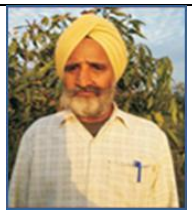
ICAR-ATARI, Zone-I, Ludhiana

Farmer Innovations in Zone-I

S. No.	Photo	Name	Innovation	Brief Detail
1		S. Jagtar Singh Brar	Tractor-mounted rake for paddy straw collection	S. Jagtar Singh Brar, a 61-year-old farmer from Mahima Sarja village in Bathinda district, Punjab, is an MA in English who has combined education with hands-on agricultural innovation. Concerned about the challenges of paddy straw management, he developed a **tractor-mounted rake** designed for efficient collection of paddy straw from the field. This innovation facilitates easy handling and reduces the labour and time required for straw collection, promoting sustainable residue management. His work has been recognized and supported by **KVK, Bathinda**.
2		S. Gurcharan Singh	Carrot washing machine	S. Gurcharan Singh, aged 44, from Bohan village in Hoshiarpur district, Punjab, is a class 10th pass innovative farmer known for developing a **carrot washing machine**. Motivated by the drudgery and inefficiency of manual carrot cleaning, he designed a mechanized solution to improve the quality and hygiene of produce while saving labour costs. His low-cost and farmer-friendly design is being promoted through **KVK, Hoshiarpur**, encouraging value addition and cleanliness in root crop handling.
3		S. Bhupinder Singh	Self-designed-Multiutility Tudi making machine from paddy residue	S. Bhupinder Singh, a 56-year-old innovator from Badanpur village in Mohali district, Punjab, holds a Bachelor of Arts degree. He has developed a **multiutility Tudi making machine** that efficiently converts paddy residue into useful cattle feed. This innovation not only provides a profitable use of agricultural waste but also helps in reducing stubble burning—a major environmental concern in the region. His ingenuity has been identified and supported by **KVK, Mohali**, for wider dissemination among farmers
4		S. Talwinder Singh	Noor waste straw reaper-for straw management	A resident of Ucha Bohar Wala village in Kapurthala district, Punjab, **S. Talwinder Singh** (aged 54) has demonstrated remarkable creativity in designing the **Noor Waste Straw Reaper**, an implement that aids in efficient straw management. With matric-level education and strong practical knowledge, his machine enables effective straw chopping and collection, reducing the need for open-field burning. His innovation contributes to eco-friendly residue management and is being promoted through **KVK, Kapurthala**.
5		S. Gurvinder Singh	Cost effective modified gladiolus digger	S. Gurvinder Singh, a 39-year-old farmer from Nanowal Khurd village in Fatehgarh Sahib district, Punjab, has completed his education up to the 12th standard and is known for his innovative approach to floriculture. To address the labour-intensive process of harvesting gladiolus, he developed a **cost-effective modified gladiolus digger** that simplifies and accelerates bulb extraction from the soil. This machine not only reduces labour costs and physical effort but also minimizes damage to bulbs, ensuring

S. No.	Photo	Name	Innovation	Brief Detail
				better quality planting material for subsequent seasons. His innovation has been identified and promoted by **KVK, Fatehgarh Sahib**, as a practical and affordable mechanization solution for flower growers.
6		Jayant Atreta	Managing apple root borer with self-designed solar light trap	Er. Jayant Atreta, a 26-year-old mechanical engineer (B.Tech. in Mechanical Engineering) from Rohru in Shimla district, Himachal Pradesh, has successfully combined technical expertise with practical agricultural innovation. Concerned about pest infestation in apple orchards, particularly the **apple root borer**, he developed a **self-designed solar light trap** to control the pest population in an eco-friendly and cost-effective manner. This innovative device uses solar energy to attract and trap harmful insects, reducing reliance on chemical pesticides and contributing to sustainable orchard management. His work has been recognized by **ATARI, Ludhiana**, as a promising example of youth-led technological innovation in hill horticulture.
7		Shyam Lal Thakur	Elephant foot yam- A boon for monkey menace prone areas	Sh. Shyam Lal Thakur, aged 59, hails from Karot village in Bilaspur district, Himachal Pradesh. With education up to the 10th standard, he has demonstrated exemplary innovation in crop diversification to tackle local challenges. Recognizing the severe problem of **monkey menace** affecting traditional crops, he introduced the cultivation of **elephant foot yam**, a less palatable crop for monkeys that ensures profitable and secure harvests. This innovation has provided a sustainable livelihood alternative to farmers in similar hilly areas. His efforts have been identified and promoted by **KVK, Bilaspur**, as a replicable model for monkey-affected zones in Himachal Pradesh.
8		Bhagat Singh Thakur	Enhancement of fruit yield through top working technique in apple	A 70-year-old experienced fruit grower from Adal village in Shimla district, Himachal Pradesh, **Sh. Bhagat Singh Thakur** has revolutionized traditional apple cultivation practices. With education up to the 10th standard, he adopted and refined the **top working technique** in apple orchards, enabling the conversion of old, low-yielding trees into high-yielding and disease-resistant varieties. His innovation significantly enhances productivity and rejuvenates unproductive orchards, serving as a valuable example of on-farm innovation in horticulture. His contribution has been recognized by **KVK, Shimla**, for its impact on improving orchard efficiency and farmer income.
9		Naresh Mankotia	Self designed pulley operated power lift for handling multiple operations in mushroom cultivation	Sh. Naresh Mankotia, a 33-year-old graduate from Bhadiyara village in Kangra district, Himachal Pradesh, has developed a **self-designed pulley-operated power lift** to streamline operations in mushroom cultivation. This simple yet ingenious device assists in handling heavy trays, bags, and other materials, reducing manual strain and improving efficiency during various stages of production. His innovation is particularly beneficial for small-scale mushroom growers seeking low-cost mechanization solutions. The **KVK, Kangra**, has recognized and promoted his work as an example of practical frugal engineering in the mushroom industry.

S. No.	Photo	Name	Innovation	Brief Detail
10		Uttam Chand	Silage in portable plastic drum for small dairy units under integrated farming	Sh. Uttam Chand, a 50-year-old progressive farmer from Rihalpura village in Kangra district, Himachal Pradesh, has completed his education up to the 8th standard and is well known for his innovative approach to livestock management. To address fodder scarcity and improve feed quality for small dairy units, he introduced the practice of **silage making in portable plastic drums**. This low-cost, space-efficient method enables year-round availability of nutritious feed and supports the sustainability of **integrated farming systems**. His simple yet impactful innovation has been recognized by **KVK, Kangra**, as a model practice for smallholder dairy farmers in hilly regions.
11		S. Harjeet Singh	Self designed underground method of irrigation for the orchard	S. Harjeet Singh, a 67-year-old farmer from Bharakh village in Reasi district, Jammu & Kashmir, has completed education up to the 10th standard and is known for his innovative contributions to water-efficient farming. To address the issue of water scarcity and uneven moisture distribution in hilly orchard systems, he developed a **self-designed underground irrigation method**. This system delivers water directly to the root zone, minimizing evaporation losses and ensuring optimal utilization of available water resources. His innovation not only conserves water but also enhances fruit yield and quality. The **KVK, Reasi**, has recognized and promoted his model as a sustainable irrigation solution for dryland and hilly orchard conditions.