



ASIAN DEVELOPMENT BANK

Scoping Study to Leverage Carbon Markets for Indian Smallholders

10 FEBRUARY 2023

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Agenda

1. Ksapa x IntellecAP Partnership
2. Framing the Engagement
3. State-of-Play of VCMs (*INTELLECAP*)
 - VCMs overview
 - India's potential & VCMs price trends
 - Emerging smallholder-focused solutions
4. Challenges to Tackle (*KSAPA / INTELLECAP*)
5. Recommendations of Solutions (*KSAPA*)
 - Solutions overview
 - Recommendations of co-development process
 - Zoom on 2 specific recommendations
 - NABARD TA (*INTELLECAP*)
6. Conclusion (*KSAPA / INTELLECAP*)
7. Q&A

A close-up photograph of a green plant with several large, oval-shaped leaves and a prominent, rounded, green seed pod or flower bud. The plant is positioned on the left side of the image, with its stem and leaves extending towards the center.

KSAPA X INTELLECAP PARTNERSHIP



The Ksapa x Intellecapt Partnership



ADVISE



INVEST



ACTIVATE



ADVOCATE

A mission-driven organization, Ksapa's goal is to catalyze a **fair and sustainable transition of economic actors** towards economically, socially and environmentally efficient business and investment models

Core services: ESG/Sustainability consulting, innovative investment schemes and advocacy

Expertise in CSR/sustainable development, finance and investment, digital, development economics on the ground aggregated within a multidisciplinary team of consultants.

Our teams are headquartered in Paris with Offices in London and New York City.

We also work with a network of renowned **partner organizations** and **150+ associated experts** around the world. That way, we offer close contextual and operational support, for **proven impact** with **teams on the ground**

Founded in 2002, **Intellecapt Advisory Services Private Limited** (a part of the Aavishkaar Group) is a global advisory firm with expertise in supporting and scaling social enterprise ecosystems in Sub-Saharan Africa and South Asia.

Intellecapt & Aavishkaar Group take an ecosystem-approach which combines **knowledge, capital and networks.**

We are a group of 2,700+ professionals in offices across Kenya, India and Indonesia

Core Services:

- Sector Scan and Knowledge Products
- Strategic and Technical Assistance
- Project Management Support
- Product Design and Testing
- Fund Design and Management
- Monitoring and Evaluation
- Workshop Development and Convening



SUTTI, an integrated Solution developed by Ksapa

*Scale **Up** Training **Traceability** **Impact***

Transforming the 1st mile of Agricultural Supply Chains

Disseminate best practices and diversify farmer activities at scale

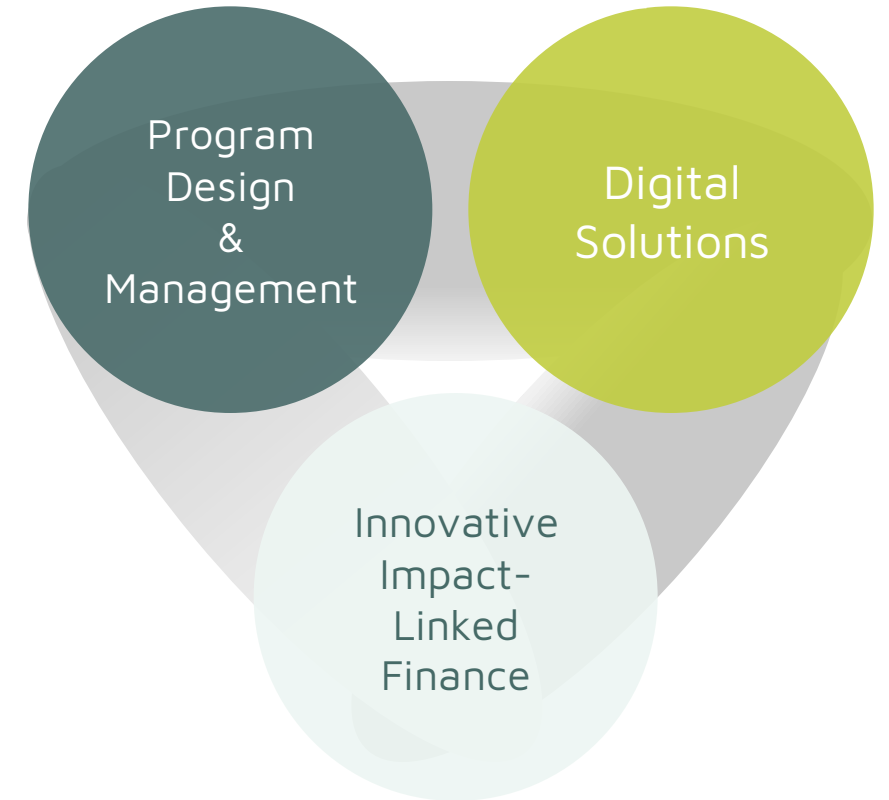
to build sound, fair, diversified, resilient cultures

Structurally improve the revenue and livelihood of smallholders in fragmented agricultural supply chains

Boost impact and strengthen value chains

for the benefit of the many, for the long run

Sutti



**3 Complementary Services
in 1 Single Solution**



Deep Dive into to the SUTTI Digital Suite

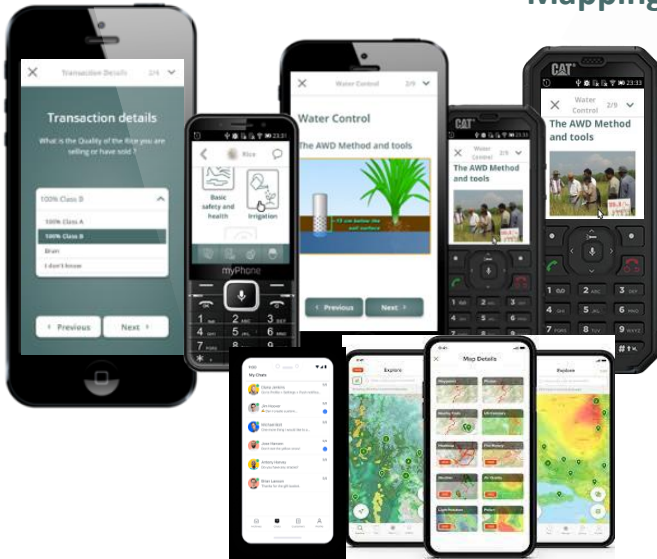
Participant App For smallholders

Mobile first | Feature phone compatible | Offline Mode | Illiterate friendly

E-Learning

Impact Measurement

Sourcing Mapping



Price, weather, events alerts

Chat

Geolocation & Geo plotting

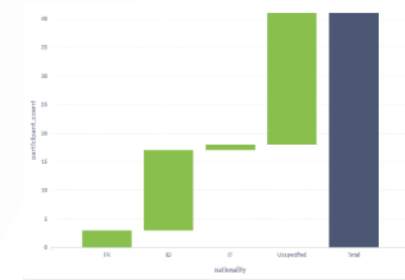
SUTTI Digital Suite

Back-office For Local Instructors



Reporting Dashboard For sponsors

Impact KPIs | Program Monitoring | Commodity sourcing map





Example: Sri Lanka Natural Rubber Project ID Card

A Public-Private Partnership involving Sri Lankan & French Governments,
Michelin Group, and led by KSAPA



| | |
|----------------------------|---|
| LOCATION | UVA PROVINCE, SRI LANKA |
| DURATION | 3 YEARS – FROM 2022 TO 2025 |
| REACH | 6,000 FARMERS TRAINED 30,000 ESTIMATED BENEFICIARIES |
| MULTISTAKEHOLDER COALITION | <ul style="list-style-type: none">• Sri Lankan Ministry of Plantation Industries – Political sponsor• French Ministry of Economy – Financial sponsor• Michelin Group – Operational & financial sponsor• Club of 8 French partners providing complementary expertises (agronomy, IT development, impact measurement audit, legal, Academics...) |

TARGETS

RUBBER PRODUCTIVITY



Yield Increase



Production Cost Decrease

DIVERSIFICATION



Intercropping and
Diversification



Carbon Impact

SOCIAL & HUMAN RIGHTS



Women and
Youth Inclusion



Environmental
Preservation

A close-up photograph of a green plant with several large, oval-shaped leaves and a prominent, rounded, green seed pod or flower bud. The plant is positioned on the left side of the frame, with its stem and leaves extending upwards and outwards. The background is a plain, light green color.

FRAMING THE ENGAGEMENT



Framing the Engagement

The ADB is looking for recommendations to support the Government of India, its relevant institutions and agencies in exploring solutions enabling Indian smallholders to benefit from voluntary carbon markets (VCMs) development



ADB SCOPING STUDY

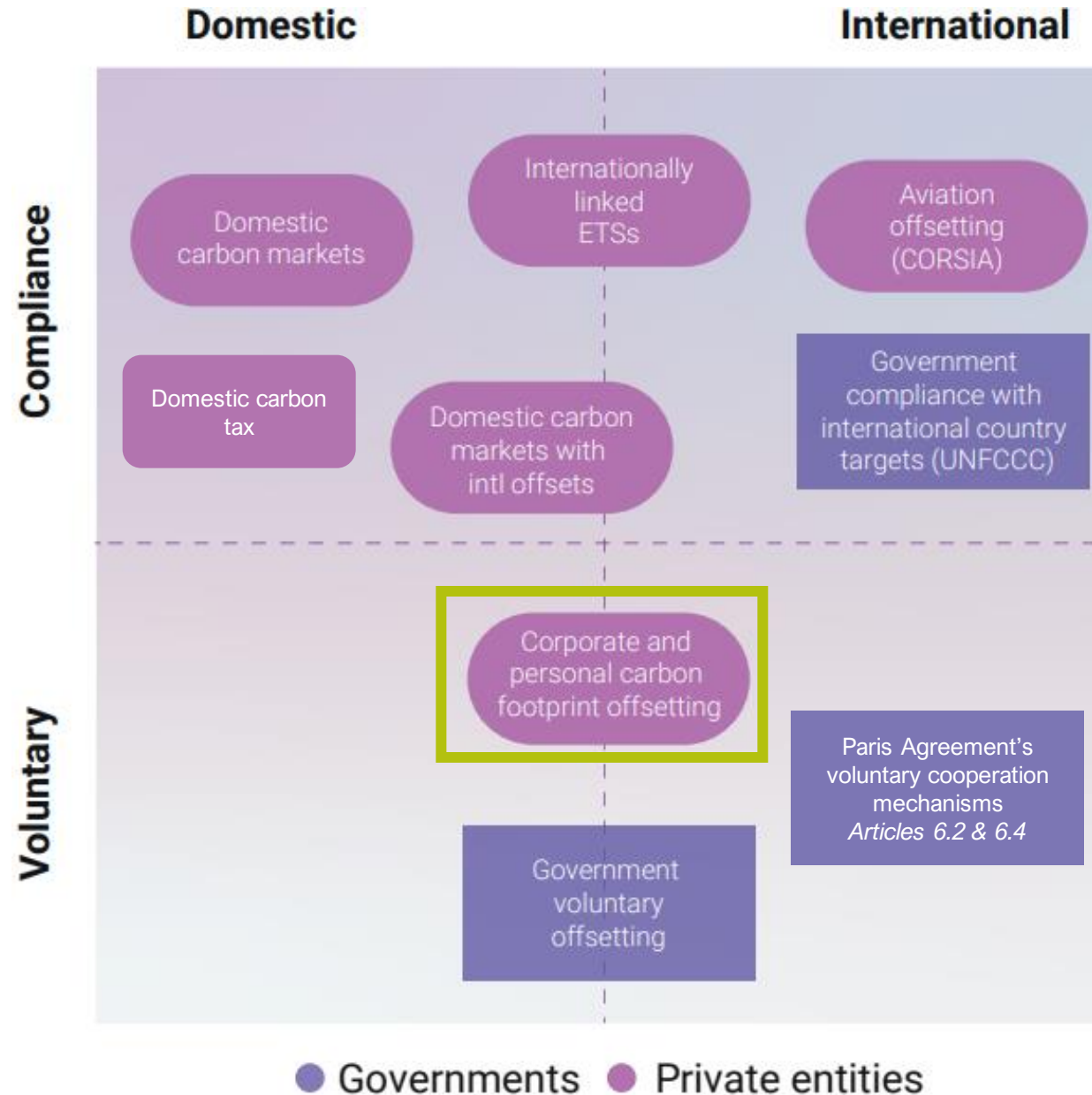
1. **Status Report** – presenting the state-of-play of VCMs
2. **Final Report** – outlining the recommendations for the carbon initiative

TARGETS & CRITERIA FOR RECOMMENDATIONS

- Solutions must bring maximum social, environmental and economic benefits by leveraging VCMs, following fair and equitable benefit-sharing principle
- Solutions must be farmer-centric, versatile to integrate other externalities & innovations, and forward-thinking
- Contribute to strengthening agricultural supply chains & fostering rural development
- Help identify additional funding for smallholder-inclusive projects & develop projects pipeline, using VCMs lever



What We're Talking About



A close-up photograph of a green plant with several large, oval-shaped leaves and a prominent flower bud, set against a light green background.

STATE-OF-PLAY OF VOLUNTARY CARBON MARKETS

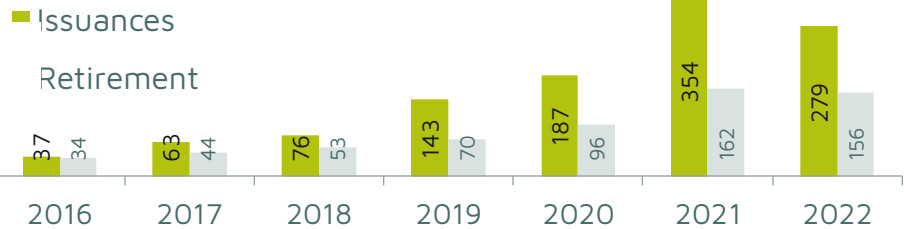


Overview of Voluntary Carbon Markets (VCM)

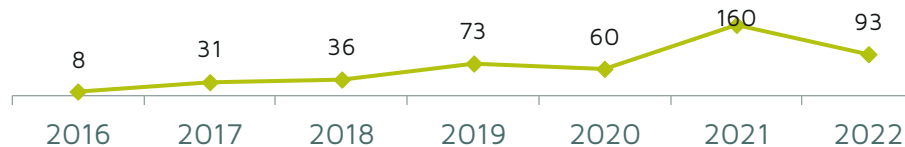
- Globally VCM is **driven by 27 domestic carbon crediting mechanisms** and **more than 17 independent** crediting mechanisms/standards
- There are **>170 carbon project types** bucketed under eight project clusters

Past trends

- Global VCM is **valued at ~USD 2 Bn in 2021**
- Quadrupled in market value from 2020, driven by increased volume and value of NBS credits
- Over issuance and retirement is on rise, fall in 2022 is triggered by the global economic uncertainty

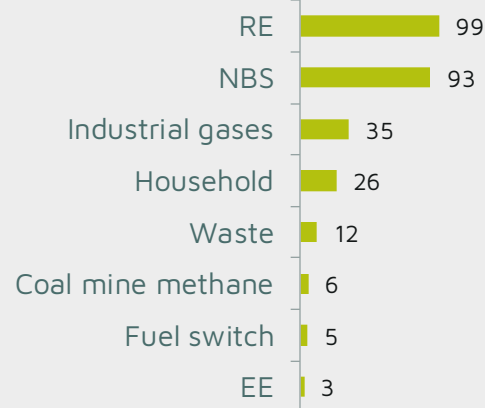


- NBS project based ER grown at a CAGR of 50% from 2016 to 2022



Performance in 2022

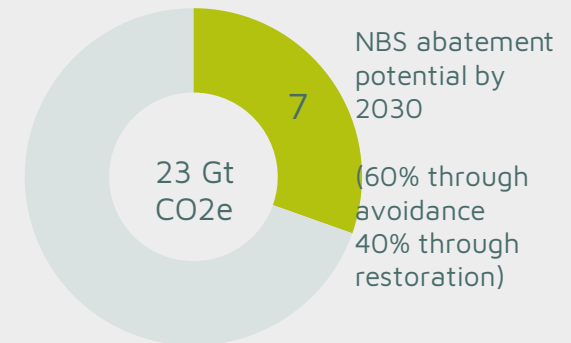
- Total issuances 279 MtCO₂e
- RE and Nature Based Solutions categories represented 2/3rd of the total issuances



- Congo, China and Peru represent 40% of all the NBS based cred issuance

Future potential

- Global VCM is **expected to reach USD 50 Bn by 2030**
- Focus is shifting from just carbon credits to **"Quality" and "integrity"** of the carbon credits
- Overall mitigation potential of forestry and land use sector is around 7 Gt per year by 2030 and around 15 Gt per year by 2050





India's Carbon Potential & VCM Price Trends

Trends

- India has the **highest (129) carbon offset generating projects globally** followed by USA (111) and China (80).
- CCs issued **grown from 11 to 68 MntCO₂e from 2018 to 2021**.
- Energy generation and conservation sector have the highest share** of credits issued (>85% each year) and retired in the VCM since 2009.
- Emerging sectors** in the last three years- agriculture, forestry and other land use and manufacturing.
- Forestry and other land use (non-REDD+) has witnessed a significant **growth in issuances from 1% in 2018 to 8% in 2022 of the total carbon credits**
- Currently **>80 projects in the AFOLU sector under development**

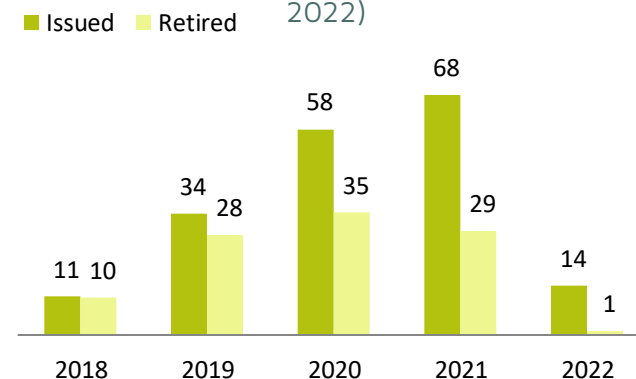
Govt. focus

- MoEFCC and MoP developing the requisite legal, institutional and technical infrastructures **to address aspects related to double counting, corresponding adjustments and issues of quality and integrity** of carbon credits, especially in the compliance market.
- As per India's updated NDC submitted to UNFCCC, the Indian government target **to reduce Emissions Intensity of its GDP by 45 percent by 2030, from 2005 level**

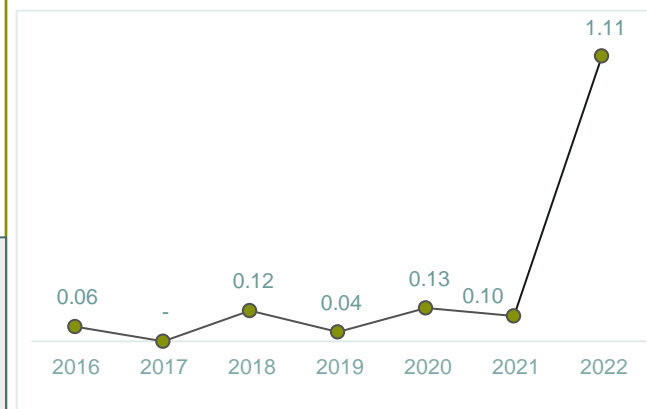
Potential

- Estimated potential for land restoration activities, agriculture and REDD+ in India is **60 MtCo₂e/year** on an average between 2020-2050.
- This can create a **market of ~\$30-\$50 billion by 2050** assuming a conservative price of \$15/tCo₂e till 2030 and \$30/tCo₂e from 2030-2050.

Carbon offsets issued and retired in Indian VCM (in MntCO₂e) (as of Aug 2022)



Issuance trend for forestry and land-use projects in India b/w 2016 and Aug 2022 (in MntCo₂e)





Emerging Smallholder-Focused Solutions

- Multiple carbon platforms initiatives active across the globe. Most of them are based in USA or UK because of developed compliance markets and standard VCM market
- Credits being generated under these initiatives generally range between \$10 and \$25, depending on the associated co-benefits

Example of solutions operating globally

1. Platforms **promoting agroforestry, sustainable/ regenerative agriculture based activities** by working directly with farmers or partner organizations.

- Satellite imagery and geospatial intelligence are used to monitor
- 60-80% carbon credits generated are transferred to farmers

Ex: IndigoAg, Corteva carbon, ACORN by Rabobank

2. **Generation and trade of blockchain based carbon credit backed cryptocurrency tokens or CO2e-certificates** backed up by the CO₂e generated and stored in soils for a minimum of 10 years generated by undertaking regenerative agriculture practices

Ex: NORI tokens, Agreena

3. **Providing smallholder farmers technical and operational training and measurement capabilities** to increase economic output and adopt climate resilient activities. **Ex: SUTTI by Ksapa**

Example of solutions in India

1. Platform to enable climate finance for farmers and to develop their technical skills through a capacity building programs for agroforestry, AWD in rice, coastal land management etc.

Ex: Intellecrap Climate Solution, VNV

2. Platform/ solutions for sustainable agriculture focusing on crop residue management and reduction in methane emissions from rice field, regenerative farming practices

Ex: Nurture.farm, Grow Indigo, Boomitra

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CHALLENGES FOR THE INITIATIVE



Challenges to Tackle

Through comprehensive literature review & by conducting interviews with key stakeholders – carbon project developer, carbon engineer, carbon platform, carbon standard... - the following challenges were highlighted



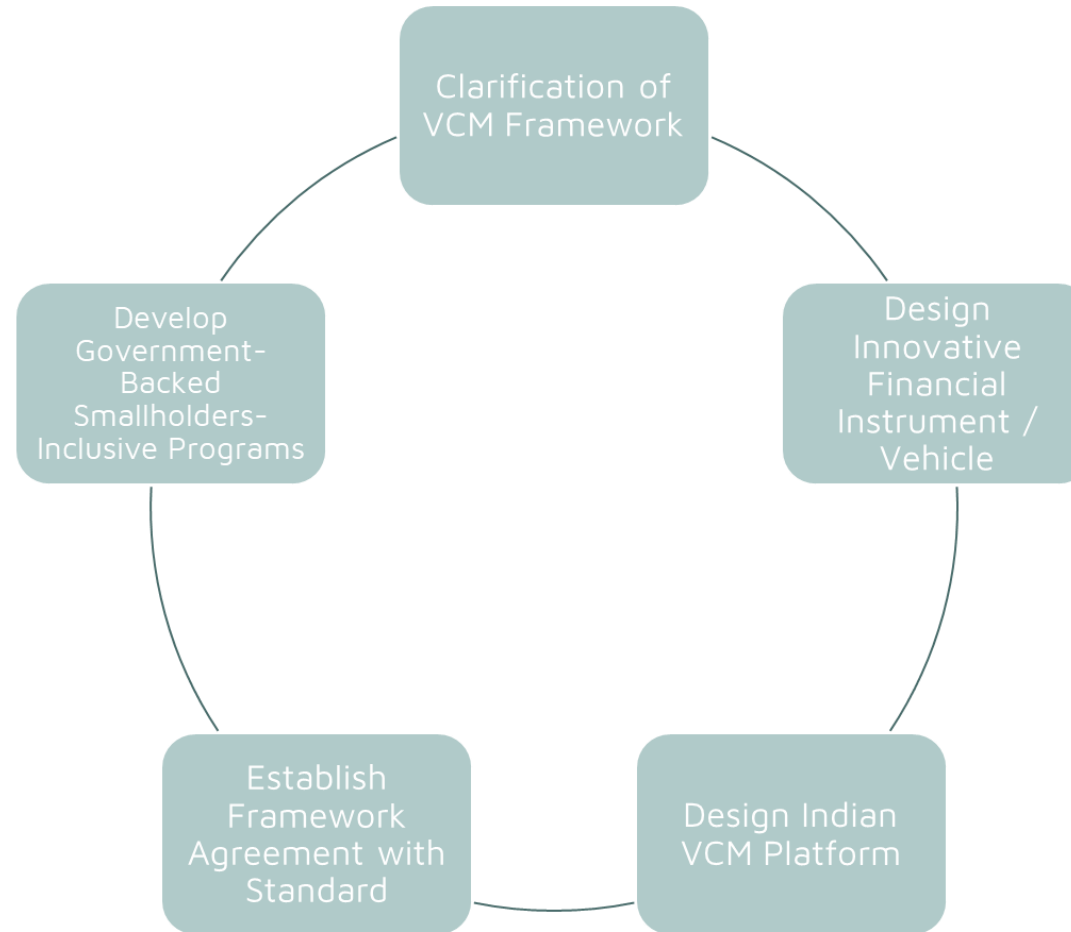
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RECOMMENDATIONS OF SOLUTIONS



Potential Solutions Identified

Recommendations provided offer a wide range of solutions, with different level of complexity with regards to design, structuring, and implementation of the solutions

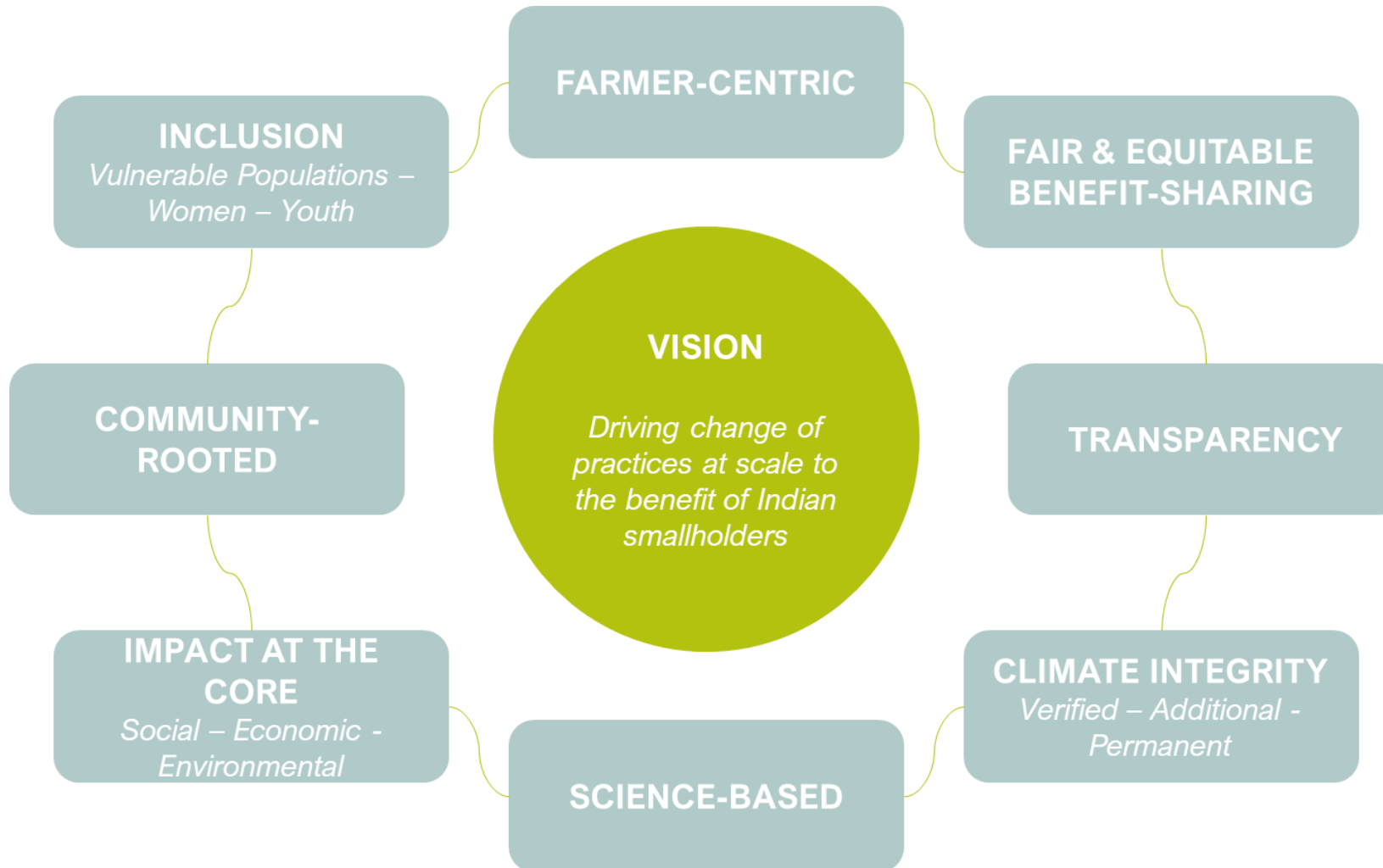


Here each solution is presented in a stand-alone manner, but they are closely intertwined and can / should be **combined**



Guiding Principles for the Initiative

Through the review of challenges, KSAPA outlined some principles and guidelines critical to create the conditions for driving change of practices at scale for the benefit of Indian smallholders





Structuring a Multistakeholder Coalition

COMPLEXITY

Materializing a carbon initiative for smallholders is a complex endeavor requiring to involve a diversity of experts to tackle the many challenges & issues that arise

ACCELERATOR

KSAPA recommended to structure a multistakeholder coalition – driven by ADB & GOI, and involving other stakeholders / experts – to review and tackle challenges in a co-development process

COALITION

The coalition will be embodied by an alliance of stakeholders and organizations with the relevant and cross-cutting expertises needed to link Indian smallholders with carbon markets (*a list of organizations is provided in the report*)





Zoom on 2 Specific Recommendations

Regulatory Framework

From the solutions identified, 2 options seem particularly promising to unleash the potential of driving private financial resources towards a fair agricultural transition

INDIAN POLICY FRAMEWORK CLARIFICATION

- Idea: developing a VCM regulatory framework to specify the type of projects eligible to a regime clarifying legal & operational uncertainties, in exchange for a commitment to comply with applicable rules and to retrocede a part of the credit value to the farmers communities and/or individual farmers, and possibly to the GOI (for NDC fulfilment)
- One additional interesting solution would be to use the system of rulings (or rescripts) to clarify uncertainties for project developers (on a project-by-project basis)





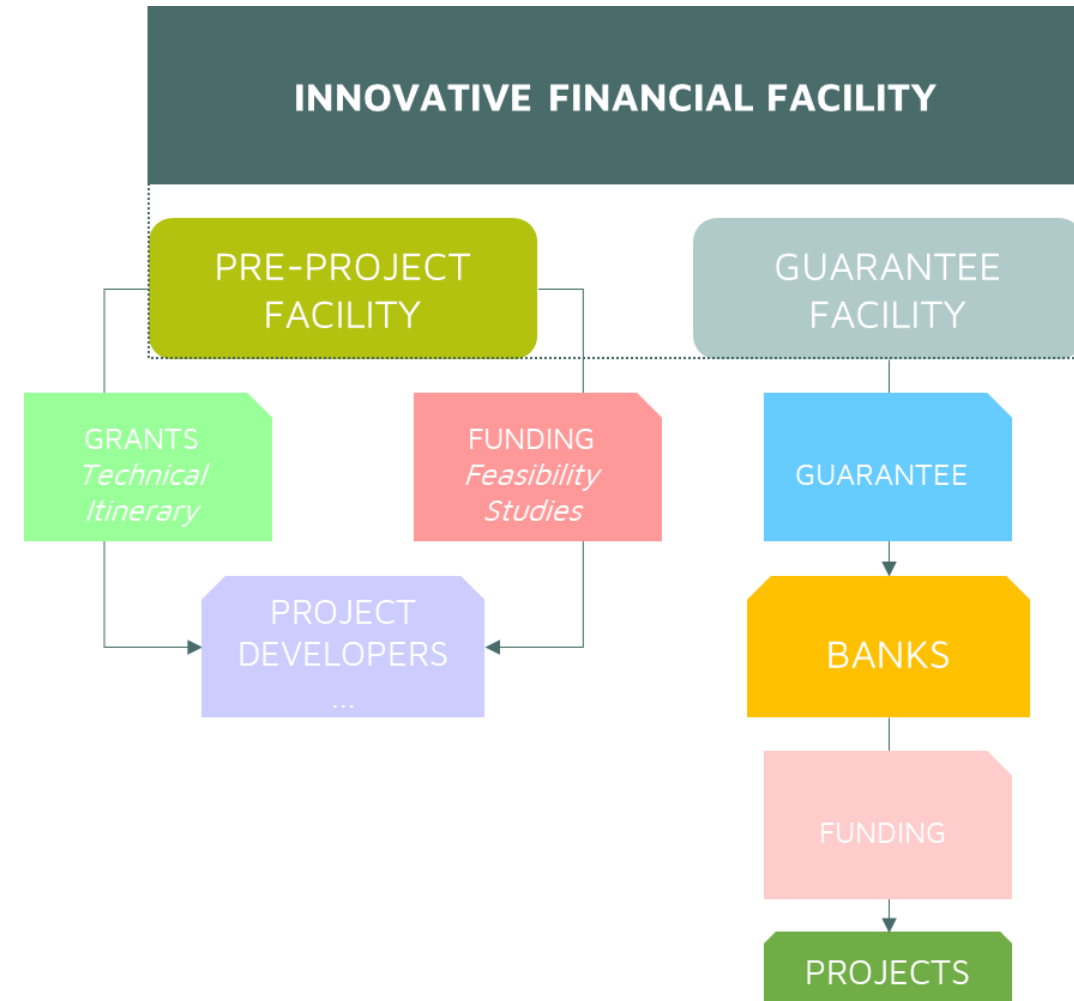
Zoom on 2 Specific Recommendations

Innovative Financial facility

From the solutions identified, 2 options seem particularly promising to unleash the potential of driving private financial resources towards a fair agricultural transition

INNOVATIVE FINANCIAL FACILITY

- Access to sufficient & adequate financing is a major issue (especially pre-project studies) to develop pipeline of local projects (local players attracting foreign funding)
- To develop pipeline, de-risking projects' up-front investment for developers / investors & incentivizing externalities appear impactful
- **Design financial facility** combining:
 - Pre-project financing facility providing grants & funding for feasibility studies to engage regions in sustainable transition through various projects based on pre-validated crop-specific technical itineraries
 - Guarantees to commercial banks for financing projects at the up-front investment phase





Technical Assistance for Leveraging Carbon Market

As the carbon market is in nascent stage with limited technical understanding and capability of the key stakeholders, the Technical Assistance is critical to kickstart the carbon market in India.

The Technical Assistance should focus on achieving the following key outcomes:

1. Address Key Ecosystem Challenges by

- **Establishing clarity about carbon market taxonomy**
- **Strengthening emission monitoring, reporting, verification (MRV) and accounting capacity**
- **Creating a common marketplace** for matching supply and demand of carbon credits
- **Developing demand management strategies** (defining regulations or policies for obligated entities, encouraging public commitments and pledges, engaging with institutional investors through investor-led initiatives)
- **Identifying innovative financing mechanisms for farmers to access finance for carbon projects**

2. Enable Project Developers and Financiers by

- **Building Technical Capability of Project Developers / Entrepreneurs** for carbon projects
- **Developing project pipeline** of good quality climate change mitigation projects
- **Enabling a financing facility** for providing pre-financing to the eligible carbon farming projects

Two TA facility could be created

TA Facility for Enabling Ecosystem

To support and enable key ecosystem players such as government agencies, project developers and investors/financiers address ecosystem challenges

TA Facility at NABARD

To provide facilitation in project proposal analysis, assessment and financing of climate change mitigation projects / carbon projects

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CONCLUSION

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Q&A



Getting in Touch



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A close-up photograph of a green plant with several large, oval-shaped leaves and a prominent, rounded, green seed pod or flower bud in the center. The plant is set against a light, neutral background.

ANNEXES



Annex1 *Interventions required for application of existing carbon platform to Indian agriculture sector context*

| S. No | Key areas of intervention | Interventions |
|-------|--|--|
| A | Conservatively Standardize Additionality, Common Practice and Baseline | <ul style="list-style-type: none">• Improve and Standardize Barrier Analysis and Tests for Agriculture• Set conservative and standardized baselines |
| B | Address the Verification Challenges | <ul style="list-style-type: none">• Establish Interdisciplinary Science, Policy, and Technology Forums• Scale Cost Effective Soil Sampling Technologies• Develop an Open Soil and Forestry Data Repository |
| C | Improve Permanence | <ul style="list-style-type: none">• Address ground Reversal Risks utilizing Soil data• Increase Buffer Pool percentage to Account for Risks• Provide a payment structure that incentivizes smallholder to commit for long term• Bundle climate impacts to ensure permanence |
| D | Incentivize High-Quality Credits | <ul style="list-style-type: none">• Mandate that buyers disclose their carbon accounting of carbon credit purchases• Higher price of carbon credit, due to co-benefit, positive impact on women farmers, social impacts etc. |
| E | Mandate the Uniqueness of Credits | <ul style="list-style-type: none">• Improve land rights and tenure documentation• Add commitment from land owners not to participate in other emissions schemes |
| F | Address Equity Challenges | <ul style="list-style-type: none">• Use direct payments to farmers |
| G | Consider Alternative Financing Mechanisms | <ul style="list-style-type: none">• Purchase future offsets, do not count them toward carbon neutrality goals |

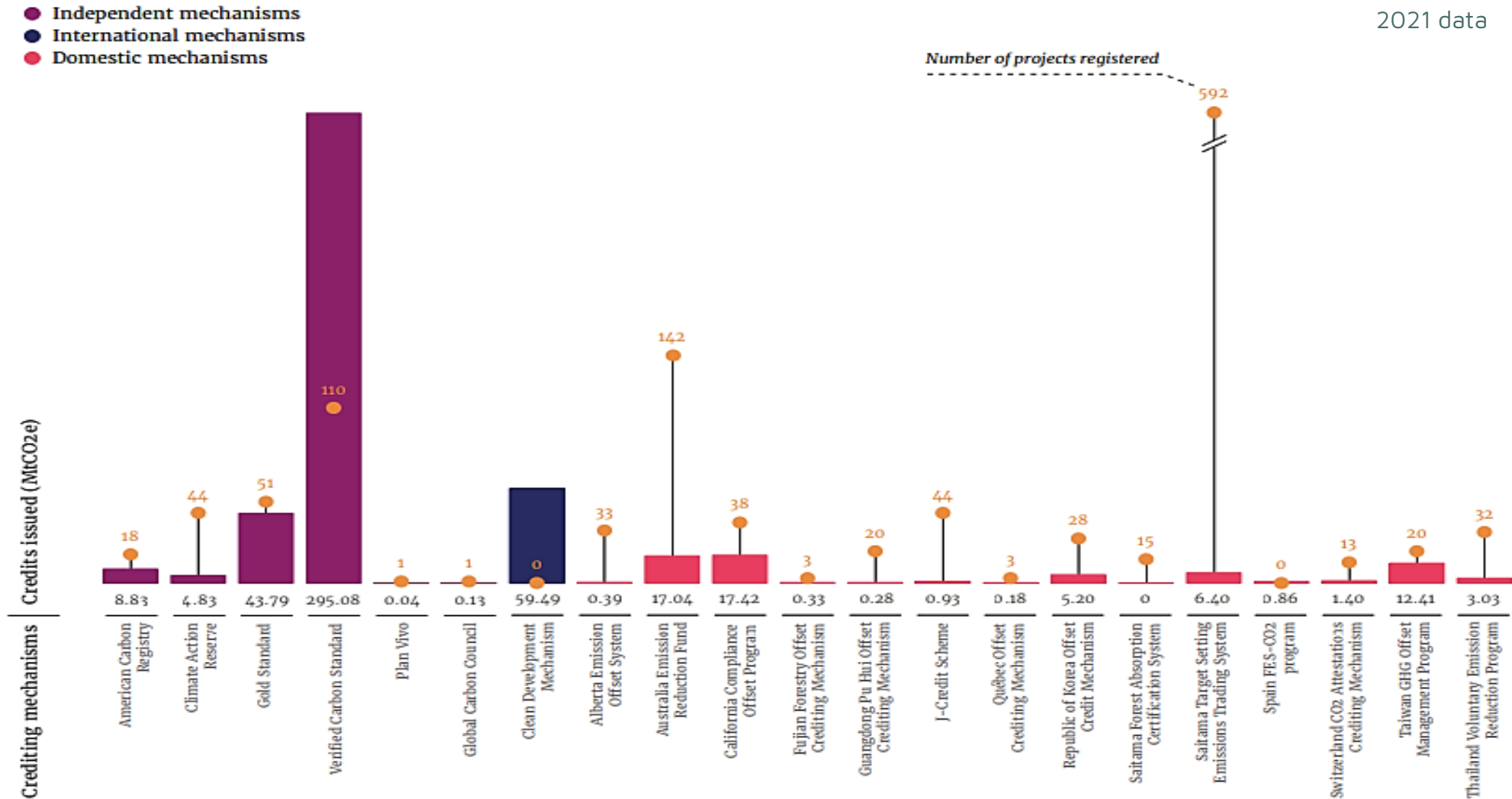


Annex 2 *Conducive Policies in India facilitating climate change mitigation and adaptation*

| S. No | Policies |
|-------|--|
| 1 | National Mission for Sustainable Agriculture (NMSA) |
| 2 | National Bamboo Mission |
| 3 | Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) |
| 4 | Solarisation of Agriculture |
| 5 | Crop diversification programme |
| 6 | System of Rice Intensification (SRI) under National Food Security Mission (NFSM) |
| 7 | Direct Seeded Rice (DSR) cultivation under NFSM |
| 8 | Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue |
| 9 | Production of Neem-coated urea |
| 10 | Mission for Integrated Development of Horticulture (MIDH) |
| 11 | Ration Balancing Programme (RBP) for livestock |
| 12 | Bypass Proteins for animals |
| 13 | Green India Mission |
| 14 | Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) |
| 15 | Paramparagat Krishi Vikas Yojana (PKVY) |
| 16 | Agriculture Demand Side Management |



Annex 3 Carbon crediting mechanisms globally



*There is potential for overlap where domestic mechanisms rely on credits initially issued by other existing mechanisms.