SUMMARY OF BRAINSTORMING SESSIONS

SSKE Workshop on Climate Smart Agriculture
Nairobi, Kenya
June 12-13, 2019
Note: The brainstorming sessions capture the points highlighted by the delegates during the workshop and do not reflect any commitment or road map for future knowledge exchanges from the World Bank.

The Bank would however use the suggestions provided during the sessions to plan for the subsequent programs as part of knowledge exchanges in Climate Smart Agriculture.
SESSION 1 – CSA PRACTICES AND CLIMATE RESILIENT VILLAGES
Potential areas for collaboration (India to Africa)

Delegates from Africa were interested in learning the following from India:

- Capacity strengthening of stakeholders on designing CSA projects
- The model of climate-resilient villages; success stories
- Involvement of private sector in CSA projects and its working / business model
- Institutional models for scaling up through Farmer Producer Organisations (FPOs), SHGs and other farmer groups
- Ethiopia has a plan to establish 12 Agriculture centers of excellence focusing on farmers training. Support is required to make them climate-smart and learning from India’s approach for Farm science centers (KVK - Krishi Vigyan Kendras)
- Exposure to the operational model of PoCRA project in Maharashtra, India – especially the Village Committees and Custom hiring centers
Potential areas for collaboration (Africa to India)

The Indian delegates expressed interest in learning the following from Africa:

- Tanzania: Involving youth in setting up CSA farms; Tanzania has handed over its state farms to youth to manage
- Learning from Kenya: How to link post-harvest management to a climate-smart approach
- Learning best CSA practices from Africa
Potential areas for collaboration (Africa to Africa)

The African delegates expressed interest in learning the following from the other participating countries in Africa:

- Workshop for creating greater awareness of work / projects undertaken and to develop a joint initiative / strategy
- Visit to climate-smart village at Nyando, Kenya
Other Feedback

The African delegates expressed interest in learning the following from the other participating countries in Africa:

- Expand the scope of collaboration to South Asia and the whole of Africa: Good examples of LAPAs (Local Adaptation Plan for Action) from Bangladesh and Nepal, successful work on CSA in Senegal and Mali, e.g.

- A India-Africa training course on understanding the ‘Science of Climate-smart agriculture’
  - Risk characterization: Use of remote sensing, GIS, models
  - Technology characterization, identification and prioritization
  - Creating evidence
  - Scaling up approach

- Guidance/Training on measurement of CSA - indicators
Nature of Assistance / support required

The demand / assistance was expressed for more knowledge exchange workshops in the following areas:

- Exchange visits: Senior people- one-week field tour; Young professionals- hands-on training for 3-4 weeks; India scientists visiting specific African countries to raise capacity
- Identify an agency / consultant / Task Force to put together areas of expertise that can be a source of learning for South Asia and African stakeholders in the field of CSA science as well as scaling up approaches
SESSION 2 – CLIMATE SMART SEED AND BREED SYSTEMS
Climate Smart Seed Systems

Potential Areas of Collaboration
- Capacity building
- Germplasm exchange
- Guiding seed system

Nature of Assistance Required
- Infra & knowledge exchange
- Training to establish a robust breeding & seed program

Demand Assessment
- Strong demand from all countries on exposure visits as well as training
Elaboration on Seed systems exchanges

- **Crops**
  - Coarse cereals, Pulses, cereals, vegetables

- **Germplasm exchange**
  - Released varieties
  - Those within project
  - Extension of Siem Reap agreement, 2017

- **Seed system**
  - Knowledge on policy and operating system
  - Seed marketing
  - Strengthening public and private sector
  - Seed banks for orphan crops

- **Other tools**
  - Bio-fortified crops
  - Molecular – finger printing
  - Tissue culture
Climate Smart Seed Systems

Potential Areas of Collaboration
- Breed
- Feed
- Processing
- Veterinary

Nature of Assistance Required
- Support in infrastructure
- Training in establishing a robust animal / Fish program

Demand Assessment
- Strong demand from all countries for exposure visits and trainings
- Almost same scope in animal husbandry and fishery
Elaboration on Breed systems exchanges

- Dairy
- Poultry
- Sheep and goat
- Fishery

Feed and management
- Nutrition
- Low GHG emission
- Linked to CSA

Business model
- Cooperatives like AMUL
- NDDB
- Post harvest value chain

Other issues
- KVKs/ Science centers
- Agrovet model
- Public and private extension system
- Digital applications - Bio tagging
- Gender

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SESSION 3 – NRM / WATER MANAGEMENT
Potential areas for collaboration

Following areas were identified by the participants as collaboration areas (in both India and Africa):

- Forest conservation / protection in upper catchment and agroforestry in arable land - linking with integrated farming system
- Sharing of national water management policies in respect to rainwater harvesting
- Water management information dissemination (ICT-IOT)
- Integrated watershed management for climate change adaptation in rainfed areas
- Ground water recharge / participatory ground water management policy framework
- Water budget based crop planning
Potential areas for collaboration (contd..)

- Micro-irrigation systems
- On-farm water harvesting knowledge, technologies and institutions
- Monitoring and forecasting/early warning for water related risks (drought/flood)
- Transboundary basin management initiatives
- Use of solar / wind energy for water resource management
- Climate smart livestock management linking with natural resource and water management
- Research and capacity building through a center of excellence
## Inputs from Respective Countries

<table>
<thead>
<tr>
<th>Area of collaboration</th>
<th>Country</th>
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<tbody>
<tr>
<td>A. Integrated watershed management</td>
<td>India to Africa and vice-versa</td>
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<tr>
<td>▪ Knowledge</td>
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<td>▪ Finance</td>
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<td>▪ Implementation support</td>
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<td>B. Solar / Wind Irrigation (Including micro-irrigation and improved water management technologies)</td>
<td>India to Africa and vice-versa</td>
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<tr>
<td>C. On-farm water management including community water management and water budgeting (machine and equipment)</td>
<td>India to Africa (all countries)</td>
</tr>
<tr>
<td>D. Monitoring / early warning for water related risk and agromet advisories</td>
<td>India to Africa (all countries)</td>
</tr>
<tr>
<td>E. Conservation agriculture for climate resilient farming</td>
<td>India to Africa and vice-versa</td>
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</tbody>
</table>
Nature of Assistance / support required

The demand / assistance was expressed for more knowledge exchange workshops in the following areas:

- Watershed management including exchange visits to India
- On-farm water management for climate risks management
- Workshop on solar / wind irrigation system
- Knowledge exchange visit with establishment of center of excellence on climate smart land and water management
SESSION 4 – DIGITAL AGRICULTURE AND INSURANCE FOR BUILDING RESILIENCE
Potential areas for collaboration

Following successful and pilot projects have been identified for collaboration:

- India: E-market, Digital insurance, government support, Young generation on IT technologies, Ag-Tech
- Rwanda: How the farmers order input on mobile phone: mobile app developed by bank and experience livestock insurance
- Kenya: mobile money platform “MPesa” for maize, rice and livestock for compensation and payment including Process of developing big data
- Tanzania: pilot phase of weather index information platforms
- Ethiopia: video based (Digital Green) technologies, Interactive Voice Response for selected crops, agro met advisory service, e-voucher system for inputs
- Mozambique: Piloted e-voucher system with second phase started
Potential areas for collaboration – improvement areas

Following successful and pilot projects have been identified for collaboration:

- Tanzania:
  - how to digitize the service provider for CA service providers

- Ethiopia:
  - integration within the sectors and between the sectors in data management
  - Improving contents of the message to be conveyed through Digital technologies: palatable and understandable to users
  - Improving awareness level of the farmers including the skill

- Other countries (Kenya, Mozambique, Rwanda and India):
  - mapping own limitations and developing learning models and platforms
Nature of Assistance / support required

The assistance was identified in the following areas:

- Capacity building
- Scaling up potential of piloted initiatives within countries
- Experience sharing visit between Countries in Africa and India-Africa
- Setting business model of Digital Technologies: private sector-private sector, public-private sector
- Government focus on the role of IT for Digital Agriculture and insurance
SESSION 5 – FARM MECHANISATION
Farm Mechanisation in Context of CSA

Appropriate mechanization technologies and efficient models of farm mechanization for CSA must be explored and implemented considering the following factors:

- preserving natural resources
- completing critical farm operations such as land preparation, sowing and harvesting on timely basis
- reducing drudgery of humans, especially on women
- proving affordable solutions to small holders
- energy efficiency
- ensuring efficient operations by using digital technology
Cooperation between countries (India – Africa)

Following areas of cooperation were identified by the participants:

- Adaptive Research activities for climate resilient farm machines to identify appropriate machineries for small holders in Africa
- Showcasing Indian machineries suitable for farming, livestock rearing, post-harvest management, processing, landscape management etc. to African countries.
- Training and exposure visit of delegation comprising policy makers, scientists, private players, development actors, service providers and farmers representatives to research centers, manufacturing / production centers & successful Custom Hiring models in India.
- Skill Training Centers could be established in Ethiopia
- End to end mechanization for Rice in India be studied and replicated in Tanzania & other countries
- Start ups in India to be introduced to African farming systems to develop models based on different farming systems in Africa
Nature of Assistance/ support required

African countries need Financial Assistance from external funding agencies to promote and enhance farm mechanization through:

- Research
- Demonstration
- Training
- Exposure visits
SESSION 6 – INSTITUTIONAL AND POLICY ARRANGEMENTS TO SUPPORT CSA
Potential areas for collaboration

Cross-country matrix on policies and institutions from the perspective of climate change:

- Study existing policies and institutions
- Examine their relevance
- Rationalize policies and institutions

Africa-India Platform for Knowledge Exchange

- Technologies, Policies, institutions
Potential areas for collaboration / South-South Learning

From Africa:
- CAADP (Comprehensive Africa Agricultural Development Program)
- AGRA (Alliance for Green Revolution in Africa)

From India:
- National Initiative on Climate Resilient Agriculture (NICRA)
- Krishi Vigyan Kendra (Agriculture Science Center)
- National Rainfed Area Authority (NRAA)
- National Bank for Agriculture and Rural Development (NABARD)
Knowledge Exchange Workshops

- Exposure visits
  - Watershed development program
  - Soil health cards
  - Agriculture insurance
  - Climate smart FPOs
  - e-NAM (National Agriculture Markets)

- Proposal writing workshop
  - Transforming policies into action

- 2-day workshop on polices and institutions to document the best practices
Key Questions on Policy Issues

- How climate change is mainstreamed in agricultural investment?
- What is the science & technology policy towards climate change?
  - Is climate change an independent program?
  - Is climate change mainstreamed in research system?
- What is the technology delivery policy to manage climate risks?
  - Climate resilient villages; Agriculture Science Centers; Millennium Farmers school
- How smart are energy policies that drive climate change adaptation and mitigation?
  - Electricity pricing, water price, solar power, farm mechanization
- How are risk mitigation policies performing?
  - Agricultural insurance
  - Bundling agricultural insurance with other components
Key questions on institutional arrangements

- What are the mechanisms for climate change financing?
- What are the institutional arrangements to organize farmers?
  - Farmer producer organizations
  - Framers’ cooperatives
- How are climate smart services scaling up?
  - Custom hiring services?
Prioritization agenda and roles

Focus Areas:
- Do we focus on all climate smart components?
- Do we focus on Seed, Water and Energy (SWE)?

Who should drive the agenda forward:
- Public sector
- Private sector (organized private sector)
- Public-private sector partnership
Nature of Assistance / support required

- Designing policies for effective implementation
  - Polices, programs, institutional framework, finance
- MIS on Monitoring and Evaluation
- Developing proposals for seeking funds
  - Mega proposal for promoting CSA
- Pilots on CSA start-ups
End of Brainstorming Session Outputs

Thank You!

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