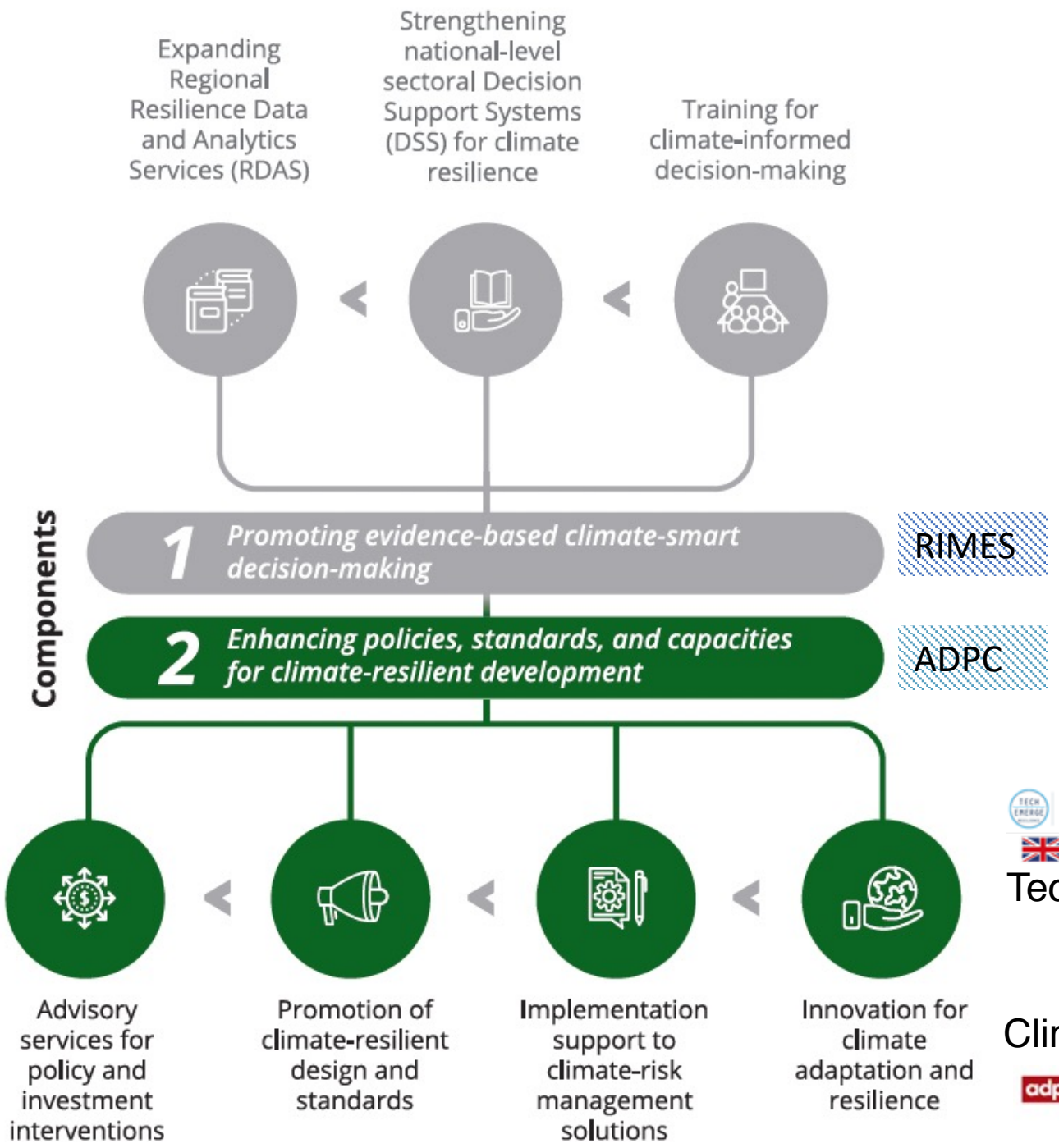
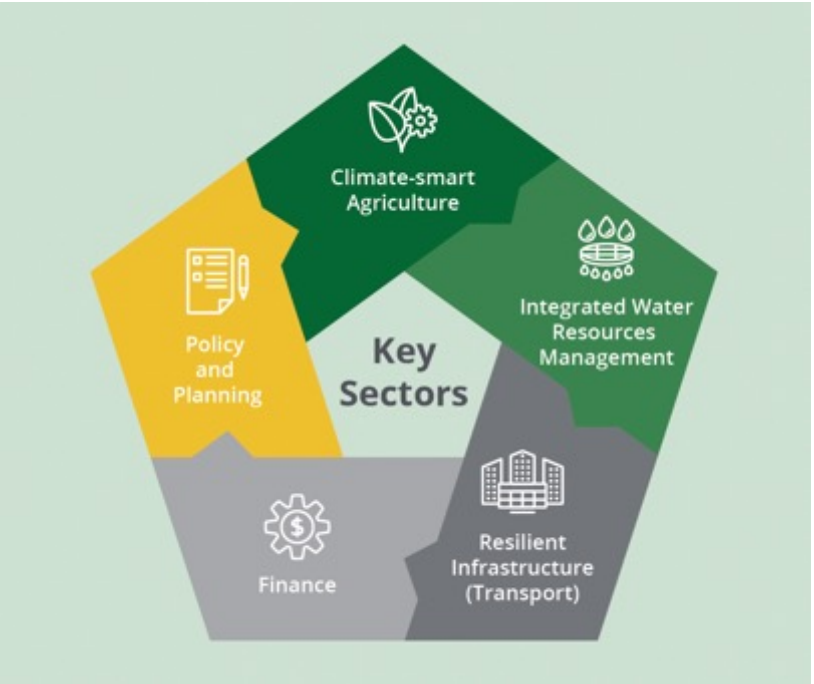

Climate Innovation Challenge
Partnership, Applicability and Scalability of Innovations and Technologies for Climate Resilience in South Asia

Climate Adaptation and Resilience (CARE) for South Asia Project



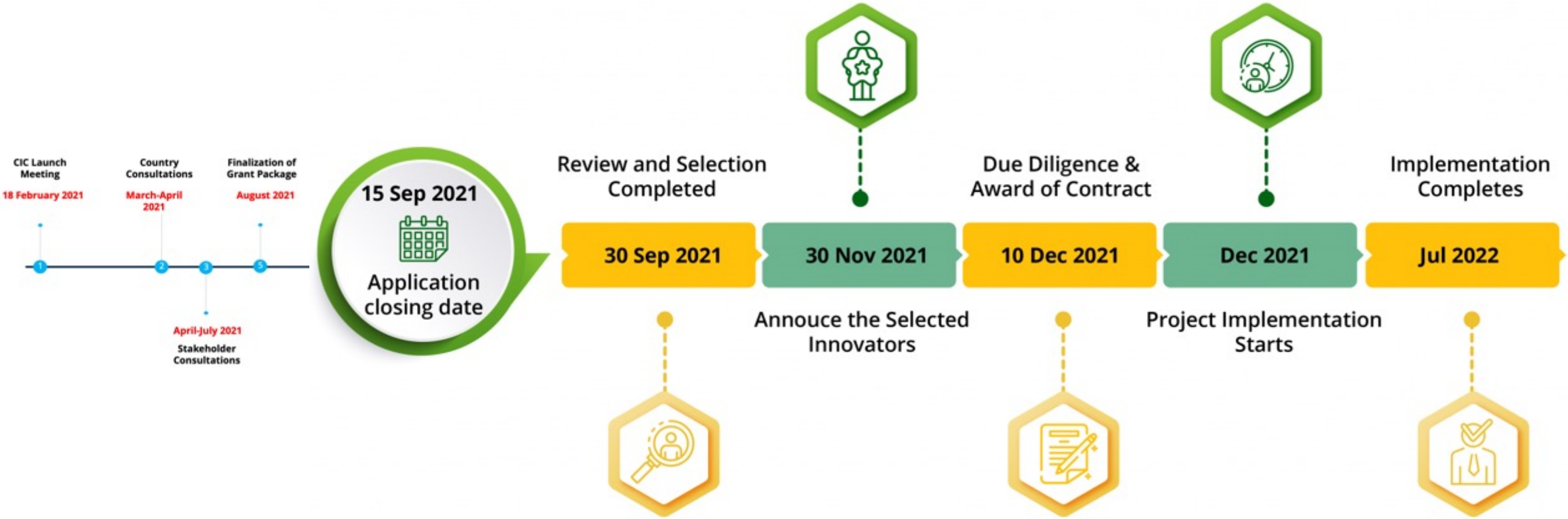


TechEmerge Resilience India Challenge

Climate Innovation Challenge

~~Afghanistan~~ Bangladesh
Bhutan Maldives
Nepal Pakistan
Sri Lanka

Climate Innovation Challenge (CIC): Timeline



Climate Innovation Challenge (CIC) - Key Principles

- Importance of local partnerships and demand led products
- Co-development of products and tools with the end-users
- Projects that demonstrate regional applicability and scalability
- Innovations and technologies that can be transferred among SAR countries

Climate Innovation Challenge – Thematic Areas

Assessment of **innovation needs** identified key thematic areas focusing on **partnerships, applicability and scalability of innovations and technologies.**

1. Climate information and analytics
2. Community level early warning system
3. Climate-smart agriculture
4. Integrated Water Resources Management (IWRM)
5. Resilient infrastructure - transport and power
6. Nature based solutions for adaptation
7. Risk financing solutions

Climate Innovation Challenge (CIC): Applications

Application Received & Shortlisted by Thematic Area

	THEMATIC AREA	TOTAL SUBMISSION
1	Climate Smart Agriculture	**72**
2	Community level Early Warning System	**35**
3	Nature-based solutions for Adaptation	**34**
4	Integrated Water Resource Management	**33**
5	Climate Information & Analytics	**30**
6	Resilient Infrastructure	**24**
7	Risk Financing	**11**
	TOTAL	**239**

Climate Innovation Challenge (CIC): Selection Process

A: Shortlisting of applications:

ADPC and the World Bank team ADPC reviewed and carried out a general eligibility screening for compliance by scanning 239 applications with a simple Yes/No. The qualitative assessment was based on the technical and operational considerations:

(Need-based; Human-centered; ***Customization***; ***Low repair and maintenance cost***; ***Implementable; Sustainability; Aspirational; Affordable;*** **Impact; Relevance**; **Capability)**

B: Jury Review and Finalization:

The shortlisted applications (88) were submitted to each jury member to assess and score based on the following criteria over a two-week period. The jury scored each application based on the following criteria:

(i) **Demonstrated technology:** The technology is past the testing stage and is in a form where it can be piloted or deployed.

(ii) **Ability to execute:** The team or company has the managerial ability, technical capacity to take forward a deployment.

(iii) **Fit to needs:** The solution addresses a real and significant climate change resilience need.

(iv) **Innovation:** Mainly in terms of the potential increase or quality of impact, efficiency or effectiveness it delivers.

Climate Innovation Challenge (CIC): Selection Process

C: Due Diligence and Proposal Submission:

A list of 34 top scoring provisional finalists selected by the jury were screened for **due diligence** including a financial management capability assessment and **firm or organizational eligibility**.

The provisional finalists were asked to develop and submit a **short technical and financial proposal** backed by endorsements/confirmation from relevant authorities in their area of deployment.

D: Award decisions and announcements:

The final decision on which organizations are provided with grants and the final winning solutions were selected based on:

Value for Money: A total of 2 million USD must be utilized in a way that it covers all the themes and geographically important locations.

Timeline: All field implementation by selected innovators must be completed by 31 July 2022 and followed strictly followed as per the financing agreement with WBG and FCDO.

Cater to the larger CARE objectives: The selected innovation must reflect and contribute towards achieving the overall objectives of WB CARE project of south Asia.

Credible Institutions: Institutions/entities must have inbuilt management system and capabilities to implement their solution without much handholding.

Regulatory approvals: All approved solution must have **formal approval** by the end users including **government acceptance and permissions** to avoid hurdles and delays in implementation.

Climate Innovation Challenge (CIC): Conditions for Award

Project Duration

- Pilot start date and end date (20 Dec 2021 to 30 July 2022 or earlier); No provisions for extension will be granted.

Remuneration & Disbursement

- Remuneration for this is Lumpsum (reimbursible invoices raised by grantee and endorsed by the grant manager)

- Disbursement in four (4) tranches against outputs delivered.

- ADPC will not reimburse any amount beyond the obligated and outside the agreement period.

Payment Method

- Payments are made by bank transfers to the “Acc Holder”; and TT costs are borne by ADPC. Other related costs must be borne by the grantee.

Procurement

- All Procurement to be approved by ADPC (which means it will be completed in reference to the procurement regulations that the finacing agreement between WBG and ADPC follows)

Publicity

- All publishing plans related to this grant and pilot must be approved by the grants management team to ensure we follow the right protocol on use of logos etc.

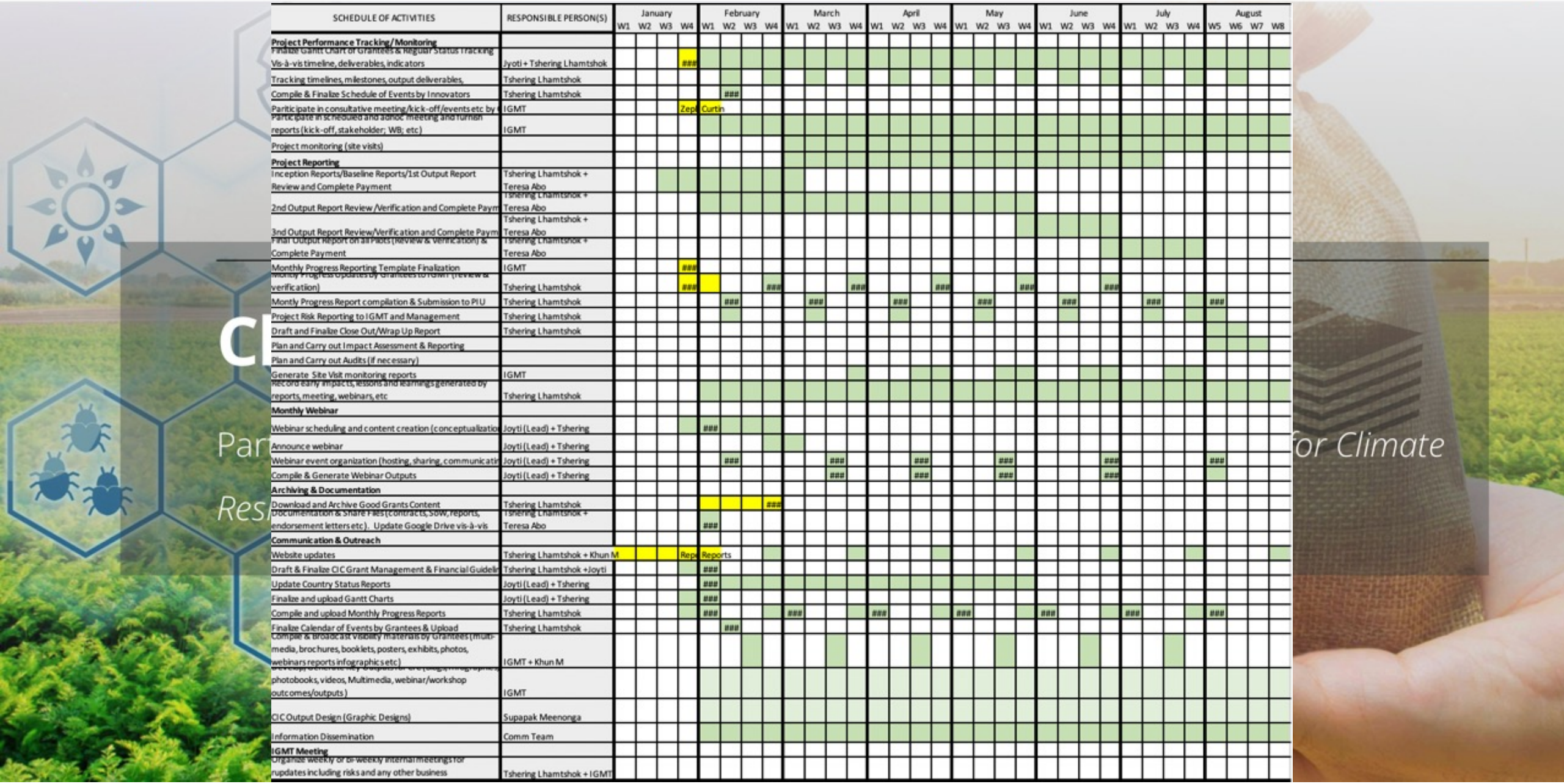
Climate Innovation Challenge (CIC): By Thematic Area

Sl. No	Thematic Areas	Grantees
1	Climate information and analytics	(1) Pakistan Council for Reaseach in Water Resources; (2) Seoul National University; (3) Small Islands Geographic Society; (4) Oy Arbonaut
2	Community level early warning system	(1) CropIn Technology; (2) University of Salford
3	Climate-smart agriculture	(1) Pro Nature Alliance; (2) Curtin University; (3) Alliance for Appropraite Technology Exchange (AfATE)
4	Integrated Water Resources Management	(1) Zephyr Consulting;
5	Resilient infrastructure - transport and power	(1) Geoneon; (2) Asian Institute of Technology
6	Nature based solutions for adaptation	(1) Carthago
7	Risk financing solutions	(1) Tarayana Micro Finance; (2) NAXA;

Climate Innovation Challenge (CIC): By Country

Sl. No	Thematic Areas	Grantees/Innovators
1	~~Afghanistan~~	
2	Bangladesh	(1) Carthago; (2) Curtin University; (3) CropIn technology; (4) Asian Institute of Technology; (5) Seoul National University
3	Bhutan	(1) Geoneon); (2) Tarayana Micro Finance
4	Maldives	(1) Small Islands Geographic Society
5	Nepal	(1) Oy Arbonaut; (2) NAXA); (3) StoneStep; (4) Aisan Institute of Technology;
6	Pakistan	(1) Pakistan Council of Research in Water Resources; (2) Pro Nature Alliance; (3) Zephyr Consulting.
7	Sri Lanka	(1) Alliance for Appropriate Technology Exchange; (2) CropIn Technology; (3) University of Salford.

SCHEDULE OF ACTIVITIES	RESPONSIBLE PERSON(S)	January				February				March				April				May				June				July				August			
		W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W5	W6	W7	W8
Project Performance Tracking/Monitoring																																	
Finalize Gantt Chart of Grantees & Regular Status Tracking Vis-à-vis timeline, deliverables, indicators	Jyoti + Tshering Lhamtshok				###																												
Tracking timelines, milestones, output deliverables,	Tshering Lhamtshok																																
Compile & Finalize Schedule of Events by Innovators	Tshering Lhamtshok						###																										
Pariticipate in consultative meeting/kick-off/events etc by	IGMT				Zepk	Curtin																											
Participate in scheduled and adhoc meeting and furnish reports (kick-off, stakeholder; WB; etc)	IGMT																																
Project monitoring (site visits)																																	
Project Reporting																																	
Inception Reports/Baseline Reports/1st Output Report Review and Complete Payment	Tshering Lhamtshok + Teresa Abo																																
2nd Output Report Review /Verification and Complete Paym	Tshering Lhamtshok + Teresa Abo																																
3nd Output Report Review/Verification and Complete Paym	Tshering Lhamtshok + Teresa Abo																																
Final Output Report on all Pilots (Review & Verification) & Complete Payment	Tshering Lhamtshok + Teresa Abo																																
Monthly Progress Reporting Template Finalization	IGMT				###																												
Monthly Progress Updates by Grantees to IGMT (review & verification)	Tshering Lhamtshok				###				###				###				###				###				###									
Montly Progress Report compilation & Submission to PIU	Tshering Lhamtshok						###				###				###				###				###				###			###			
Project Risk Reporting to IGMT and Management	Tshering Lhamtshok																																
Draft and Finalize Close Out/Wrap Up Report	Tshering Lhamtshok																																
Plan and Carry out Impact Assessment & Reporting																																	
Plan and Carry out Audits (if necessary)																																	
Generate Site Visit monitoring reports	IGMT																																
Record early impacts, lessons and learnings generated by reports, meeting, webinars, etc	Tshering Lhamtshok																																
Monthly Webinar																																	
Webinar scheduling and content creation (conceptualizatio	Joyti (Lead) + Tshering					###																											
Announce webinar	Joyti (Lead) + Tshering																																
Webinar event organization (hosting, sharing, communicati	Joyti (Lead) + Tshering						###					###				###				###				###							###			
Compile & Generate Webinar Outputs	Joyti (Lead) + Tshering											###				###				###				###									
Archiving & Documentation																																	
Download and Archive Good Grants Content	Tshering Lhamtshok								###																								
Documentation & Share Files (contracts, SoW, reports, endorsement letters etc). Update Google Drive vis-à-vis	Tshering Lhamtshok + Teresa Abo					###																											
Communication & Outreach																																	
Website updates	Tshering Lhamtshok + Khun M				Repo	Reports																											
Draft & Finalize CIC Grant Management & Financial Guideli	Tshering Lhamtshok +Joyti					###																											
Update Country Status Reports	Joyti (Lead) + Tshering					###																											
Finalize and upload Gantt Charts	Joyti (Lead) + Tshering					###																											
Compile and upload Monthly Progress Reports	Tshering Lhamtshok					###				###				###				###				###				###				###			
Finalize Calendar of Events by Grantees & Upload	Tshering Lhamtshok						###																										
Compile & broadcast visibility materials by Grantees (multi-media, brochures, booklets, posters, exhibits, photos, webinars reports infographics etc)	IGMT + Khun M																																
Develop, Generate key graphics for use (blogs, infographics, photobooks, videos, Multimedia, webinar/workshop outcomes/outputs)	IGMT																																
CIC Output Design (Graphic Designs)	Supapak Meenonga																																
Information Dissemination	Comm Team																																
IGMT Meeting																																	
Organize weekly or bi-weekly internal meetings for updates including risks and any other business	Tshering Lhamtshok + IGMT																																



Climate Innovation Webinar Series – Save The Dates

1. Assessing the Applicability and receptivity of the Innovations – 21 March 2022
2. Inclusive community leadership in Climate Innovations - 18 April 2022
3. Strategic approach towards scalability and Agility of the Innovations - 23 May 2022
4. Challenges and Importance of Adapting to climate change – 27 June 2022
5. Lessons learnt and knowledge gained through CIC implementation 10 August 2022

- Realizing the potential of innovative and disruptive technologies to meet SFDRR Priorities and SDGs (Conducted in January 2022, by Dr. Kotaro Kataoka)
- Addressing data security and data deluge during disasters (February, 2022)
- Building ownership of stakeholders and overcoming the current techno-legal regime challenges (March, 2022)

Grants Mentorship

- **Innovation Grant Management Team (IGMT)** supporting the Grantees in all possible aspects
- A firm is onboarding soon for technical monitoring of the innovations.
- In country field visits and discussion with the End Users
- Regular Check of “Key Metrics” and Feedback

Pilot Solutions

Partnership, *Applicability and Scalability of Innovations and Technologies for Climate Resilience in South Asia*

Climate Innovation Challenge (CIC) : WINNERS

BANGLADESH COUNTRY PILOTS

Winner	Description
Asian Institute of Technology	Near-real time monitoring of road and power infrastructure using advanced geospatial datasets with the help of crowdsourcing and artificial intelligence via android application and associated CRISTA Dashboard to support decision makers in addressing risk information gaps to improve community level climate resilience through risk sensitization.
Carthago	A decision making framework on resilient and adaptive livelihoods includes a set of tools and methods that allows diverse mapping of local communities and their vulnerability profiles and their inclusion in the formal decision support processes.
CropIn Technology	A tailored advisory dissemination system (*SmartFarm) deployed* through an ICT platform with mobile and web interfaces. The platform would enable smallholder farmers to have access to knowledge and information on sustainable best practices as well as curated, timely, and automated weather advisorie.
Seoul National University	Integrated pest management platform (SPMP) that provides seamless climate information, ranging from high-resolution gridded climate change scenario, seasonal forecast, weather forecast, to mechanistic modeling platform for pests and diseases.
Curtin University	**ADOPT** model (based on Nudge Theory) to incentivize farmers in Bangladesh to adopt climate-smart technologies in the irrigation system.

Climate Innovation Challenge (CIC) : WINNERS

BHUTAN COUNTRY PILOTS

Winner	Description
Geoneon	Deep-learning model that automatizes land-use segmentation on satellite imagery using convolutional Neural Network (CNN). In Bhutan, they will support a district administration to provide an overview of the infrastructures, the extent of hazard prone areas and the vulnerability of infrastructures to multi-hazards that allows for informed decisions to implement mitigation and monitoring measures.
Tarayana Microfinance Pvt Ltd (TMF)	Climate risk financing solution to catalyze Bhutan's financial institutions and make small loans for climate risk financing available to remote, vulnerable mountain communities and their members, especially women smallholder farmers and pastoralists.

Climate Innovation Challenge (CIC) : WINNERS

MALDIVES COUNTRY PILOTS

Winner	Description
Small Island Geographic Society's	Heyli is a mobile application that utilizes citizen science and crowd sourcing to gather data on coastal erosion and flooding in the Maldives. The application purpose is to pilot a measurable monitoring system and calculate the extent to which an island is affected by coastal erosion and flooding over a period of time. The data is then used to develop end-products such as maps and statistics to support development planning and further research.

Climate Innovation Challenge (CIC) : WINNERS

NEPAL COUNTRY PILOTS

Winner	Description
Oy Arbonaut	ProMS platform and its functionalities via GIS web interface as well as a mobile application to provide local farmers in Nepal with Agro-Met Innovative Advisory Services (AMIAS) and build food security of the farming communities
Asian Institute of Technology	Near-real time monitoring of road and power infrastructure using advanced geospatial datasets with the help of crowdsourcing and artificial intelligence via android application and associated CRISTA Dashboard - to support the decision makers in addressing risk information gaps to improve community level climate resilience through risk sensitization.
NAXA Pvt. Ltd	**Household Level Risk Assessment Tool:** a customizable data collection digital system that can assess household-level vulnerability and risk factors (using a mobile application and a web application) for evidence-based decision support and to plan effective risk financing strategies.
SEEDS Technical Services	Artificial intelligence model to asses flood risks for urban areas to improve the resolution of flood risks and warnings and therefore reduce loss of lives and assets, specifically of vulnerable communities through better preparedness and access to risk information.
Stonestep TFD Pvt. Ltd and Practical Action	**Parametric Flood Insurance for Climate Vulnerable Agriculture and** parametric index designed using historical flood data, satellite data and socio-economic data to generate insurance product to protect smallholder farmers against losses to agriculture resulting from severe flooding

Climate Innovation Challenge (CIC) : WINNERS

PAKISTAN COUNTRY PILOTS

Winner	Description
Pakistan Council of Research in Water Resources	Irrigation and Climate Advisory Services (ICAS), an automated system supported by Artificial Intelligence and algorithms that integrates complex remotely sensed, field research, and citizen science (citizen observed weather parameters) data. The integrated data is then converted to useful information and climate advisories in local languages for farmers.
Pro Nature Alliance	Sustainable **Agriculture Technology (SAT)** is a nature-based hardware solution customized to the Pakistani context that combines three technologies backed by climate smart practices. SAT is a combination of (i) customized raise bed maker; (ii) organic mulcher; and (iii) precision planter to support low cost, water conserving, organic farming practices in Pakistan.
Zephyr Consulting Limited	SLAMDAM: is a low-cost hardware technological solution to enhance resilience against floods. The movable water-filled flood barrier, will be deployed in Pakistan where there are flooding risks and therefore improve resilience to flooding risks.

Climate Innovation Challenge (CIC) : WINNERS

SRI LANKA COUNTRY PILOTS

Winner	Description
Alliance for Appropriate Technology Exchange	Three-part sub-modules system integrated with ICT applications i.e (i) Smart Vertical Farming Module (SVFM) , (ii) rainwater harvesting module and (iii) solar module for smart vertical farming and improve the productivity of urban and semi urban farming.
CropIn Technology	*SmartFarm*, a tailored advisory dissemination system through an ICT platform with mobile and web interfaces. The platform would enable smallholder farmers to have access to knowledge and information on sustainable best practices as well as curated, timely, and automated weather advisories.
University of Salford	**MOBILISE 3.0** offers a set of cloud-based digital services using “Software as a Service” (SaaS) model for local and national government agencies in Sri Lanka to collaborate in building local community resilience. The MOBILISE 3.0 is a cloud-based risk information space that allows local councils or local disaster management committees to capture and maintain their local intelligence on exposure, vulnerability and potential hazards.