



**Weather and Climate Information Services
for Africa (WISER) – East Africa**

Phase 2 Summary

September 2017

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CONTENTS

Page

EXECUTIVE SUMMARY

1.	INTRODUCTION AND REQUIREMENT FOR FORWARD PLAN	6
2.	BACKGROUND	6
3.	WISER PRINCIPLES	6
3.1	WISER Aims and Principles	6
3.2	Principles for Products and Services	7
3.3	Principles for Development Partners	7
4.	SUMMARY OF YEAR 1 (JANUARY 2016 – MARCH 2017)	8
4.1	Quick Start projects	8
5.	THEORY OF CHANGE AND LOGFRAME FOR OVERALL WISER PROGRAMME	9
5.1	Overarching Programme Hypothesis	9
5.2	Development of WISER Programme ToC	10
5.3	Needs to Activities to Outputs	10
5.4	Outputs to Outcomes to Impacts	11
5.5	Tracking Transformational Change	12
5.6	WISER Programme Hypotheses	14
5.7	WISER Programme Assumptions	15
5.8	WISER Programme Key Indicators and Target Milestones	15
5.9	WISER Logframe	17
6.	WISER-EA FORWARD PLAN OUTLINE	17
7.	PROJECTS	20
7.1	Regional Projects	20
7.2	National Projects (Burundi, Rwanda, Uganda, Tanzania, Kenya, South Sudan)	25
8.	SUMMARY OF TECHNICAL COORDINATION ACTIVITIES	28
8.1	Development of the MEL Framework	28
8.2	Value for Money and Socio Economic Benefits Framework	28
8.3	Knowledge Management	29
8.4	Approach for Promotion of the Use of Weather and Climate Information in Decision making for WISER-EA (User Engagement Strategy).	29
8.5	Research Strategy	29

Annexes

Annex A: WISER Theory of Change

EXECUTIVE SUMMARY

Weather and Climate Information Services for Africa (WISER) aims to deliver a transformational change in the quality, accessibility and use of weather and climate information services at all levels of decision making to support sustainable development in Africa.

The WISER programme has two main parts:

(1) a pan-African programme focussing on improvement of the governance and enabling environment for weather and climate services (PEEC). This is predominantly being achieved through support to the Africa Climate Policy Centre (ACPC).

(2) a regional programme primarily focussing on the East Africa region (Burundi, Ethiopia, Kenya, Rwanda, South Sudan , Tanzania and Uganda) - WISER_EA - aimed at improving the quality and relevance of weather and climate information and supporting its uptake and use.

Phase 2 of WISER-EA has been developed in the context of ensuring the programme addresses demand driven needs from the region, focusing on service delivery where there is identified user need for weather and climate services which supports poverty reduction and development. It takes a holistic approach to inform climate risk decision making, recognising the need for co-produced products and tools, supporting building capability of both climate information providers and users and addressing challenges raised in regional, national or sub national plans that will ultimately demonstrate good value for money.

Key to WISER-EA is the co-production process which involves users and producers, partnerships between institutions, governments and NMHSs and other stakeholders. The co-production process is expected to generate the five outputs that are essential to the achievement of improved use of weather and climate information. These outputs include:

- **Strengthened enabling environment** for the generation, uptake and use of weather and climate services to support development.
- **Intellectual leadership in climate science in Africa** built through innovative evidence generation and learning.
- **Improved data at historical, present and future timescales** and better production systems, to support the generation of improved weather and climate information and services.
- **Strengthened global-regional-national networks and partnerships** to support the improved generation, uptake and use of climate information.
- **Improved access to weather and climate information** at national, sub-national and community levels.

The Met Office has been commissioned by DFID to act as Fund Manager for the WISER-EA part of the programme.

In Phase 1 WISER-EA completed five 'quick start' projects which have been used to form the basis of the Phase 2 WISER programme. Using the firm footing provided by the Phase 1 the planned approach for WISER-EA Phase 2 will consist of a combination of **Regional Projects** and **flexible National Projects**, underpinned by a focus on user engagement and improved decision making.

The primary objective of the core regional projects will be to support the development of a range of weather and climate services at the regional scale – either where there is demand regionally, or where they can be accessed and are used at the national level. Demand for

these services is already known through the initial scoping of WISER¹, existing WISER quick start projects and other non-WISER projects. The objective of the national projects will be to ensure that regional information and products are contextualised for national and sub-national use in line with the particular needs in a specific country.

'WISER Projects' will be supported by a programme of **Technical Coordination** with an emphasis on:

- **Coordination** - developing a sound pipeline of proposals for WISER-EA support based on user needs and regional and national priorities along with wider Development Partner Coordination including existing and planned projects;
- **Monitoring, Evaluation and Learning** - ensure that the WISER MEL framework (including value for money and socio-economic benefits) is implemented across WISER, where this falls outside routine programme monitoring covered by the Fund Management activities;
- **Knowledge Management** - Ensure that existing and emerging best practice is shared across WISER-EA and outside WISER

In addition, the Met Office will support the development of partnership and collaborative working between WISER consortium partners, projects and between WISER-EA and WISER pan-African (PA) components along with other relevant projects, programmes and initiatives.

¹ Graham et al. 2015. Scoping, Options Analysis and Design of a 'Climate Information and Services Programme' for Africa (CIASA). Final Report DOI: http://dx.doi.org/10.12774/eod_cr.may2015.graham1

1. INTRODUCTION AND REQUIREMENT FOR FORWARD PLAN

This document sets out the Forward Plan for the Weather and Climate Information Services for Africa East Africa programme (WISER-EA) Phase 2 and covers the period July 2017 to March 2020.

2. BACKGROUND

The Department for International Development (DFID) funded WISER programme is providing up to £35 million over four years to enhance the resilience of African people and economic development to weather and climate related shocks. The programme aims to improve the generation and use of weather and climate information across Sub-Saharan Africa, with an initial focus on the East Africa region.

The WISER programme has two main parts:

(1) a pan-African programme focussing on improvement of the governance and enabling environment for weather and climate services (PEEC). This is predominantly being achieved through support to the Africa Climate Policy Centre (ACPC).

(2) a regional programme primarily focussing on the East Africa region (Burundi, Ethiopia, Kenya, Rwanda, South Sudan², Tanzania and Uganda) aimed at improving the quality and relevance of weather and climate information and supporting its uptake and use.

The Met Office has been commissioned by DFID to act as Fund Manager for the WISER EA part of the programme. In Phase 1 five 'quick start' projects were completed.

3. WISER PRINCIPLES

3.1 WISER Aims and Principles

WISER aims to deliver a transformational change in the quality, accessibility and use of weather and climate information services at all levels of decision making to support sustainable development in Africa, with interventions based on the following principles:

- Focus on service delivery with investments flowing from identified needs for weather and climate services which support poverty reduction and development;
- Take a holistic approach to inform climate risk decision making that combines multidisciplinary research with application and operational delivery of climate services;
- Recognise the need for co-produced products and tools, designed with specific applications in mind
- Supports not only climate information providers but 'users', 'boundary organisations', 'intermediaries' and other collaborators;

² South Sudan acceded to the East Africa Community (EAC) in April 2016.

- Ensure all interventions are based around suitable regional, national or sub national plans which have involved users and seek to coordinate support into the sector and recognise and aim to address governance and enabling environment issues;
- Work through existing and mandated organisations and channels where possible and appropriate.
- Demonstrate good value for money in design and delivery, and
- Work in partnership and promote coordination and collaboration with other complementary projects, programmes and initiatives, and between development partners

3.2 Principles for Products and Services

Although the detail and context may vary, the products and services developed with WISER support will aim to:

- Provide reliable operational services;
- Promote understanding and use of probabilistic and uncertain information (ensuring good understanding of forecast uncertainty by users and helping producers to feel more comfortable in expressing uncertainty);
- Deliver relevant, contextual information in a timely way;
- Promote appropriate and inclusive access to information and strengthening or establishing continuous channels for dialogue for communication, feedback and review between all stakeholders (increasing access including to the most marginalised using current communication channels, or developing new ones);
- Generate trust (gained through combining all of the above while working together to share knowledge between producers, intermediaries and local communities in a participatory manner) and
- Build the capacity of both the producers and users.

3.3 Principles for Development Partners

In April 2016, the World Meteorological Organization (WMO) and the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR) co-hosted a roundtable for development partners interested in strengthening hydro meteorological services. The goal was to increase international support and improve the efficiency and effectiveness of their investments and technical assistance activities. Participants included multilateral development banks, bilateral donors, UN agencies, and national hydrological and meteorological services (NMHSs) from both developed and developing countries.

A key outcome of the meeting was a set of guiding principles for how best to support national hydrological and meteorological service (NMHS) modernisation programmes, which are:

- *Comprehensive and timely information sharing and partner coordination is essential* - information sharing and partner coordination should be more formalized and based on a mechanism, such as development partner meetings and internet-based information exchanges, rather than occurring on an *ad hoc* basis. Existing mechanisms should be used whenever possible. Active integration of efforts at the country level should be pursued where possible.

- *All partners should measure and share the impacts of coordination and investments* - partners should use indicators to measure the impacts of both their coordination activities and their investments. Indicators should be in alignment with key international agreements, including the 2030 Agenda for Sustainable Development, and should also assess value for users. Partners should share both the indicators used and the lessons learnt from using these indicators.
- *Investments should be made against a constantly updated and transparent long-term planning process* - long-term planning processes should be based on country priorities and realities, and consistent with any relevant international agreements and WMO Standards. Ideally, this would use a NMHS National Strategic Plan.
- *The achievement of sustainable development results requires a long-term perspective, integrated investments, and engagement by a range of stakeholders* - long-term perspectives for hydromet investments should incorporate a 15+ year time horizon for design and execution. Stakeholder engagement should be broad enough to include relevant national, regional and global interests outside as well as inside NMHSs.

WISER-EA is, with DFID and ACPC, promoting and implementing these principles where possible and practical.

4. SUMMARY OF PHASE 1 (JANUARY 2016 – MARCH 2017)

4.1 Quick Start projects

Five quick start projects were completed during WISER-EA Phase 1.

Strengthening Climate Information Partnerships – East Africa (SC�PEA, EA 3)

This project, led by the Met Office and working with partners including the International Research Institute for Climate and Society (IRI), the WMO, the IGAD Climate Prediction and Applications Centre (ICPAC), National Meteorological and Hydrological Services (NMHS's) and user groups, brought together regional and national climate information users, providers and researchers to deliver a strengthening of seasonal forecast activities in the region. The project strengthened operational partnerships and data exchanges between global, regional and national climate centres, and delivered a programme of training and capacity building and support the co-development of new and improved seasonal forecast products for national and regional use.

Expanding and Strengthening ENACTS (Enhancing National Climate Services) availability, access and use across Eastern Africa (WISER ENACTS, EA 7)

This project, led by the International Research Institute for Climate and Society (IRI) at Colombia University engaged global, regional and national centres to expand the Enhancing National Climate Services (ENACTS) initiative in two countries (Uganda and Kenya) and strengthen ENACTS in three other countries (Ethiopia, Tanzania and Rwanda). This has improved the availability of climate data and created a basis for the development of new data products to allow for the characterisation of climate risks at a local scale

Kenya Training Modernisation and East Africa Forecaster Training Course (Kenya Training, EA 6)

This project led by the Kenya Meteorological Department Institute of Meteorological Training and Research (IMTR), developed training to support better delivery of weather and climate services in the East Africa Region. The Met Office College provided support to IMTR to deliver the project, which scoped, designed, developed and piloted part of relevant and modern initial forecasting course for the region. In time, it is envisaged that this will help support improved regional delivery of weather and climate services in key sectors through the development of a well trained and competent cadre of meteorologists.

Multi Hazard Early Warning Services for Tanzania (MHEWS, EA 10)

This project enhanced the role, capacity and reputation of the Tanzania Meteorological Agency (TMA) through the development and delivery of a pilot Early Warning Service (EWS) for the coastal regions, thus strengthening Tanzania's preparedness and reducing the impacts of extreme weather. This was achieved through a partnership between the TMA and the Met Office with prototype services being developed around the four main elements of effective EWS set out by the UN-International Strategy for Disaster Relief (UN-ISDR) and including user engagement, product development, capacity building and dissemination and communication.

Decentralised Climate Information Services for Decision Making in Western Kenya (Kenya CIS, EA 5)

This project, led by the Kenya Meteorological Department with support from the Met Office and CARE Kenya contributed to KMD's ongoing initiatives to provide a decentralised approach to the delivery of weather and climate services. Working in four counties in Western Kenya it supported County Directors of Meteorology to identify a range of services based on local demand, develop proposals for the streamlining of forecasting to deliver these, and make investments in improved seasonal forecasting techniques to provide better downscaled information for decision making.

5. THEORY OF CHANGE AND LOGFRAME FOR OVERALL WISER PROGRAMME

The WISER Programme Theory of Change (ToC) and logframe reflect the learning from Phase 1 and as part of the development of the overall Monitoring, Evaluation and Learning (MEL) framework.

5.1 Overarching Programme Hypothesis

The overarching programme hypothesis is that **if WISER invests in projects that find the correct balance between:** (1) support the governance and enabling environment, combined with (2) support of innovative research, along (3) with mobilisation of partner networks (national, global and regional), and the (4) co-production of new and improved weather and climate information services then this **will lead to:** (a) the development of more reliable, tailored and accessible services, (b) resulting in greater uptake and use to inform decision making at all levels, demonstrating value and increasing resilience of African people.

5.2 Development of WISER Programme ToC

The Theory of Change (**Annex A**)³ establishes a clear and understandable pathway through which the programme will achieve the outputs, outcome and impact which incorporates thinking around the value chain for weather and climate services, the co-production approach between users and producers and key areas of transformational change.

The ToC will be used in a number of ways at the programme and project level in the pan-African and East African parts of WISER (see Table 1).

Table 1 - Examples of ways in which the WISER ToC can be used at programme and project levels

Programme fund-level	Projects
Assist with the design and scoping of the programme and help to decide which projects to fund, where the missing gaps are within the different activity areas, and whether or not the right stakeholders are being targeted.	During the project proposal stage, will help applicants design and propose projects that will contribute toward the programme outputs and the WISER ToC.
During implementation, it can assist in identifying which output areas need greater attention.	During project inception phase, can be used to develop project theories of change that fit with the overall programme, map out impact pathways and decide on indicators to measure.
Tracking the indicators along the ToC causal-pathway can strengthen confidence that positive changes in outcomes and impacts are a result of the programme and not other factors. If targets are not reached the ToC can assist in identifying whether this was because of implementation failure or other factors.	Learn from other projects and the wider programme and understand which types of impact pathways are working best, and how those lessons might affect the project.

5.3 Needs to Activities to Outputs

During the design phase of the WISER programme, a scoping study⁴ was conducted to identify the current status of availability and uptake of weather information in Africa, along with where barriers occur along the 'value chain'. Based on a literature review and key informant interviews across Africa and elsewhere, the study found that both the availability and uptake of climate and weather information is low in Africa, despite many initiatives over the past decade.

A number of key barriers were identified including⁵ (1) the quality of climate science and weather information services (2) support and buy-in from government and private sectors (3) user awareness and ability to act on weather information (4) and

³ Please note that the ToC and logframe are subject to periodic review and the version set out in this document may not be the most recent version.

⁴ Graham et al. 2015. Scoping, Options Analysis and Design of a 'Climate Information and Services Programme' for Africa (CIASA). Final Report DOI: http://dx.doi.org/10.12774/eod_cr.may2015.grahamr1

⁵ See section 3 of the CIASA report for a detailed description of the barriers

capacity to produce accurate weather information (related to human, infrastructural and service delivery). In addition, the scoping study also found that initiatives often lacked a holistic approach and attempted to deal with barriers in isolation. Year 1 of WISER has confirmed that this original analysis was sound, but has reinforced the need for a stronger focus on user engagement and co-production of services, including equity and gender issues. All the needs identified can be mapped against the weather and climate services ‘value chain’ (Figure 1).

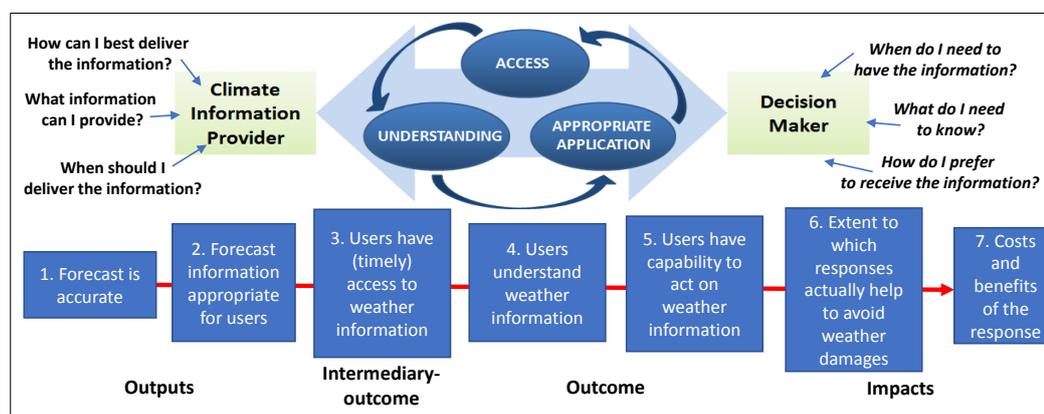


Figure 1. The underlying model of the WISER Theory of Change (Figure 1) is based on the weather value chain and the WISER co-production approach⁶. Weather information passes through a number of stages, along which the potential gains from using weather information can be lost. Overcoming these barriers requires a two-way interaction and dialogue between weather information producers and users

Drawing from the above, six needs were identified which were grouped into 4 activities that each address components of the value chain. WISER funding of the activity components described above is expected to generate five outputs that are essential to increasing the accessibility, use and benefits. As shown on the value chain, the outputs will contribute directly toward the first two steps: improving the relevance and usefulness of weather information for users and improving the accuracy and quality of forecasts.

5.4 Outputs to Outcomes to Impacts

The outputs are all expected to contribute toward the realisation of the intermediary outcome: improved access to weather and climate information at national, sub-national and community levels through strengthened capacity of and integration between NMHS's, collaborators and users that promotes improved service development (Step 3 of the value chain).

The outputs combined with the intermediary outcome is expected to result in the outcome: increased use of reliable, co-produced and accessible weather and climate services based on better data, information, knowledge and tools informs regional, national, sub-national and community level policy, planning and decision-making in Africa. (Steps 3 and 4 of the value chain).

It is expected that the outcomes will result in the realisation of the WISER programme impact statement: increased use of weather and climate information and mainstreaming into development and sector policies, plans and programmes supports sustainable development in Africa. The two indicators used to measure the impact of the programme will be the value of avoided losses due to use of

⁶ Visman, Pelling, Audia, Rigg, Crowley, Ferdinand (2016) Learning to support co-production, BRACED Policy Brief 3

climate information and the number of people with improved resilience (Step 5 of the value chain). For both these indicators WISER will play a contributing role. A simple approach to defining and measuring these indicators that does not burden programme staff yet satisfies ICF requirements is set out in the MEL strategy. The indicators used to monitor the outcomes and impact are summarised on the ToC.

5.5 Tracking Transformational Change

WISER aims to deliver transformational change through four levels:

1. the effective functioning of national meteorological institutions themselves;
2. the impact of improved CIS on the wider national development context;
3. the strengthening of regional institutional capacity; and
4. improved decision making through the uptake and use of credible information by users.

These have been incorporated into the ToC.

National Meteorological Services Strengthening

- *Development of new business models for meteorological services provision:* Meteorological services are evolving from technical units into demand-driven service bodies with the potential to develop more tailored products for both public and private clients. Proposals are encouraged to examine the extent to which they can support the development of new business and management models and address barriers to institutional transformation.
- *Establishing new forms of institutional cooperation:* To become more credible and effective, meteorological services need to create better institutional linkages and cooperation modalities with a range of boundary organisations. Proposals should consider how they are improving meteorological service capacity and skills to engage with external stakeholders, and how this might support improved product development and service quality over time.
- *Mobilisation of new financing flows into national meteorological services:* The funding of national meteorological services is dependent on a strong value proposition being developed and communicated. Proposals should consider their capacity to help mobilise finance from national budgets, private sector partners and external donors (e.g. donor/Green Climate Fund).

National Influence

- *Policy influencing through enhanced quality and communication of data:* Enhanced weather and climate services, including improved accuracy of forecasts can underpin more effective policy making and strategic planning (e.g. through national development and sector strategies). Proposals should consider whether they can engage with and influence policy processes, and how information should be best presented to ensure buy-in and uptake;
- *Influencing of budget processes and resource allocation within climate sensitive sectors:* Enhanced weather and climate services can support more robust decision making in relation to the allocation of budgetary and other resources in sectors such as agriculture, infrastructure and DRR at the national and sub-national level. Better resource allocation can improve resilience, enhance early response and reduce waste. Proposals should consider to what

extent they can improve the allocation of resources, and how information should be best presented to influence outcomes (e.g. in terms of economic costs and benefits);

- *Promoting private sector engagement:* The private sector is playing an increasing role as both a developer and consumer of meteorological service products and can also provide a vital link in the chain of delivering information to end users. Closer partnerships can facilitate the development of an ecosystem of weather and climate information services markets such as insurance, transport and logistics and agriculture. Proposals should examine the opportunity to support the emergence of more dynamic markets in weather and climate services through commercial partnerships;

Regional Transformation

- *Strengthening of regional meteorological services networks and coordination structures:* Key to ensuring the coherence and quality of pan-African meteorological services is the strengthening of regional networks, coordination structures and capacity. Proposals should examine how they might support this process by supporting the development of regional products and standards, and strengthening the regional networks;
- *Raising profile and credibility of meteorological services among pan-African institutions:* It is important that wider pan-African political and economic institutions recognise the value of strengthened meteorological services and the role that they can place in building economic and social resilience. This requires the development of a clear value proposition and its effective communication to key constituencies as well as the continued development of technical capability resulting in improvements in forecasting skill relevant to users... Proposals should explore how they can support this process through direct engagement and the development of targeted knowledge products (including SEB information);
- *Mobilising investment in regional infrastructure and meteorological services capacity:* Strong pan-African meteorological service capacity requires dedicated investment in regional infrastructure. Proposals should consider whether they can contribute to mobilising new and additional funds for regional platforms and meteorological service institutions;

Improved Decision Making through the Uptake and Use of Credible Information by Users

- *Establishing new forms of institutional cooperation:* to better understand weather and climate information in their decision making users need to create better institutional linkages and cooperation modalities with a range of information producers and boundary organisations. Proposals should consider how they work with user groups as well and producers to support improved product development and service quality over time including demonstrating the value of approaches to co-production of weather and climate products and services;
- *Embedding weather and climate information in decision making in sectors, institutions and organisations:* Any efforts to support strengthened and enhanced use of climate information to support specific decision making processes need to be informed by a clear understanding of what benefits this can bring for users and the processes through which this can occur. It is also essential to understand any constraints, be they climate or non-climate related,

which currently prevent climate information from supporting this decision making process.

- *Increased demand for weather and climate services:* A measure of the usefulness and credibility of the weather and climate information is the increased demand for services. Proposals should set out how they aim to address building demand for new services, how demand is responded to and how this is measured.

Whilst it is recognised that not all WISER proposals will focus equally on all aspects of the transformational agenda, all should find at least one area where their project can play an enabling role. Use of the ToC during the scoping phase will assist in identifying these areas and how they will be measured.

5.6 WISER Programme Hypotheses

The overarching programme hypothesis is underpinned by the sub-hypotheses listed in Table 2. We also show the evidence to support the hypotheses, identify where evidence is needed and which indicators will be used to test them:

Table 2 - WISER Hypotheses

Hypotheses	Strength of prior evidence to support the hypotheses	Indicators for testing the hypothesis
Activities targeting a strengthened enabling environment, results in increased funding for the climate and weather service sector compared to no activities (activity component 1),	Moderate, it will be important to test this hypothesis through evaluation and research during and after WISER implementation.	Output 1 related indicators
Research investments (including fellowships for climate scientists) increase the quality and usefulness of climate information delivered through improved capacity and intellectual leadership compared to the status quo (activity component 2),	Moderate, few studies have directly tested this hypothesis. The likely gaps are over the research-implementation gaps which have been documented in a number of scientific fields.	Output 2 related activities and some indicators from Output 3.
Regional initiatives around weather and climate services have greater benefits than individual national and sub-national investments (activity component 3),	Limited, there are few regional scale weather service development projects, hence limited research has been done on this topic. It would be important for the WISER programme to generate evidence and learning about this hypothesis.	Output 4 related indicators and outcome level indicators.
Incorporating users in the co-production of climate weather information increases its use compared to the <i>status quo</i> where users are not involved throughout the production process (Activity component 4)	Moderate, a number of research studies have looked at this, however most are restricted to the developed country contexts, research is needed for poorer country contexts where the barriers to user uptake of weather information are different.	Output 5 indicators and all the outcome level indicators.

5.7 WISER Programme Assumptions

For the WISER ToC to hold true there is need to identify and assume what role the contextual factors will have along the pathways. These assumptions will be the necessary conditions for the programme to reach its targets. The WISER projects will therefore be monitoring and testing the assumptions during programme implementation and adapting activities based on what is learnt. The assumptions are at all levels and include;

WISER Fund related assumptions

- The UK government continues support for the WISER programme.
- There is sufficient interest and supply of proposals for projects by organisations who have sufficient capacity to implement funded projects and that this interest is developed by the Fund Manager.

Output related assumptions

- The political environment is stable enough to allow for climate services and NMHSs to operate unhindered.
- There is willingness for producers and users to collaborate in co-production processes.
- There is political will and support for revision of data policies and new approaches to improving observation.
- The successful implementation of WISER projects is able to attract additional funding from both public and private sources.

Outcome related assumptions

- There will be political will, and national governments will be committed to mainstreaming the use of climate and weather services in plans and policies.
- The political environment is stable enough to allow for climate services and NMHSs to operate unhindered.
- Behavioural attitudes will not prevent people from using improved climate information. Examples include social norms, optimism bias, discounting the future or decreasing confidence in the accuracy and timeliness of climate information services.

Impact related assumption

- That the decisions that users make based on the improved climate information will result in increased ability to adapt and absorb climate shocks and changes, and in some cases, benefit from them. And that this will result in increased well-being of populations and sustainable development.

5.8 WISER Programme Key Indicators and Target Milestones

The initial programme design developed a suite of indicators and target milestones. Key indicators and targets for the WISER programme as a whole include⁷:

⁷ Please note that the ToC and logframe are subject to periodic review and the indicators set out in this document may not be the most recent version.

WISER East Africa : Phase 2 Summary

Reference	Description	Disaggregation	Target
Impact Indicator 1	Value of avoided losses due to use of climate information (ICF KPI 11)		£190 million
Outcome Indicator 2	Number of organisations and institutions/organisations using new or improved weather and climate information to inform their decision making		22
Outcome Indicator 3	Number of households using new or improved climate information services	Male and female headed	875,000
Intermediate Outcome Indicator 1	Number of households able to access new and improved climate services	Male and female headed	3.5 million
Intermediate Outcome Indicator 2	Number of organisations and institutions with access to weather and climate services		50
Intermediate Output Indicator 3	Number of new or improved climate service products being delivered		25
Output Indicator 1.1	Number of NMHS and RCCs with modernisation plans focussing on improved service delivery		9
Output Indicator 1.2	Amount of funds WISER is able (to attract for improved generation, uptake and use of weather and climate services		£ 50 million
Output Indicator 2.1	Number of research outputs	Male and Female authors	53
Output Indicator 3.1	Number of NMHSs and RCCS with upgraded data sets suitable for the production of national and regional climate services		10
Output Indicator 3.2	Number of NHMSs with new and upgraded technology and hardware for production of climate services		5
Output Indicator 4.1	Number of global, regional and national climate fora and/or processes initiated or made more relevant		11
Output indicator 4.3	Number of service agreements/MoUs in place		15
Output indicator 5.1	Number of co-production processes supported to improve climate information and access for decision making		30
Output Indicator 5.2	Number of people in user and producer organisations trained in development, co-production and use of climate services	Male and Female	300

MEL activities will ensure that appropriate indicators are disaggregated by gender (see above). At project level, projects with activities such as capacity building and fellowship programmes will be required to design their activities to ensure that they are sufficiently targeted and will need to present their data disaggregated by gender and other social groups where necessary.

Gender disaggregation will be applied to indicators that can measure number of people and number of households. Programme and project activities should also collect gender disaggregated data during events such as workshops, learning events, training workshops etc.

5.9 WISER Logframe

The latest version of WISER programme logframe is available via the WISER website. The MEL framework includes indicator sheets for each indicator setting out the description and definition, responsibilities and methodology.

6. WISER-EA FORWARD PLAN OUTLINE

Working at a regional level will have a higher priority for WISER during Phase 2 than in the initial year. However, national programmes will remain important in ensuring WISER outcomes are met, but these will increasingly (a) need to link with regional initiatives and other in-country projects (b) include elements that have relevance across WISER-EA and beyond and (c) provide support to delivery of NMHS strategic and other plans.

The overall approach for WISER-EA Phase 2 will consist of a combination of *regional projects* covering all timescales and flexible *national projects aimed at supporting NMHS development*, underpinned by a focus on co-production of services and user engagement. These will aim to balance taking forward successful aspects of the Phase 1 work with opening up WISER funding to a wider range of organisations.

The primary objective of the regional projects will be to support the development of a range of weather and climate services at the regional scale – either where there is demand regionally, or where they can be accessed and are used nationally. Particularly, the regional programmes will promote the development of global, regional and national linkages and making the production of products and services available for regional or national use.

Demand for these services is already known through the initial scoping of WISER, existing WISER quick start projects (particularly SC�PEA, Kenya Western and MHEWS), and other non-WISER projects. However, WISER will support further work as required in identifying user needs within particular sectors both to identify requirements and explore how effective approaches to co-production can be developed.

The objective of the national projects will be to ensure that regional information and products are contextualised for the national and sub-national use in line with the particular needs in the country, and that they are effectively delivered locally, supporting and enhancing capabilities of NMHSs. Again, work at national level will incorporate processes of co-production and focus on the improvement of service delivery.

National projects will allow WISER to work to support a small number of specific new or improved products in a range of sectors where there is good potential for

co-production and significant opportunities for uptake and use. It is envisaged that different sectors and approaches would be prioritised in different countries, depending on local priorities, to allow cross learning. All national projects will be expected to include particular aspects that are of relevance across the region.

Regional projects will include:

HIGHWAY (High Impact Weather Lake System) – focussing on development of a regional short term (1-5 days) severe weather early warning system around Lake Victoria.

ICPAC Support - focussing on the improvement of the development uptake and use of sub seasonal, seasonal and long term timescale products and services for regional application and cascading down to the national level.

Weather and Climate Information for Decision Making Challenge Fund - to provide support to organisations (not supported elsewhere by WISER) who have a regional presence and significant reach to use weather and climate information better (at all timescales, depending on demand) in their decision making. The fund will run on an open call basis, ensuring that investments are based on demand.

Research and Learning around Co-Production, Uptake and Use of Weather and Climate Information, Evaluation and Transformational Change - to provide a particular focus on incorporating co-production and research (including equity and behaviour change) across all WISER-EA projects, provide evaluation and track transformational change across the programme and to track adequacy of information for user needs, in order to ascertain whether any service provision shortfalls might be the reason for low uptake (at all timescales depending on demand).

Capital Equipment - procurement of capital equipment that directly supports the development and delivery of new and improved weather and climate services (predominantly informed by regional assessments, but may include some national elements). This will include support around operation and maintenance of new equipment where this is required. The HIGHWAY project includes for assessment of how new capital investments can best be made to support improved regional services and how these are cost effectively made, and what ownership, operation and maintenance arrangements are most appropriate.

AMDAR - The Aircraft Meteorological DAta Relay (AMDAR) will establish a meteorological observing programme facilitating the automated reporting of meteorological atmospheric information from Kenya Airways' fleet of aircraft which will provide cost effective improvements of observational data in the region.

National Projects will include:

Approximately five national projects will aim to support aspects of the National Meteorological Services' (NMHS) Strategic Plans, particularly around increasing their visibility and reach which have been developed in Year 1. In addition, a quick-start project in Uganda for which a concept has already been developed will be supported.

A summary of WISER –EA Phase 2 projects is shown of Table 3. Further details of each project are included in Section 7.

Table 3 – Summary of WISER –EA Phase 2 Projects and Technical Coordination Activities

	Grant Funded						
	Timescale			Technical Coordination			
Scale	Short Term	Sub Seasonal/ Seasonal	Long Term	Cross Programme Activities			
Pan African	ACPC Programme			Monitoring, Evaluation and Learning (including value for money and socio-economic benefits)	Communications	Knowledge Management (including around specific research themes)	Programme Development
Regional (East Africa)	HIGHWAY	ICPAC Support					
	Climate Information for Decision Making Challenge Fund - demand led according to local priorities and opportunities						
	Support, Research and Learning around Co-Production, Uptake and Use of Weather and Climate Information, Evaluation and Transformational Change						
	Capital Equipment						
	Aircraft Meteorological Data Relay (AMDAR) Kenya						
National	National projects - demand led according to local priorities and opportunities but with regional interest (to support NMHS strategic plans)						

7. PROJECTS

WISER Phase 2 are summarised below.

7.1 Regional Projects⁸

The following core regional projects will form part of WISER-EA Phase 2:

HIGHWAY (High Impact Weather Lake System)

HIGHWAY will be a 30 month project led by the World Meteorological Organisation (WMO). The aim will be to develop, in cooperation with mandated international, regional and national bodies, a fully functioning and sustainable regional system for early warning for the Lake Victoria Basin. It will coordinate and enhance the resources of the national meteorological agencies of the countries in the region - particularly, Kenya, Tanzania and Uganda - in order to improve the forecasting of severe weather events up to five days in advance - and with the East African Community to develop regional institutional structures for an effective service. The project will significantly improve the range and quality of EWS products and services available within the Lake Victoria Basin through co-design with users, improvements in science, observations and data, capacity building, forecast skill, and other aspects, particularly at the regional scale. The HIGHWAY Project also aims to improve the timely dissemination of this early warning information to communities around the lake affected by high impact severe weather. The overall goal will be to reduce the number of weather related deaths and economic damage through increased use of reliable, co-designed and accessible weather services. The project will have an innovation focus along the 'value chain' – particularly around improving forecast accuracy through weather science, user engagement aspects, and demonstrating effective approaches to how service provision can effectively be rolled out at scale. In addition, the project will produce a range of knowledge products to raise the profile and awareness HIGHWAY (and the WISER programme in general) as well as to present and disseminate innovation and new findings.

A key part of the programme will be to improve the use of current and additional data sources in the region, including the development of a field campaign which will improve the observational network, and add to the current data sources. The field campaign will aim to make better links between existing observations across the Lake Victoria region, including both permanent deployments and temporary equipment for science research. This activity aims to provide a coordinated structure for additional observations and data sharing and demonstrate what observations are most beneficial for provision of enhanced early warnings in the region. WISER will provide funding to support the design and initial implementation of the field campaign, and provide a platform for other partners to contribute in future.

A mapping of the HIGHWAY project against the WISER ToC is contained in Annex A. The project will contribute to the impact and outcome through all outputs: Output 1 (strengthened enabling environment), Output 2 (intellectual leadership in climate

⁸ Note that the descriptions contained here are indicative and may change as the WISER-EA programme develops

science through innovative evidence generation and learning, Output 3 (improved data), and Output 4 (strengthened global-regional- national networks and Output 5 (strengthened capacity of an integration between producers, collaborators and users). It will predominantly support transformational change through:

- (1) improved planning and coordination of weather services at regional level;
- (2) improved science, processes, skills, systems and business models for effective delivery of services;
- (3) new forms of institutional cooperation;
- (4) increased and sustained funding; and
- (5) new and improved co-designed products and services embedded in decision making.

WMO will lead the HIGHWAY project and it will commence in October 2017.

ICPAC Support

ICPAC is the mandated authority to provide regional climate services (sub-seasonal, seasonal and longer term) in the East and Greater Horn of Africa region and is therefore well placed to provide a lead to this WISER investment. ICPAC support for WISER-EA during Phase 1, particularly in relation to the SC�PEA and ENACTS projects have been good and initial discussions have confirmed their willingness for ongoing involvement with WISER. A consultative meeting was held on 3 February at ICPAC with members of the SC�PEA and ENACTS teams, and the HyNEWS group, the Adaptation Learning Programme (CARE), the USAID funded PREPARED programme and other initiatives within ICPAC to start exploring how parties could work together in Phase 2. Whilst there is work to do on the detail, based on these discussions there is good potential to develop a consortium type approach with ICPAC and existing and new WISER partners to develop a programme of work for Phase 2. Based on this it is proposed that ICPAC is invited by the Fund Manager to develop a proposal for Phase 2 funding which takes forward the successful work of SC�PEA and ENACTS but also brings in other new partners particularly to strengthen the co-production elements and including key regional user groups. This process will commence in July 2017.

Future WISER-EA funding will support ICPAC's 2016-2020 Strategy and particularly the recommendations of the 'Capacity Needs Assessment of ICPAC to provide Entry Points for Technical Support and Services Intervention' produced with WISER funding in Year 1. As set out above, this will be done through building on the achievements of the SC�PEA and ENACTS projects but extending the scope of work to longer term timescales, expanding the geographical reach, a greater focus on co-production, bringing in new partners (including users) and coordinating better with other initiatives.

Priority areas for Phase 2 WISER-EA support to ICPAC include:

- the consolidation, further development and operationalisation of the prototype services currently under development in SC�PEA, and over time expansion to other users and sectors;
- embedding ENACTS/Maprooms approach into ICPAC to provide the service on a regional basis and to provide regional support, but focussing on the uptake and use of products;

- including longer term timescales (this would increase the potential for new partners (for example the HyNEWS group), replacing the need for a separate project which would likely result in duplication of effort. In particular, there should be a focus on better use of long term information in regional planning, for example through engagement with the development of the IGAD Regional Climate Change Strategy;
- linking with outputs from the Forecast-based Early Warning Scoping Study in the humanitarian, ASP and resilience sectors, including linkages with other regions (e.g. the Sahel);
- more formal linkages with the FCFA, SHEAR and CSRD programmes;
- an increased focus on making the GHACOF and NCOF processes more effective – for example using new approaches to engaging and communicating with users, timings of national and consensus regional forecasts and addressing their long term financial sustainability, and bringing new products into use;
- introducing user centred design to ICPAC products and increasing their use in regional planning and policy development, and
- investigating opportunities for other development partners wishing to support ICPAC in these areas to come in under the WISER ‘umbrella’.

This project will commence in January 2018. Transitional funding (quick start extensions) will be provided to maintain momentum of the ENACTS and SCIPEA projects and lay the foundations for collaboration in Phase 2.

A mapping of the ICPAC support project against the WISER ToC is contained in Annex A. The project will contribute to the impact and outcome through all outputs: Output 1 (strengthened enabling environment), Output 2 (intellectual leadership in climate science through innovative evidence generation and learning, Output 3 (improved data), and Output 4 (strengthened global-regional- national networks and Output 5 (strengthened capacity of an integration between producers, collaborators and users). It will predominantly support transformational change through:

- (1) increased awareness and discussion of weather and climate issues amongst policy makers;
- (2) improved planning and coordination of weather services at regional level;
- (3) improved science, processes, skills, systems and business models for effective delivery of services;
- (4) new forms of institutional cooperation;
- (5) a raised profile and credibility for meteorology; and
- (6) new and improved co-designed products and services embedded in decision making.

Weather and Climate Information for Decision Making Fund

The Climate Information for Decision Making Fund will allow WISER to support a range of organisations, predominantly with a regional focus and potential for considerable reach to stakeholders (mostly outside government) who: are looking for advice on how to use weather and climate information in their decision making;

have innovative ideas for communicating information; are able to develop new services to meet demonstrated demand. It is envisaged that grants of up three projects would be delivered. The requirement for providing support direct to users was identified during Phase 1 and particularly during the development of the User Engagement Strategy. There appears to be considerable demand for WISER-EA to provide support direct to these potential users and intermediaries, which fall outside the 'traditional' networks that many NMHS's have. It is envisaged that this approach will considerably widen WISER's reach amongst a diverse range of user groups, open up avenues for innovation and forge links between new users and national and regional providers of information.

It is proposed that that the Fund mechanism and eligibility and assessment criteria would be designed during August 2017, with the first round of calls from September/October 2017 onwards.

Support, Research and Learning around Co-Production, Uptake and Use of Weather and Climate Information, Evaluation and Transformational Change

Phase 1 of WISER-EA and development of the WISER-EA User Engagement Strategy (see Section 6.4) has identified a need for a stronger focus on user engagement aspects and for support across the programme for organisations wanting to take forward concepts of co-production. In many cases individuals and organisations understand the need for a process bringing users and producers together, but are unsure how to get started or what the most appropriate approaches may be. There is significant potential for WISER to provide significant added value in this area.

This work will aim to ensure that:

- (1) sound and innovative approaches to the co-production, uptake and use of weather and climate services are integrated and prioritised across all WISER-EA projects; and
- (2) that the different approaches (at different timescales and institutional levels) are properly documented, researched, evaluated and disseminated to form a body of tested guidance, methodologies and approaches around co-production. As part of this work there will be specific areas of focus on equity issues, including gender, reaching the poorest and disabled and on specific issues around services in conflict affected and fragile states.

This work will engage across all WISER-EA projects and will have a remit to work with the Fund Manager to support applicants and beneficiaries to the Challenge Fund described above to facilitate linking users with producers, raising demand, supporting users to better use information, and assessing, evaluating (including value for money aspects), documenting and disseminating approaches. This could also link up with other relevant programmes BRACED, FCFA, Sahel, GFCS as required. This would include commissioning specific relevant research where needed and encouraging innovation and new ways of thinking around the use and uptake of weather and climate information.

In addition to the above, this work will incorporate other cross WISER-EA aspects that are most practically and cost effectively dealt with together. This will include aspects of:

- Provision of support to ensure projects incorporate adequate monitoring, evaluation and learning (MEL, including VfM and socioeconomic aspects) in design – and to provide ongoing support during the project lifecycle.

- Implementation of the aspects of the MEL framework and VfM/SEB framework across WISER-EA, including tracking of transformational change, and undertaking specific studies and research to support MEL.
- Production of content to feed into WISER knowledge management.

The Weather and Climate Information for Decision Making Fund together with the support and research on co-production, evaluation and transformational change form the basis for significant strengthening of the user and equity focus of WISER-EA and potential for generation of learning of significance throughout Africa and elsewhere. Together, the work will predominantly contribute to the impact and outcome through Output 1 (strengthened enabling environment), Output 5 (strengthened capacity of and integration between producers, collaborators and users, but will also play an important role in moving beyond the intermediary outcome of improved access to weather and climate information to increased use. It will predominantly support transformational change through:

- (1) increased awareness and discussion of weather and climate issues amongst policy makers;
- (2) improved science, processes, skills, systems and business models for effective delivery of services;
- (3) greater understanding of and awareness for producer and user needs
- (4) a raised profile and credibility for meteorology;
- (5) increased demand for climate services;
- (6) sustained relationship with formal agreement in place; and
- (7) new and improved co-designed products and services embedded in decision making.

Capital Equipment

WISER-EA funding includes considerable capital expenditure for observations and other equipment. Recommendations for how this money should be allocated for maximum impact at the regional scale will be developed through the HIGHWAY project, backed up by other independent studies if this is deemed necessary by the Fund Manager. It is anticipated that by working through the HIGHWAY project (which aims to promote regional cooperation) capital investments will provide better value than working at an individual country level, and also support initiatives around data protocols and sharing, asset management and ownership. These issues will be developed as part of the process of promoting regional coordination contained in HIGHWAY.

Investments in capital equipment can also be made through the ICPAC support project and national projects where a sound case that it is required for production and delivery of new and improved services.

In all cases, clear responsibilities for asset ownership and management, branding and use of data will be in place prior to procurement of equipment taking place.

AMDAR Kenya

The Aircraft Meteorological DATA Relay (AMDAR) for Kenya will establish a meteorological observing programme facilitating the automated reporting of

meteorological atmospheric information from Kenya Airways fleet of aircraft. The programme uses the aircraft's existing sensors, avionics and telecommunications system to gather, process and disseminate data that is used directly to improve the accuracy of weather forecasting services and applications. The data will be used by the national meteorological services to improve aviation and public weather applications that meet sector-specific needs, as well as feeding into the global system so that it can be used in global and regional models. The programme is already well established within WMO and this will provide much needed data in a data sparse region.

The capital equipment and AMDAR Kenya will predominantly make an important contribution to Output 3 – Improved data at historical, present and future timescales and Output 4 – Strengthened global, regional national networks and partnerships. It will predominantly contribute to transformational change through:

- (1) increased development focus in weather and climate research;
- (2) improved science, processes, skills, systems and business models for effective delivery of services; and
- (3) new and improved co-designed products and services embedded in decision making (Annex A).

Adaptive Social Protection - Information for Enhanced Resilience (ASPIRE)

In addition to the above, WISER will in future likely include the DFID funded Adaptive Social Protection - Information for Enhanced Resilience (ASPIRE) project which will be looking at how weather and climate information can be used to inform decision making in adaptive social protection programmes. Working with World Bank social protection programmes, it will seek to bring together social protection and climate stakeholders (including national meteorological services) in the Sahel so they can jointly design and develop services which support this, focussing on Senegal, Burkina, Chad, Niger, Mauritania and Mali. The exact scope of work the scope of which will depend on the outcomes of the Inception stage currently being finalised and which is currently under review with DFID.

7.2 National Projects (Burundi, Rwanda, Uganda, Tanzania, Kenya, South Sudan)

National Projects

WISER-EA will support up to four national projects, these will be selected on a competitive basis through calls in 2017 and aim to support aspects of the National Meteorological Services' (NMHS) Strategic Plans which have been developed in Year 1. Selection of projects in this way aims to incentivise NMHS's to finalise their Strategic Plans and encourage them to develop sound proposals that meet their needs and also align with WISER principles and requirements and wider DFID Country Strategies.

Calls will need to respond to the specific principles and requirements of WISER, and focus on the delivery of new or improved products and services in specific sectors where there is scope for co-production and making a step change in the NMHS reach. Depending on local priorities, including those from DFID Country Offices, it is envisaged that different sectors and approaches would be prioritised in different countries, to allow cross learning. In addition, all national projects will

have particular aspects of relevance across the region so that experiences can be shared.

The national initiatives will (a) provide a link with core regional WISER projects and allow regional products to be contextualised for national and sub-national use in line with the particular needs of the country, and (b) where relevant, build on the progress and learning from the quick start projects.

Project proposals will need to demonstrate:

- (a) strong local leadership and support for the project;
- (b) significant reach and impact of new or improved services;
- (c) co-production approaches for development of services;
- (d) alignment with national plans;
- (e) a strong partnership approach with a range of organisations;
- (f) coordination with other projects and programmes;
- (g) how additional funds will be leveraged;
- (h) a strong monitoring, evaluation and monitoring component, including demonstration of value for money, socio-economic benefits and transformational impacts and
- (i) plans for sustainability of ongoing services.

It is proposed that there is an initial call for concepts in October 2017, followed by the detailed work up of a small number of selected proposals for commencement in April 2018.

Depending on the first round, a second call for concepts might be held in early 2018, followed by detailed work up of a small number of selected proposals for commencement around mid-2018.

Uganda Quick Start (Improving Availability, Relevance and Use of Weather and Climate information in Uganda)

In addition to the national projects above the WISER-EA programme will support a 'quick start' project in Uganda.

The DFID country office have indicated their strong support for WISER which would complement their ongoing programme in Uganda, particularly around EWS. A recent study carried out by DFID has identified a paucity of forecast information being used for early warning. DFID Uganda has had recent discussions with the Uganda government and there appears to be a good appetite for making improvements, and particular interest in the work undertaken in Tanzania under the MHEWS project around developing the institutional arrangements for early warning. Uganda presents a significant opportunity for WISER to improve the uptake and use of information.

The project will also aim to add value to and align with future projects in the region such as the planned multi-year UK Space Agency funded Drought, Flooding, and Mitigation Service (DFMS) project, linking closely with the DFID Country Office in Uganda. Here WISER Uganda can provide a strong user engagement platform

from which DFMS can build and feed into as well as providing a solid baseline from which to develop user needs based and accessible services.

The project will seek to develop a model of multi-agency cooperation in the delivery of weather and climate information and services and test the effectiveness of WISER's co-production approach in influencing decision making. Whilst involving the Uganda National Meteorological Agency (UNMA) as a key stakeholder, the project will focus predominantly on working with established networks, organisations and projects including NECOC (Uganda's Disaster Management Agency), ACCRA (an NGO grouping), the Uganda Network of Climate journalists and BRACED. More specifically, the project will:

- (a) develop and formalise joint working arrangements between UNMA and NECOC;
- (b) support better use of existing data within UNMA for improved service delivery and link with outputs from other WISER projects (ENACTS, SC�PEA and in future HIGHWAY);
- (c) develop prototype co-production approaches to development of new services and
- (d) with BRACED partners in Uganda, develop a process for better incorporating weather and climate information into resilience and adaptation planning.

The project will aim to demonstrate models of best practice for the co-production approach advocated by WISER and in joint working between government agencies and community based organisations.

Summary

National projects will be open to EAC countries only (Burundi, Kenya, Uganda, Rwanda, Tanzania and South Sudan)

National projects will contribute to the WISER outputs in different ways, depending on the priorities. Taken together however, they are anticipated predominantly to contribute to the impact and outcome through Output 1 (strengthened enabling environment), Output 3 (improved data), and Output 5 (strengthened capacity of an integration between producers, collaborators and users). It will predominantly support transformational change through:

- (1) increased awareness and discussion of weather and climate issues amongst policy makers;
- (2) improved planning and coordination of weather services at regional level;
- (3) improved science, processes, skills, systems and business models for effective delivery of services;
- (4) greater understanding of and awareness for producer and user needs new forms of institutional cooperation;
- (5) a raised profile and credibility for meteorology and
- (6) new and improved co-designed products and services embedded in decision making (Annex A).

Where countries are not supported through national projects they can still receive WISER support through the regional projects, and these should remain flexible enough to accommodate these requirements as Phase 2 progresses.

Possibilities will be identified in the forthcoming reviews of quick start projects for further consideration. These transitional initiatives may lead to Phase 2 national projects, but this will be dependent on the outcome of the calls for proposals for that work.

8. SUMMARY OF TECHNICAL COORDINATION ACTIVITIES

In addition to the projects set out above the Fund Manager will undertake work around the following areas:

8.1 Development of the MEL Framework

The MEL framework for WISER will deliver:

- A comprehensive actionable cost-effective MEL plan for the programme as a whole;
- A programme level theory of change (diagram and a narrative text explaining the theory behind how change will occur, the assumptions and evidence) – the latest version is included in this report;
- A programme level logframe – including SMART indicators and the establishment of baselines, milestones and targets and
- Guidance for WISER projects in the development of project level monitoring, evaluation and learning to ensure proper linkages with the overall programme logframe

The guidance developed is available as a separate document.

8.2 Value for Money and Socio Economic Benefits Framework

WISER has adopted a framework for measuring value for money, socio-economic benefits and transformational effects across the programme. The aim is to ensure a coherent and harmonised approach is adopted by the Met Office, ACPC and other project stakeholders. Guidance for incorporation of the framework into the WISER programme and projects is now in draft form. The guidance sets out the context on why VfM and SEB issues are important, and includes a short note on how to consider these issues in proposal development and subsequent implementation for weather and climate services.

The MEL and VfM/SEB framework will be consolidated to ensure consistency across Met Office and ACPC managed part of the programme, and individual projects. In Phase 2 all projects will be expected to incorporate the VfM and SEB guidance into their planning and reporting.

The guidance developed is available as a separate document.

8.3 Knowledge Management

The joint approach to WISER knowledge management is currently under development.

8.4 Approach for Promotion of the Use of Weather and Climate Information in Decision making for WISER-EA

This approach was developed in 2016 and underwent a process of review late in the year in response to an identified need to ensure that user engagement is included as a central theme within the WISER-EA, as envisaged in the original programme design. The approach has been used as a basis to develop elements of the programme that:

- (a) specifically identify user needs;
- (b) can support ongoing processes of engagement between users and producers of weather and climate information, and
- (c) how this learning can be captured.

The approach does not attempt to advocate the use of particular methodologies to do this – rather it presents some broad principles, based on emerging knowledge. Specific short term scoping work to support the approach has been identified to be delivered:

- Identification of current range of co-production and learning processes being used (WISER and elsewhere) which upcoming WISER projects can draw upon. Development of guidance for project development.
- Scoping study for Early Warning, Early Action in the humanitarian, adaptive social protection and resilience sectors identifying key users and their needs, most appropriate processes of co-production and status of weather and climate information currently available. This may also have a component assessing particular issues around climate information in fragile and conflict affected states (in coordination with the CSDR programme).

The guidance developed on coproduction is available as a separate document.

8.5 Research Strategy

As the WISER programme moves forward it is essential that core research priorities, the delivery of this research, its monitoring and evaluation and communication and coordination both within WISER and with other initiatives be clearly and consistently articulated.

The research elements of WISER are embedded across the projects and initiatives planned under the overarching programme and it is envisaged that this research will take a holistic approach to inform climate risk decision making that combines multidisciplinary research with its application. Taking this approach will help to ensure the pull-through of this research into the operational delivery of weather and climate services in the region.

To do this the WISER research programme will focus on the delivery of multidisciplinary research that supports the co-design and development of a suite of weather and climate services by undertaking new research across a broad range of topics from core weather and climate science research, how to achieve

an effective co-productive relationship to how to extract learning from these initiatives.

The following principals have been followed when designing the research priorities:

- Works through existing and mandated organisations and channels where possible and appropriate, linking closely to ACPC programme of work and CR4D;
- Builds capacity to improve African leadership in weather and climate science;
- Builds collaborations between weather and climate and social science to investigate innovative methods for the development and delivery of weather and climate services that ensures climate services are accessible by all including the poorest, women, girls and the disabled, and other vulnerable groups and around the decision making and behavioural change process;
- Focuses on research into the co-production of weather and climate services;
- Improves understanding of fundamental weather and climate processes in the region that might be barriers or may enhance the delivery of weather and climate services;
- Delivers improvement in forecast skill across weather and climate timescales that result in the uptake and use of credible weather and climate services, and
- Work in partnership and promote coordination and collaboration with other complementary projects, programmes and initiatives, and between development partners

In order to achieve the core project results for East Africa, the aim has been to focus the research themes across three priority areas:

- *Effective approaches to user engagement and generation of demand in and uptake of climate services (effective co-design of weather and climate services):*
 - A dedicated research element around co-production and learning (regional initiative and through practical application across all WISER Phase 2 projects)
 - Specific work on how the poorest, women, girls and the disabled could be effectively reached with climate services, considering their specific information needs and built on provision of clear communication of adaptation options for responding to information (specific consultancy pieces and integration into WISER Phase 2 projects).
 - Scoping and design study for Early Warning, Early Action in the humanitarian, adaptive social protection and resilience sectors, and specific research in particular sectors
- *Weather and Climate Science:*
 - Research component of HIGHWAY to improve forecasting skill across the Lake Victoria region.
 - Research elements of the ICPAC Support project seasonal forecast skill.

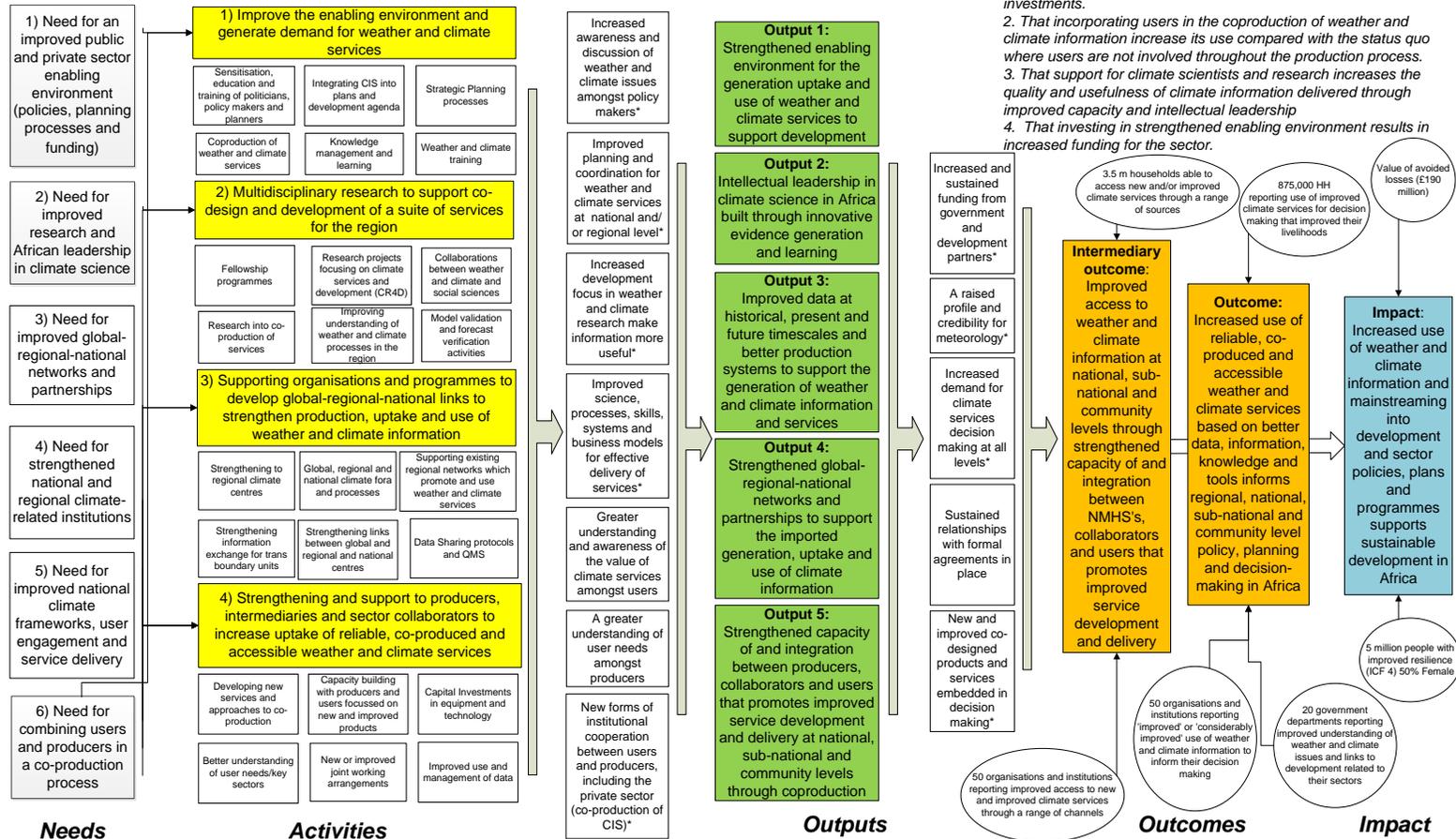
- Improvements in modelling capability due to improved data availability from AMDAR investments.
- Promoting approaches to ensure science uptake and pull-through into learning and operations.
- *Monitoring and Evaluation, including socio-economic benefits and value for money:*
 - Development of the VfM/SEB framework and specific studies to implement it (a portfolio of work with ACPC);
 - Specific MEL research as identified during development of the MEL framework;
 - Specific VfM/SEB studies incorporated into WISER Phase 2 projects.

At a project level, all proposals will need to demonstrate how they will coordinate and collaborate with similar initiatives and this will be included in scoring criteria where appropriate.

Annex A: WISER Theory of Change

WISER Programme – Theory of Change

Hypothesis of Change: Improved governance and enabling environment combined with mobilisation of global/regional/national networks and co-production of information leads to the development of more reliable, tailored and accessible services. This leads to greater uptake and use to inform decision making at all levels, demonstrating value and increasing resilience of African populations



Hypotheses:

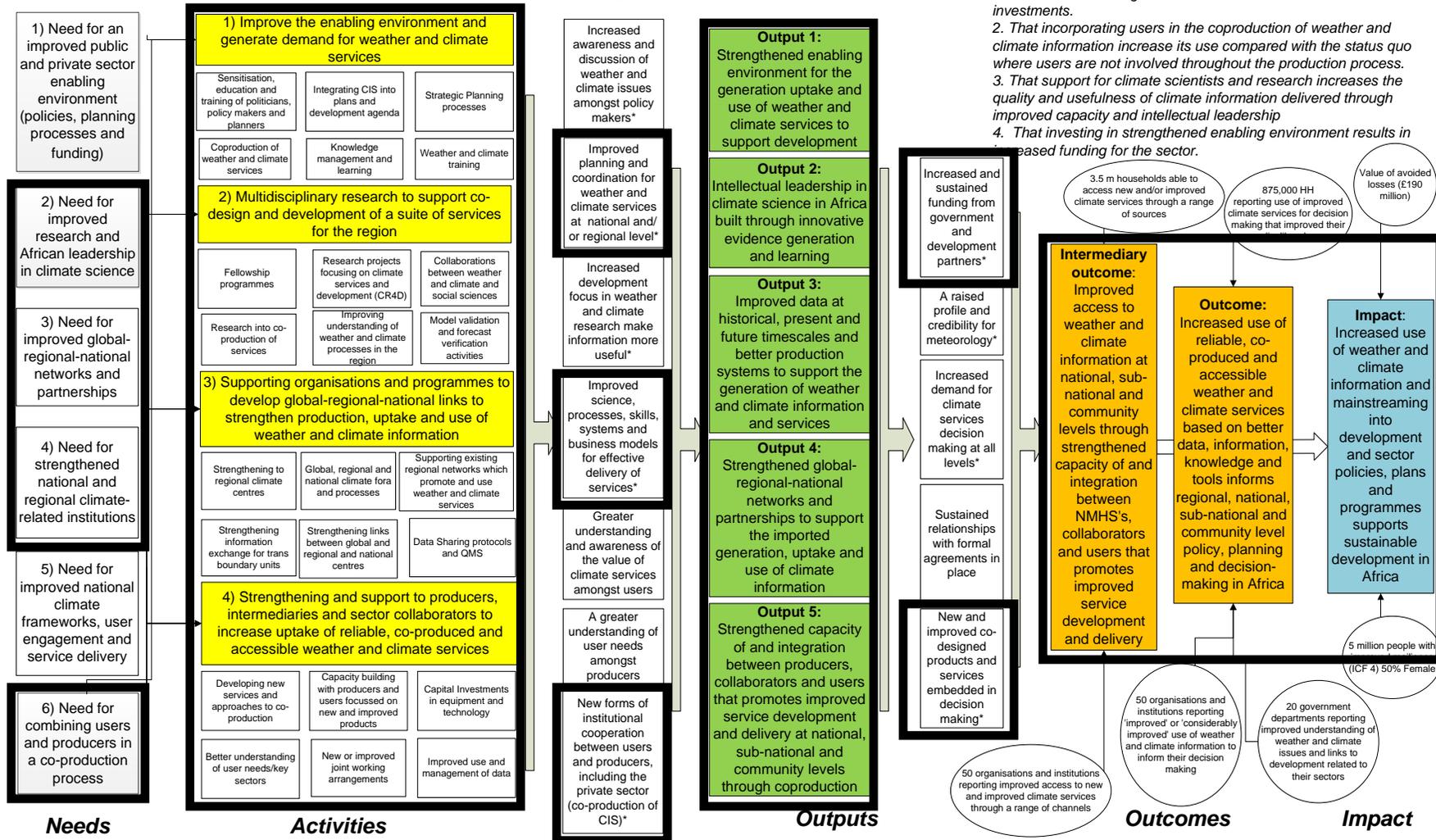
1. That investment in regional initiatives around weather and climate services has greater benefits than individual national investments.
2. That incorporating users in the coproduction of weather and climate information increase its use compared with the status quo where users are not involved throughout the production process.
3. That support for climate scientists and research increases the quality and usefulness of climate information delivered through improved capacity and intellectual leadership
4. That investing in strengthened enabling environment results in increased funding for the sector.

HIGHWAY – Mapping to WISER ToC (1-5 day timescale)

Hypothesis of Change: Improved governance and enabling environment combined with mobilisation of global/regional/national networks and co-production of information leads to the development of more reliable, tailored and accessible services. This leads to greater uptake and use to inform decision making at all levels, demonstrating value and increasing resilience of African populations

Hypotheses:

1. That investment in regional initiatives around weather and climate services has greater benefits than individual national investments.
2. That incorporating users in the coproduction of weather and climate information increase its use compared with the status quo where users are not involved throughout the production process.
3. That support for climate scientists and research increases the quality and usefulness of climate information delivered through improved capacity and intellectual leadership
4. That investing in strengthened enabling environment results in increased funding for the sector.

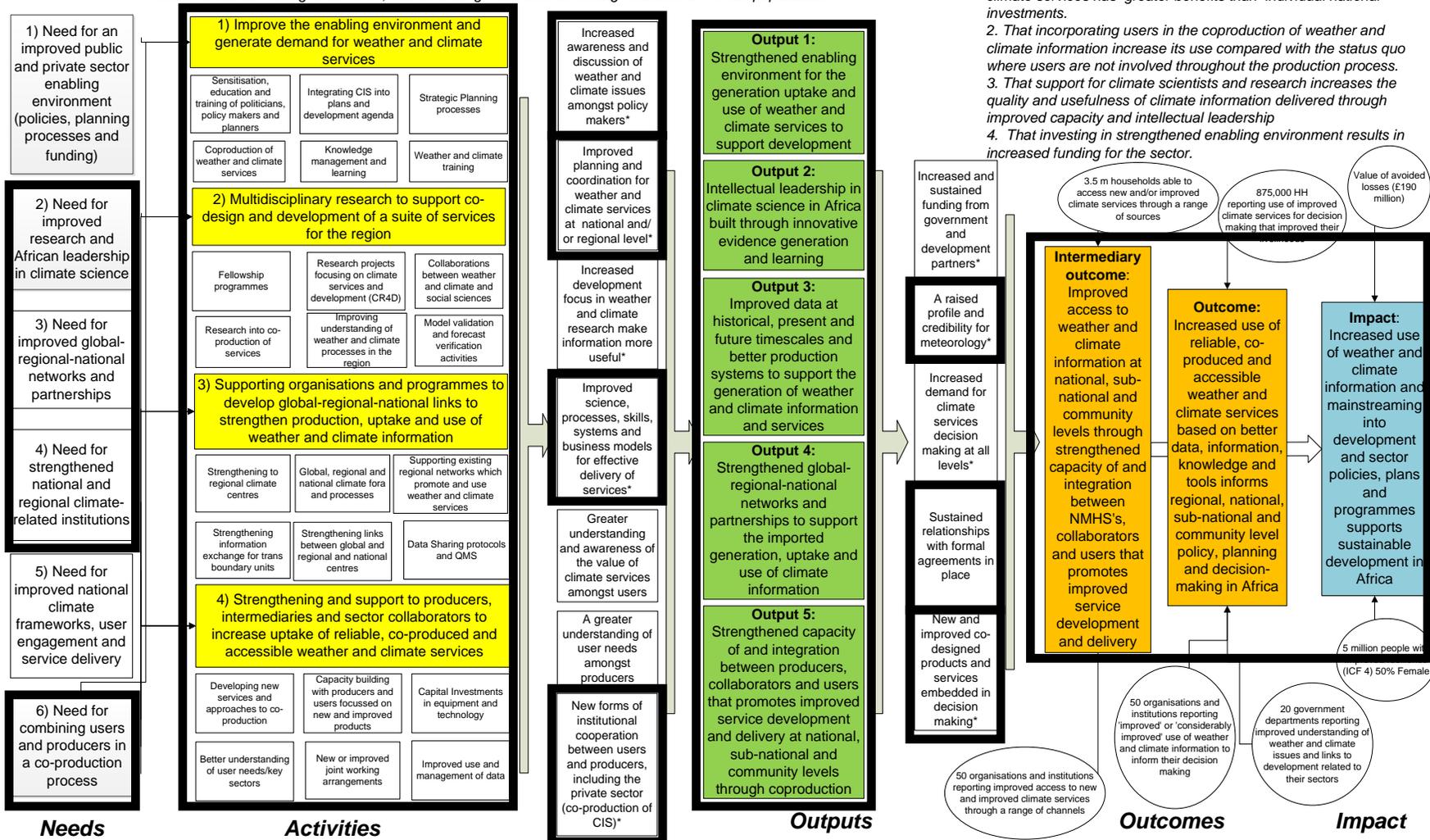


ICPAC Support – Mapping to WISER ToC (sub seasonal, seasonal and long term timescales)

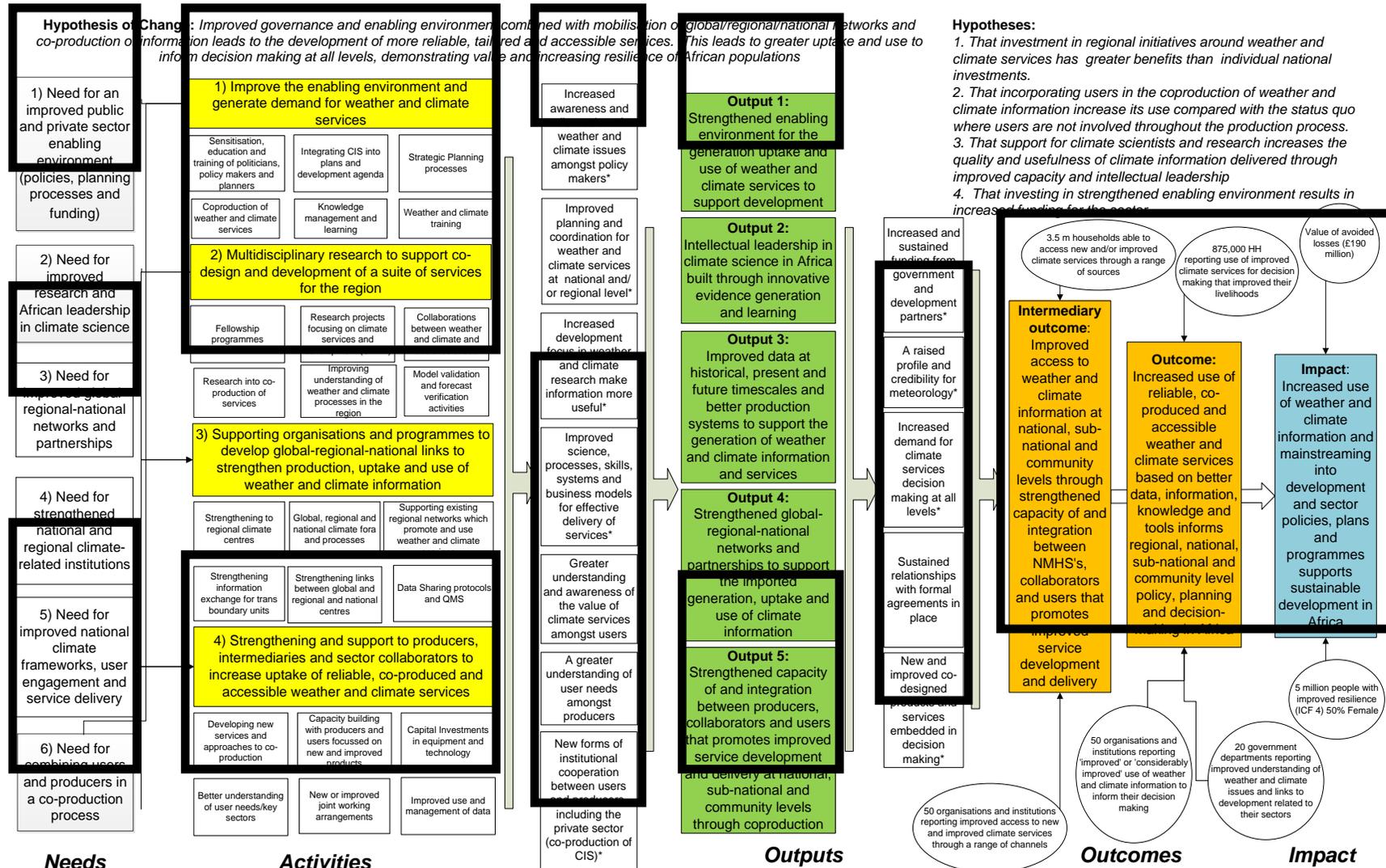
Hypothesis of Change: Improved governance and enabling environment combined with mobilisation of global/regional/national networks and co-production of information leads to the development of more reliable, tailored and accessible services. This leads to greater uptake and use to inform decision making at all levels, demonstrating value and increasing resilience of African populations

Hypotheses:

1. That investment in regional initiatives around weather and climate services has greater benefits than individual national investments.
2. That incorporating users in the coproduction of weather and climate information increase its use compared with the status quo where users are not involved throughout the production process.
3. That support for climate scientists and research increases the quality and usefulness of climate information delivered through improved capacity and intellectual leadership
4. That investing in strengthened enabling environment results in increased funding for the sector.



Weather and Climate Information for Decision Making Challenge Fund and Support to Co-production – Mapping to WISER ToC (all timescales)

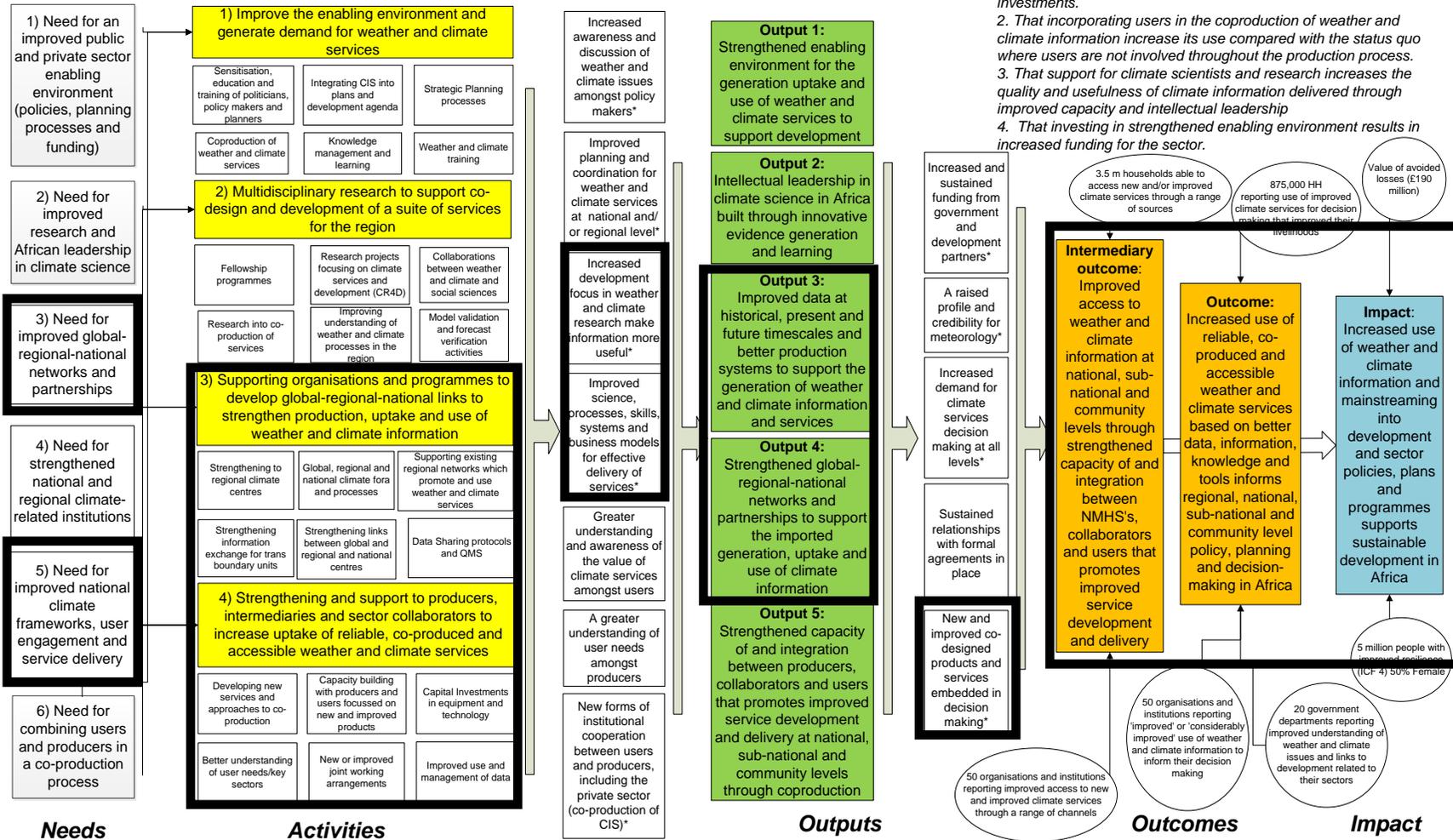


AMDAR Kenya and Capital Expenditure (improved observations and data) – Mapping to WISER ToC (all timescales)

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National Projects – Mapping to WISER ToC (all timescales)

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