



ICAR - AGRICULTURAL TECHNOLOGY APPLICATION RESEARCH INSTITUTE (ATARI), ZONE III, KANPUR

Attracting and Retaining Youth in Agriculture (ARYA)



TECHNICAL BULLETIN

Attracting and Retaining Youth to Agriculture (ARYA)

ARYA IMPACT: Where Youth Meets Opportunity

ICAR-ATARI, Zone III, Kanpur



TRAIN



LEARN



ADOPT



ESTABLISH



MENTOR



MARKET





PREFACE

It gives me great pleasure to present this Technical Impact Bulletin on the Attracting and Retaining Youth in Agriculture (ARYA) Scheme, documenting the extension-led efforts of the KVK network under ICAR-Agricultural Technology Application Research Institute (ATARI) Zone-III, Kanpur. The bulletin brings together field experience, capacity-building initiatives, enterprise demonstrations, mentoring, networking, and emerging outcomes of ARYA interventions aimed at promoting youth engagement in agriculture and allied activities.

The ARYA programme has been designed to move beyond awareness creation by linking youth identification and sensitization with selection of potential enterprises, capacity building through demonstrations, mentoring by KVK experts, networking, and continuous monitoring. The approach provides opportunities for rural youth to develop viable enterprises in agriculture and allied sectors such as beekeeping, mushroom production, goatry, poultry and other locally suitable activities.

The evidence presented in this bulletin follows the pathway from baseline assessment and enterprise selection to awareness, training, demonstration, mentoring, enterprise establishment, monitoring, output, outcome and impact. It highlights the efforts of KVKs in facilitating entrepreneurial skills, strengthening technical knowledge, encouraging adoption of improved practices, and supporting youth in establishing and sustaining income-generating enterprises.

The bulletin also brings together information on enterprise development, participation of rural youth, capacity-building activities, knowledge enhancement, adoption of recommended practices, and the emerging economic and livelihood outcomes associated with ARYA interventions.

I acknowledge the dedicated efforts of the scientists, technical personnel, KVK teams, rural youth, farmers, entrepreneurs and other stakeholders who contributed to the implementation, mentoring, monitoring and documentation of ARYA activities.

I hope this bulletin serves as a useful technical reference for KVKs, extension professionals, researchers, development agencies and other stakeholders working towards youth empowerment, agricultural entrepreneurship and sustainable livelihood development. The results should be interpreted in relation to local resource availability, market conditions, enterprise type, technical support, investment requirements and prevailing prices



Dr. Raghwendra Singh
Director

ICAR-ATARI, Zone-III,
Kanpur

Dr. Raghwendra Singh

Director, ICAR-ATARI, Zone-III, Kanpur



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Compiled by:

Dr Raghwendra Singh

Dr Ajay Kumar Singh

Dr. R. R. Burman

Dr Seema Yadav

Dr Preeti Yadav

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Director

ICAR-Agricultural Technology Application
Research Institute (ATARI), Zone-III, Kanpur-
208002, Uttar Pradesh, India.

Assistance:

Dr Saurabh Pandey

Shubhranshu Singh

Dr Somdutt Tripathi

Saurabh Raj Pandey

Dr Abhishek Singh

Dr Pooja Yadav

Fareed Ahmad



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1. Introduction

ARYA is an initiative designed to attract and empower rural youth to undertake agriculture, allied and service-sector enterprises that can provide sustainable income and gainful employment. The approach places rural youth at the centre of enterprise development, skill building, networking, value addition and market-oriented activities.

The project works through selected Krishi Vigyan Kendras (KVKs), which provide technical guidance, training, demonstrations, mentoring and linkages with relevant institutions and stakeholders. The enterprise portfolio covers activities with scope for relatively quick income generation as well as activities requiring collective action, processing, value addition and marketing.

Why youth-focused agricultural entrepreneurship matters

- Creates local employment and reduces dependence on seasonal agricultural labour.
- Promotes diversification into high-value agriculture and allied enterprises.
- Builds practical skills, confidence and entrepreneurial decision-making among rural youth.
- Encourages collective action for resource and capital-intensive activities.
- Strengthens linkages among KVKs, line departments, financial institutions, markets and other stakeholders.



Photo 1: Goats and Poultry at Deoria KVK farm



2. Objectives and Methodology

2.1 Objective

1. To ascertain the change in level of knowledge among respondents trained under ARYA scheme
2. To determine the level of adoption among respondents trained under ARYA scheme

2.2 Methodology

The knowledge of beneficiaries regarding beekeeping, poultry farming, goat farming and mushroom cultivation was assessed using a structured, enterprise-specific knowledge test. The test comprised questions covering important scientific and recommended practices related to the respective enterprises. A dichotomous scoring procedure was adopted, wherein a score of 1 was assigned to each correct answer and 0 to each wrong answer or “don’t know” response. The knowledge test was administered before and after the training intervention to assess the existing and acquired knowledge, respectively. The total knowledge score was obtained by summing the scores of all items and was expressed as a percentage of the maximum possible score. Knowledge gain was calculated as the difference between the post-training and pre-training knowledge percentages. The resulting scores were used to assess the improvement in technical knowledge of beneficiaries across beekeeping, poultry farming, goat farming and mushroom cultivation.



Photo 2: Scientific training on goat farming given by KVK experts

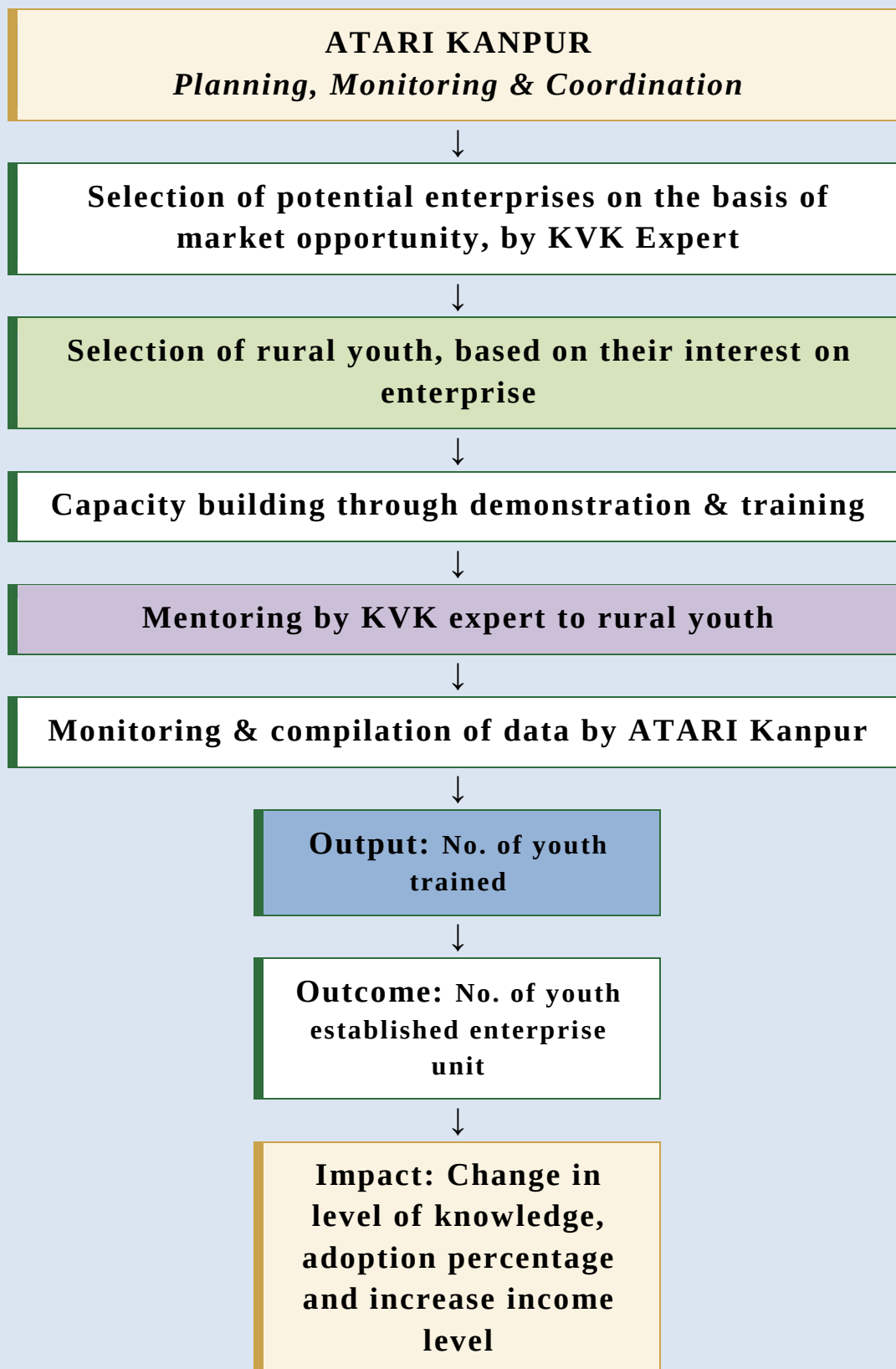
Adoption of recommended practices among the beneficiaries was measured using a three-point continuum, assigning scores of 0, 1 and 2 for “never”, “sometimes” and “always”, respectively. The scores for all selected practices were summed for each respondent and converted into an adoption index by expressing the

observed score as a percentage of the maximum possible score. The resulting scores were used to assess the level of adoption among beneficiaries across beekeeping, poultry farming, goat farming and mushroom cultivation.



3. IMPLIMENTATION AND SCALING FRAMEWORK

Planning · Enterprise Selection · Capacity Building · Impact





3.1 Planning, monitoring and coordination

ATARI Kanpur provides the coordination platform for planning, monitoring and compilation of information across participating KVKs. At KVK level, the technical team translates the broad framework into enterprise-specific action plans.

3.2 Selection of potential enterprises

1. Conduct a rapid local market assessment covering demand, price trends, competitors, buyers and seasonal opportunities.
2. Assess local resource availability such as land, water, livestock, crop residues, labour and existing skills.
3. Assess investment requirement, recurring costs, technical complexity, risk and expected market linkage.
4. Select enterprises where technical support and market opportunity can be realistically combined.
5. Prepare an enterprise-specific technical package containing production protocol, input requirement, cost heads and quality standards.

Table 1: Criteria for selection of Enterprise

Criterion	Key questions	Suggested assessment
Market opportunity	Is there local/regional demand? Who will buy?	Low / Medium / High
Resource suitability	Is land, water, inputs and labour available?	Low / Medium / High
Youth interest	Does the youth have willingness and time?	Low / Medium / High
Investment feasibility	Can initial and recurring costs be managed?	Low / Medium / High
Technical feasibility	Can KVK provide training and mentoring?	Low / Medium / High
Risk	What are disease, climate, price or operational risks?	Low / Medium / High
Value addition	Can processing/packaging improve returns?	Yes / No / Potential

**Table 2: Selection of enterprises at KVKs**

Enterprise	No. of KVKs	KVKs
Mushroom production	6	Saharanpur, Deoria, Basti, Muzaffarnagar-I, Gorakhpur-I, Lucknow
Poultry farming	6	Deoria, Pratapgarh, Muzaffarnagar-I, Ghazipur-I, Kaushambi, Saharanpur
Goat farming	6	Gorakhpur, Basti, Pratapgarh, Ghazipur, Kaushambi, Varanasi
Bee keeping	6	Gorakhpur, Basti, Deoria, Pratapgarh, Muzaffarnagar-I, Ghazipur-I
Vermi compost	1	Varanasi
Nursery management	2	Lucknow, Varanasi
Seed production	2	Lucknow, Kaushambi

3.3 Selection of Rural Youth

Youth selection should be transparent, participatory and enterprise-specific. Interest alone is not sufficient; the selection process should also consider availability of resources, time commitment, learning ability, willingness to maintain records and readiness to establish or strengthen an enterprise.

An enterprise should be taken forward when market opportunity, resource suitability, youth interest and technical feasibility are simultaneously adequate. Where one factor is weak, mentoring or convergence support should be planned before establishment.



**Table 3: Criteria for selection of rural youth**

Parameter	What to assess	Indicative evidence
Interest	Willingness to work in the selected enterprise	Interview / application
Motivation	Entrepreneurial intention and commitment	Interaction / counselling
Resource access	Land, shed, livestock, equipment or workspace	Field verification
Time availability	Ability to manage enterprise activities	Self-declaration / visit
Technical readiness	Basic knowledge and willingness to learn	Pre-training assessment
Financial readiness	Ability to arrange own contribution / working capital	Discussion
Market orientation	Understanding of buyers and sales channels	Interview
Record keeping	Willingness to maintain production and financial records	Commitment

3.4 Capacity Building through Demonstration & Training

Capacity building should combine classroom orientation with hands-on demonstration. The purpose is not only to transfer information but to develop the practical ability required to establish, operate and manage an enterprise.

**Table 4: Steps of Capacity building through training and demonstration**

Stage	Method	Expected competency
Pre-training	Knowledge/skill assessment and needs identification	Training need profile
Orientation	Interactive lecture, videos, discussion	Conceptual understanding
Demonstration	Live KVK/model unit demonstration	Observation and process understanding
Hands-on	Practical exercises by youth	Operational skill
Enterprise planning	Costing, input planning, marketing plan	Business readiness
Assessment	Post-test and practical assessment	Learning gain
Follow-up	Mentoring and field visits	Application and problem solving

Training quality indicators

1. Attendance and completion rate
2. Pre- and post-training knowledge score
3. Practical skill performance
4. Participant satisfaction and relevance
5. Enterprise establishment after training



Photo 3: capacity building through training



3.5 Mentoring by KVK Experts

Training initiates the enterprise; mentoring helps the youth apply the learning under real field conditions. KVK experts should maintain an enterprise-wise mentoring calendar and document major technical interventions.

Table 5: Mentoring cycle

Period	Mentoring activity	Record/document
0–1 month	Enterprise establishment, inputs, infrastructure and first operational steps	Start-up checklist
1–3 months	Technical troubleshooting and practice correction	Visit/advisory record
3–6 months	Production, quality, disease/pest/health and marketing review	Enterprise progress sheet
6–12 months	Cost-return, continuity, value addition and market linkage	Enterprise performance sheet
12 months+	Sustainability, scaling and networking	Annual enterprise profile

Mentor responsibilities

- Provide technically sound, timely and enterprise-specific advice.
- Identify deviations from recommended practices and demonstrate corrections.
- Facilitate access to relevant experts, laboratories, veterinarians, input suppliers and institutions.
- Guide record keeping and simple cost-return analysis.
- Encourage market linkage, branding, packaging, value addition and group activities.
- Document successful practices and recurring constraints for programme improvement.

3.6 Monitoring & Compilation of Data by ATARI Kanpur

Monitoring

Monitoring should convert field activities into reliable evidence for programme management. ATARI-level compilation should use common definitions, reporting periods and formats so that achievements across KVKs can be compared and consolidated.

Core data fields

- Youth identification and enterprise type
- Training attended and competency assessment
- Enterprise establishment date and current operational status
- Production quantity and quality
- Input cost, labour cost and other operating expenses
- Sales quantity, sales value and market channel
- Employment generated
- Institutional/financial/market linkage
- Major constraints and technical interventions
- Status of enterprise at 3, 6, 12 and 24 months



Photo 4 and Photo 5: Monitoring by KVK experts

**Table 6: List of KVKs under ARYA Project**

Sl. No.	KVK	Host
1	Muzaffarnagr-1	SVPUA&T, MEERUT
2	Shaharanpur	
3	Basti	ANDUA&T, AYODHYA
4	Varanasi	
5	Gorakhpur-1	
6	Lucknow	ICAR-ISRI, LUCKNOW
7	Deoria	ICAR-IIVR, VARANASI
8	Ghazipur-1	PG COLLEGE, GHAZIPUR
9	Pratapgarh	RASMES, PRATAPGARH
10	Kausambi	DBRAWS, PRAYAGRAJ



4. DETAILS OF ENTERPRISES

4.1 MUSHROOM PRODUCTION

Enterprise background and ARYA relevance

Mushroom production is one of the major enterprises shown in the supplied ARYA achievement table. The reported figures indicate substantial training and enterprise establishment. For ARYA youth, the technical focus should be on selection of suitable mushroom species, quality spawn, substrate preparation, hygienic production, crop management, harvesting and marketing.

Technical production practices

Technical practices: Use a species suited to local temperature and market demand. Procure fresh, reliable spawn. Prepare clean cereal straw or another recommended substrate, pasteurize it properly and allow it to cool before spawning. Maintain clean bags/containers and label each batch. During incubation, maintain suitable temperature and hygiene. During fruiting, provide appropriate humidity and ventilation and avoid waterlogging. Inspect regularly for contamination and insects.



Enterprise management and marketing

Enterprise management: Record spawn, substrate, labour, electricity, water, packaging and transport costs. Record production, rejected quantity, sales and net returns for each crop cycle. Because mushrooms are perishable, identify buyers before harvest. Local retailers, restaurants, hotels, processors and direct consumers can be considered. Staggered production may help maintain regular supply.

Suggested field checklist

- Quality inputs sourced from reliable institutions/suppliers.
- Training and demonstration completed before enterprise expansion.
- Daily/periodic technical and financial records maintained.
- Production planned according to local resources and market demand.
- Health, hygiene, safety and applicable regulations followed.
- KVK experts consulted for site-specific technical problems.



4.2 POULTRY FARMING

Technical production practices

Technical practices: Decide the production objective before procurement. Obtain healthy chicks from a reliable source. Prepare a clean, dry, well-ventilated house with adequate space, feeders, drinkers, litter and brooding arrangements. Maintain suitable brooding conditions and provide clean water and age-appropriate balanced feed. Avoid overcrowding and keep feed dry and protected from rodents.



Enterprise management and marketing

Health and enterprise management: Follow veterinary guidance for vaccination and disease prevention. Restrict unnecessary visitors, maintain clean footwear/equipment and dispose of dead birds hygienically. Record mortality, feed use, vaccination, production, purchases and sales. For layers, collect and handle eggs hygienically; for broilers, coordinate sale with target weight and local demand. Calculate production cost and net return.

Major risks and preventive measures

1. Disease risk: strengthen biosecurity and follow veterinary vaccination advice.
2. Heat/cold stress: improve ventilation, shelter and water management.
3. High mortality: investigate early and seek veterinary diagnosis.
4. Poor profitability: monitor feed cost, mortality, production and market price.

Suggested field checklist

1. Quality inputs sourced from reliable institutions/suppliers.
2. Training and demonstration completed before enterprise expansion.
3. Daily/periodic technical and financial records maintained.
4. Production planned according to local resources and market demand.
5. Health, hygiene, safety and applicable regulations followed.
6. KVK experts consulted for site-specific technical problems.



4.3 GOAT FARMING

Technical production practices

Technical practices: Select healthy animals with good body condition and sound legs. Choose breeds according to local climate and market demand. Provide dry, well-drained and ventilated housing. Supply green fodder, dry fodder, browse and concentrate according to animal category and production stage, along with clean water and suitable minerals. Plan breeding and maintain kidding records.



Enterprise management and marketing

Health and herd management: Provide colostrum promptly to newborn kids. Monitor kids for weakness, diarrhoea and respiratory problems. Vaccination, deworming and parasite control should follow veterinary advice and the applicable local schedule. Maintain records of identification, purchase, breeding, kidding, health care, mortality, feed cost and sales. Planned marketing based on season, body condition/weight and local demand can support better enterprise management.

Major risks and preventive measures

1. Parasites/disease: hygiene, observation and veterinary-guided health programme.
2. Kid mortality: good colostrum, clean kidding area and close observation.
3. Poor growth: review nutrition, water and health status.
4. Low returns: keep herd records and plan breeding, replacement and sales.

Suggested field checklist

1. Quality inputs sourced from reliable institutions/suppliers.
2. Training and demonstration completed before enterprise expansion.
3. Daily/periodic technical and financial records maintained.
4. Production planned according to local resources and market demand.
5. Health, hygiene, safety and applicable regulations followed.
6. KVK experts consulted for site-specific technical problems.



4.4 BEE KEEPING



Technical production practices

Technical practices: Select healthy colonies and a suitable apiary site with flowering resources, water access and protection from strong winds and excessive disturbance. Inspect colonies for queen status, brood pattern, food stores, colony strength, swarming signs and pests/disease. Use protective clothing and a smoker correctly. Seasonal management should account for nectar and pollen availability and colony growth.

Enterprise management and marketing

Honey production and marketing: Harvest mature honey using clean, food-safe equipment. Avoid contamination and store honey appropriately. Maintain records of colonies, inspections, feeding, migration, honey yield, colony losses, costs and sales. Potential markets include direct consumers, retailers, local institutions and processors. Communication with nearby farmers about pesticide application can reduce avoidable colony losses.

Major risks and preventive measures

1. Pesticide exposure: choose apiary site carefully and communicate with nearby farmers.
2. Swarming/weak colonies: regular inspection and seasonal management.
3. Poor honey yield: assess colony strength and floral resources.
4. Poor quality: hygienic harvesting, clean equipment and suitable storage.

Suggested field checklist

1. Quality inputs sourced from reliable institutions/suppliers.
2. Training and demonstration completed before enterprise expansion.
3. Daily/periodic technical and financial records maintained.
4. Production planned according to local resources and market demand.
5. Health, hygiene, safety and applicable regulations followed.
6. KVK experts consulted for site-specific technical problems.



5. Output, Outcomes and Impact

5.1 Output

Outputs are the direct, countable deliverables generated through programme activities. They should be reported separately from longer-term changes in knowledge, adoption, income or sustainability.

Table 7: Distribution of youth trained in different enterprise

Enterprise	Training programmes	Youth trained
Mushroom production	17	304
Quality seed & planting material	9	175
Poultry	11	177
Goat farming	10	388
Bee keeping	8	227
Vermicompost	6	125
TOTAL	61	1396

The table presents the training interventions conducted for rural youth under different enterprise activities. A total of 61 training programmes were organized, through which 1,396 rural youth were trained in various income-generating enterprises.

Among the different enterprises, mushroom production accounted for the highest number of training programmes (17), with 304 youth trained. Goat farming recorded the highest number of trained youth (388), followed by mushroom production (304) and beekeeping (227). Quality seed and planting material, poultry, and vermicompost covered 175, 177, and 125 youth, respectively. The table represents the output of the intervention, as it reflects the immediate results of capacity-building activities, particularly the number of training programmes conducted and rural youth trained.

5.2 Outcome

Outcome is defined as the measurable change achieved by trained rural youth after establishing an enterprise, reflected through the operational status of the enterprise, level of production, income generated, employment created, adoption of improved technologies, and sustainability of the enterprise.

**Table 8: Distribution of rural youth based on unit established**

Enterprise	Units established	Training programmes	Youth trained	Youth-established units
Mushroom production	304	17	304	201
Quality seed & planting material	57	9	175	57
Poultry	121	11	177	71
Goat farming	167	10	388	107
Bee keeping	54	8	227	74
Vermi compost	12	6	125	107
TOTAL	715	61	1396	617

The outcome of the training and capacity-building interventions, particularly the establishment of enterprise units by rural youth. Out of 1,396 youth trained, a total of 715 enterprise units were established, while 617 units were specifically established by youth.

Mushroom production recorded 304 units established, of which 201 were youth-established units. In goat farming, 167 units were established, including 107 youth-established units. Poultry recorded 121 units established, with 71 youth-established units. Beekeeping accounted for 54 units, including 74 youth-established units as reported in the table. Quality seed and planting material and vermicompost recorded 57 and 12 units established, respectively.

Overall, it demonstrates the conversion of training and capacity-building efforts into actual enterprise establishment. Thus, while the first table reflects the immediate output of the intervention, the second table reflects an important outcome, i.e., the establishment and operationalization of enterprise units by trained rural youth.



5.3 Impact

Impact represents the broader and more sustained changes associated with ARYA. These may include durable employment, enterprise survival, increased income, diversification of rural livelihoods, strengthened entrepreneurial networks and improved local economic activity.

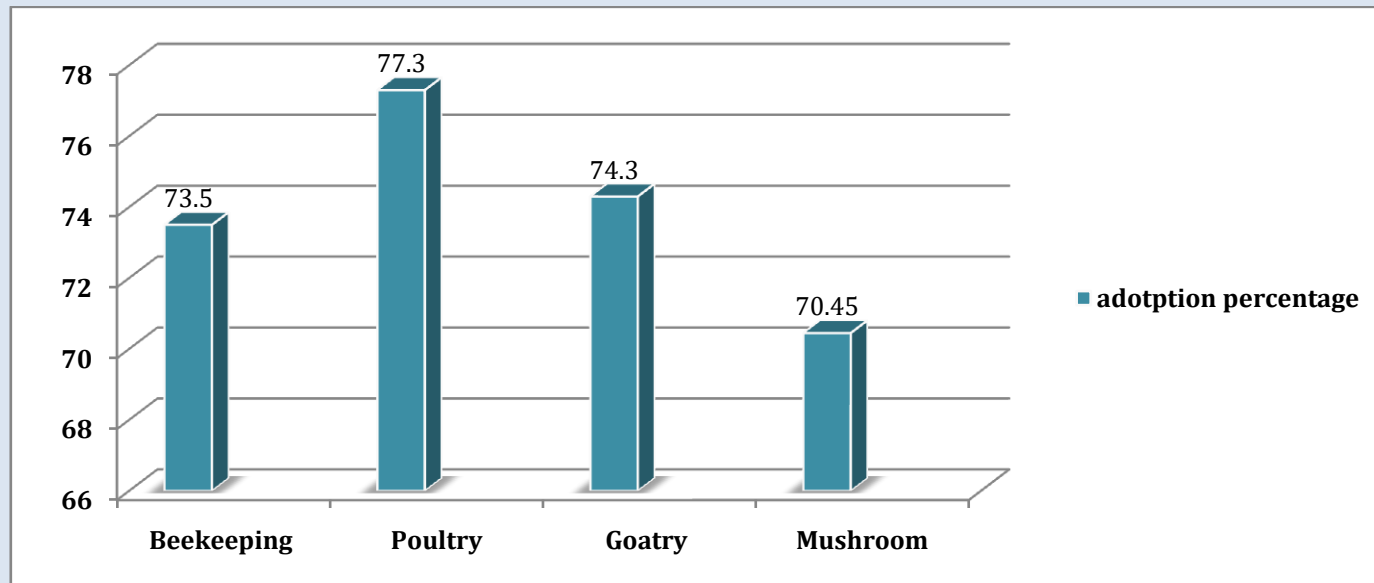


Figure1: Level of adoption among enterprises

These values indicate that adoption of recommended enterprise practices was substantial across all four enterprises. The adoption index was 77.30% for poultry, 74.30% for goat farming, 73.50% for beekeeping, and 70.45% for mushroom cultivation. Poultry farming recorded an adoption index of 77.30%, indicating a substantial level of adoption of recommended poultry production practices. The relatively high adoption



may be attributed to the practical applicability of improved management practices, regular technical guidance, and ease of implementation, short production cycle and perceived economic benefits associated with poultry farming

Table 9: Change in Level of Knowledge among Enterprise

Enterprise	Avg. Pre-training Knowledge (%)	Avg. Post-training Knowledge (%)	Avg. Knowledge Gain (points)	Overall Adoption Index (%)
Mushroom Cultivation	19.3	97.6	▲ +78.30	70.45
Goat Farming	25.3	73.8	▲ +48.50	74.30
Poultry Farming	28.8	78.8	▲ +50.00	77.30
Beekeeping	25.7	74.3	▲ +48.60	73.50

Mushroom cultivation: The average knowledge increased from 19.3% before training to 97.6% after training, showing a knowledge gain of 78.3 percentage points. This represents the largest improvement in knowledge among the four enterprises. The comparatively high baseline knowledge may be related to the widespread familiarity of poultry rearing among rural households. The post-training improvement can be associated with technical exposure to improved housing, feeding, disease prevention, vaccination, and breeding and flock management. The relatively high adoption may also be facilitated by the clear and routine nature of many poultry-management practices.

Goat farming: Knowledge increased from 25.3% to 73.8%, giving a gain of 48.5 percentage points. Thus, the training was associated with a substantial improvement in knowledge.

Poultry farming: The average knowledge increased from 28.8% to 78.8%, resulting in a 50.0-point gain. The post-training knowledge was considerably higher than the pre-training level.

Beekeeping: Knowledge increased from 25.7% to 74.3%, representing a gain of 48.6 percentage points.



6. Success stories

6.1 Small Investment, Big Returns: The Mushroom Farming Success of Jayram Maurya

Name of Farmer: Shri Jayram Maurya

Village: Surva, Post- Kajisarai, P.S.- Badagaon, District- Varanasi, Uttar Pradesh

Enterprise: Mushroom Cultivation

Technical Support: Krishi Vigyan Kendra, Kallipur, Varanasi



BACKGROUND

Shri Jayram Maurya, a small farmer from Varanasi district, was primarily dependent on traditional agriculture for his livelihood. Due to limited land holdings and seasonal income from crops, his earnings were not sufficient to support his family throughout the year. Seeking an alternative income source, he approached Krishi Vigyan Kendra (KVK), Varanasi, where he learned about the potential of mushroom cultivation as a profitable and low-investment enterprise.

INTERVENTION AND TRAINING

KVK scientists provided him with five days technical training on: Scientific mushroom production techniques with Preparation of compost and substrate, Use of quality spawn, Temperature and humidity management, Pest and disease control and Post-harvest handling and marketing.

After participating in the training programme, Jayram Maurya started a small mushroom production unit at his home using locally available resources.

ENTERPRISE ESTABLISHMENT

He began cultivation with a small unit using spawn and basic infrastructure. The total running cost for a small mushroom unit (spawn and chemical spray) was approximately ₹5,500–₹6,000 per month.

From mushroom production, he earned:

Monthly income: ₹25,000–₹30,000

Additional net return: ₹16,000–₹20,800 per month

Annual net return: Approximately ₹195,000

The enterprise proved to be a reliable source of regular income, especially during lean agricultural periods.

IMPACT

Mushroom cultivation significantly improved Jayram Maurya's economic condition. The enterprise provided regular monthly income and reduced dependency on seasonal crops. It also created self-employment opportunities at the household level.



His success encouraged other farmers in the village and nearby areas to adopt mushroom cultivation as an additional enterprise. Several farmers visited his unit for guidance and started their own mushroom production units for self-employment and income generation.

CONCLUSION

The success of Shri Jayram Maurya demonstrates that mushroom cultivation is a profitable and sustainable enterprise for small and marginal farmers. With proper training, technical support, and market linkage, mushroom farming can become a dependable source of income and a model for rural entrepreneurship.

His journey stands as an inspiring example of how innovative agricultural diversification can transform the livelihood of rural farmers



Hands-on training on scientific mushroom cultivation at Krishi Vigyan Kendra, Varanasi followed by on-site visit of KVK scientists to the mushroom production unit of progressive farmer Shri Jayram Maurya for technical guidance, crop monitoring, and strengthening of scientific mushroom cultivation practices



6.2 From MBA to Model Goat Entrepreneur: Success Story of Shri Sanjeet Kumar under ARYA

Name of Entrepreneur: Shri Sanjeet Kumar

Address: Barharakhurd, Chaubeypur, Varanasi, Uttar Pradesh

Educational Qualification: MBA

Implementing Institute: Krishi Vigyan Kendra, Kallipur



BACKGROUND

Shri Sanjeet Kumar, a young and educated farmer, aspired to establish a sustainable and profitable enterprise in agriculture. With technical guidance and capacity building support under the ARYA scheme implemented by Krishi Vigyan Kendra, Kalipur, Varanasi, he adopted scientific goat farming practices and transformed traditional goat rearing into a commercial venture.

INTERVENTION UNDER ARYA

Under the ARYA project, Sanjeet Kumar received: Scientific training on breed selection, housing, feeding, and health management, Support for shed construction and enterprise expansion, Guidance on marketing and value addition, Regular technical supervision and advisory services. He started goat farming on a small scale and gradually expanded the unit adopting improved management practices.

OUTPUT: Enterprise Growth

Particulars	Before start of ARYA	After adoption of ARYA
Size of enterprises (No./area etc.)	10 sqm	4000 sqm
Production (Kg/No.)	25 kg	2560 Kg
Cost of Production / unit (Rs.)	5000.00	460000.00
Gross income (Rs. / Year)	12500.00	1280000.00
Net income (Rs. / Year)	7500.00	820000.00
Marketing	Local	U.P., Bihar, M.P.

OUTCOME

He sells surplus male goats at the age of 10–12 months with an average body weight of 28–30 kg at approximately ₹500 per kg. In addition to meat production, he also generates income from sale of goat manure and breeding stock.

IMPACT

The adoption of scientific goat farming under the ARYA scheme brought remarkable transformation in Shri Sanjeet Kumar's livelihood. His net annual income increased significantly from ₹7,500 to ₹8,20,000, making goatery a highly profitable and sustainable enterprise. The expansion of the unit also generated approximately 720 man-days of employment annually, providing regular livelihood opportunities at the



local level. Scientific feeding practices, proper housing management, and regular vaccination and deworming schedules substantially reduced mortality and improved growth performance of the animals, resulting in higher productivity and better returns.

With continuous technical guidance and market linkage support from Krishi Vigyan Kendra, he successfully established direct sale strategies, further enhancing profitability. His success has become a motivating example for rural youth in the area, encouraging them to adopt goat farming as a viable agribusiness venture and demonstrating the potential of scientific goatery under structured institutional support.



Goatery unit of Shri Sanjeet Kumar inaugurated by Head of the KVK in presence of ARYA Incharge Dr. Rahul Kumar Singh

Women Self-Help Groups (SHGs) visited Shri Sanjeet Kumar's alleviated (improved) goatery model to gain practical knowledge and receive hands-on training on scientific goat farming practices under the ARYA scheme.



6.3 Scientific Nursery Raising as a Profitable Enterprise: Success Story under ARYA Scheme

Name of Entrepreneur: Dinesh Kumar Patel

Age: 31 Years

Address: Mishirpur, Rohaniya, Varanasi, Uttar Pradesh

Educational Qualification: Graduation

Implementing Institute: Krishi Vigyan Kendra, Kalipur

Programme: Attracting and Retaining Youth in Agriculture (ARYA)



BACKGROUND

With the objective of promoting entrepreneurship among rural youth, the ARYA scheme encouraged skilled and interested young individuals to establish agri-based enterprises. Dinesh Kumar Patel, a graduate youth from Varanasi, showed keen interest in vegetable nursery raising and decided to convert his knowledge into a profitable venture with technical guidance from Krishi Vigyan Kendra, Kallipur, Varanasi.

Intervention under ARYA

Under the ARYA project, Dinesh Kumar received structured training on: Scientific vegetable nursery production, Raised bed and pro-tray nursery techniques, Low tunnel and shade net management, Soil and media sterilization, Pest and disease management and Marketing and enterprise planning.

Initially, 20 rural youths were trained in vegetable nursery production, out of which 15 youths established nursery units as enterprises in 2025–26. Dinesh Kumar emerged as one of the successful entrepreneurs among them.

OUTPUT: Enterprise Development

Dinesh established a nursery unit equipped with:

- 2 shade net sheds
- 2 low tunnels
- Scientific pro-tray seedling production system

On average, 1.5–2.0 lakh quality vegetable seedlings were produced per unit annually. Each unit generated produce worth approximately ₹4,80,000–₹5,20,000 per year.

Through the sale of healthy, disease-free seedlings, Dinesh Kumar earned ₹3,50,000–₹4,20,000 annually. Additionally, seasonal income of ₹80,000–₹1,20,000 per youth was generated depending on demand and crop season.



IMPACT

The nursery enterprise significantly enhanced the income and livelihood security of the entrepreneur. Availability of quality seedlings in the locality reduced farmers' dependency on distant markets and improved crop productivity. The enterprise generated local employment opportunities and strengthened the vegetable production system in nearby villages. Farmers benefited from timely access to healthy, uniform, and disease-free seedlings, leading to better yields and profitability.

The initiative also motivated other rural youths to adopt nursery raising as a sustainable and low-investment agribusiness model.

CONCLUSION

The success of Dinesh Kumar Patel under the ARYA scheme demonstrates how scientific nursery raising can become a profitable and sustainable enterprise for rural youth. With proper training, technical backstopping, and market linkage, nursery entrepreneurship has emerged as an effective model for income generation, employment creation, and strengthening of the vegetable production system in Varanasi district.

This case stands as an inspiring example of youth empowerment through agriculture under the ARYA programme



Hands-on training on scientific vegetable nursery raising provided to rural youth under the ARYA scheme at Krishi Vigyan Kendra, Kalipur, demonstrating pro-tray seedling production and protected cultivation techniques.



KVK scientists visiting the progressive nursery unit of Shri Dinesh Kumar Patel to monitor seedling production, provide technical guidance, and strengthen scientific nursery entrepreneurship under ARYA scheme.



7. Conclusion

The ARYA framework provides a logical pathway from planning and enterprise selection to capacity building, mentoring, monitoring, output, outcome and impact. A technically strong implementation system should combine market-led enterprise selection, practical skill development, continuous KVK mentoring and evidence-based monitoring. The framework can therefore serve as both a field implementation guide and a reporting structure for participating KVKs and coordinating agencies.

The findings indicate a considerable improvement in knowledge among respondents following training across all four enterprises. The highest knowledge gain was observed in mushroom cultivation (78.3 percentage points), followed by poultry farming (50.0 points), beekeeping (48.6 points), and goat farming (48.5 points). The overall adoption index ranged from 70.45% to 77.30%, indicating substantial adoption of recommended enterprise practices. The results suggest that capacity-building and training interventions contributed to improved knowledge and were accompanied by meaningful adoption of enterprise-related practices among the respondents.



Annexure

8. List of ARYA KVKs with contact details of Head and Nodal Scientists

Sr. No.	Name of KVK	Head of KVK			Nodal Scientists			
		Name	Mobile no.	Email	Name	Designation	Mobile no.	Email
1	Muzaffarnagar-I	Dr Hans Raj Singh	9411263753	kvkmuzaffarnagar@gmail.com	Dr Virendra Singh	SMS/AP Plant Protection	9634348776	virendrdr@gmail.com
2	Varanasi	Dr. Naveen Kumar Singh	7985831438	kvkkallipurvns@gmail.com	Dr. Rahul Kumar Singh	SMS Agril. Extension	7007275688	kvkkalipurvns@gmail.com
3	Gorakhpur-I	Dr. Shashikant Yadav	9415188020	kvkgorakhpur@gmail.com	Dr. S.K. Singh	SMS (Animal Science)	9839994240	satishsmsas@gmail.com
4	Deoria	Dr Mandhata Singh	7903599212	kvkdeoria98@gmail.com	Dr Ankur Sharma	SMS (Animal Biotechnology)	9541708544	kvkdeoria98@gmail.com
5	Ghazipur-I	Dr. Vinod Kumar Singh	8005434271	ghazipurkvk@gmail.com	Dr. Vinod Kumar Singh	Sr. Scientist & Head	8005434271	ghazipurkvk@gmail.com
6	Pratapgarh	Dr. N K Singh	9415143774	kvkpratapgarh@gmail.com	Dr A K Singh	SMS Extension	9415909281	kvkpratapgarh@gmail.com
7	Kaushambi	Dr Ajay Kumar	9450965185	kvkkaushambi@gmail.com	Dr Ashish Kumar Srivastava	SMS (Animal Science)	9452271205	kvkkaushambi@gmail.com
8	Basti	Dr. Satish Kumar Tomar	6393391301	kvkbasti@gmail.com	Dr. Prem Shankar	SMS(Plant Protection)	9616297380	kvkbasti@gmail.com
9	Lucknow	Dr A K Dubey	9454332536	akdubeyiisr@gmail.com	Dr A K Dubey	Head	9454332536	akdubeyiisr@gmail.com
10	Shaharanpur	Dr. I K Kushwaha	9412376121	kvksaharanpur01@gmail.com	Dr. Manoj	SMS (Animal Science)	989749833	kvksaharanpur01@gmail.com



**ICAR - Agricultural Technology Application Research Institute
(ATARI), Zone-III, Kanpur (UP)**

