran Anantnag (5), Dudwangan Anantnag (8) Halsidar Anantnag (2)	4000(40 q)	Farmers Participatory seed production programme was undertaken that helped to realize 40q seed out of which 10q has been procured by DARS, Budgam and 30q shared by the farmers of the neighboring villages.

**\*\*\*Kharif 2014:** Participatory seed production programme was undertaken in few compact plots in the farmers fields in the villages of Qamar, Kapran, Dudwagan and Halsidar of Distict Anantnag encompassing 20 Kanals of land(1.0 ha) taking into consideration the recommended isolation distance. About 40q seed was produced again under close supervision and regular monitoring by team of scientists constituted for the purpose. About 10 q seed has been procured by DARS, Budgam for further demonstration and onward upscaling under Participatory Seed Production Programme on farmers field proposed for 2015. The rest of the quantity i.e.30q have been shared by the farmers of the neighboring villages. Further the seed produced during 2013 was distributed by DARS Budgam during 2014 in districts of Kupwara, Baramulla, Kulgam and Anantnag under FLD programme to extend maize grown area under equivalent ecologies where C15 and other commercial hybrids developed by SKUAST-K and private sector completely prove failure.

