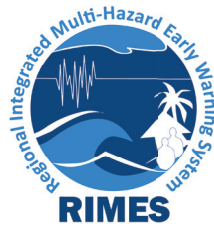




WMO-RIMES JOINT STATEMENT OF ACTION PLAN (JSAP)





WMO - RIMES

JOINT STRATEGY & ACTION PLAN

2022



MEMORANDUM OF UNDERSTANDING

between

the World Meteorological Organization (WMO)

and

**the Regional Integrated Multi-Hazard Early
Warning System (RIMES)**

concerning
cooperation on capacity development for disaster risk reduction,
climate action and sustainable development

2022

The World Meteorological Organization (hereinafter referred to as 'WMO') and the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (hereinafter referred to as 'RIMES') hereinafter referred to as 'Parties';

CONSIDERING the provisions of the Convention of WMO, whereby WMO was created: (a) to facilitate worldwide cooperation in the establishment of networks of stations for the making of meteorological observations as well as hydrological and other geophysical observations related to meteorology, and to promote the establishment and maintenance of centres charged with the provision of meteorological and related services; (b) to promote the establishment and maintenance of systems for the rapid exchange of meteorological and related information; (c) to promote standardization of meteorological and related observations and to ensure the uniform publication of observations and statistics; (d) to further the application of meteorology to aviation, shipping, water problems, agriculture and other human activities; (e) to promote activities in operational hydrology and to further close cooperation between Meteorological and Hydrological Services; and (f) to encourage research and training in meteorology and, as appropriate, in related fields, and to assist in coordinating the international aspects of such research and training;

CONSIDERING FURTHER the role and responsibilities of RIMES, an international, intergovernmental, and non-profit-making entity established on 30 April 2009 under the Agreement on the Cooperation on Regional Integrated Multi-Hazard Early Warning System for Afro-Asian Region with the aim of providing regional tsunami watch and advisory services, and building capacity of its Member Countries for early warning of tsunami and other natural hazards through: (a) facilitations of establishment and maintenance of core regional observation and monitoring networks and ensuring data availability for early warning purposes; (b) the provision of regional tsunami watches within the framework of the United Nations Educational, Scientific, and Cultural Organization's Intergovernmental Oceanographic Commission (UNESCO/IOC); (c) the provision of research and development support to National Meteorological and Hydrological Services (NMHSs) for providing localized hydro-meteorological risk information within the framework of WMO; (d) enhancement of national systems' capacities to respond to early warning information of different lead times at national, sub-national, local, and at-risk community levels within each national early warning framework; and (e) through the provision of portfolio of options for Member States to avail from/contribute to any specific objective(s);

RECOGNIZING the vital importance of the mission of NMHSs in observing and understanding weather, water and climate and in providing meteorological, hydrological and related services in support of relevant national needs which should include the following areas: (a) Protection of life and property; (b) Safeguarding the environment; (c) Contributing to sustainable and socio-economic development; (d) Promoting long-term observation and collection of meteorological, hydrological and climatological data, including related environmental data; (e) Promotion of endogenous capacity development; (f) Meeting international agendas and commitments; and (g) Contributing to international cooperation;

ACKNOWLEDGING the complementary roles and responsibilities of WMO and RIMES and the urgent need to reaffirm and update the Memorandum of Understanding (MoU) between WMO and RIMES signed on 3 November 2010 to reflect enhanced cooperation and joint initiatives in the last decade and in response to Members' demand to expand and deepen areas of cooperation;

RECOGNIZING:

- a) the centrality of NMHSs and their capacity development needs, in particular Least Developed Countries and Small Island Developing States, in relation to providing weather, water and climate services as well as to supporting decision-making processes of sensitive sectors and stakeholders;

- b) the important role of NMHSs in the areas of disaster risk reduction, climate action and enhancement of resilience of communities, societies and nations, which contribute to socio-economic value and sustainable development; and
- c) the 2030 Agenda for Sustainable Development, the Paris Agreement, and the Sendai Framework for Disaster Risk Reduction and the increasing threats of extreme weather resulting from climate change, require action for resilience, mitigation and adaptation and pose increasing demand for actionable, accessible and authoritative information and services from NMHSs.

ACKNOWLEDGING the call of Members to strengthen the cooperation between WMO and RIMES to enhance the benefits from such cooperation;

AGREE to cooperate as follows:

Article 1 Objective

The Parties shall, in accordance with their prevailing laws and regulations and on the basis of mutual benefit, establish collaborative linkages in respect of preparedness, mitigation and early warning for specific Members relevant to both WMO and RIMES.

Article 2 Areas and Activities of Cooperation

The areas of cooperation under this MoU focus on the enhancement of the capacity of NMHSs and partner institutions to deliver meteorological and hydrological information and services and early warning products in support of disaster risk reduction, climate action and sustainable development.

The activities of cooperation under this MoU include, among others:

the development of a joint strategy and action plan, and the mobilization of resources for joint projects to enhance the capacity of NMHSs and partners throughout the information value chain, i.e., data availability, modelling and forecasting, institutional mechanisms to transform data into useable, value-added information, decision-support tools for sectoral applications, and, community outreach and feedback for addressing societal needs and contributing to sustainable development by enhancing resilience and disaster risk reduction and informed climate action.

Article 3 Financial Obligations

Financial obligations, if any, shall be determined by the Parties through mutual consultation and prior written agreement on a case-by-case basis, in accordance with the regulations of each Party.

Article 4 Settlement of Differences

Any differences between the Parties concerning the interpretation and/or application of this MoU shall be settled amicably through mutual agreement.

Article 5 Privileges and Immunities

Nothing contained in this MoU shall be deemed a waiver, express or implied, of any of the privileges and immunities enjoyed by WMO.

Article 6 Entry into Force, Amendment and Termination

(1) This MoU shall come into force upon the signature by the duly authorized representatives of both Parties and constitute an umbrella MoU under which specific projects/activities can be undertaken with details provided in annexes to be appended as and when formulated.

(2) This MoU may be amended by agreement of the Parties.

(3) This MoU may be terminated by either Party provided that six months' notice is given to the other Party. Termination of this MoU by either Party shall in no way affect previous obligations.

IN WITNESS WHEREOF, the undersigned have signed this MoU in two original, authentic copies in English.

For the
World Meteorological Organization
(WMO)



(Prof. Petteri Taalas)
Secretary-General

Date: 28.02.2022

For the
Regional Integrated Multi-Hazard Early
Warning System (RIMES)



(Ms. Khadeeja Naseem)
Minister of State for Environment
Climate Change and Technology of
the Maldives
On behalf of the Secretariat to RIMES

Date: 28.02.2022



WMO OMM

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
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Ref.: 17493/2023-117 WMO/2023-1.0 MS/RAP

Our ref.: 17493/2023/MS/RAP

Annex: 1

Dr A.R. Subbiah
Director, Program Unit
Regional Integrated Multi-Hazard Early
Warning System (RIMES)
AIT Campus
PO Box 4 Klong Luang
Pathumthani 12120, Thailand

8 August 2023

Dear Dr Subbiah,

I have the honour to enclose herewith the WMO-RIMES Joint Strategy and Action Plan. I am convinced our two organizations will further strengthen our relationship in line with the Plan.

I look forward to WMO and RIMES working more closely together in the future to contribute to strengthening the capacities of National Meteorological and Hydrological Services (NMHSs), especially in those countries with the most vulnerable communities. Through closer and more strategic collaboration, we can further promote the critical role of NMHSs in providing services that mitigate against the increasing risks and impacts of weather, climate and water; and contributing to the achievement of the Sustainable Development Goals.

Our partnership approach to helping communities build resilience against climate change by implementing multi-hazard early warning systems by sharing resources, techniques and tools is in line with the United Nation's Early Warnings for All initiative and is therefore highly valued. In this regard, I thank you for your ongoing contribution to our common objectives.

Yours sincerely,

(Ben Churchill)
Director, Regional Office for Asia
and the South-West Pacific

EXECUTIVE SUMMARY

The WMO and RIMES' Joint Strategy and Action Plan (JSAP) is designed to contribute to Early Warnings for All initiative. JSAP aligns with the priorities of the [Paris Agreement](#), supports key provisions of the [Sendai Framework for Disaster Risk Reduction](#) contributes to the targets of the [2030 Agenda for Sustainable Development](#).

The JSAP keeps centrality of NHMS to deliver integrated services along all 5 pillars of information value chain in partnership with climate sensitive user stakeholders' institutions at National, Sub -National and local and community levels through innovative institutional mechanism.

JSAP fosters international and national partnerships to bring best of science, technology and management practices to the doorsteps of unreached countries and communities of differing capacities to achieve level playing field.

JSAP has inbuilt feedback process to ensure dynamic assessment of risks through regular socio-technical audits of Early Warning / Climate information systems to track risk trends and upgrade and finetune it to meet challenges posed by existing and emerging climate/geo-hazard risks. Hence JSAP will be the living document.

BACKGROUND

The World Meteorological Organization (WMO) and the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES) have established a collaborative framework since the inception of RIMES in 2009-2010 through a Memorandum of Understanding (MoU). This leverages RIMES' technical and institutional resources to enhance the outreach of WMO programmes and projects in RIMES Member States, wherein RIMES serves as WMO's extension arm, interfacing between National Meteorological and Hydrological Services (NMHSs) and user institutions and communities through various collaborative programmes and projects that include the following:

- A joint WMO-RIMES 5-year program with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) with support of USD 2 million was implemented from 2010 to 2015 to enhance multi-hazard early warning systems in high risk, low elevation coastal zones in some South and South-East Asian countries.
- From 2016 to 2020, RIMES implemented the WMO Global Framework for Climate Services (GFCS) project in South Asia and the Climate Risk and Early Warning Systems (CREWS) project in Southeast Asia supported by the Government of Canada.
- Since 2015, RIMES has been serving as Secretariat for the South Asian Seasonal Climate Outlook Forum (SASCOF) and facilitates the National Climate Outlook Forum (NCOF) in the South and Southeast Asia regions.
- Since 2021 RIMES has been serving as technical partner to provide FOCUS tool outputs for ASEAN Climate Outlook Forum (ASEANCOF).
- Since 2020, RIMES has served as Secretariat for the WMO-initiated World Bank-supported South Asia Hydromet Forum (SAHF).

The RIMES Council comprising the NMHSs of Member States in its 12th session resolution, appreciated the progress being made in the South Asia region and called upon RIMES to expand the program to other sub-regions such as Africa, Middle East, Central/ Southeast/ East Asia and the Pacific. Furthermore, the Council expressed appreciation to WMO Secretary-General, Prof. Petteri Tallas, for his participation in the meeting and his commitment to further the WMO-RIMES collaboration and requested that a Strategy and Action Plan be developed jointly in this regard. Subsequently, WMO agreed to co-sponsor the 4th RIMES Ministers' Conference to be held in Sri Lanka, an opportunity for both RIMES and WMO to provide implementation thrust Joint Strategy and Action Plan (JSAP).

JSAP was evolved through intensive discussions of RIMES and WMO and West Pacific and Africa regional Directors and their teams during 2021 and 2022.

INTRODUCTION

Climate action is universally accepted as the most urgent priority in this rapidly changing world, where climate change is already affecting people from all walks of life. At the same time, increasing exposure and vulnerability in the societal systems have exacerbated socio-political and economic impacts of disasters, threatening sustainable development.

This interconnectedness of Climate Action, the Sendai Framework for Disaster Risk Reduction and the 2030 Agenda for Sustainable Development and the need for concerted actions brings to fore the centrality of NMHSs, which are uniquely situated to guide the proactive measures and actions underpinning each of these frameworks.



CENTRALITY OF THE NATIONAL METEOROLOGICAL & HYDROLOGICAL SERVICES

Key role across Disaster Risk Reduction, Climate Change Action and Sustainable Development through tailored services for all sectors adopting a whole of government and whole of society approach

NMHSs provide highly visible and authoritative science-based information to respective governments to discharge one of their primary responsibilities of protecting life and property. In doing so, NMHSs need to adopt a whole-of-society approach, leveraging partnerships and engagement with both the public and private sectors.

The need for continued and enhanced engagement of NMHSs with user institutions is well recognized both due to the increasing exposure and sensitivity of the sectoral agencies and sectoral operations to weather and climate parameters. The unique position of NMHSs is also recognized for the provision of critical information that can guide informed decision-making processes of the user institutions, thereby enabling them to fulfil their own mandates and missions effectively.

This Joint Strategy and Action Plan is designed by WMO and RIMES with a view to enhance NMHSs' capacities to provide these vital, integrated services so that the socio-economic benefits of their services across all timescales are improved, tangible and will accrue across society.

VISION OF THE WMO-RIMES JOINT STRATEGY & ACTION PLAN

WMO and RIMES Member States are increasingly resilient to negative impacts of weather and climate while simultaneously capitalizing upon favorable manifestations of weather, climate and water for resilient and sustainable development.

STRATEGIC OBJECTIVES OF THE WMO-RIMES JOINT STRATEGY & ACTION PLAN BUILD ON THE CENTRALITY OF THE NMHSS

1. Facilitate capacity development of NMHSs to support their mandates at the country level and meet the information needs of Member States for effective Disaster Risk Reduction (DRR), undertaking urgent Climate Actions for resilient and sustainable development.
2. Promote and facilitate the development of effective support systems for decision-making across DRR, Climate Action and Sustainable Development domains by implementing innovative institutional mechanisms. This will be achieved using the climate information value chain and the whole-of-society and whole-of-government partnerships and collaboration approaches.
3. Ensure functional tools (developed by WMO and RIMES) and decision support systems are operationalized to guide evidence-based and risk-informed decision-making that draws upon the weather, climate and water services offered by NMHSs.
4. Contribute to strengthening the operational capacities and mechanisms of NMHSs for last-mile outreach to safeguard the lives and assets of citizens.
5. Foster international partnerships to ensure accessibility of best of technologies to all countries with differing capacities.
6. To ensure sustained and dynamic refinement of early warning/climate information systems through regular socio/technical audits and feedbacks on the relevance and usability of climate/early warning services from stakeholder national and local institutions.
7. JSAP will be the dynamic and living document with regular updating of it.

STRATEGIC OBJECTIVE 1:

Facilitate capacity development of NMHSs to meet the information needs of Member States for effective Disaster Risk Reduction, undertaking urgent Climate Actions for resilient and sustainable development.

Investments on the upstream components of the weather and climate information value chain (depicted below) are perceived by policymakers to be higher than benefits. Enhancing the capacities of both NHMS and user institutions collectively covering both upstream and downstream components of the information value chain to correct and address this perception.



NMHS Information Value Chain (WMO)

Focus areas:

- Strengthening weather, climate and water observing networks by leveraging the Global Basic Observing Network (GBON)/Systematic Observations Financing Facility (SOFF) initiatives.
- Facilitating sharing of historical data for performance evaluation of past country-scale extreme weather forecasts.
- Enhancing availability of modelling and forecasting products for use by Member States for Impact-Based Forecasting (IBF) services and Decision Support Systems (DSSs).
- Promoting joint efforts in training activities through the Severe Weather Forecasting Project (SWFP) and Coastal Inundation Forecasting Initiative (CIFI) and FFGS.
- Facilitating incorporation of outputs available from advanced centres and WMO Regional Specialized Meteorological Centres (RSMCs).

STRATEGIC OBJECTIVE 2:

Promote and facilitate effective integration of NMHSs' information and services into decision-making across the Disaster Risk Reduction (DRR), Climate Action and Sustainable Development domains through development and implementation of innovative institutional mechanisms and decision-support systems. This will be achieved using the climate information value chain and the whole-of-society and whole-of-government partnerships and collaboration approaches.

Often the absence of vibrant and dynamic interface mechanisms between NMHSs and user institutions is a major barrier in providing climate information value chain services seamlessly. Incentive-based institutional mechanisms are thus essential to ensure that user institutions are engaged actively in the process by sharing data and domain expertise necessary for applications and reciprocally receive value-added services.

Focus areas:

- Transforming data into information through appropriate institutional mechanisms for co-production of services.
- Facilitating user-NMHS interactions to co-design products and services.
- Development of tools and methodologies to effect co-production and application of climate services for Agriculture/ Water Resources/ Public Health/ Power and other productive sectors and Disaster Risk Management.
- Enhancing outreach to policymakers with possible scenarios and opportunities for sustainable and resilient development planning.
- Joint engagement in Ministers' Conference in RIMES Member States through sponsorship, joint planning and active participation.

STRATEGIC OBJECTIVE 3:

Develop and operationalize functional tools and Decision Support Systems (DSSs) to guide evidence-based and risk-informed decision-making that draw upon the weather, climate and water services offered by NMHSs.

Utilize the latest and cutting-edge technologies such as artificial intelligence and machine learning-based data analytics to integrate the data flow from user institutions with the forecast data from NMHSs in the DSSs in the process of co-production of services.

Focus areas:

- Tailor-made services to deliver user/ decision-context-specific information for resource and risk management.
- Facilitating development and implementation of DSS for enhancing NMHS engagement with their key users, utilizing cutting-edge technologies.
- Demonstrating DSS capabilities in application areas (beyond early warning), e.g. transportation, water resources, tourism and other productive sectors.

STRATEGIC OBJECTIVE 4:

Contribute to strengthening the operational capacities and mechanisms of NMHSs and DRR institution for last-mile outreach to safeguard the lives and assets of citizens.

Forecasts need to be communicated clearly by explaining uncertainties to DRR and other users and at-risk communities. The risk communication approach should result in proactive actions necessary for deriving optimal benefits from the risk information.

Focus areas:

- Community Outreach through last-mile risk communication involving the Common Alerting Protocol (CAP), forecast-based action and feedback mechanisms.
- Demonstration projects linking with at-risk communities.

FINANCING THE WMO-RIMES JOINT STRATEGY & ACTION PLAN

WMO and RIMES will draw from existing funding sources and leverage partnerships with other development partners. Several regional or specific countries initiatives (e.g. Green Climate Funds – GCF; Climate Risk Early Warning Systems – CREWS), programmes and projects are underway or planned at both WMO and RIMES, which would directly address the focus areas and priorities identified in this Joint Strategy and Action Plan. Where necessary, additional resources would be mobilized jointly, in close consultation with Member States and development partners.

IMPLEMENTATION OF THE WMO-RIMES JOINT STRATEGY & ACTION PLAN

The implementation of the WMO-RIMES Joint Strategy and Action Plan will be initiated on a pilot basis immediately commencing from regions and countries where funding is already available. Progress/ results from the pilots will be presented at the 4th Ministers' Conference.

A phased plan of implementation covering all Member States commensurate with the articulated needs and demands will be drafted, building on the Action Plan.

The progress of implementation will be reported to, monitored and evaluated annually by the RIMES Council as well as by the appropriate WMO mechanisms and subsequent Ministers' Conferences.

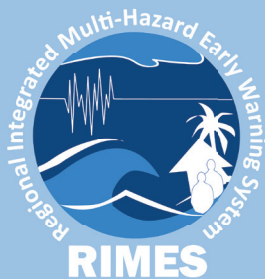
ACTION PLAN TO OPERATIONALIZE THE JOINT STRATEGY

DESCRIPTION OF PROGRAMME ACTIVITIES	GEOGRAPHICAL COVERAGE OF PILOTS	FUNDING CONTRIBUTION				TIMELINES	RE-MARKS
		Total	WMO	RIMES	Gap		
COMPONENT 1: Observing Networks and Data							
Advancing the implementation of the Global Basic Observing Network (GBON)/ Systematic Observations Financing Facility (SOFF) initiatives, through demonstration of feasibility of GBON/SOFF in areas with large data coverage gap.	Southeast Asia and selected EWS4ALL 1 st Cohort countries (Asia, Pacific and Africa)						
Enhancing global forecast accuracy by sharing regional data with WMCs for their assimilation into products and services							
Facilitate sharing of historical data starting with Southeast and South Asia							
COMPONENT 2: Modelling and Forecasting							
Development and testing of research products for increased lead-time/ high-resolution forecasts	Select Regional Specialized Meteorological Centers in Africa and one or two relatively advanced centers -Mozambique, Kenya, Tanzania. Similarly in other regions, including through EWS4ALL						

DESCRIPTION OF PROGRAMME ACTIVITIES	GEOGRAPHICAL COVERAGE OF PILOTS	FUNDING CONTRIBUTION				TIMELINES	RE-MARKS
		Total	WMO	RIMES	Gap		
Enhance availability of NWP data and products directly to NMHSs for improved forecasts, decision support systems and post process for targeted user products	Selected EWS4ALL 1 st Cohort countries (Asia, Pacific and Africa)						
COMPONENT 3: Transformation of data into Information: Institutional Mechanisms for co-production of services							
Institutional forums for enhancing engagement with key sectors on forecast applications	South Asia and Southeast Asia and Pacific ongoing: program Africa and Middle East Asia will be initiated						
Develop tools and methodologies for NMHSs to effect co-production and application of climate services, in delivering WMO initiatives such as the specialized Climate Risk and Early Warning Systems (CREWS)	South Asia and Southeast Asia and Pacific ongoing: program Africa and Middle East Asia will be initiated						
Facilitate uptake of outputs and high-value information available from advanced centres and RSMCs	South Asia and Southeast Asia and Pacific ongoing: program Africa and Middle East Asia will be initiated						
Enhance outreach by NMHSs to policymakers in line with the whole-of-society approach	South Asia and Southeast Asia and Pacific ongoing: program Africa and Middle East Asia will be initiated						

DESCRIPTION OF PROGRAMME ACTIVITIES	GEOGRAPHICAL COVERAGE OF PILOTS	FUNDING CONTRIBUTION				TIMELINES	RE-MARKS
		Total	WMO	RIMES	Gap		
Joint engagement in Ministers' Conference in RIMES Member States through sponsorship, joint planning and active participation	South Asia and Southeast Asia and Pacific ongoing: program Africa and Middle East Asia will be initiated						
COMPONENT 4: Tailor made services to deliver user/ decision specific information for resource and risk management							
Facilitate development of Regional Data Analytics System (RDAS) & implementation of Decision Support Systems in collaboration with key user institutions in application areas extending beyond Early Warning, such as: <ul style="list-style-type: none"> - Spatial characteristics of Climate Change Mitigation & Adaptation actions - Climate smart agriculture - Climate informed infrastructure - Climate risk informed finance and planning - Integrated Public Health Management - Tourism - Transportation - Water Resources - Power sector 	West Africa (Cote d'Ivoire, Burkina Faso) South Asia: program Africa and Middle East Asia , Central Asia and Pacific will be initiated			\$ 3,545,000			WB (CARE)

DESCRIPTION OF PROGRAMME ACTIVITIES	GEOGRAPHICAL COVERAGE OF PILOTS	FUNDING CONTRIBUTION				TIMELINES	RE-MARKS
		Total	WMO	RIMES	Gap		
Demonstration of DSS in Member States <ul style="list-style-type: none"> - Nepal: Roads; Agriculture; Finance & Planning; water resources management; disaster management - Bangladesh: finance and planning; agriculture; livestock; roads/ transport; water resources management - Pakistan: finance and development planning; agriculture; water resources management 	South Asia			\$ 6,500,000			WB (CARE)
COMPONENT 5: Community Outreach- Last mile risk communication and Forecast based Action (based on threshold triggers) and Feedback							
Demonstration of last-mile and community outreach mechanisms for anticipatory actions	West Africa and South Asia, selected EWS4ALL 1 st Cohort countries (Asia, Pacific and Africa)						
Demonstration of communication of climate risk information for decision-making at community levels	Selected EWS4ALL 1 st Cohort countries (Asia, Pacific and Africa)						
COMPONENT 6: Training, Applied Research and Development							
Joint effort in training activities through Severe Weather Forecasting Project (SWFP), Coastal Inundation Forecasting Initiative (CIFI) and Flash Flood Guidance System (FFGS)							



REGIONAL INTEGRATED MULTI-HAZARD EARLY WARNING SYSTEM (RIMES)

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