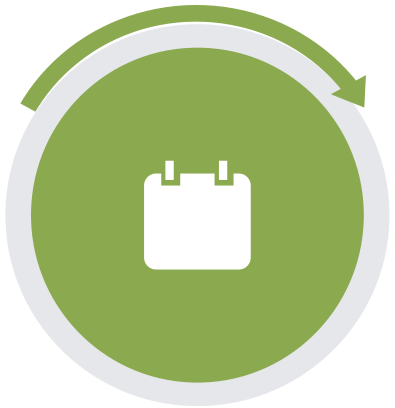
Knowledge Management Platform for Climate Information Services

ASSESSMENT REPORT

September 2021

Outline



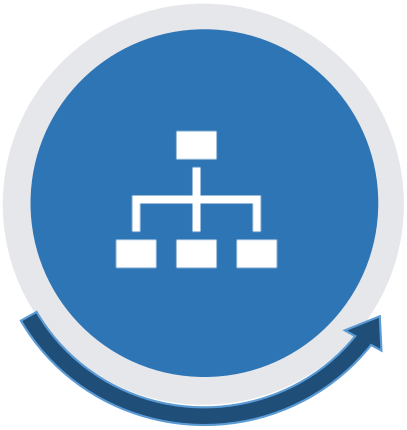
Background & Context

Existing platforms

NA survey findings

Platform mock up

Methodology



structure and specifications

Context

Africa is the most vulnerable continent to climate change due to its low adaptive capacity.

Climate change-related shocks puts pressure on key human development sectors in Africa, especially agriculture, livestock, fisheries, health, Infrastructure

Climate services are a major tool for decision-making and policy planning.

Many Actors (International organizations, continental institutions, sub-regional and national entities) are all implementing various programmes and projects with a view to improving the development, provision and uptake of weather, water and climate service

A common vision of climate services in Africa is important for realizing the (Agenda 2030 for SDGs) and 2063 (Agenda 2063 - the Africa we want).

Saly Reflections (2017)

- Need to bring all end-users of weather, water and climate services together.
- Coordination is not just needed across different institutions but also at an intra-institutional level, especially with multiple projects running across and within departments;
- Addressing the challenge of how to sustain programmes and projects beyond their life cycle and sustain momentum on climate services once the funding ends.
- Need for "Regional Knowledge Management Platform

Regional Knowledge Management Platform

A go-to place for information on who is doing what, Analysis and Decision Support for Action on Weather, Water and Climate Services in Africa.”

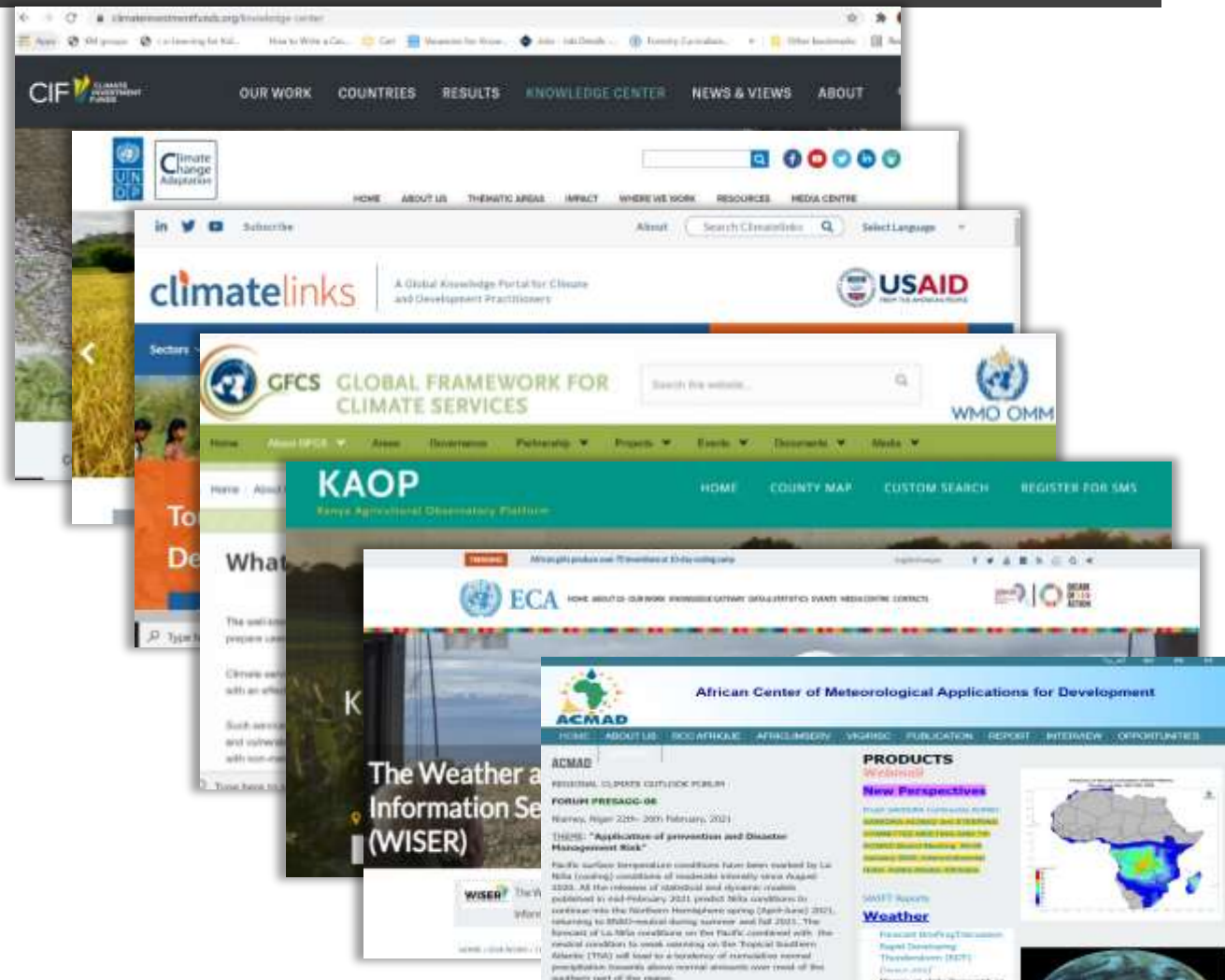
A decision support tool to be used by donors, planners, practitioners, etc to plan their activities.

Methodology

- Literature review
- Analysis of existing platforms
- KMP Needs Assessment with key stakeholders.
- Data cleaning and analysis

Reviewed sites

- Kenya Agricultural Observatory Platform
- WeADAPT
- GFCS (Global Framework for Climate Services (By WMO).
- WISER (Weather and Climate Information Services for Africa)
- ACMAD
- BRACED
- Climatelinks
- Climate Chage Adaptation



Sites Analysis Criteria

1. information for decision making

2. Availability of guiding tools

3. Facilitating collaboration

4. Organization of content

5. Gaps

Sites Analysis

Analysis Themes	Kenya Agricultural Observatory Platform:	WISER (Weather and Climate Services for Africa)	WeADAPT	GFCS (Global Framework for Climate Services (Website operated by WMO).	BRACED	Climate links	World bank
Provision of information for decision making	Provides weather forecast (climate information): Real time and historical records of all relevant weather variables. Agronomic Advisory- Provides content to enable farmers monitor & predict the situation. Search engine allows for search of climate conditions by location; type of forecast (Precipitation forecast; and Temperature forecast). User can register to receive SMS services of the Advisory.	Many information resources available but not easy to navigate. Publications available and links to the ECA knowledge repository	Has a Map of Case studies (from all over the world). This allows for comparison of lessons for adaptation and supports decision making.	Climate Services Information System - climate data and information products that address user needs Observations and Monitoring – for generating the necessary climate data. Research, Modeling and Prediction to advance the knowledge National Frameworks for Climate Services	Climate and weather information by regions and countries. Resources and publications available to support decision making. Knowledge manager analysis tool	Resources library including evaluations, Tools, trainings, projects,..etc. Good practices, Tips for accessing and using credible information	WBA course raises awareness of climate resilient development, helps teams and project managers in integrating Weather and Climate Services considerations into their projects. Featured webinars

Site Analysis

Analysis Themes	Kenya Agricultural Observatory Platform:	WISER (Weather and Climate Services for Africa)	WeADAPT	GFCS (Global Framework for Climate Services (by WMO).	BRACED	Climate links	World bank
Availability of guiding tools	None	None	Has guides on what to include in the **Articles**, and on using WeADAPT including how to embed multimedia content (videos and Slideshares). –	**Capacity Development**- a platform that showcases support available for the systematic development of the institutions, infrastructure and human resources needed for effective climate services. **Step-by-step guideline** on how to establish a National FCS; NFCS Fact sheet; National Action Plans; Current status of NFCS implementation.	Guiding tools for specific topics, e.g., how to tell a compelling story; How to develop a successful proposal for the Green Climate Fund etc.	Trainings on Climate Risk Management FAQs	Facilitated guide for practitioners and policy makers Self- paced eLearning courses

Sites Analysis

Analysis Themes	Kenya Agricultural Observatory Platform	WISER (Weather and Climate Services for Africa)	WeADAPT	GFCS (Global Framework for Climate Services (Website operated by WMO).	BRACED	Climate links	World bank
Facilitating collaboration	Has a social media component	Links to social media	**Share** allows for adding or editing content – Enabling shared learning. It also allows one to discuss the theme with experts. Allows independent researchers/ practitioners/students to create and share content straight away using the '**Add Content**' link on the user dashboard. Has **Trending Discussions** where even Webinars are posted. **Connect** allows user to connect to: Discussion (Discussion Forum); People (members of the Forum and experts); Organizations (in the Platform).	User Interface Platform (provides a structured means for users, researchers and climate service providers to interact at the global, regional and national levels. Climate services help desk available	**DISCUSSIONS.** BRACED holds regular online discussion forums to promote learning. **CONTACT US:** Allows user to reach the Knowledge Manager through a form that should be filled. The interaction is, however, not real-time.	Social media component	Social media component Discussion forum Community of Practice on understanding risk Social media component

Site Analysis

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Supporting coordination	Links to the ECA knowledge hub **Links:** -Has links of main partners	Has links of main partners.	Quality assurance is ensured by **KM Manager** and Editor **Services (Climate Information Platform)** allows user to connect to the Microsites. The service allows WeADAPT partner organization and networks to build their own bespoke websites at a fraction of the normal cost. This is(**attractive**) since the service ensures visibility of knowledge products beyond the lifetime of any project. Allows for connection to resource persons	Series of regional and national workshops held and proceedings made available. Partnership information and opportunities to engage with GFCS Information on available funding from the GFCS sponsors	Has a Knowledge Manager tool describing analyses and KM tools embraced.	Links to other relevant resources And related projects	Not clear

Site Analysis

Analysis Themes	Kenya Agricultural Observatory Platform	WISER (Weather and Climate Services for Africa)	WeADAPT	GFCS (Global Framework for Climate Services (Website operated by WMO).	BRACED	Climate links	World bank
Organization of content	Has Consult, Discover, Discourse & Collaborate (including partner collaboration) & User interface portals Has **a map** showing distribution of various climatic zones in Kenya. Arranged in County – Sub-county – Ward format.	Content not organized in a way that allows for easy access. Focuses more on recent stories and recent events.	Easy to navigate. Has a Community Based Adaptation Network with Articles, Case studies & interactive Map) Climate Change Adaptation Knowledge Platforms- with Articles & Case studies): Allows one to (1) Join the network; (2) Ask the community; (3) Discuss the Network with the experts on the Forum; (4) Contact it; and (5) Add resources Presented in multiple languages	Content organized according to key themes, resources, projects and events. Easy to navigate	Resources, reports, case studies News, Articles, videos, Blogs, Guides Filters by All regions, All Countries, All Types; Basic Services and Social Protection **Events:** Featured Brown bags -Filtered by Region, Country, All sources). **Podcasts:** -Filtered by Region, Country, All sources **Available in English and French**	Multiple languages features Content organized according to sectors and themes Search function for easy filter	Content organized by type

Analysis Themes	Kenya Agricultural Observatory Platform	WISER (Weather and Climate Services for Africa)	WeADAPT	GFCS (Global Framework for Climate Services (Website operated by WMO).	BRACED	Climate links	World bank
Gaps	Does not facilitate peer-to-peer & other collaborations in KM. Limited to Kenya	The data and statistics feature doesn't provide any statistical analysis that could support decision making. ACPC Archives takes one to UNECA site Does not facilitate peer-to-peer & other collaborations in KM. Stories – only has Press release Videos-Only one	Lack country level indicator analyses	Lacks other resources such as indicator analyses – (Mandate issues, perhaps?)	Great resource, but project based.	Aligned to project life and sustainability of efforts unclear	Focus is only capacity building . Does not provide other resources

The African Center of Meteorological Applications for Development (ACMAD)

Provision of information for decision making	Availability of guiding tools	Facilitating collaboration	Supporting coordination	Organisation of content	Gaps
Some project reports available, publications and research, weather and climate updates (Climate Outlook)	Provides information on training and secondment opportunities.	No forum for interaction	Links to partners (WMO and AfriGEOSS)	Content available in 4 different languages, most of it uploaded as PDF documents but no search	• Some sections have outdated information • Not easy to navigate • Requires good internet connectivity to access PDF documents • Many of documents need to be downloaded, limited interaction • Maps are static • No social media component • Knowledge base is not comprehensive

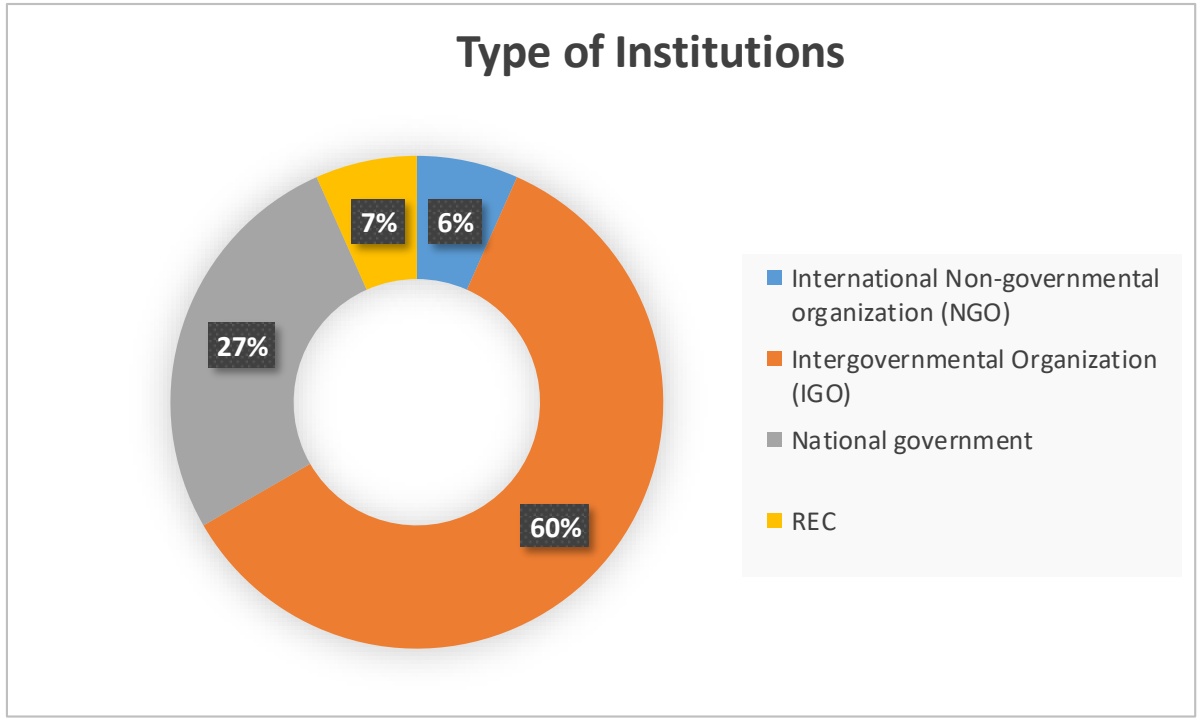
Key findings

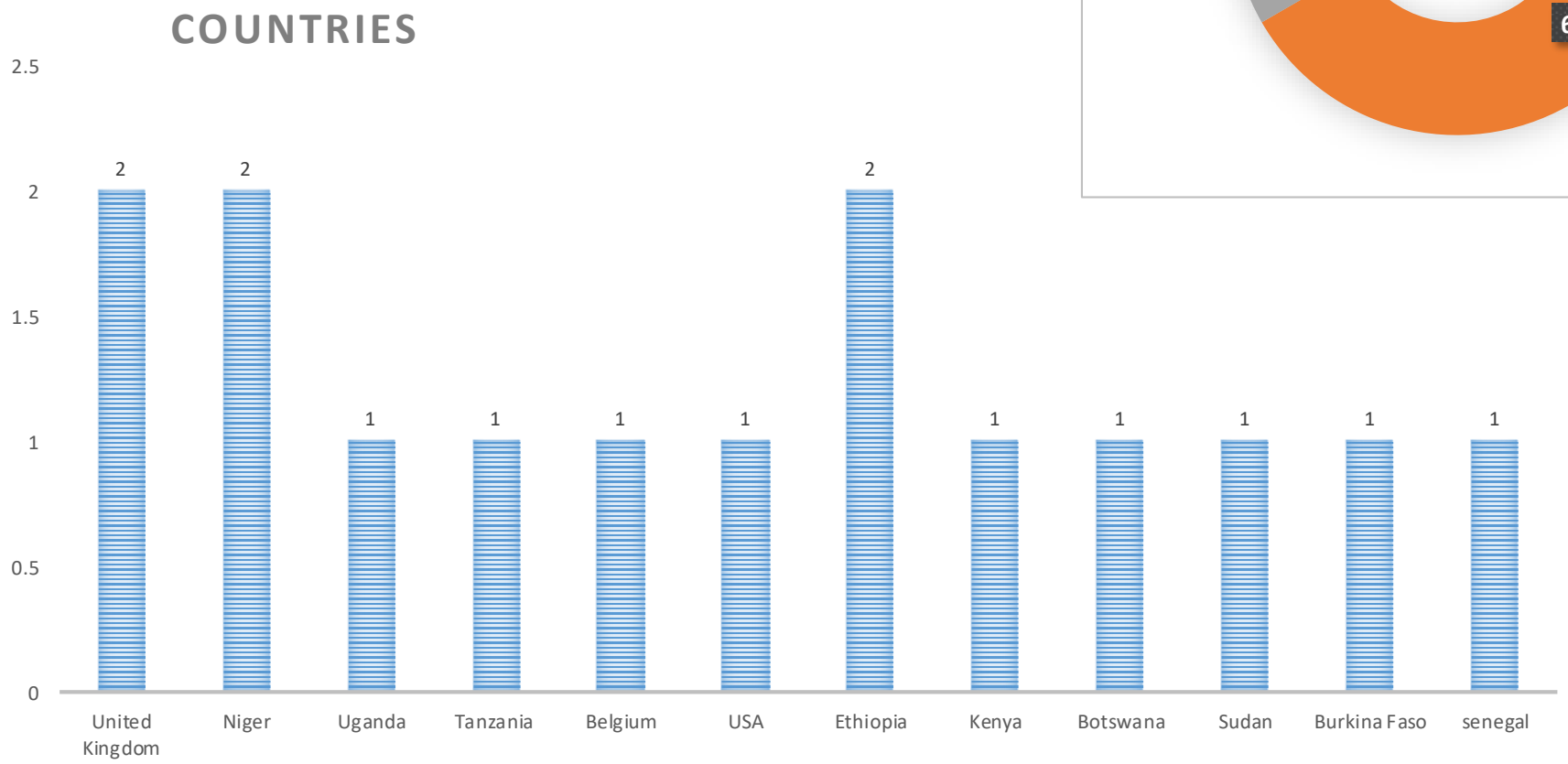
- No single site addresses all the stakeholder needs of a KMP. They are created to deliver on unique and specific mandates
- Some of the sites are project-based and so sustainability is uncertain
- Not so much information is available on funding – need for theme designed funding streams
- No reviewed sites present tracked real time CIS indicators at regional level. KAOL shared agriculture related at county level.
- KMP thus will provide higher level analysis that adds value to individual sites. Periodic data entry on indicators of interest important

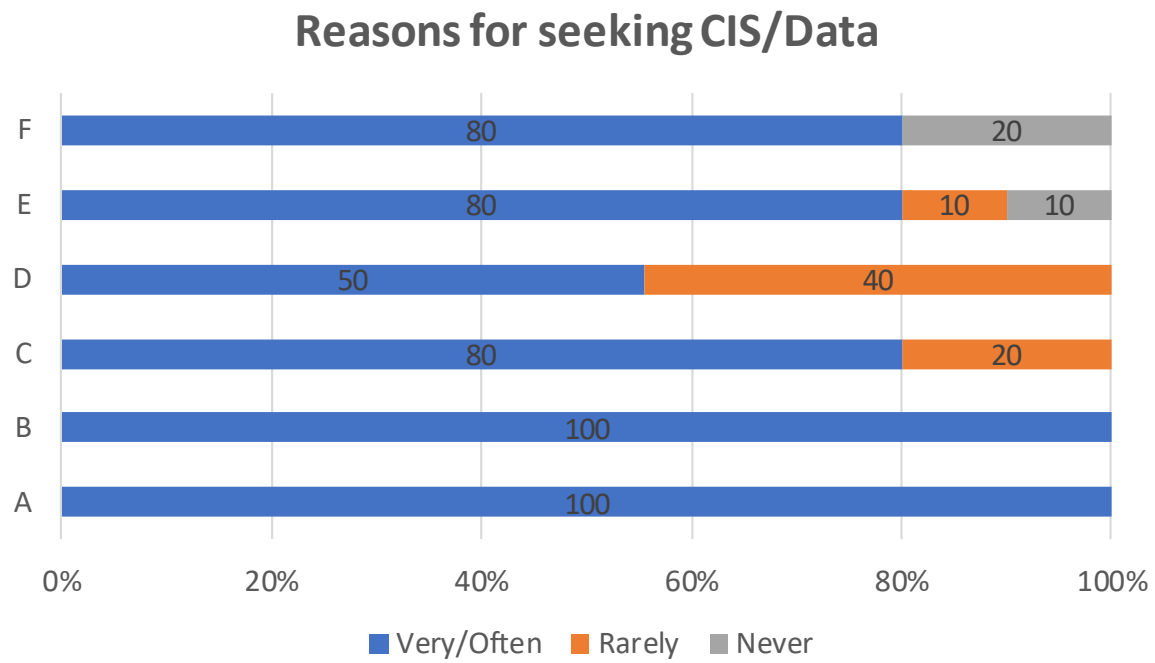
Needs Assessment Findings

Key Findings

Respondents Profile:







Key

A	To inform the design of a new policy, project, legislation, or campaign
B	To improve existing policies, projects, legislation or campaigns
C	To undertake research (e.g., write a paper)
D	To inform investments in CIS/allocation of funds
E	To plan for potential adverse climate events
F	To enable farming decisions, such as when to plant or harvest

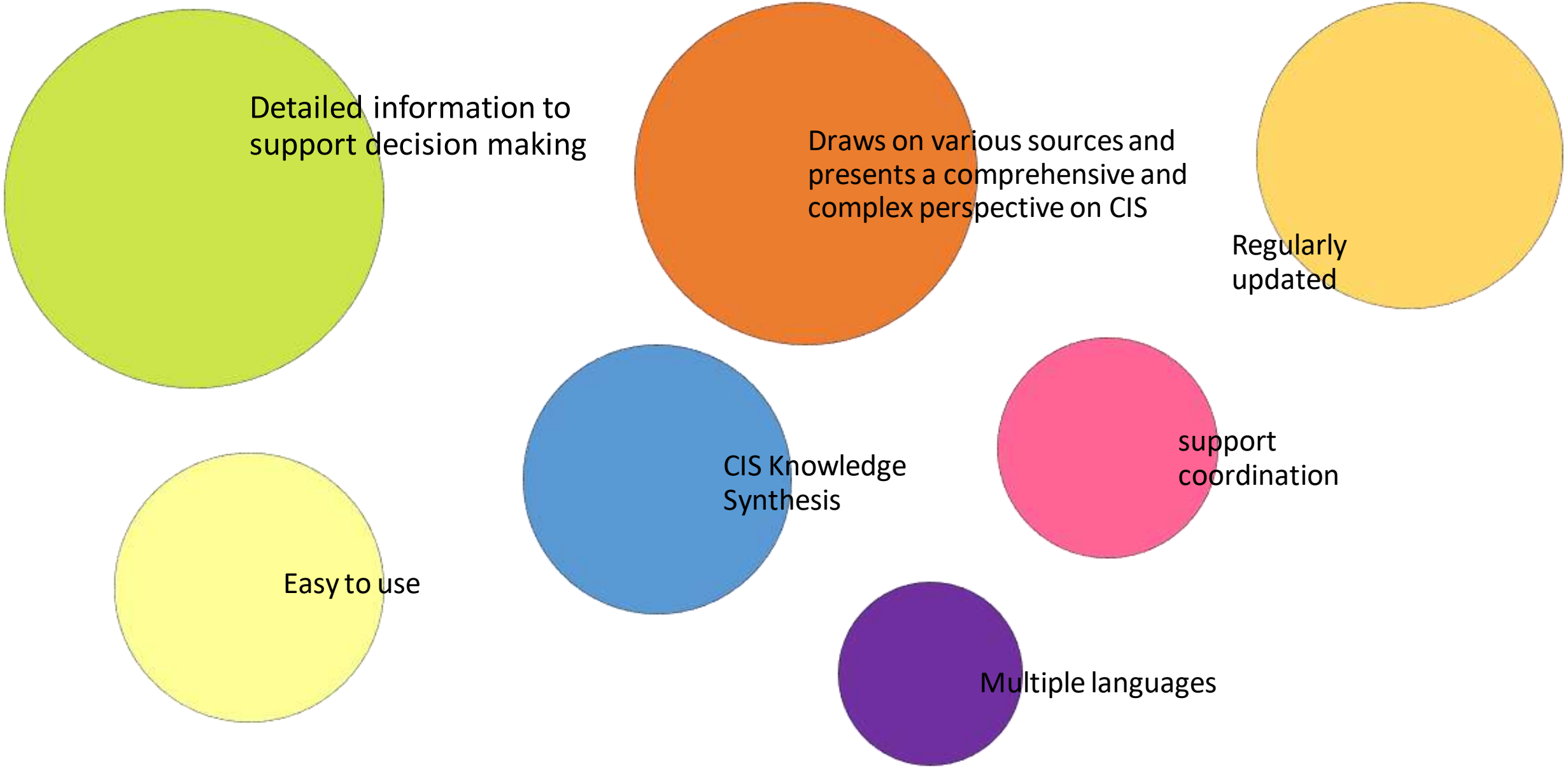
Commonest reasons

- Inform design of a new policy, legislation or campaign
- Improve existing projects or policies.

Pointing to a need for:

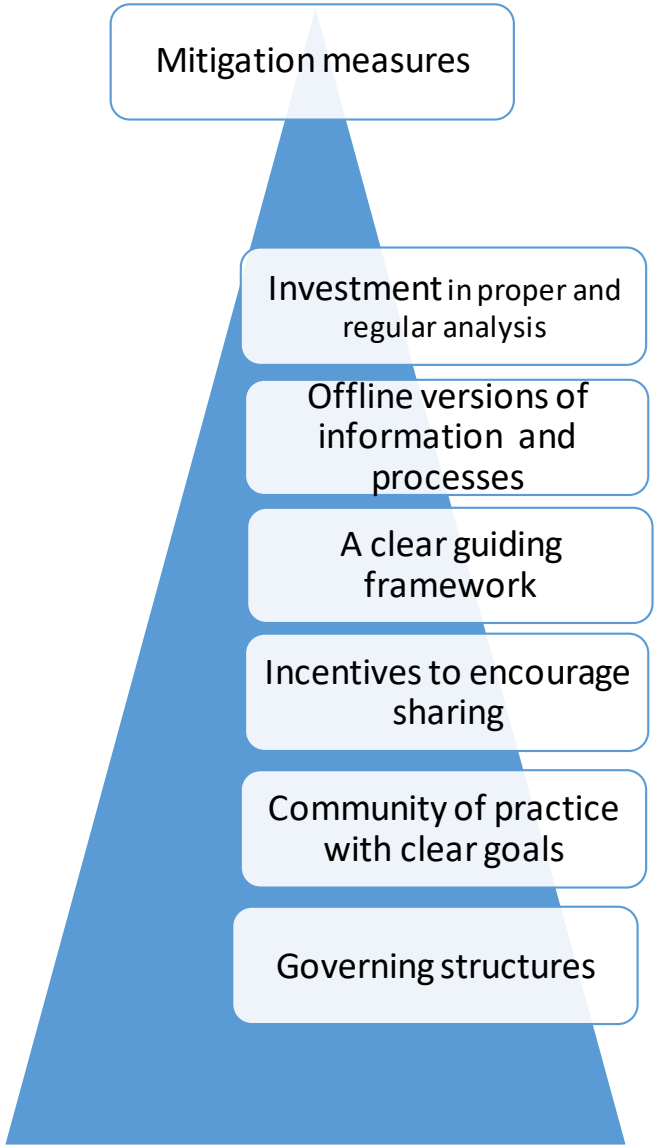
- Synthesized policy recommendations
- Trends based on key indicators
- Early warning system
- Research papers

What would make a CIS platform most useful?

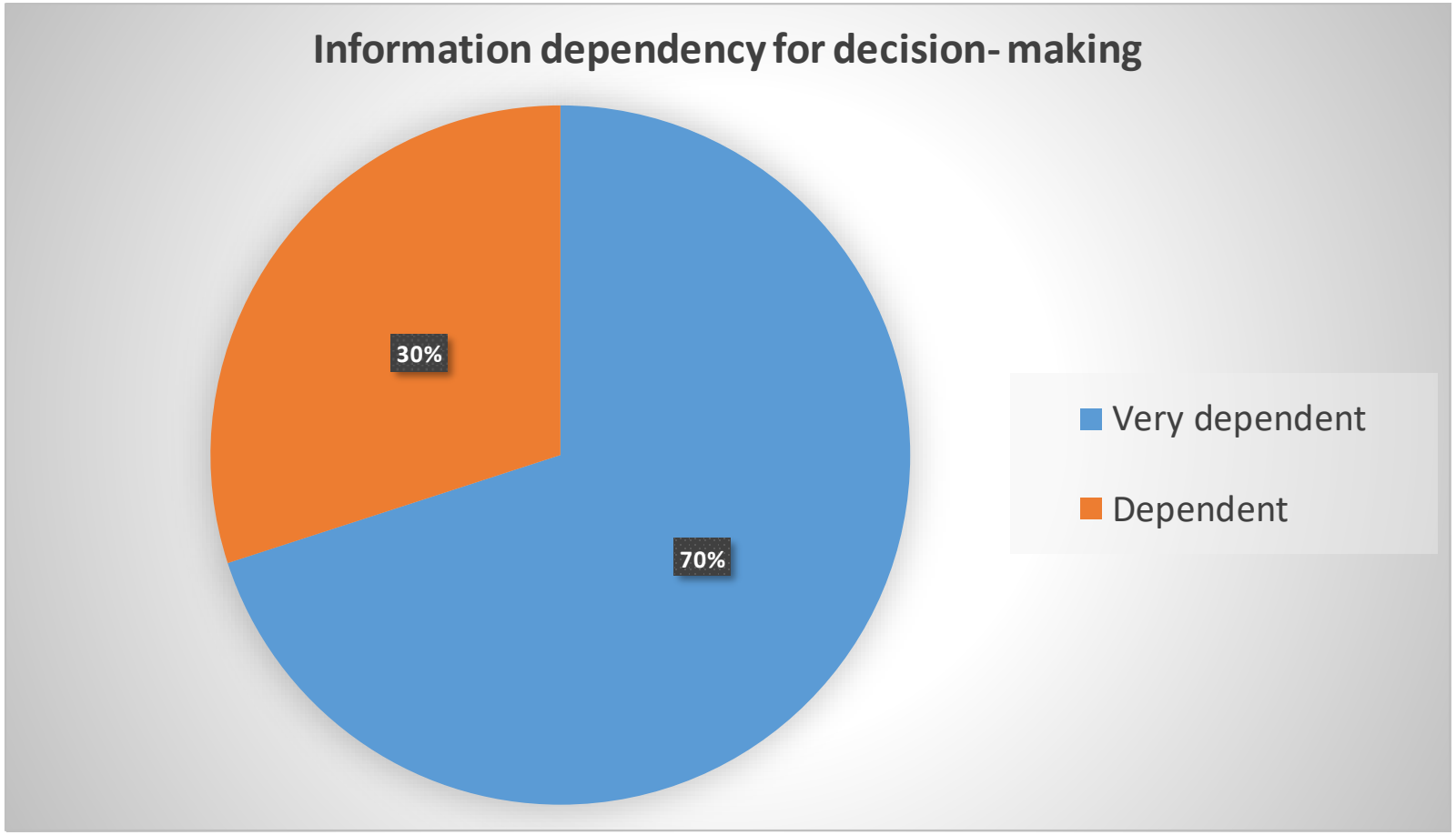


Pitfalls to look out for

Information and analysis lack concrete recommendations for policymakers	**5**	**20%**
Information is not communicated in a manner that is understood by audience i.e., too technical / jargon heavy	5	20%
Technical challenges such as connectivity	4	16%
Commitment of stakeholders to provide relevant and timely information	3	12%
Irrelevant information	3	12%
Outdated Information	2	8%
Commitment of stakeholders to provide relevant and timely information	1	4%
Data collection and information dissemination remains a risk	1	4%
Information is not comprehensive (e.g., it does not cover the whole field you are working on, or it covers a limited geography)	1	4%

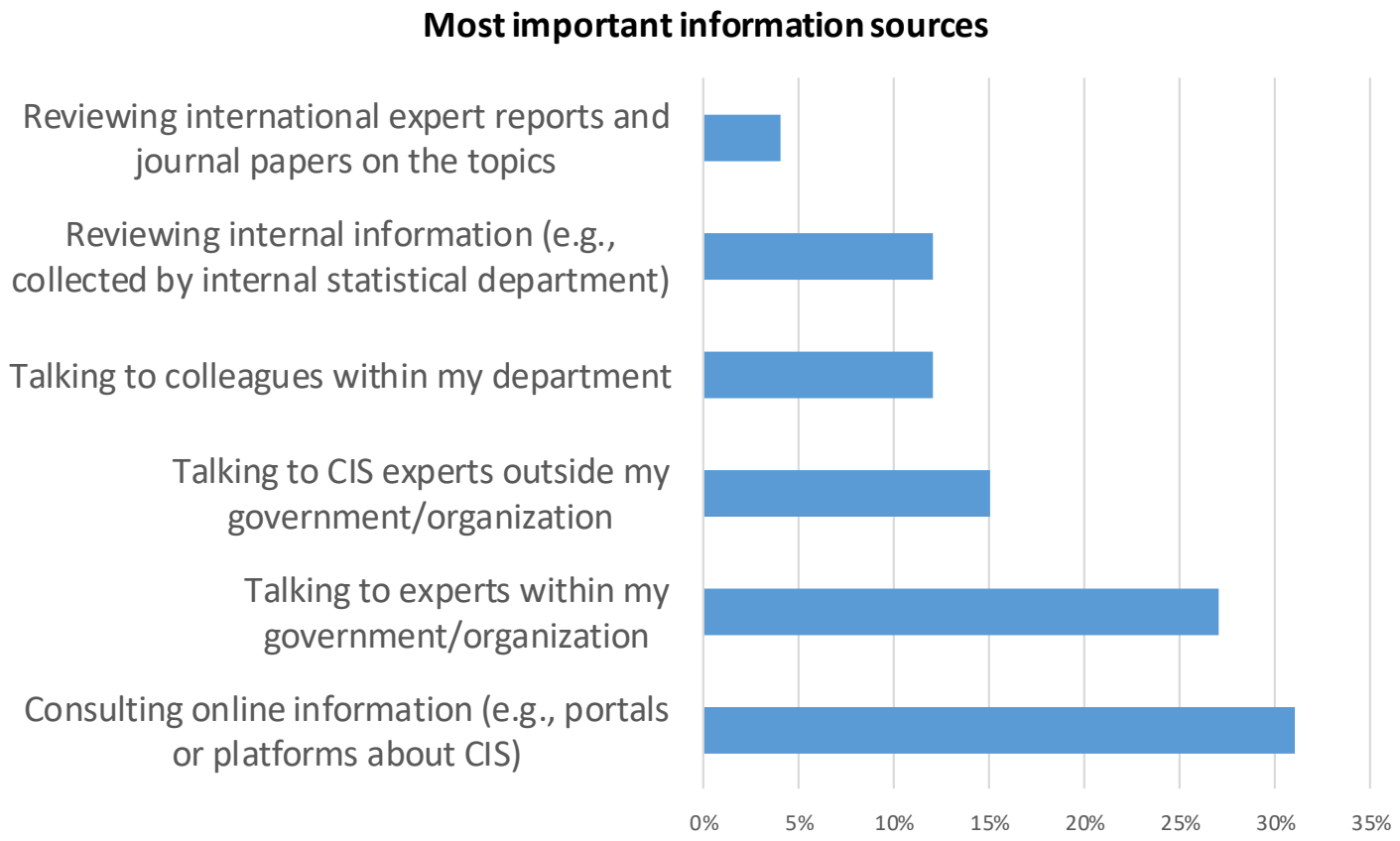


Dependency of decision-making processes on relevant and up-to date information



70% of the stakeholders rely on quality information to make decisions. Making it easily accessible is important.

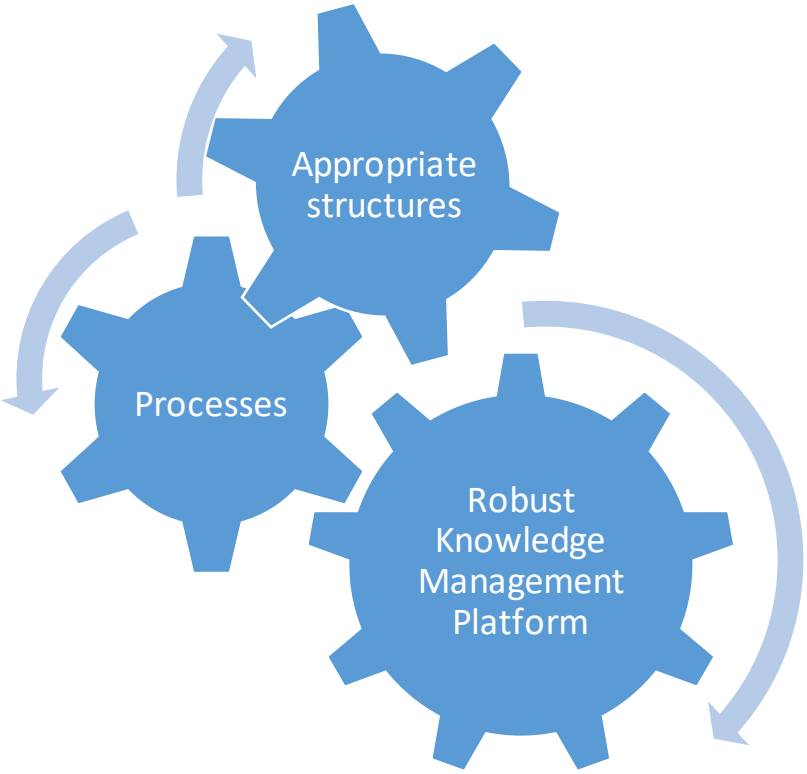
Most important source of evidence, data or analysis, to support decision-making processes



The various consultations done indicate a need for readily availing accurate and reliable information.

The KMP will be designed to facilitate this , but also put in place systems and processes that support regular analysis to ensure relevance and usefulness.

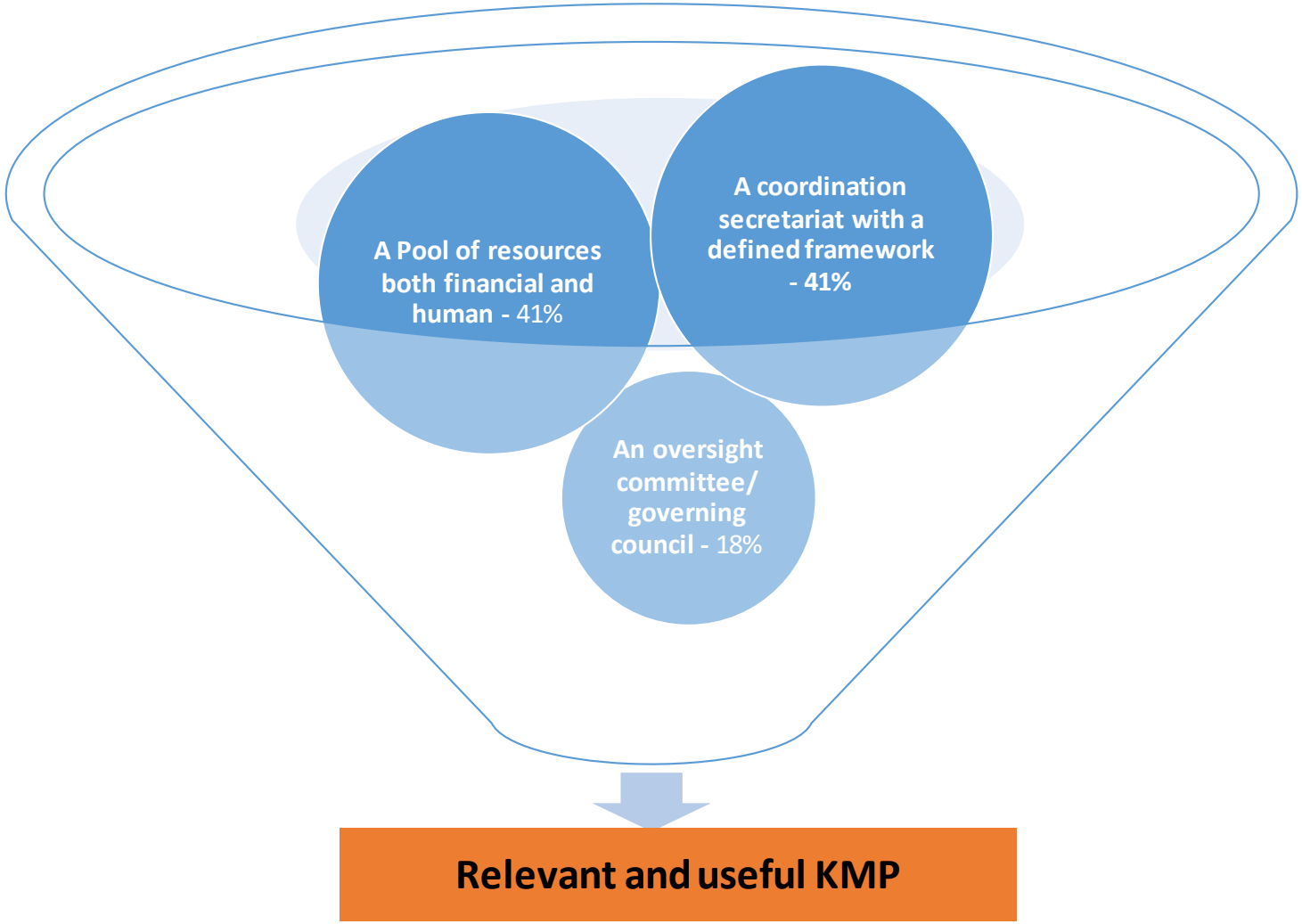
How do you share information outside the organization?



Challenges/gaps in sharing information with external partners

- 29% Lack of opportunities to do so (e.g., through panels, conferences, calls, and meetings)
- 29% Lack of tools to do so (e.g., no common online platform)
- 24% Lack of capacity (e.g., in terms of resources and time)
- 14% Difficulty with identifying the counterpart at the right level
- 5% Agreeing to times for interactions as organizations have own programs

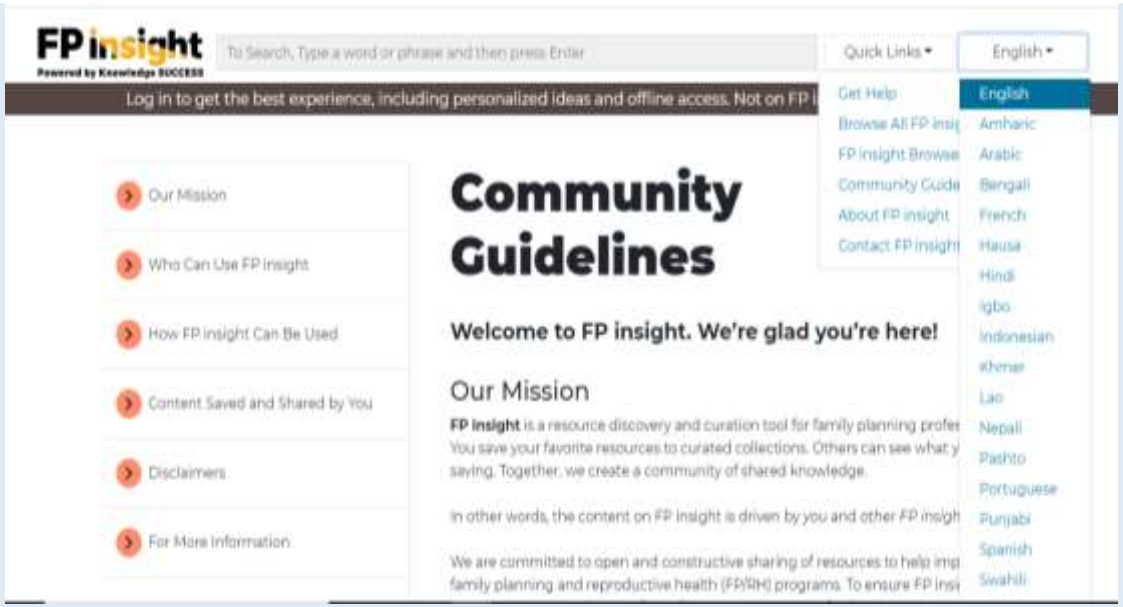
Sustainability



Learning from other portals/good practices

Members of the **community mostly engage virtually**; through the website, the email list-serve and forum and through webinars.

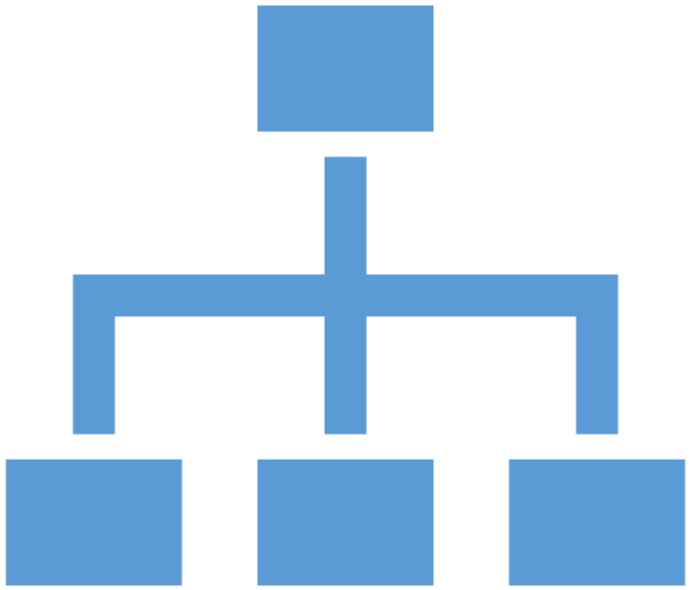
The website is the **primary store of knowledge** for the community and with regular attention, it remains **up-to-date and useful**. The resource library, events listing, OM applications database and members database are regularly maintained by the **Learning Coordinator** to keep them clean and ordered so that users can find what they need quickly and easily.



The content on FP insight is driven by all FP insight users. The platform facilitates an **open and constructive sharing of resources** to help improve family planning and reproductive health (FP/RH) programs.

It gives an Instagram experience and one is able to **view and interact with various experts** based on highlighted areas of interest.

Filters can be done by country, interest and users.



Proposed KMP Structure

Recommendations for the KMP

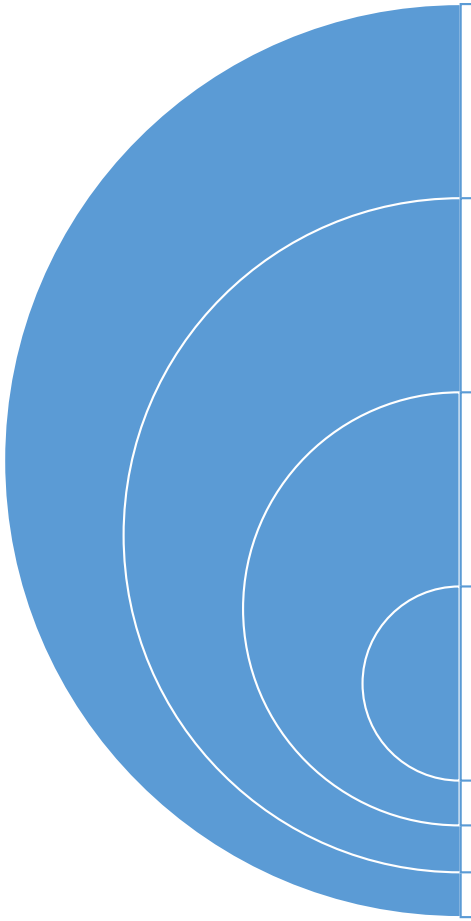
It is a go-to place to identify CIS activities in the African region, and in turn a decision support tool that can be used by donors, planners, practitioners, amongst others to plan their activities.

It will build on and complement existing ACPC and WMO initiatives such as WISER, the GFCS Help Desk function, Country Profile Database (CPDB), and other external initiatives such as weADAPT, BRACED amongst others that have a climate services agenda.

Target audience

- Regional Economic Communities
- Policy makers
- Professionals who design and develop programmes
- Professionals who work on climate services across different sectors including health, agriculture etc.
- Donors
- Other stakeholders across the value chain.

Integrating existing websites/ platforms



A number of existing regional platforms

They serve as a resource base that draws information and knowledge products from multiple credible sources.

Existing platforms have their own objectives, standards, and protocols of sharing information.

Need to customise software to enable harmonisation and alignment to the identified needs

Content Management System

Software	Purpose	Advantages	Disadvantages	Resources
Content Management System (CMS)	To facilitate collaboration in content creation.	CMS helps developers to quickly develop and deploy secure complex systems.	CMS systems need to be maintained on a regular basis since they rely mostly on plugins which require regular updates.	
1. WordPress		WordPress offers developers flexibility to build any kind of website and its open source.	Developers are responsible to manage their WordPress websites security and backups.	
2. Drupal		Offers flexible custom content types with plenty of options. Drupal has a very secure backend which cannot be easily penetrated by Brute-force attacks.	Requires heavily customized themes created by a developer, which can be very expensive.	
3. Typo3		TYPO3 can handle really large websites, including ones that have multiple websites in different languages.	It requires high technical expertise to get TYPO3 up and running, and to maintain it.	
Recommended	• WordPress has a powerful API interface which will ease data synchronization from third-party systems. • WordPress offers a lot of extensibility which is what makes it an ideal CMS for this particular project.			

Map Visualization and AI

Software	Purpose	Advantages	Disadvantages	Resources
Map Visualization and AI	This will help to downscale climate data with machine learning and visualizations to better inform the public of real time climate change, climate projections based on regions, Seasonal climate patterns with imagery, alternate climate zones through machine learning, display a heat index map and real-time weather predictions on the website.	Easily share data, maps, apps and other items with teams, departments and/or the public. Visualize data spatially through web maps and apps that can be accessed from anywhere at any time. Easily updated by non-technical staff	Currently the available APIs are not open source and most of them are pricy.	
1. ArcGIS Developer		ArcGIS Developer offers a full suite of developer tools and location services to build mapping and analytics. ArcGIS APIs can be used to create robust, location-based web and native applications for web, desktop, and mobile devices.	Graphics, including custom point symbols, need persistent URL. Limited built-in symbology options (Colors, shapes, line types).	
2. Spire		Display weather visualizations of gridded data like temperature and humidity. Ability to display animated weather data visualizations like clouds' movements, density and exact real-time location.	Harder to create great experience for all platforms	
Recommended	*Effective handling of a large amount of vector data. Spire software correctly and effectively handle a large amount of vector and raster data. This is another thing that makes this software a great fit for this project.*			

Statistical Analysis (Infographics, visuals)

Software	Purpose	Advantages	Disadvantages	Resources
Statistical Analysis (Infographics, visuals)	This Bi (Business intelligent) tool will convert row data into statistical weather graphical representations.	It converts unstructured statistical information into comprehensive logical results, which are fully functional, interactive and visually appealing.	SQL knowledge is required in order to create rich and complex datasets from multiple data sources.	
Power business intelligence	Power BI is a business analytics service by Microsoft. It aims to provide interactive visualizations and business intelligence capabilities with an interface simple enough for end users to create their own reports and dashboards.	Affordability except for cloud, offers a wide range of custom visualizations, Power BI's capability of Excel integration helps users to view and work with the raw data, developer can embed or include Power BI reports and features into web-based or other apps.	Not good with complex table relationships. Users have limited options for what they can change in visuals	
1. Tableau		It can handle millions of rows of data with ease. The huge advantage of having Tableau is different types of visualization can be created at one shot.	It has no version control. Once the dashboards and reports are published on the server you can't get back to the previous levels of data in Tableau.	
2. SPSS		Not much effort is needed to use this software. Even the time required for analyzing the data with the help of SPSS is comparatively less than any other statistical tool.	SPSS is very expensive compared to other tools.	
Recommended	Despite some disadvantages, the advantages clearly outweigh and Tableau is the most preferred choice for creating interactive data visualizations for this project.			

E-learning

Software	Purpose	Advantages	Disadvantages	Resources
E-learning	The purpose for eLearning platform is to skill users on how forecast information is developed and reported, including probabilities of forecast outcomes and explores where you can access reliable and credible weather information and the questions to ask when evaluating the wide range of forecasting apps and websites available.	This will act as a time saver as users do not need to leave their work to attend a physical class and on the other hand it will act as a service helping to facilitate the system through course subscription fees.	If Internet is not so stable in the target area and in some places its very expensive. This might cripple our eLearning platform.	
Moodle (Modular Object-Oriented Dynamic Learning Environment)		A Moodle based LMS can support all latest eLearning standards such as SCORM and Tin Can/xAPI. Besides, it also enables you to upload existing documents and videos, and also share materials and events between courses or learning paths. The most interesting thing about moodle is open source and free.	In order to perform efficient customization, you are going to need to know how to program and have some type of knowledge when it comes to coding. or outsource the service	
Recommended	Moodle not only allows for learning to be done online or at a distance but also it allows for resources to be available to learners. Communication in Moodle range from forums, blogs, chats and messages among the individuals who are enrolled within a course.			
Host it on cloud servers such as AWS, Oracle Cloud, Azure, IBM Cloud or Google cloud.		**When the system is hosted on cloud servers, its loading speed increases and is not overwhelmed by a large number of users.**	**Cloud hosting is actually expensive than the traditional shared hosting.**	

Human Resources needs

Outsourcing KMP maintenance

- A firm core KM competencies
- Cuts infrastructure and maintenance cost

Full time Knowledge Management staff

- Knowledge Manager,
- Learning coordinator,
- Editors, and
- Systems administrators

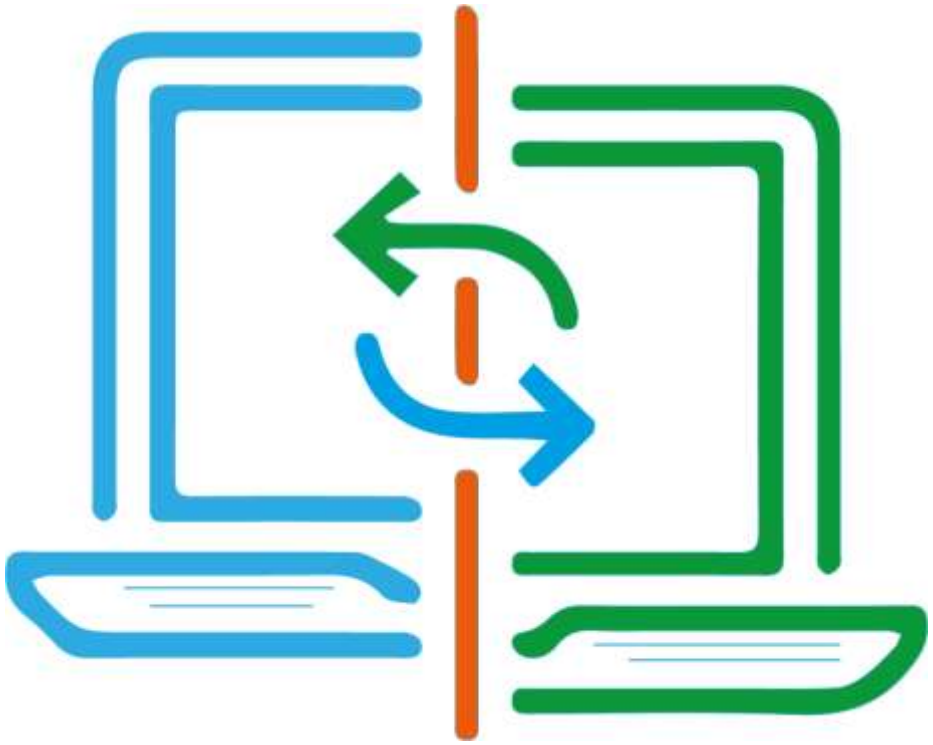
Platform content and Climate Services Information

Existing projects as sources of information - stakeholders involvement - current investments at from national, sub-regional to regional levels.

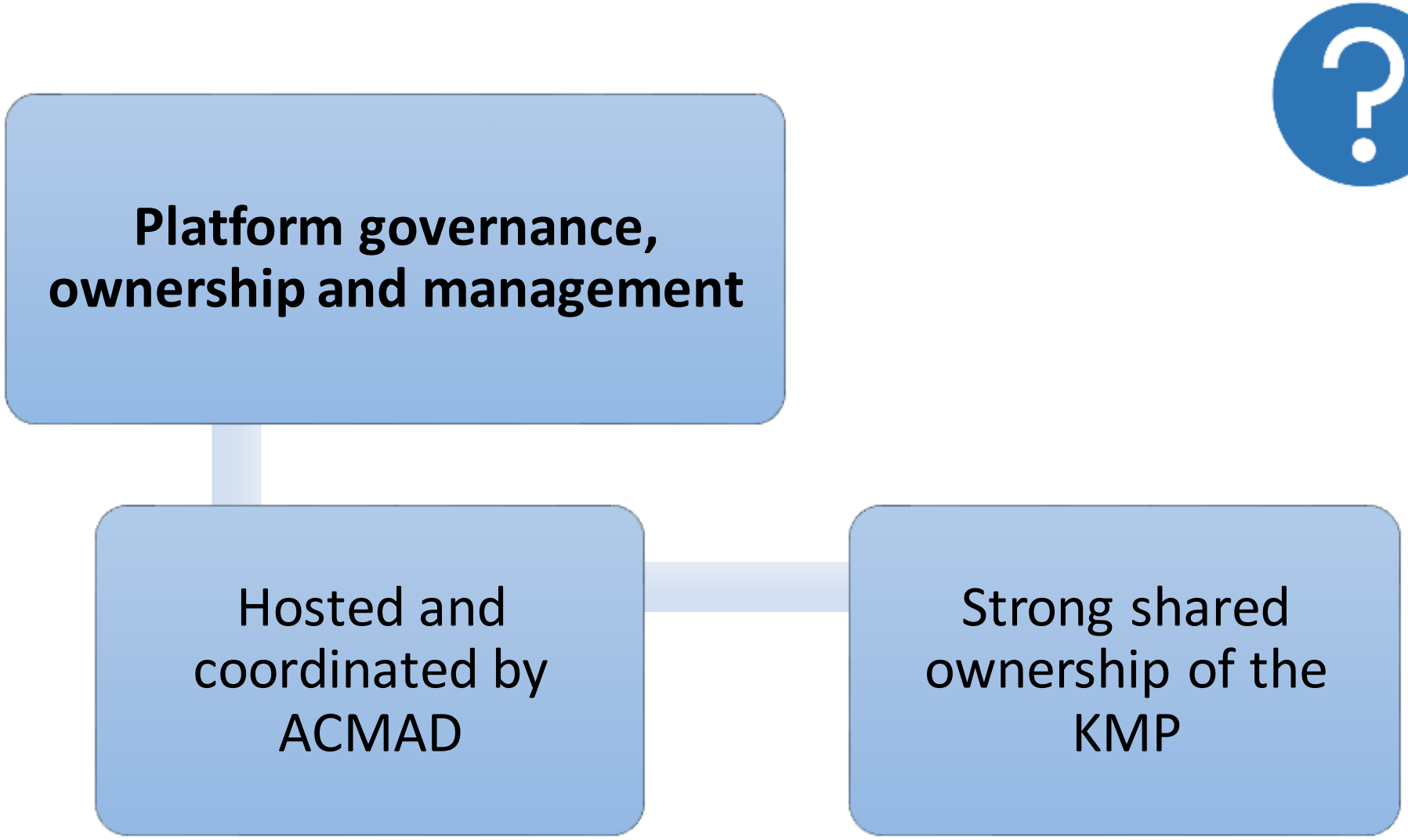
Key considerations include:

- Feature information that doesn't exist on other websites which supports coordination and collaboration opportunities should also be made available.
- Success stories and failures should be included to enable learning and benchmark on good practice.
- Case studies on different components can be developed to collate monitoring and evaluation.
- Map visualizations and high level analysis of key performance indicators will be of value addition in the decision making processes.
- An eLearning component,
- Discussion forums and
- Guiding tools
- Resources related to infrastructure and resilience
- Linkage between CIS and development & social elements

Interoperability Considerations

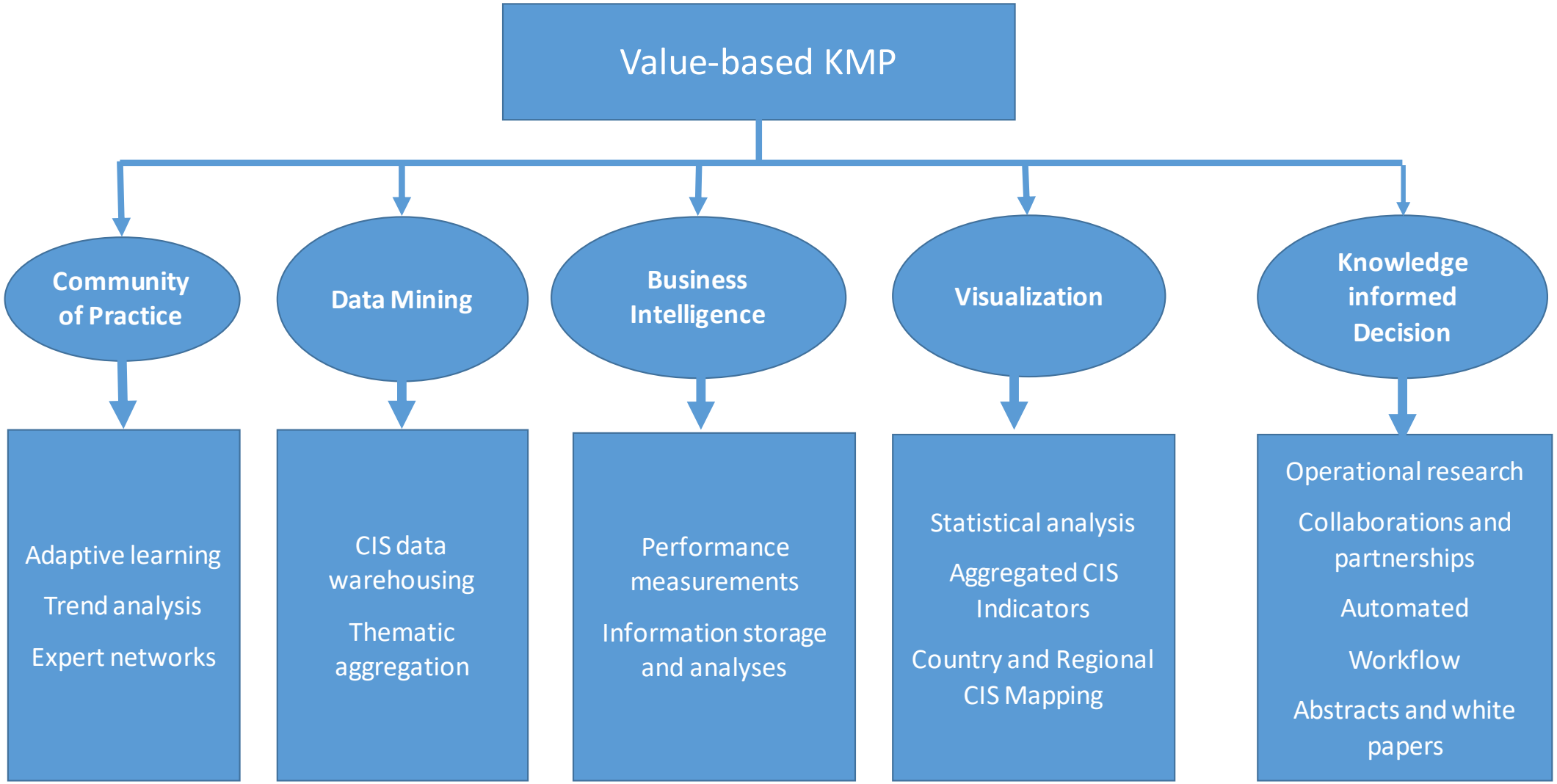


- UN system of **Africa climate change statistics** to explore interoperability and statistics relevant for inclusion in the KMP.
- WMO's **Global Data-processing and Forecasting System** (GDPFS) with Centres for processing and forecasting weather and Climate data supporting services delivery at global, regional and national levels
- WMO working with UK Met to develop data standards and data collection platform

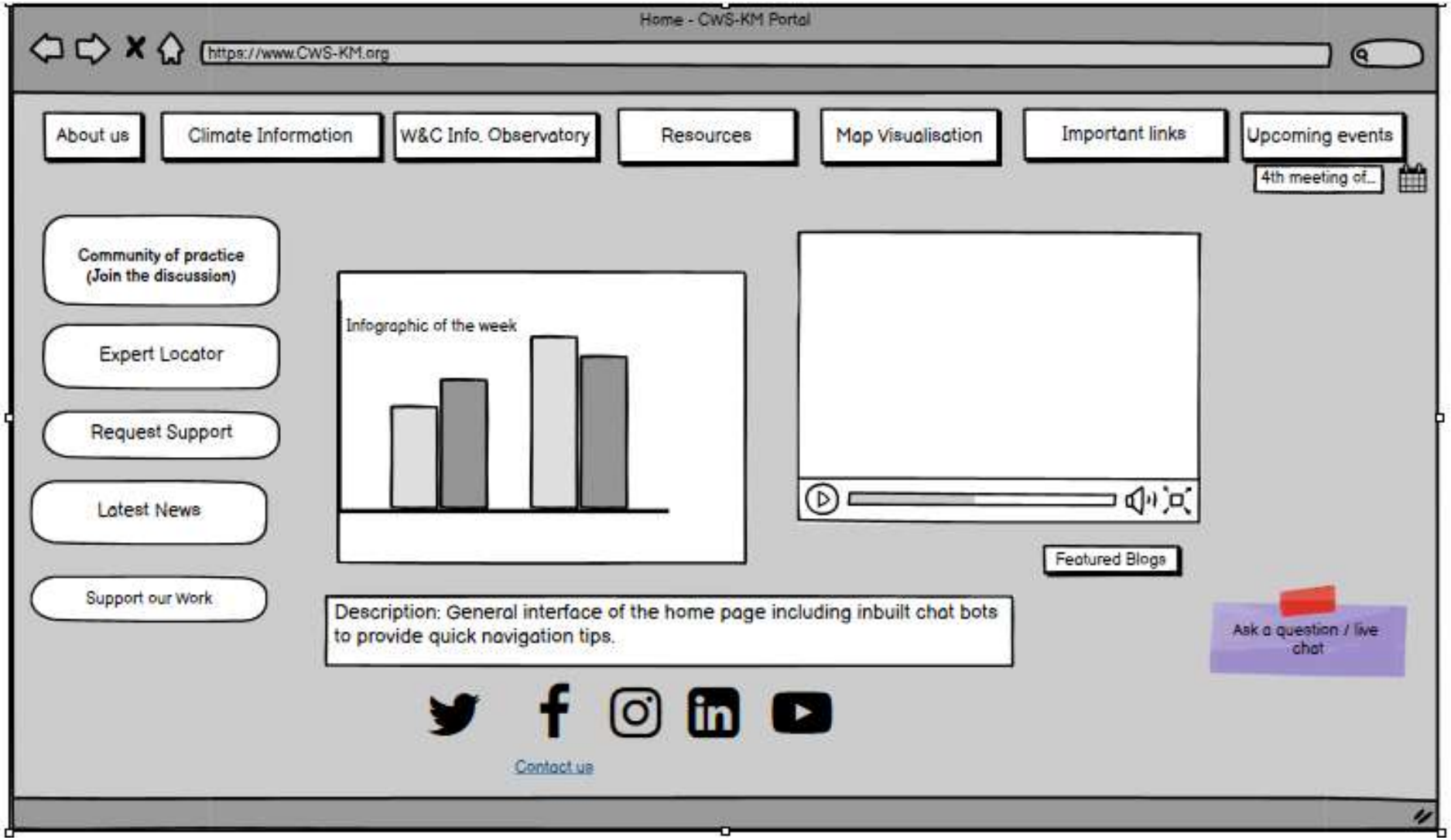


ACMAD is Africa Ministerial driven hence sustainable with financial and human resources clout.

Platform mock up



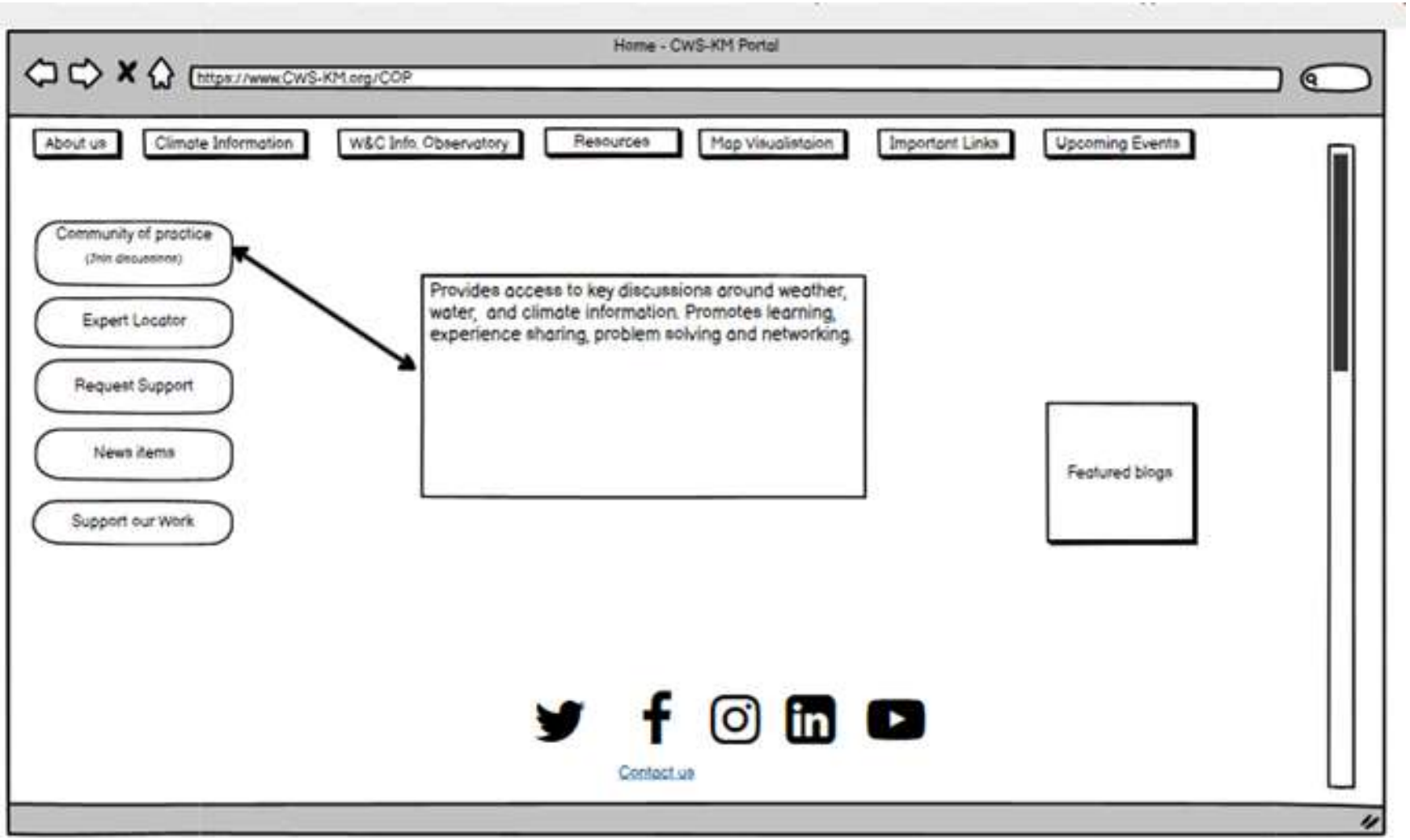
Mock up



About us – this will have sub- links as indicated below:
What we do – Vision and mission
Work with us- Career opportunities, Donor database, Call for proposals and available grants.

Inbuilt chat bots to provide quick navigation tips.

This page comprises a tabbed menu giving access to various sections of the portal.

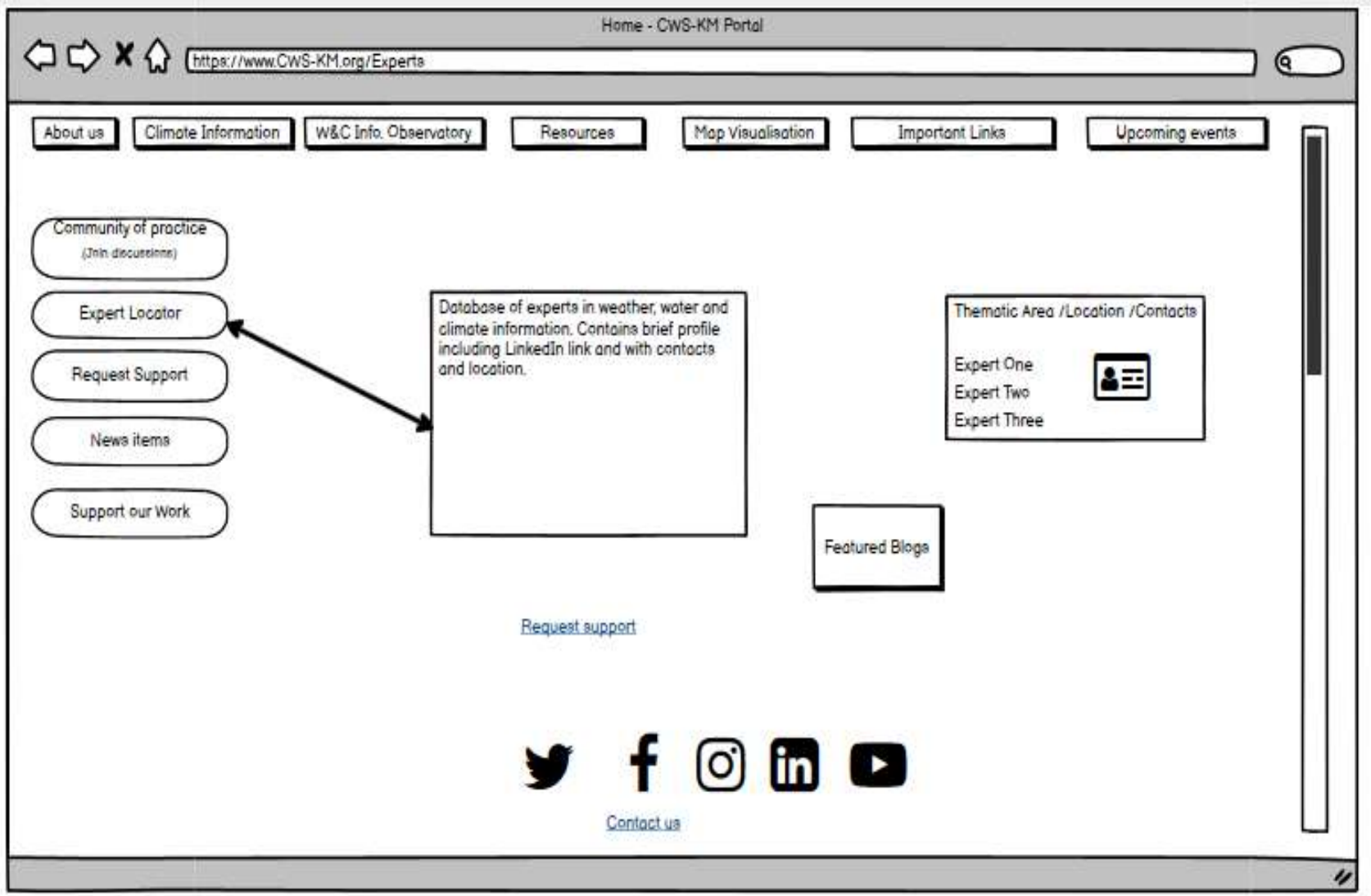


Community of Practice (Join the discussion) - This button takes the user to an online discussion forum which is moderated by the Knowledge Manager/Officer.

On loading the forum page, the user is able to register in order to join.

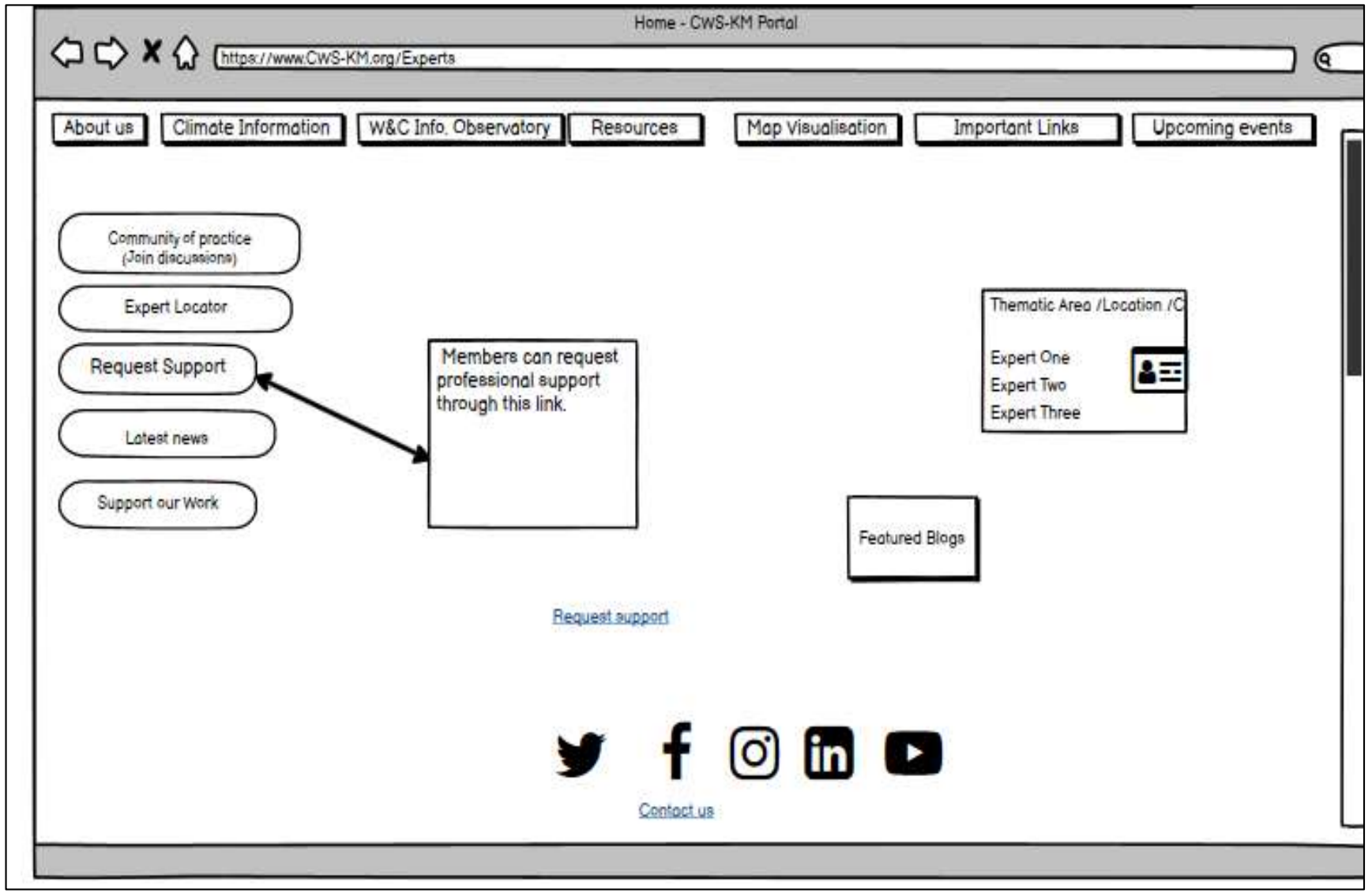
The Knowledge Manager will from time to time invite experts conversant with thematic areas to moderate some discussions.

A key contributor to knowledge sharing as individuals would also have the ability to create discussion topics where others can join and follow the posts with e-mail alerts available for new posts.



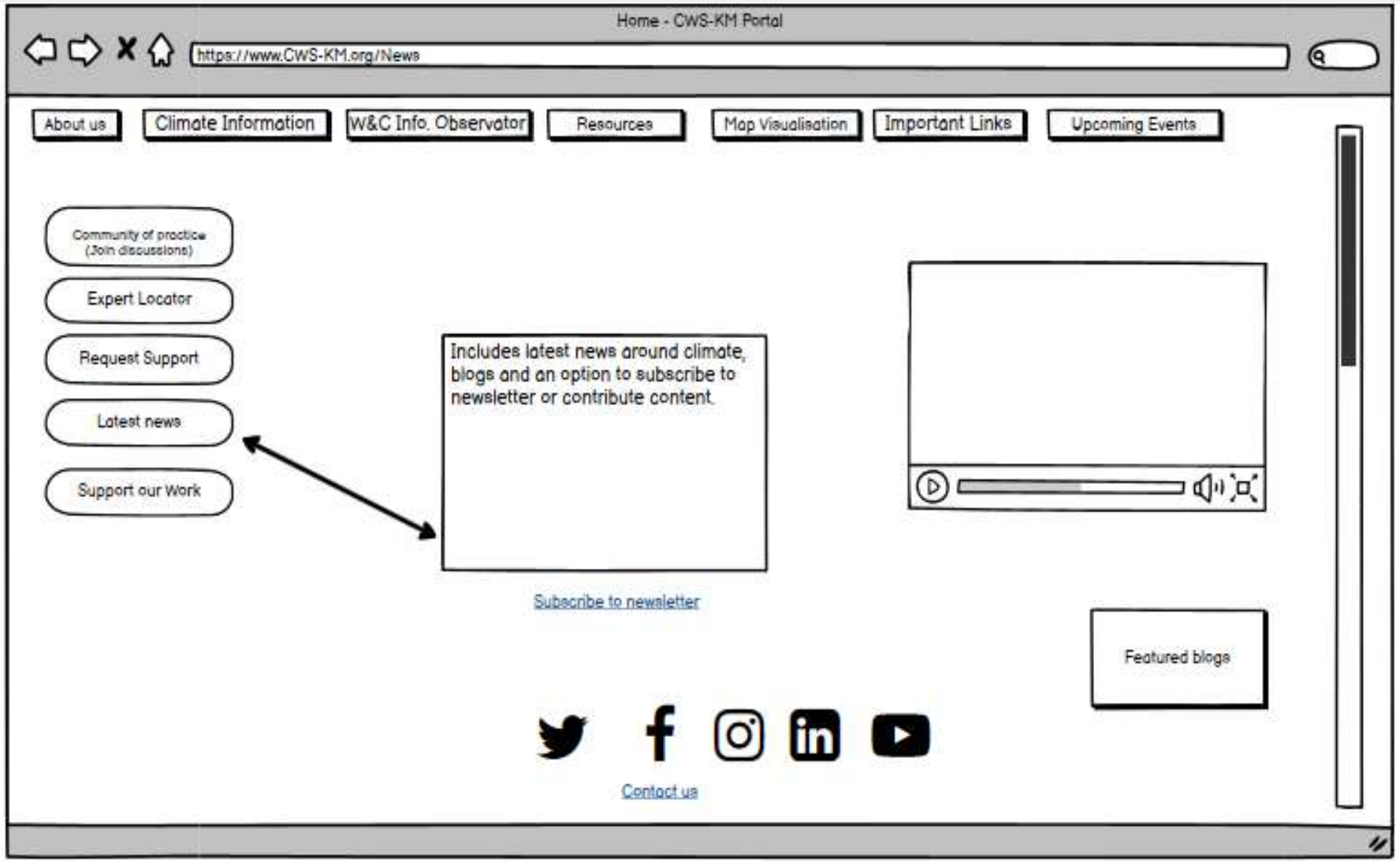
Expert Locator –

Provides a link to a database of experts including consultants in the Climate services. It includes profile, field of expertise and some of their works and a possibility to ask questions.



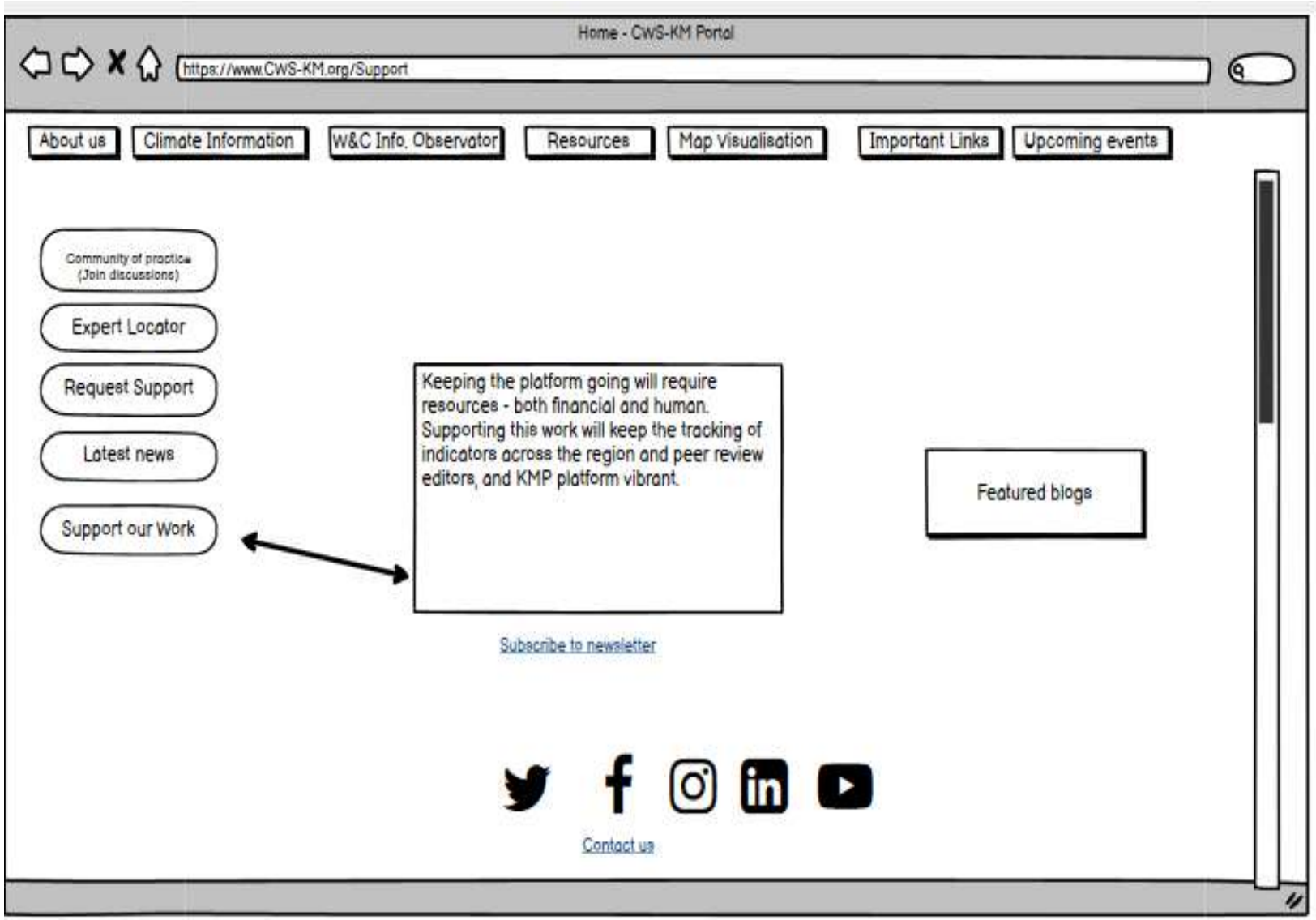
Request support- Coordinated by the learning coordinator whose responsibility it is to keep track of courses and provide oversight including making requests for courses from experts and packaging training material. One can seek technical assistance here and ask for guidance.

Information for Learners- A link will be made available where an e-learning platform is hosted. It will also have a link where a user /interested participant can register to enroll for self-paced courses in climate related issues such as policy and framework development.



Latest News –

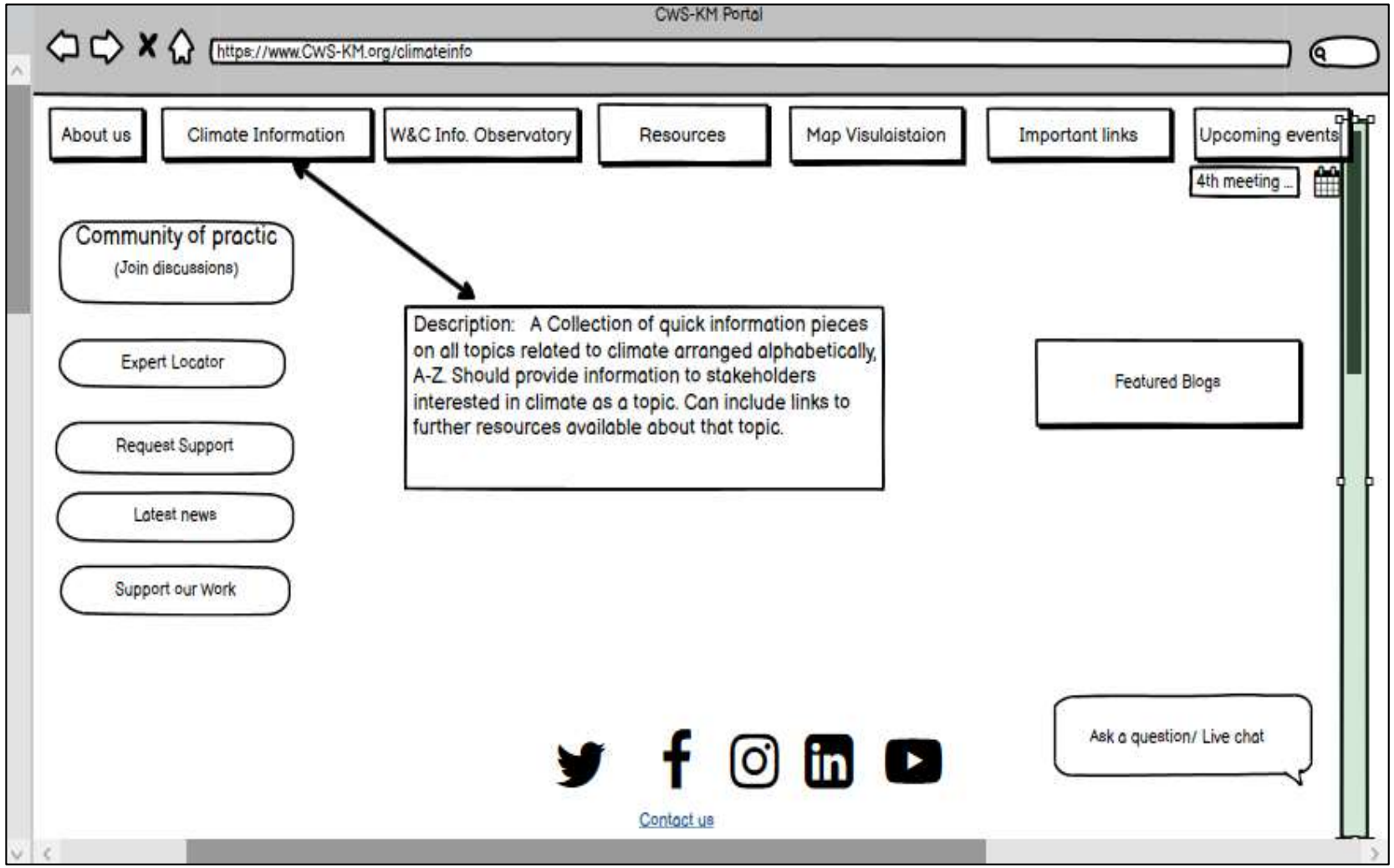
This link will provide all blogs, and insights on what's happening around the globe on climate related issues. Partners will have an option to upload or contribute information, which will be approved by the Knowledge Manager before publication.



Support our work –

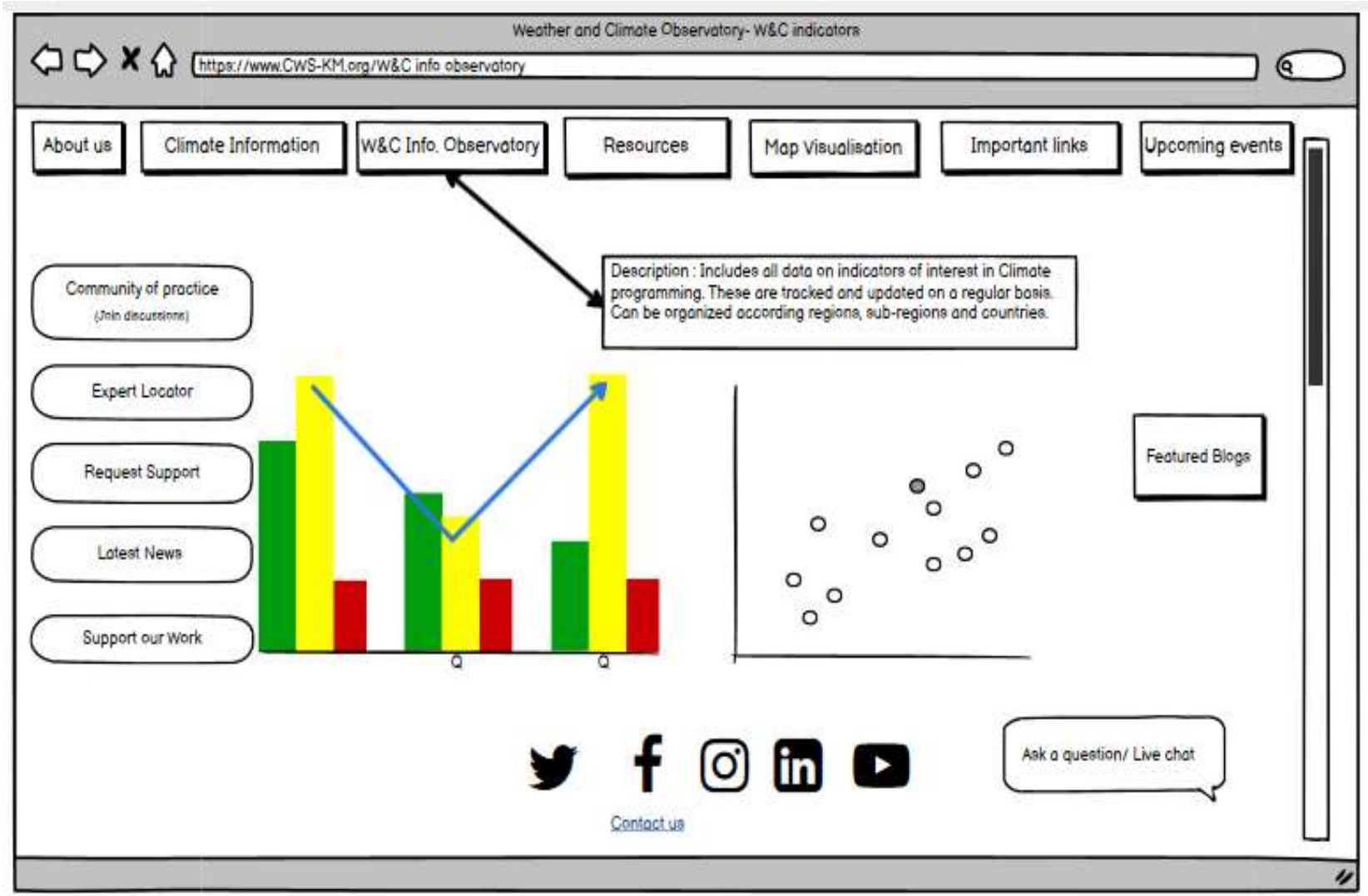
This link is to specifically highlight the financial and human resource needs for maintaining the platform and keep it vibrant.

It will provide information on the need to contribute, the services funded, budget and accountability and request for donations.



Climate Information –

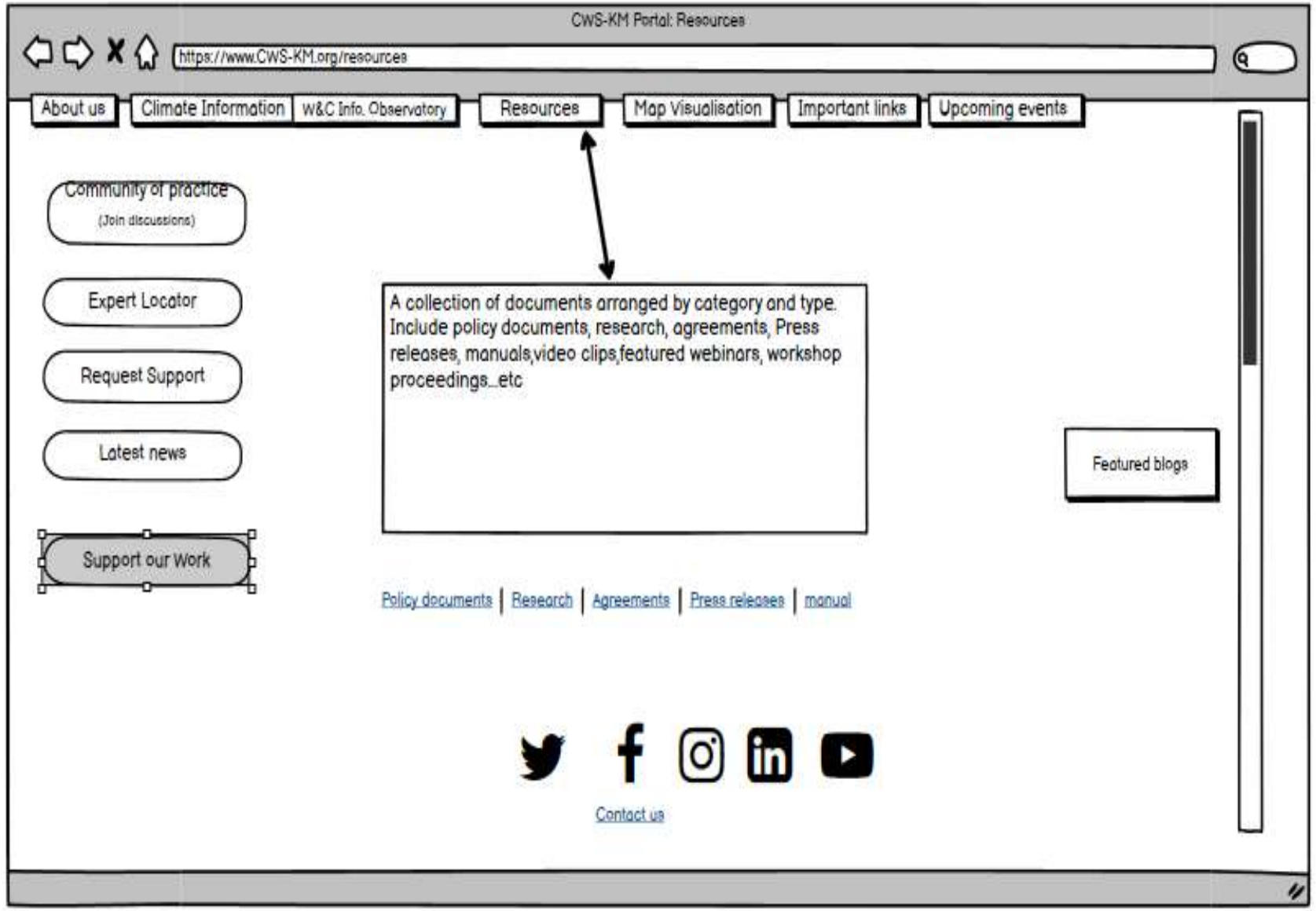
This link provides quick access to all Climate related topics arranged alphabetically from A to Z. It will include links to further resources about that particular topic. This makes navigation easy as one can easily identify their areas of interest.



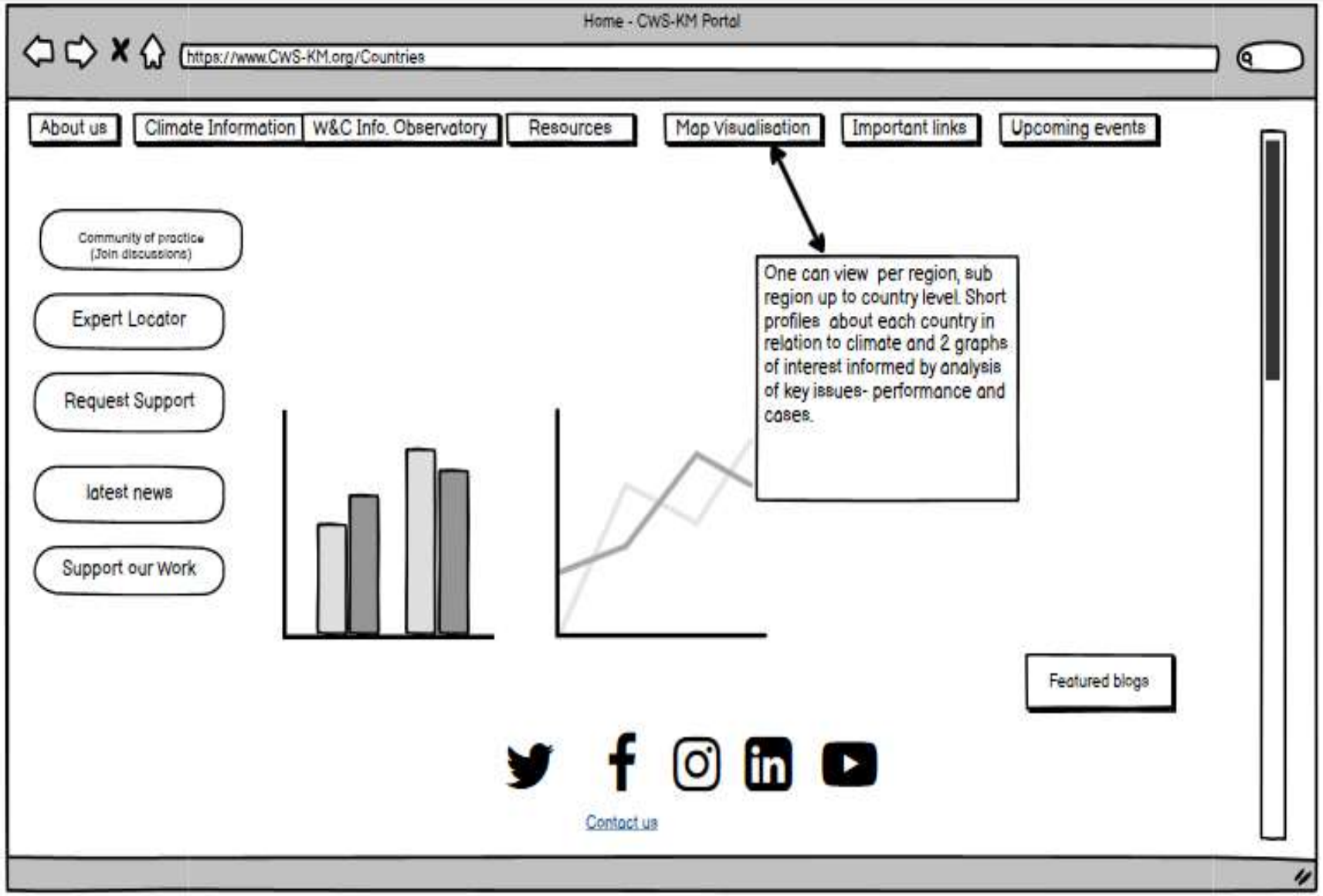
Weather and Climate Information observatory -

Will include all data on indicators of interest in Climate programming, presented as analyzed information and infographics.

These are tracked and updated on a regular basis and can be organized according to regions, sub-regions and countries. It will have a link for users to contribute their data based on guidance provided and this will be aggregated and analyzed by the Knowledge Manager.

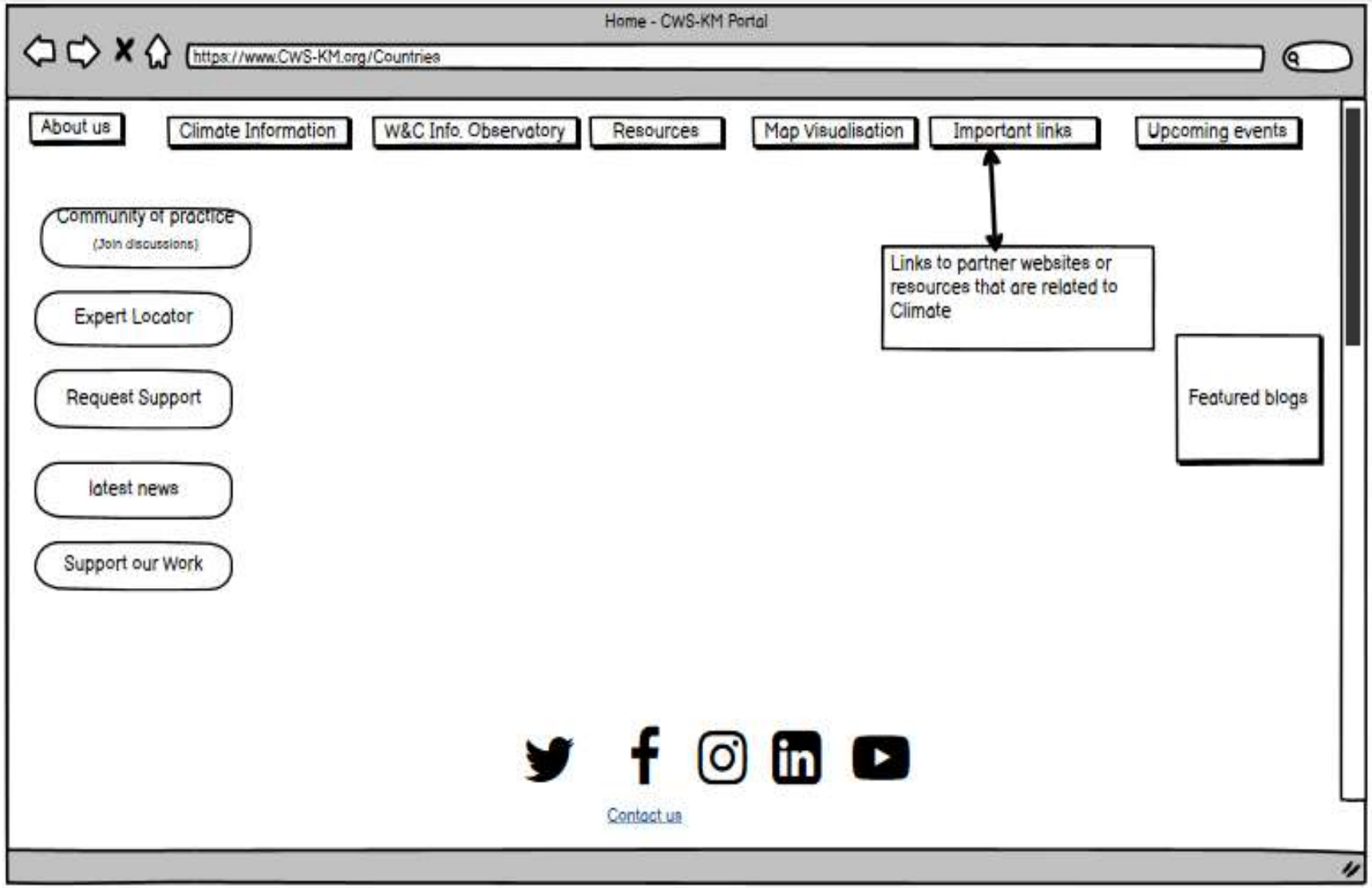


Resources –
This section provides access to various Information/ Communication products produced, collected and synthesized by the community. Each product (grouped by thematic area) will be carefully targeted to strategically cater to audiences that seek information through electronic means, for example policy-makers, researchers, implementers, the media etc.
This section has links to important content and records that are key in Climate "intelligence". The "Search Database" link will take the user to a key-word search area that enables one to search all materials catalogued in the resource center and online.



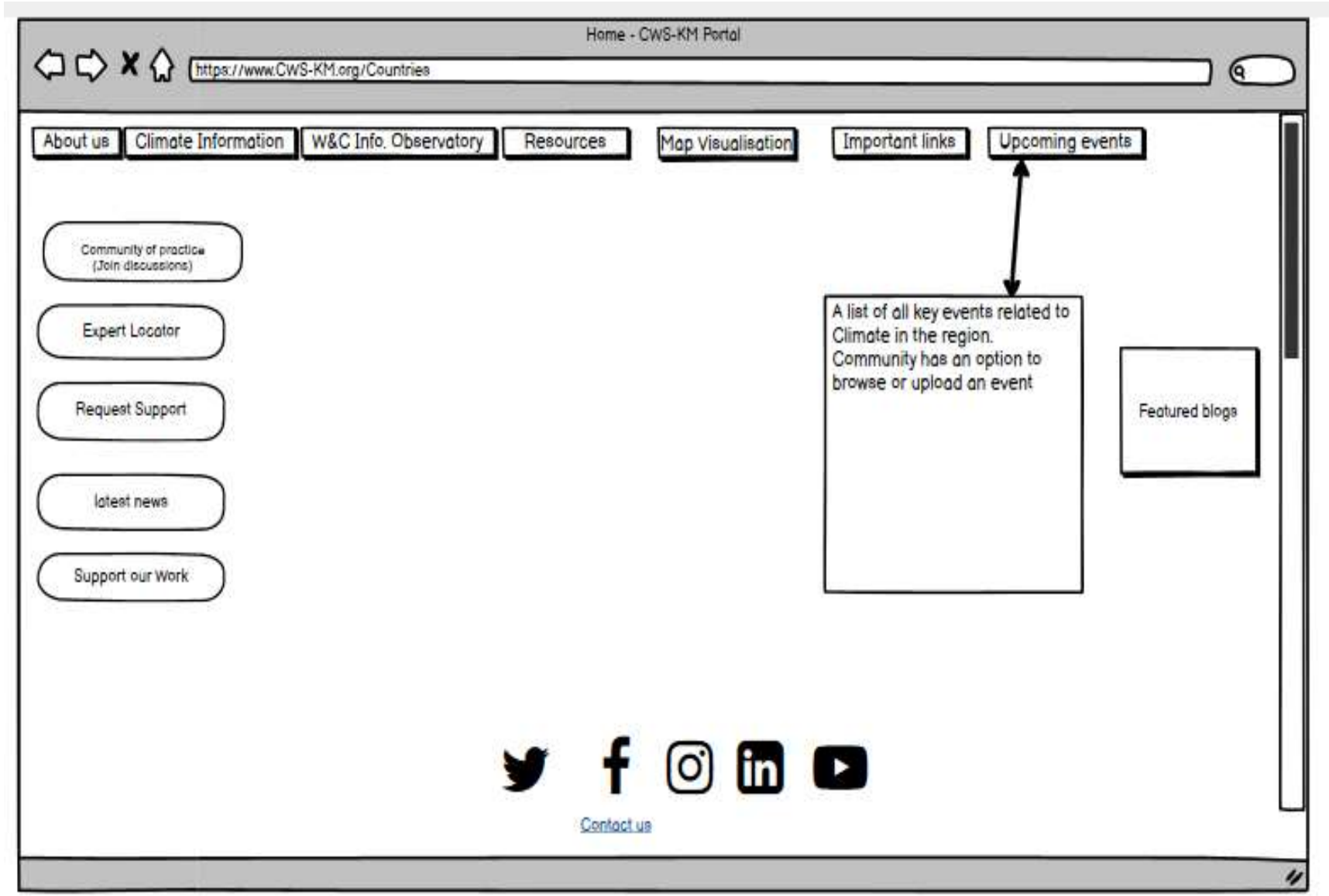
Map Visualisation

Through this link, one can view cases, country profiles and data of interest at region, sub-region and country level. The map provides quick access to information to enable decision making. A user has an option to submit a case from their region or country.



Important Links –

This page lists all partners and portals relevant to Climate programming. One can browse and search for partners and access their work through available links.



Upcoming Events –

Includes Symposiums, events, meetings, workshops …etc. This Page lists all up-coming Climate related events globally, regionally and nationally in chronological order.

Social Media Component - At the bottom of each page will be icons linking users to the KMP Facebook, Twitter, LinkedIn, Instagram and YouTube channels. The social network platforms will be used to enhance the portal and climate work visibility and its reach to users who might not frequent the main website.

Thank You.