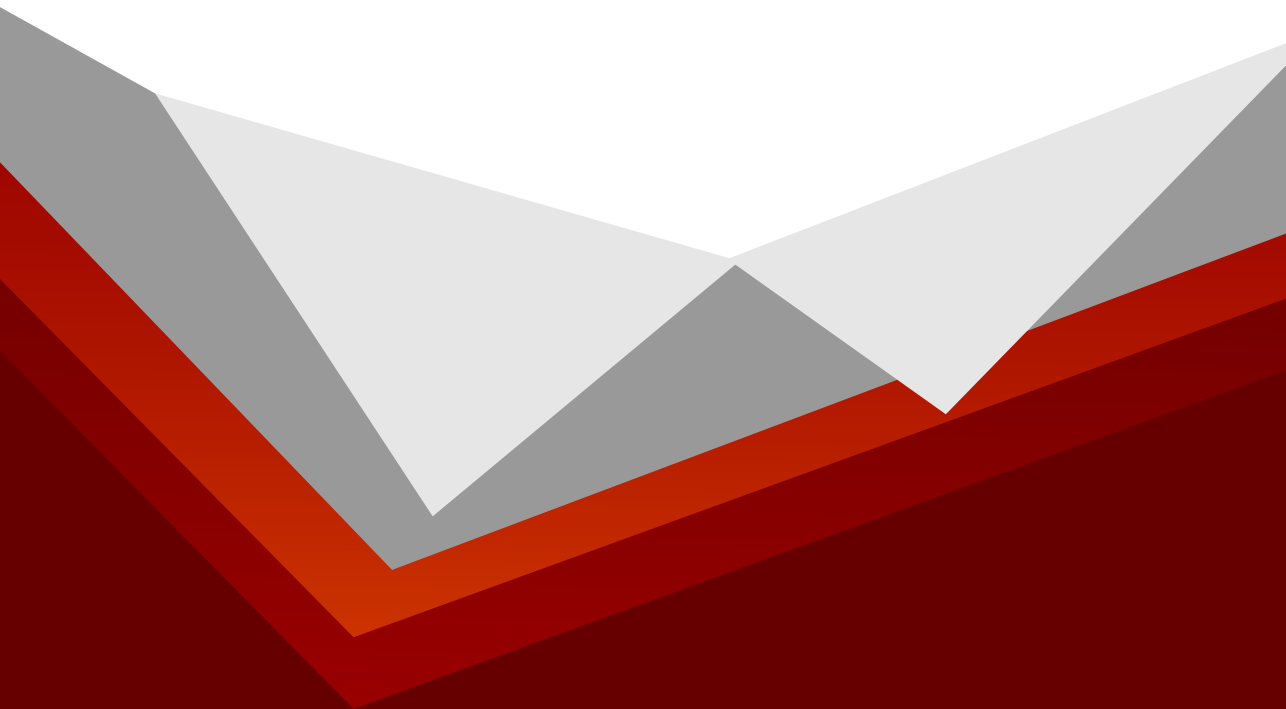


Attracting and Retaining Youth in Agriculture (ARYA): From Rural Youth to Rural Entrepreneurs

Impact Assessment of Economic, Employment and Livelihood Transformation



**13,967
Youth
Trained**

**4,137 Youth
Initiating
Enterprises**

**3,660
Entrepreneurial
Units Established**

**~30% Training-
To-Enterprise
Conversion**



ICAR-Agricultural Technology Application Research Institute
Zone-I, PAU Campus, Ludhiana-141 004, Punjab, India

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Compiled by:

Parvender Sheoran

Rajesh Kumar Rana

Ashish S Murai

Preeti Mamgai

Rajarshi Roy Burman

Ranjay Kumar Singh

Rajbir Singh

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Research Institute (ATARI), Zone-I,

Ludhiana-141 004, Punjab, India.

Tel: 0161-2401018; Fax: 0161-2412719

Email: zcu1ldh@gmail.com

Website: <https://atariz1.org.in>

Graphics Design & Page setting:

Harinderjeet Singh Jassi



1. INTRODUCTION

The Attracting and Retaining Youth in Agriculture (ARYA) project represents a strategic shift from conventional extension towards entrepreneurship development. In North-Western India, where rural youth increasingly aspire to non-farm employment while agriculture remains central to rural livelihoods, ARYA has sought to make agriculture and allied sectors more attractive by building entrepreneurial capability, supporting enterprise establishment and facilitating livelihood diversification.

The project has evolved beyond one-time skill training into an enterprise-incubation approach in which Krishi Vigyan Kendras (KVKs) support youth through profiling and enterprise selection, hands-on technical training, exposure to successful enterprises, critical-input support, business planning, technical handholding, troubleshooting, market linkage, diversification and value addition. The resulting transformation is best expressed as a progression from “youth as job seekers” to “youth as enterprise owners and employment creators.”

The documented evidence demonstrates that ARYA can convert knowledge and skills into viable rural businesses, higher incomes, local employment, value capture and peer-to-peer replication. The case evidence covers beekeeping, mushroom, poultry, protected cultivation and value addition/processing, with particularly strong opportunities for landless, smallholder and women entrepreneurs.

2. OBJECTIVES

- Promote rural youth entrepreneurship and livelihood diversification by making agriculture and allied enterprises economically viable through practical, hands-on technical and managerial capacity building.
- Facilitate establishment, stabilisation and scaling of rural enterprises through continuous KVK handholding, value addition, market linkages and improved local value capture.
- Build a self-sustaining rural enterprise ecosystem by generating self- and wage-employment and developing successful entrepreneurs as demonstration farms, mentors, resource persons and master trainers for wider replication.



3. INTERVENTION STRATEGY: THE ARYA “IDEA-TO-INCOME” ENTERPRISE TRANSFORMATION MODEL

The ARYA approach goes beyond conventional training by creating a complete enterprise incubation ecosystem—from identifying the right youth and enterprise opportunity to establishing, stabilising, scaling and replicating successful rural enterprises.

Stage	Key intervention	Livelihood transformation
Identification	Awareness, outreach, profiling of interest, resources, aptitude and economic need	Better enterprise selection
Capability building	Enterprise-specific practical training and exposure visits	Technical confidence and competence
Start-up	Critical inputs, enterprise guidance and initial support	Operational enterprise established
Stabilisation	Telephone/electronic advice, field visits and troubleshooting	Lower failure risk and continuity
Scaling	Finance/scheme convergence, diversification and expansion	Higher output, scale and income
Value capture	Processing, branding, packaging and market linkage	Higher margins and improved market access
Replication	Successful entrepreneurs as mentors, trainers and demonstration hubs	Peer adoption, employment and local multipliers

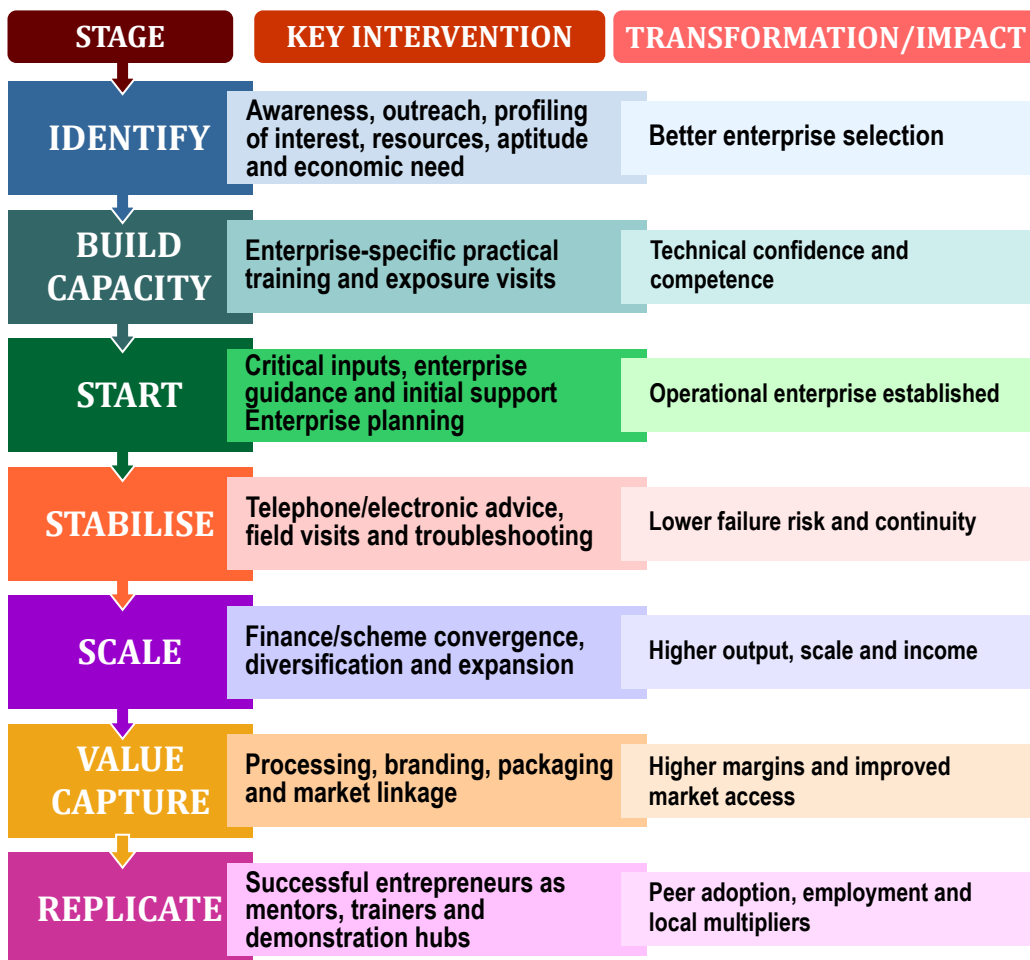




ARYA MODEL

IDEA-TO-INCOME ENTERPRISE TRANSFORMATION FRAMEWORK

An integrated pathway from rural youth to successful, sustainable and scalable enterprises



OVERALL IMPACT

An integrated pathway from rural youth to successful, sustainable and scalable enterprises

Higher incomes and livelihood security

Employment generation (self & wage)

Stronger rural enterprises and local economy

Social empowerment and youth engagement

Sustainable and resilient rural ecosystem

From Youth to Entrepreneur → From Enterprise to Income → From Success to Community Transformation



4. SCALE OF IMPLEMENTATION AND OUTREACH

The programme reached 13,967 youth through 652 training programmes during the eleven-year period. Of these, 4,137 youth initiated enterprises and 3,660 entrepreneurial units were established, representing an approximate 30% training-to-enterprise conversion. The year-wise pattern indicates that ARYA expanded its youth outreach while maintaining a sustained pipeline from training to enterprise establishment.

Period	Training programmes (No.)	Youth trained (No.)	Youth initiating enterprises (No.)	Units established (No.)
2015-16	10	254	69	60
2016-17	23	450	234	206
2017-18	22	472	255	215
2018-19	24	633	255	215
2019-20	57	970	517	376
2020-21	68	1,164	562	562
2021-22	78	1,649	589	498
2022-23	102	1,963	411	411
2023-24	103	2,237	426	426
2024-25	91	2,258	471	343
2025-26	74	1,917	348	348
Total	652	13,967	4,137	3,660

5. ENTERPRISE-WISE LIVELIHOOD TRANSFORMATION

The strongest evidence of ARYA's impact is found in documented enterprise cases where technical capability, inputs, handholding and market support were associated with expansion in operating scale and income. The following cases are presented as illustrative evidence of the pathways enabled by the programme.

5.1 Beekeeping: A Scalable, Land-Light Enterprise

Beekeeping emerged as a strong enterprise option for landless and resource-constrained youth because colonies can be expanded and moved with floral resources. KVK support combined practical training, diversification into honey,



wax, pollen and queen bees, collective marketing and continued technical guidance. Beyond beekeeper income, the enterprise creates demand for equipment, boxes, transport, packaging and labour. Pollination also supports fruit and vegetable production, extending benefits beyond the apiary.

Entrepreneur	Scale / Output change	Income / Impact
Chamkaur Singh, Bathinda	15 → 650 hives; 227 q honey plus wax/pollen	₹0.18 → ₹10.04 lakh; 56-fold increase; reverse migration
Shalinder Singh, Bathinda	50 → 540 hives; honey 1,500 → 18,900 kg	₹1.13 → ₹14.18 lakh
Sukhraj Singh, Bathinda	500 hives	₹7.72 lakh; 4 persons employed
Sandeep Kumar, Haridwar	200 hives	₹2.15 → ₹7.30 lakh
Hitesh Kumar, Haridwar	150 hives; collective marketing	₹0.90 → ₹6.84 lakh
Jaskaran Singh, Bathinda	50 → 400 hives; diversified bee products	₹0.59 → ₹6.18 lakh

5.2 Mushroom: High-Value Livelihood with Limited Land

Mushroom enterprise development demonstrated how relatively land-light production can create high-value livelihoods. KVKs supported spawning, production, processing, packaging, transport and marketing, complemented by exposure visits, critical inputs and continuous advisory support.

Entrepreneur	Enterprise / Scale	Income / Outcome
Arun Sharma, Kathua	Round-the-year button, milky & oyster; own compost	₹10.50 lakh
Jaspal Singh Gill, Bathinda	4 → 7 larger sheds; compost 460 → 1,000 q	₹0.80 → ₹10.10 lakh; 12.6-fold increase
Sunil Pathania, Hamirpur	Round-the-year production + value addition	₹9.88 lakh
Bhagwan Dass, Kathua	3.5 → 40 q production	₹0.38 → ₹4.50 lakh
Nitin Kumar, Haridwar	500 bags/crop × 5 crops/year	₹1.90 lakh; certified trainer
Om Dutt, Kathua	Mushroom + processing	₹1.99 → ₹2.90 lakh



5.3 Poultry: Scale and Employment generation

Poultry enterprises showed the importance of combining scientific production with scale, contract farming, risk-sharing, market access and value addition. Some entrepreneurs expanded substantially while creating local wage employment and backward and forward linkages.

Entrepreneur	Scale / Diversification	Income / Impact
Pawan Kumar, Bathinda	10,000 → 35,000 birds; medicine/vaccination shop	₹1.40 → ₹10.35 lakh; 10 persons employed
Aparpal Singh Mahal, Bathinda	21,000 birds + processing + restaurant/shop	₹1.80 → ₹10.60 lakh
Ramanjot Singh, Bathinda	6,000 → 15,000 birds; contract farming	₹1.40 → ₹7.40 lakh; 3 persons employed
Thana Singh, Bathinda	3,000 → 9,000 birds; contract farming	₹1.20 → ₹4.25 lakh

5.4 Protected Cultivation: Higher Returns from Limited Land

Protected cultivation produced some of the highest documented incomes. KVK interventions combined protected structures, crop diversification, technical management and market linkage, enabling small holdings to move towards higher-value production.

Entrepreneur	Enterprise / Scale	Income / Impact
Ravi Sharma, Solan	Protected vegetables/ flowers; 864 → 5,200 m ²	₹3.40 → ₹24.60 lakh in 4 years
Shalender Sharma, Solan	Yellow-red bell pepper under protected natural farming	₹10.58 lakh; ARYA share 89.81%; 9.58-time enhancement
Mohinder Kumar, Hamirpur	Protected vegetables + nursery	₹0.95 → ₹5.99 lakh
Anil Kumar, Hamirpur	Restored polyhouse; diversified crops	₹0.85 → ₹4.81 lakh in 4 years; ARYA component ₹3.25 lakh

5.5 Value Addition and Processing: Capturing More Value Locally

Value addition was among the most inclusive enterprise domains, enabling women, landless households and smallholders to convert locally available produce into differentiated products without requiring large landholdings or



high capital. Branding, scientific packaging and food-safety compliance further improved marketability.

Entrepreneur	Innovation / Activity	Income / Outcome
Reena Chandel, Hamirpur	Pickles, sauces and sweets; landless household	Annual sales/income reached ₹24 lakh; entrepreneurship award
Sudesh Kumari, Hamirpur	Home processing + branded products	₹5.89 lakh annual net income; 3 helpers
Rajvinder Singh, Bathinda	Pickles, murabba, candy, jams, squash, sharbat	₹3.25 lakh annual net income
Sushma Rani, Bathinda	Processed products + master trainer + stitching	₹0.36 → ₹2.85 lakh; ARYA share 86%
Sukhwinder Kaur, Bathinda	Pickles, chutneys, milk products, organic vegetables	₹0.60 → ₹2.80 lakh
Chandni Grover, Bathinda	FSSAI-compliant household processing	₹1.15 → ₹2.80 lakh

6. CONSOLIDATED COMMUNITY IMPACT: EVIDENCE OF ECONOMIC AND SOCIAL TRANSFORMATION

The documented ARYA cases demonstrate impact at multiple levels—individual enterprise income, enterprise scale, employment generation, women's economic participation, youth retention, value capture, resilience and knowledge spillovers. The project's significance therefore extends beyond the number of trainees or enterprises created: it demonstrates pathways through which rural skills can become durable local economic activity.





Impact dimension	Illustrative evidence	Significance
Reach & enterprise creation	13,967 youth trained; 4,137 youth initiating enterprises; 3,660 units established	Large-scale conversion of training into enterprise activity
Income multiplication	Multiple documented cases show substantial increases in annual income. Pawan ₹1.40→₹10.35 lakh; Jaspal ₹0.80→₹10.10 lakh; Anil ₹0.85→₹4.81 lakh	Improved household earning potential and economic security
Enterprise scaling	Apiaries, poultry units, mushroom sheds and protected cultivation expanded substantially. Chamkaur 15→650 hives; Jaskaran 50→400; Ravi 864→5,200 m ²	Knowledge and support converted into business scale
Employment	Documented examples include up to 10 persons employed by a single poultry enterprise. Pawan 10; Chamkaur 4; Sukhraj 4; Ramanjot 3; processing helpers	Direct rural wage employment
Women's empowerment	Women-led processing and home-based enterprises documented.	Inclusive livelihood opportunities with relatively low entry barriers
Youth retention	Returned migrants and educated/unemployed youth entered enterprises	Reduced migration pressure and agriculture as a career
Value capture	Processing, branding, direct sales, SHGs and market linkages	Greater share of value retained at local level
Knowledge spillovers	Master trainers, resource persons and demonstration farms	Impact extends beyond direct beneficiaries
Livelihood resilience	Diversification across enterprises and products	Lower dependence on a single income source
Institutional transformation	KVKs provide technology, mentoring, convergence and market facilitation	Local enterprise ecosystem anchored in trusted institutions

7. FROM INDIVIDUAL ENTERPRISE TO COMMUNITY TRANSFORMATION

ARYA creates a cascading impact pathway, where benefits extend beyond the



individual entrepreneur to the household, local employment and the wider rural economy. A successful enterprise becomes a catalyst for community-level livelihood transformation and economic activity.

Transformation level	Change
LEVEL 1 - INDIVIDUAL	Youth acquires skills and establishes an enterprise.
LEVEL 2 - HOUSEHOLD	Enterprise generates income, livelihood security and diversification.
LEVEL 3 - EMPLOYMENT	Growing enterprises create local wage and service employment.
LEVEL 4 - COMMUNITY	Entrepreneurs demonstrate technologies, provide services and mentor peers.
LEVEL 5 - LOCAL ECONOMY	Input suppliers, processors, transporters, traders and service providers benefit.

8. ARYA IMPACT SCORECARD

The ARYA Impact Scorecard captures the journey from capacity building to tangible livelihood outcomes, moving beyond training numbers to enterprise creation, income enhancement, enterprise expansion and employment generation. It demonstrates how ARYA has translated youth skills into productive assets, viable businesses and local economic opportunities.





Key performance indicator	Achievement	Impact interpretation
Training programmes	652	Scale of capacity development
Youth trained	13,967	Human capital and entrepreneurship pipeline
Youth initiating enterprises	4,137	Conversion of training into enterprise activity
Entrepreneurial units established	3,660	Actual rural business assets created
Approx. trained-to-business conversion	~30%	Indicative movement from training to enterprise
Highest documented annual income case	₹24.60 lakh (protected cultivation)	Protected cultivation case
Highest documented value-addition sales/income	₹24 lakh	Processing enterprise case
Largest documented beekeeping expansion	15 → 650 hives	Commercial scaling
Largest documented protected-cultivation expansion	864 → 5,200 m ²	Expansion of high-value production
Documented direct employment examples	Up to 10 persons in a poultry enterprise	Poultry enterprise

TRAIN → ENABLE → START → HANDHOLD → SCALE → ADD VALUE → EMPLOY → REPLICATE

9. WHY THE ARYA MODEL WORKS

The strength of ARYA lies in its end-to-end, risk-reducing approach that connects the right enterprise opportunity with practical skills, continuous mentoring and market access. Rather than ending with training, ARYA converts knowledge into enterprise, enterprise into income, and successful enterprises into community-level multipliers.

DRIVER	HOW IT CREATES IMPACT
Right enterprise choice	Activities are matched to youth resources, land availability, skills, risk-bearing capacity and local opportunities.
Practical competence	Hands-on training and exposure visits convert knowledge into operational confidence.



DRIVER	HOW IT CREATES IMPACT
Post-training handholding	Technical troubleshooting and field/digital support help reduce early-stage enterprise failure risk.
Value addition & market linkage	Processing, branding, packaging, diversification and market connections increase value capture.
Demonstration effect	Successful entrepreneurs become visible proof that rural enterprises can work.
Multiplier mechanism	Master trainers, mentors and resource persons extend benefits beyond the original trainee cohort.

10. OVERALL IMPACT: FROM TRAINING YOUTH TO BUILDING RURAL ENTERPRISES

ARYA has demonstrated a clear transition from conventional technology dissemination to enterprise incubation, income generation and rural economic transformation. During 2015–16 to 2025–26, the programme trained 13,967 rural youth and facilitated the establishment of 3,660 entrepreneurial units by 4,137 youth. These outcomes demonstrate that appropriately designed technical training, when combined with inputs, continuous mentoring, institutional convergence and market support, can convert rural youth from

Impact Dimension	Transformation Enabled by ARYA
Economic	Enterprise establishment, income enhancement, business expansion, diversification and increased local value capture
Employment	Creation of self-employment and additional local wage employment, reducing dependence on conventional farm employment
Entrepreneurship	Emergence of rural youth as enterprise owners, service providers, innovators and local business leaders
Social	Greater youth engagement and retention in rural areas, increased participation of women and stronger peer-to-peer learning
Institutional	KVKs evolved from training providers into enterprise catalysts, incubators, mentors and convergence facilitators
Technology & Innovation	Conversion of scientific knowledge into commercially viable agriculture and allied enterprises
Market & Value Chain	Greater emphasis on processing, branding, packaging, quality, digital marketing and market connectivity



technology recipients into enterprise creators.

The larger significance of ARYA lies in its ability to de-risk rural entrepreneurship. Rural youth often possess interest and basic resources but face barriers related to enterprise selection, technical competence, initial investment, risk management and market access. ARYA addresses these barriers sequentially, thereby improving the probability that training will culminate in a functional and sustainable enterprise rather than remain a certificate-based intervention.

The model also creates a powerful demonstration and multiplier effect, as every successful entrepreneur can become a source of knowledge, confidence and inspiration for other youth, enabling KVKs to move from “training many” to “creating entrepreneurs who train and influence many more.”

11. POLICY RELEVANCE AND CONVERGENCE OPPORTUNITY

ARYA is well aligned with national priorities around rural employment generation, youth entrepreneurship, agricultural diversification, formalisation of micro-enterprises, value addition and local economic development. Its

Enterprise need	Potential convergence	Contribution to ARYA pathway
Start-up & working capital	PMMY/MUDRA, PMEGP, banks and financial institutions	Finance access and enterprise launch/expansion
Food processing & value addition	PMFME, ODOP, FPO/SHG ecosystem	Processing, branding, packaging and market development
Post-harvest infrastructure	Agriculture Infrastructure Fund	Storage, processing and value-addition infrastructure
Livestock, poultry & allied enterprises	National Livestock Mission and relevant departmental schemes	Capital support and enterprise development
Innovation-led enterprises	Startup/innovation ecosystem, incubators and mentoring platforms	Technology, innovation and business incubation
Collective enterprise	FPOs, SHGs, cooperatives and producer groups	Aggregation, common services and collective marketing
Market expansion	Institutional buyers, private value-chain actors and digital platforms	Stable markets and wider customer reach



enterprise-incubation approach can complement existing government initiatives. ARYA can function as a rural “enterprise bridge” connecting youth with technology, practical skills, government schemes, institutional finance, markets and mentorship.

12. WAY FORWARD: FROM ENTERPRISE CREATION TO RURAL ENTERPRISE ECOSYSTEMS

The next phase of ARYA should move from “training and enterprise establishment” to “enterprise survival, growth, clustering and market-led scaling.”

1. Institutionalise the ARYA Idea-to-Income Pathway

- Adopt a standardised pathway: Youth Identification → Profiling → Enterprise Selection → Practical Training → Business Plan → Finance/Input Linkage → Enterprise Launch → 2–3 Years Handholding → Market Integration → Scaling
- Every trained youth should ideally be tracked through an Enterprise Lifecycle Dashboard, enabling to measure outcomes beyond training numbers.

2. Shift from Training-Centric to Outcome-based Monitoring

The primary performance indicators should progressively include: Enterprise survival rate, Annual turnover and net income, Employment generated, Enterprise expansion and diversification, Market linkages established, Value addition and branding, New entrepreneurs mentored, Access to institutional finance and government schemes. This will reposition ARYA from a training-output programme to an enterprise-impact programme.

3. Position KVKs as Rural Enterprise Incubation Hubs

- KVKs can function as “Rural Enterprise Facilitation & Incubation Hubs”, providing: Technology + Training + Business Planning + Scheme Convergence + Mentoring + Market Linkage
- Selected successful enterprises can serve as district demonstration enterprises, allowing prospective entrepreneurs to learn through a “Seeing is Believing” approach.

4. Develop District Enterprise Clusters

- Instead of promoting isolated enterprises, ARYA should facilitate district-



level enterprise clusters based on local resources, demand and market opportunities—for example: Beekeeping | Mushroom | Nursery | Dairy | Poultry | Goatery | Food Processing | Agri-machinery Services | Protected Cultivation | Rural Services

- Create economies of scale in input procurement, processing, branding, logistics and marketing.

5. Create an ARYA Champion Network

- Develop successful entrepreneurs as demonstration enterprises, mentors, master trainers, local service providers and cluster leaders.
- Progressively build a self-propagating rural entrepreneurship ecosystem.

6. Prioritise Inclusive and Land-Light Enterprises

- Greater emphasis may be given to enterprises requiring relatively limited land ownership and suitable for youth and women, including beekeeping, mushroom production, nursery raising, food processing, agri-input services, custom hiring, livestock services and digital/rural services.

7. Make every programme enterprise-ready

- Combine technical skills with business planning, financial literacy, market intelligence, digital marketing and quality/food-safety competencies.
- The entrepreneur learns not only “how to produce” but also “how to calculate, sell, brand, finance and grow.”

13. Conclusion: ARYA as a Model of Rural Livelihood Transformation

ARYA demonstrates that rural youth need not remain job seekers or passive recipients of agricultural technology. With appropriate enterprise choice, practical competence, start-up support, sustained mentoring, market connectivity and opportunities for scale, they can become entrepreneurs, employers and agents of local economic transformation.

The documented evidence of 13,967 trained youth, 4,137 enterprise initiators and 3,660 entrepreneurial units provides a strong foundation for this proposition. The enterprise cases show pathways to higher income, commercial scale, employment, women's economic participation, value addition and knowledge multiplication.

The strategic opportunity for ARYA is to evolve into a nationally replicable model of rural enterprise incubation—connecting rural youth with technology,



finance, schemes, markets and mentorship, while converting successful entrepreneurs into the next generation of rural enterprise multipliers. This will position ARYA much stronger from an impact-assessment and policy perspective, because it demonstrates not only how many youths were trained and enterprises established, but also how an institutional mechanism can convert rural human capital into sustained enterprise, employment and local economic development.

The Core Policy Message

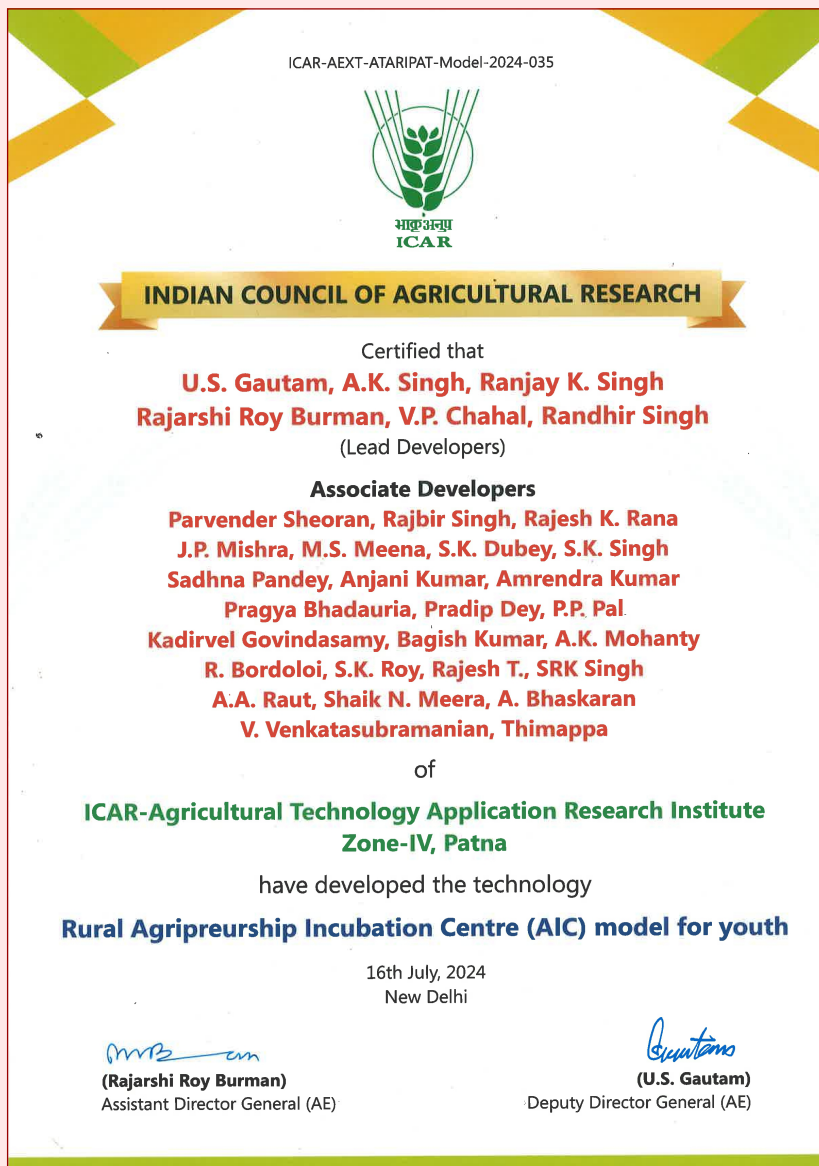
“When rural youth are given skills, opportunity, confidence, finance, markets and sustained institutional support, agriculture and allied sectors can become engines of enterprise, employment and inclusive rural economic growth.”

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Recognition for Community-Level Impact



The Extension Delivery Model for Rural Agripreneurship Incubation Centre (AIC) Model for Youth has been certified by the Indian Council of Agricultural Research (ICAR), New Delhi, vide **Certificate No. ICAR-AEXT-ATARIPAT-Model-2024-035**, in recognition of its field-validated approach, measurable outcomes and demonstrated community impact at scale.



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