

WHAT IS WRONG WITH OUR SKILLING PROGRAMMES IN AGRICULTURE?



In this blog, R M Prasad presents a critique of the skilling domain in India, with particular reference to the agricultural sector, and suggests how to overcome the current constraints.

CONTEXT

Skill development is one of the most challenging processes to manage within the entire spectrum of education and training. It is significantly harder to plan and deliver than other levels of education, as its demands are often unarticulated and constantly evolving. Ensuring quality in skill development requires three critical elements: standards, sufficient inputs, and measurement of outputs against these standards. Developing standards is the first requirement for quality skill training. Trainers and employers should play a major role in determining these standards, which should be expressed in terms of competencies (output requirements), not inputs. In India, though several agencies are involved in organizing skill training in agriculture (Box 1), overall, the sector faces several challenges.

Box 1: Skill Training Programmes in Agriculture

Student READY (Rural Enterprise Awareness Development Yojana) of ICAR is implemented in the fourth year of the undergraduate programme by State Agricultural Universities. It has five components:

- a) Experiential Learning on Business Models/Hands-on Training
- b) Experiential Learning on Skill Development
- c) Rural Agricultural Work Experience (RAWEX)
- d) Internship/In-plant training/Industrial attachment
- e) Student projects.

Attracting and Retaining Youth in Agriculture (ARYA), an ICAR programme, focuses on skill development and entrepreneurship for rural youth, aiming to generate employment and income. Krishi Vigyan Kendras (KVKs) implement ARYA in one district per state, identifying 200–300 rural youth per district for skill development and micro-enterprise establishment.

Skill Training of Rural Youth (STRY), by the Government of India, provides vocational training to rural youth in agriculture and allied sectors, promoting employment and skilled manpower in rural areas. The programme is implemented by KVKs, NYKs, and FTCs through SAMETIs at the state level and coordinated by ATMA at the district level.

KVKs in each district offer skill training for farmers, farm women, and rural youth to enhance capacity in modern agricultural technologies, self-employment, and enterprise development.

Rural Self-Employment Training Institutes (RSETIs), managed by commercial banks, offer short-duration skill development programmes in agriculture and allied sectors.

Agricultural Skill Council of India (ASCI) provides skill training aligned with the National Skills Qualifications Framework (NSQF), aiming to bridge skill gaps and enhance employability in agriculture.

WHAT IS WRONG WITH OUR SKILLING PROGRAMMES?

Quantity vs. Quality

A critical analysis reveals that despite ambitious targets and substantial public investment, India's skill development landscape remains driven by quantity-based metrics and dubious success stories. The ecosystem is complex, vast, and diverse, offering varying levels of training to a highly heterogeneous population. This complexity presents numerous challenges.

As is well known, skills cannot be acquired in a short time; they require sustained effort and hands-on experience. Yet, many agricultural training programmes are delivered over one or two days under the guise of awareness or exposure training, with trainers claiming that farmers are now equipped to adopt new technologies. This superficial approach undermines true skill acquisition. A worrying trend is the decreasing duration of training courses, aiming to increase numbers but at the cost of quality.



Enhancing the Skills of Agriculture Graduate Students

Reports suggest India's vocational education system has become a numbers game, with certificates issued without meaningful skill development. Over-reliance on short-term training, poor employment outcomes, and inflated placement statistics point to systemic failures. Mehrotra and Sharma (2025) question whether such programmes truly address skill gaps or merely serve to meet statistical goals.

At the village level, training is mostly offered by private players, often in partnership with each other or with the government. However, the training content often fails to align with NSQF standards, leading to varied acceptance of certification, including that issued by ICAR and SAUs. With NSQF implementation, it is imperative that all training be compliant and that centres be accredited accordingly.

A study on agricultural training in North India found that training programmes often foster unrealistic expectations among trainees, particularly the belief that certificates would lead to financial assistance from banks or the government.

Agricultural Extension vs. Skill Training

Since 2013, India has introduced standardized agricultural vocational training under the broader Skill India initiative. However, due to a lack of specialized vocational centres, agricultural extension institutions have been tasked with implementation. This has led to a conflation of extension and vocational training, which are fundamentally different. Extension has traditionally focused on informal, production-oriented knowledge transfer, not skill certification.

The Agriculture Skill Council of India (ASCI) oversees vocational agriculture training with three mandates:

1. Identify sector skill needs and develop qualification packs.
2. Accredite agencies capable of delivering such training.
3. Oversee trainee assessment and certification.

Given the absence of dedicated vocational institutions, extension personnel assumed responsibility for ASCI training based on their agricultural expertise. However, vocational training requires both industry experience and pedagogical qualifications—an area that remains under-researched within SAUs.



Protected agriculture requires hands-on skills to establish and manage controlled-environment farming systems

Supply vs. Demand

Skill development challenges exist on both the supply and demand sides. India's massive workforce growth each year creates enormous employment pressure. On the supply side, issues include poor education quality, inadequate training infrastructure, mismatches between skills and market needs, and the low social perception of vocational training.

Multiple actors—NSDC, MSDE, Sector Skill Councils—manage skilling programmes, creating a fragmented ecosystem with inconsistent quality. [The target-driven orientation and focus on short-term, 'top-up' courses are criticized for not delivering marketable skills.](#)

Technology vs. Skill Development

Technology is a double-edged sword—it creates new jobs while displacing others through automation. Indian startups and unicorns have created over 100,000 jobs annually since 2019, introducing roles such as data scientists and digital marketers. Yet, 69% of jobs in India are threatened by automation.

[According to the World Economic Forum, technology will create 12 million more jobs than it eliminates, offering a long-term net gain.](#) Still, [a new operational model](#) is emerging—the "skills-based organization"—where skills, rather than jobs, are central to workforce planning. This model emphasizes continuous reskilling to enhance employability.



Drone operation is an emerging skill in the agriculture sector

CHALLENGES IN SKILLING

The most glaring shortfall is our inability to measure the employment impact of skilling programmes. A lack of longitudinal data and institutional mechanisms hampers our understanding of trainee outcomes.

[Comparative studies](#) identify two main issues:

1. Provision of quality training.
2. Integration of trainees into the job market.

Four major challenges further compound the issue:

- Technological disruption and AI-driven job displacement.
- A globally ageing workforce impacting economic growth.
- Environmental migration altering carbon patterns.
- Rapid AI development creating regulatory and job-related policy challenges.

Despite large investments, India's skilling success will depend on innovative, scalable solutions involving all stakeholders.

A ROADMAP FOR THE FUTURE

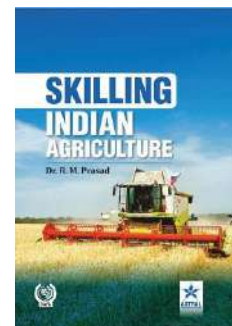
To meet evolving skill demands, upskilling and reskilling should be key government priorities. As noted in the [European Pillar of Social Rights](#), "Everyone has the right to quality and inclusive education, training and lifelong learning to maintain and acquire skills for full participation in society and the labour market."

Recommendations:

- **Integrate innovation, livelihoods, and entrepreneurship** into all agricultural skill programmes—both vocational and formal.
- **Expand skilling frontiers** in agriculture and food sectors, enabling youth to become practitioners or technical advisors.

- **Align curricula and assessments** with industry needs through consultation with entrepreneurs and sector experts.
- **Enhance trainer quality** through joint ICAR-ASCI "training of trainers" programmes, in collaboration with MANAGE, NAARM, and ATARIs.
- **Make programmes demand-driven**, ensuring alignment with job opportunities and increasing accessibility.
- **Empower States** to **design locally-relevant skill solutions**—especially crucial for agriculture.
- **Promote green skills** to combat climate change and sustain natural resources.

Dr. R. M. Prasad is a retired Agricultural Extension expert from Kerala Agricultural University, with over 32 years of service, including as Associate Director of Extension. He contributed to European-funded projects like KHDP and KMIP, served as a National Facilitator for MANAGE, and held key roles at NIRDPR and the Government of Meghalaya. He was also a member of ICAR's Research Advisory Committees for IIMR and DCR. His interests include technology transfer, climate change, and skill development. His recent book, Skilling Indian Agriculture, is available at: <https://www.astralint.com/book/9789359194844/skilling-indian-agriculture>. He can be contacted at drmpasad@gmail.com



AESA Secretariat: Centre for Research on Innovation and Science Policy (CRISP)
Road No 10, Banjara Hills, Hyderabad 500034, India

www.aesanetwork.org

Email: aesanetwork@gmail.com