An International Partnership Model for Educational Entrepreneurship: Integrating Social, Digital and Green Strategies for Emerging Skills in Agriculture

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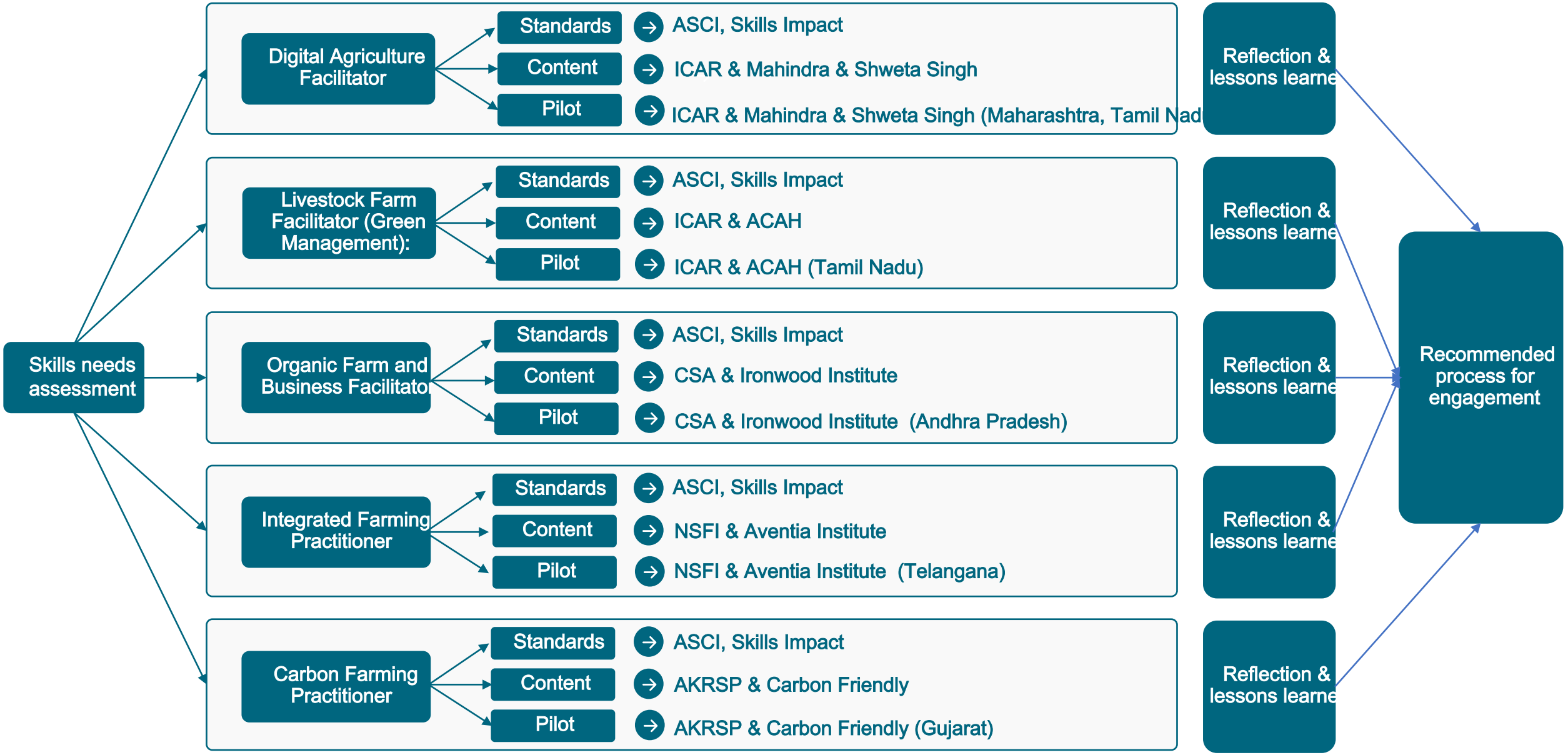
Project Context - Aligning with Australia's International Education policies

- **Developing Critical Agricultural Skills Courses in India (DCASCI) Project was funded by the Department of Education, Australia**
- Australia-India Comprehensive Strategic Partnership (CSP) (2020) – highlights cooperation in education, skills and research with a focus on skill development
- Australia-India Memorandum of Understanding on Cooperation in Vocational Education and Training (2020)
- **A Partnership for the Future: Australia's Education Strategy for India (2023)**
  - Pillar one – Delivering **mutual benefits** through education
  - Pillar two **– Strengthening institutional partnerships** and research collaboration (expanding scholarly footprint of vocational education)
  - Pillar three – **Enhancing people-to-people links**, mobility and employability

Project Objectives

1. Identify a demand-driven set of future skills in Indian agriculture that are aligned with existing programs and embedded in effective institutions
2. Enhance connections between Australian and Indian actors in the agriculture VET system
3. Develop a cohort of training providers who co-create and co-deliver quality training to a wider stakeholder network
4. Demonstrate a partnership-based process for engaging the Australian and Indian VET sectors to work together, that can be applied to other sectors
5. Curate global best practices in vocational education and training to create a dynamic workforce

Methodology undertaken



Methodology – Salient Features

1. **Phased approach:** Deconstructing the process into series of steps
2. **Local network engagement:** Tailor for local conditions to both inform and benefit
3. **Rigorous communication with local networks:** Informing & positioning the benefits, to embed the outcomes for ongoing, enduring sustainable programs and impact
4. **Select the best and most relevant stakeholders:** with potential for outreach and scale
5. **Multiple iterations and validations:** Across partner organisations, in all phases of the project

Approach to Scoping Study

- Identification of Future Skills vis-à-vis Priority Skills – bridging the divide in Sectoral Growth
  - Relevance & Applicability to both countries' context
  - High octane collaboration – high aspirational quotient
- Wide multi-level, public-private-civil society stakeholder consultations in the country of action
- Intensive loops of knowledge exchange and validations from partnering country experts
- Criteria for shortlisting courses to take up (Nine)
  - Scope for collaboration
  - Industry needs
  - Alignment to national priorities and frameworks
  - Opportunities to scale

Standards Development - Contextualizing

Comprehensive Mapping Exercise – Similarities, Differences, Validation

- Indian & Australian Existing Standards
- Indian & Australian Vocational Requirements
- Process of Standards Development
- Integration Process to integrate industry needs

Tool for Validation – includes best practices from

- Australian Training Package Organizing Framework
- Indian National Credit Framework
- India-National Education Policy – 2020
- Overarching DCASCI Project Requirements

1. Meets International Standards and Industry Alignment
2. Accreditation in the Country of Roll Out
3. Readiness for Dual Certification and Recognition – Both Countries
4. Approval from Regulator (NCVET) – in the Roll Out Country

Partner Engagement

- Core Partners & Thematic Partners – Staggered approach on engagement on time scale of the roll out
- Criteria for shortlisting – Core Partners
  - Principal player on the national vocational framework
  - Strong industry networks
- Criteria for shortlisting – Thematic Partners
  - Interest to collaborate
  - Thematic expertise
  - Opportunity to integrate into larger VET Systems of both Countries
  - Belief in collaboration principles (motivation, trust, patience to engage, respect for diversity, virtue etc)
  - Experience of co-creation
  - Representing variety of sectors; Public, Private, Civil Society – sector's role in course's opportunity to scale

Journey of co-creating learning content for Qualifications

Design

- Create a mapping tool for micro credential content development based on principles of Australian Framework for Micro credential (MC)
- Synthesizing the 9 NOS and making 5 modules for pilot delivery which could be presented as micro-credential for 5 day delivery. Every module represented one MC
- Planning for delivery - Kit must consist of PPT slides, Handouts, Online Activities, Field trip, Hand on Activities, Expert Guest speakers on key topics, Real case studies from Indian and Australia, Create formative assessment

Develop

- Once the modules were designed, then Trainer's capability and knowledge was mapped and accordingly responsibility of content development was assigned.
- A special training session was organised by Dr. Shweta Singh from Australia to build capacity of Mahindra's Trainer in regards to basic understanding of Skilling Ecosystem of India. The vocational training acronyms, Trainer's tool kit like Participant Guide etc was introduced. Unpacking of NOS was key part of training.
- Each module was written with the help of real case studies, anecdotal experience, literature and practioner's experience. The flow of content for each module mapped with the tool created for MC. Each topic was articulated in a manner that scaffolded participant's knowledge for the module
- A write balance of theory and practical was embedded in each module
- The recipient of the course was kept in mind when developing the course content so that it was pitched at right level

Deliver

- Brochure was developed to recruit the right participants for the course, highlighting the key benefits of undertaking the pilot course
- Several digital channels and personal contacts were applied to recruit the participant in very short period of time. An overwhelming response to join the program was received and diverse range from scholar to practitioners to Agripreneurs were recruited for the program. The program was delivered to 32 participants
- Key topics covered were - Benefits of Digital Agriculture, Agricultural Data Interpretation, Variety of Digital tools in Agriculture, Precision Agriculture and Digitalisation of Post-Harvest process

Piloting the Course – Unique Features

1. Partner identification
2. Target Participants – from all potential participant categories viz., Government Functionaries, Extension Personnel, Farmers, Community Institutions, Corporate Supply Chain Personnel (Scope 3 category) etc.,
3. Collaborative Lesson Plan Development
4. Integration of delivery methodologies that provide opportunity to overcome language barriers
5. Train the Trainer as per the framework of Roll Out Country
6. Mapping the course delivery process & cross learning
7. Virtual interaction sessions – cross country for exposure
8. Co-delivering the course (both India & Australia Trainers)
9. Contributions from both VE / Skilling as well as Practitioner Ecosystems

DCASCI-Educational Entrepreneurship

Social Dimension	Digital Dimension	Green Dimension
Process between the two countries, to help understand the best practices in the systems and nomenclature: This highlights the exchange of knowledge and best practices, fostering international cooperation and social learning	**Taking a process-based approach with clear steps using a 'Waterfall' method of project management, where the deliverables of each stage are clear and must be completed in order to progress to the next step**: This structured approach wouldn't have been possible without both partners embracing the application of digital project management, ensuring clarity and efficiency in digital initiatives. Extensive use of zoom meetings for regular communication is an example.	**Incorporating principles of sustainability** into the curriculum, when co-developing the curriculum for the vocational courses
The project left a legacy not just in a new set of skills courses that are already approved by the national regulatory frameworks in India, but also in lasting relationships between all partners, hence focused on the long-term social impact and relationships built through the project	**All courses had digital skills embedded** in their application however Digital Agriculture Extension Promoter course: Supported the development of digital skills and literacy in agriculture explicitly.	The courses were infused with educating beneficiaries about the environmental impacts of agricultural practices and the importance of biodiversity and ecosystem health.
Collaborative Networks: Building partnerships between educational institutions, NGOs, government bodies, and private sector organizations to leverage diverse expertise and resources	**Organic Farm Business Promoter, Livestock Green Management Promoter course** provided knowledge and skills related to the business aspects of agriculture, including marketing, finance, and supply chain management through digital media.	**Developing courses for emerging skills in Agriculture itself was a catalyst to embrace green skills**, like Precision Agriculture: Training students in the use of advanced technologies like GPS, IoT, and drones for efficient farm management.

DCASCI-Educational Entrepreneurship

Social Dimension	Digital Dimension:	Green Dimension
Identified critical and emerging jobs that require advanced agriculture practices across key subsectors focused on understanding and addressing the workforce needs in agriculture	**All five vocational courses were designed to individually support digital entrepreneurship**: This directly supported the development of digital skills and entrepreneurship, preparing the workforce for the digital economy.	All courses had implied training component which embraced sustainability and environmentally friendly agricultural practices.
Codifying the occupational standards, and co-developing and co-delivering the training involved collaboration and partnership, which are key social strategies for building capacity and ensuring the workforce is prepared for new roles using the best pedagogical methods from the two countries	Co-development of all courses required digital literacy. It really honed into learning new technologies to create online quizzes etc.	**All five vocational courses were designed to individually support green entrepreneurship**: This focuses on developing skills and knowledge for green businesses and sustainable practices which would prepare learners for careers in sustainable and environmentally friendly industries.
This project tested a Partnership-based Model for Critical Skills Development, which served as a highly successful model for bi-lateral engagement in the VET sector: Emphasizing the importance of partnerships and collaboration between countries, enhancing social ties and mutual understanding.	Co-delivery of courses were done using technology-bringing Australian farms live to the training centre in India.	Carbon Farming course highlighted the role of entrepreneurship in driving sustainable agricultural practices and green transformation. This course fostered an entrepreneurial mindset, which encourage individual to start new ventures in carbon farming

Mapping our work to the SDGs

Mapping our work to the Sustainable Development Goals

SDG	Key Activities undertaken with DCASCI	DCASCI Course
	• Build skills that promote increased productivity and profitability • Implementation of resilient agricultural practices • Enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries	1. Organic Farm &Business Promoter 2. Integrated Farming Practitioner 3. Livestock Green Management Promoter
	• **Access and Equity:** Provide vocational education opportunities to marginalized and underserved populations. • **Curriculum Development:** Develop and update vocational training curric to meet the evolving needs of the labor market in Agricultural sector • **Teacher Training:** Invest in the professional development of vocational educators to enhance teaching quality. • **Learning Outcomes:** Implement assessment systems to measure and improve learning outcomes.	1. Organic Farm &Business Promoter 2. Integrated Farming Practitioner 3. Livestock Green Management Promoter 4. Digital Agriculture Extension Promoter 5. Carbon Farming Practitioner
	• Technological Integration: Incorporate modern technologies and digital tools into vocational training programs. • Innovation Hubs: Potential to establish innovation hubs and incubators within training providers to foster creativity and entrepreneurship. • Sustainable Practices: Teach participants about sustainable practices and technologies in their respective trades within agricultural industries. • Public-Private Partnerships: Foster partnerships between vocational institutions, government, and private sector to enhance infrastructure and innovation.	1. Organic Farm &Business Promoter 2. Integrated Farming Practitioner 3. Livestock Green Management Promoter 4. Digital Agriculture Extension Promoter 5. Carbon Farming Practitioner

Mapping our work to the Sustainable Development Goals

SDG	Key Activities undertaken with DCASCI	DCASCI Course
	• Inclusive Programs: Design vocational education programs that cater to the needs of disadvantaged and marginalized groups. • Scholarship and Funding: Provide scholarships of learning and no fee courses for all participants of this project • Global Mobility: Facilitate international exchanges of knowledge and expose trainers to global opportunities. • Barrier Reduction: Address and remove barriers to access, such as language, disability, and geographic location.	1. Organic Farm &Business Promoter 2. Integrated Farming Practitioner 3. Livestock Green Management Promoter 4. Digital Agriculture Extension Promoter 5. Carbon Farming Practitioner
	• Green Skills: Integrate training on green technologies and sustainable practices in vocational programs. • Climate Awareness: Raise awareness about climate change and sustainability among students. • Energy Efficiency: Implement energy-efficient practices and renewable energy solutions in vocational training centers and courses • Environment in mind: All 5 courses were developed keeping environment in mind, reduction of carbon footprint has been at the core of every course curriculum	1. Organic Farm &Business Promoter 2. Integrated Farming Practitioner 3. Livestock Green Management Promoter 4. Digital Agriculture Extension Promoter 5. Carbon Farming Practitioner
	• Multistakeholder partnerships are crucial to leverage the inter-linkages between the SDGs • Capacity building is one of the key resources that must be mobilised • Demonstrates successful partnerships between governments, the private sector, and civil society	1. Carbon Farming Practitioner

DCASCI Educational Value Chain

Input

- Funding
- Human Resources
- Procurements
- Leadership,
- Thorough planning of the project with clear deliverables and responsibilities betwee international partners

Processes

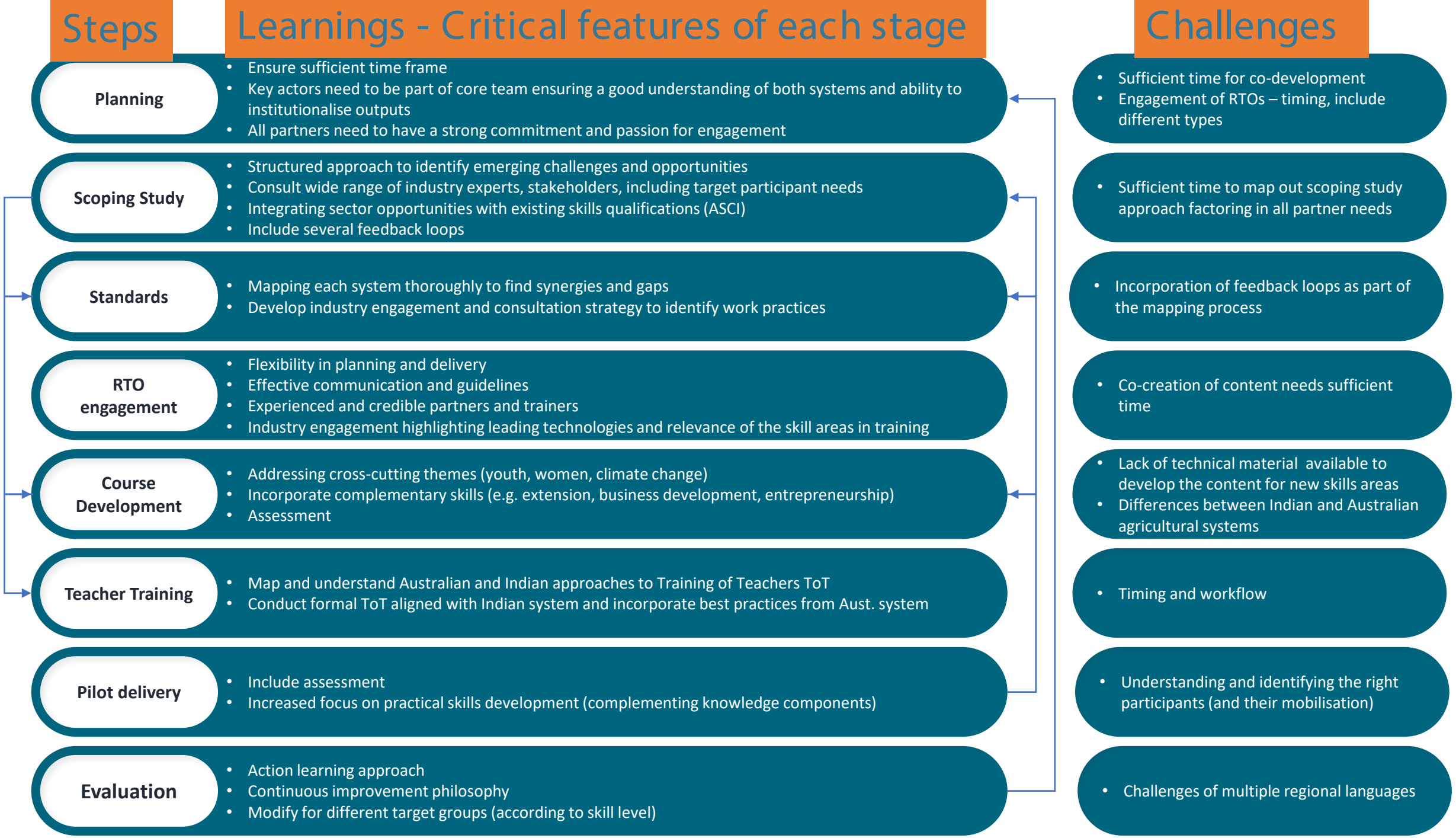
- Scoping Study
- Curriculum Development: Designing and updating educational content and standards India-Australia
- Sourcing Training Delivery partners from both countries
- Teacher's training
- Course Content Developme(nTrainer's and Participant's toolkit) including subject and templates used for facilitation. Quality Assurance of the content
- Mobilization of Participants
- Guest Speakers from both countries and sites for visits

Actions

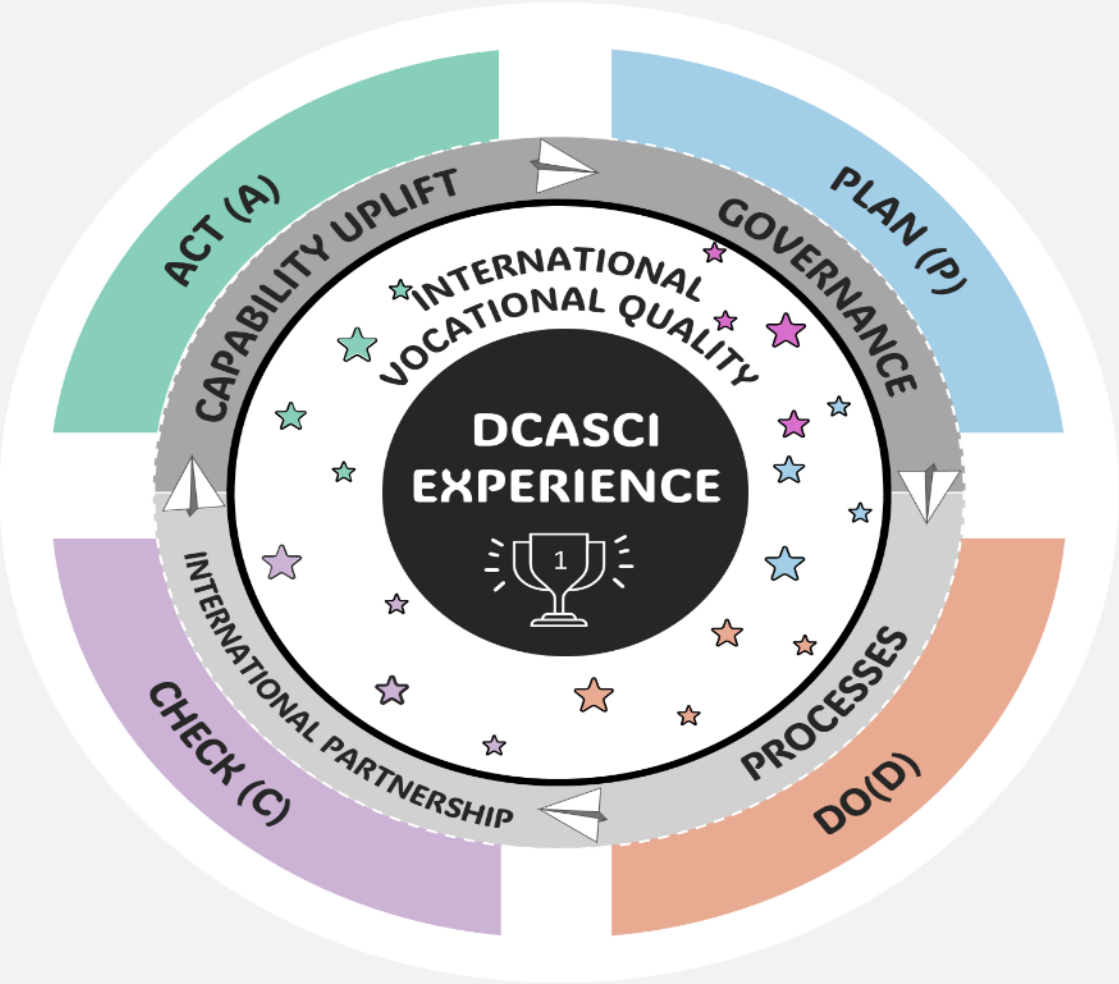
- Delivery of Pilot Training
- Finalizing the centers across India to deliver the courses
- Ensuring the training facilities are optimum
- Ancillary support systems

Outputs

- Evaluation of the project, partnerships and quality
- Accomplishing UN's Sustainable developme Goals (2, 3, 4, 12, 13, 15, 17)
- Strengthening bilateral relationships betwee India and Australia-a multifaceted win-win situation (educational and social impact)
- Model of Innovative educational process wh can be replicated in other industry sectors


Steps
Learnings - Critical features of each stage
Challenges
Planning
Ensure sufficient time frame
Key actors need to be part of core team ensuring a good understanding of both systems and ability to institutionalise outputs
All partners need to have a strong commitment and passion for engagement
Sufficient time for co-development
Engagement of RTOs – timing, include different types
Scoping Study
Structured approach to identify emerging challenges and opportunities
Consult wide range of industry experts, stakeholders, including target participant needs
Integrating sector opportunities with existing skills qualifications (ASCI)
Include several feedback loops
Sufficient time to map out scoping study approach factoring in all partner needs
Standards
Mapping each system thoroughly to find synergies and gaps
Develop industry engagement and consultation strategy to identify work practices
Incorporation of feedback loops as part of the mapping process
RTO engagement
Flexibility in planning and delivery
Effective communication and guidelines
Experienced and credible partners and trainers
Industry engagement highlighting leading technologies and relevance of the skill areas in training
Co-creation of content needs sufficient time
Course Development
Addressing cross-cutting themes (youth, women, climate change)
Incorporate complementary skills (e.g. extension, business development, entrepreneurship)
Assessment
Lack of technical material available to develop the content for new skills areas
Differences between Indian and Australian agricultural systems
Teacher Training
Map and understand Australian and Indian approaches to Training of Teachers ToT
Conduct formal ToT aligned with Indian system and incorporate best practices from Aust. system
Timing and workflow
Pilot delivery
Include assessment
Increased focus on practical skills development (complementing knowledge components)
Understanding and identifying the right participants (and their mobilisation)
Evaluation
Action learning approach
Continuous improvement philosophy
Modify for different target groups (according to skill level)
Challenges of multiple regional languages

DCASCI- Vocational Quality Framework



Conclusion

By integrating educational entrepreneurship and positioning entrepreneurship as a catalyst for agricultural transformation, the DCASCI project aimed to create a skilled workforce that can drive innovation and sustainability in agriculture. The vocational courses developed through this project have the potential to make a significant impact by addressing the need for skilled personnel and supporting the growth of agricultural entrepreneurs.

Benefits of Adopting the Model

- **Enhanced Vocational Education**: Improves the quality and relevance of vocational education and training.
- **Sustainable Development**: Promotes sustainable practices and green entrepreneurship.
- **International Collaboration**: Strengthens international ties and fosters mutual learning and cooperation.
- **Adaptability**: The model can be tailored to fit various industry sectors and local contexts.

Conclusion

Key elements of Educational Entrepreneurship for DCASCI:

- **Empowerment for Success**: DCASCI project created course for future. Workforce readiness for futuristic skill
- **Adaptability and Resilience-** Courses in DCASCI project courses taught adaptability and resilience, essential qualities for navigating the uncertainties of the 21st century
- **Critical Thinking and Innovation:** Entrepreneurship education fosters critical thinking and innovation. International collaboration and co-creating a new curriculum using the best practices and compliance requirements for vocational course
- **Leadership and Collaboration:** Entrepreneurship education with DCASCI reinvigorated the international network

Ticked all 3 pillars of Educational Strategy-A Partnership for the Future: Australia's Education Strategy for India (2023)

Way forward - opportunities

- **Dual certification**
  - Partnerships - continue relationship between ASCI and Skills Impact
  - Jointly develop ToT shared between Aus and India
  - Joint competency/qualification recognition (Australian and Indian) for delivery of training taking place in India (e.g. WHS, chemical handling, biosecurity, quarantine standards)
  - Development of specific skills assessment methodologies and criteria for students

- **Scaling and development**
  - Connect to ICAR SAU network - skills courses as additional credits for UG students
  - Connect to ICAR KVK network - skills courses delivered at KVK level
  - Embed within additional Industry and Development networks in India
  - Apply process based approach in other sectors and countries

- **Business opportunities**
  - Linking agricultural technology and innovation products and services to training opportunities

- **Research**
  - Research opportunities for both VET sector and Agriculture
  - Link to Australian Centre for International Agricultural Research (ACIAR) projects


THANKS