

The Lima Adaptation Knowledge Initiative

Southern Africa sub-region

Priority setting workshop
16 - 18 November 2015
Johannesburg

Workshop report

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1. Introduction

Adaptation knowledge gaps have been identified by the United Nations Framework Convention on Climate Change (UNFCCC) and United Nations Environment Programme (UNEP) as a barrier to widespread and successful climate change adaptation actions. The persistence and recurrence of such gaps in spite of the growing body of adaptation knowledge, suggests the need for a better alignment of the demand of, and supply for, adaptation knowledge and for efforts to bridge these knowledge gaps.

In an effort to remove knowledge barriers that impede the implementation and scale-up of adaptation actions, the Lima Adaptation Knowledge Initiative (LAKI) was initiated in 2014. The LAKI is a collaborative effort between the UNFCCC Secretariat through the Nairobi Work Programme (NWP) and UNEP through its Global Adaptation Network (GAN). The LAKI was endorsed and launched by the UNFCCC COP 20 President, as a component of a set of actions to further address adaptation to climate change within the UNFCCC.

The first LAKI workshop was held in the Andean region and was followed by the West Asia region. The Southern Africa sub-region workshop was the third priority-setting workshop, covering the following countries; Angola, Botswana, Lesotho, Mozambique, Namibia, South Africa, Zambia and Zimbabwe. The workshop was held in partnership with SouthSouthNorth, an organisation based in South Africa.

This report summarizes the proceedings of the priority-setting workshop, which took place from 16 - 18 November 2015 in Johannesburg, South Africa. Detailed proceedings of the workshop are attached in Annex 1.

2. LAKI Methodology

2.1 Scoping paper

The starting point for the LAKI process was a scoping exercise to identify and synthesize adaptation knowledge gaps for the sub-region. Knowledge gaps in the context of LAKI refer to the following:

- A deficit of accessible data, information and knowledge that is available in the needed form in the context of a specific sub-region or thematic domain. Such a deficit impedes the ability of 'target beneficiaries' to adapt effectively to the adverse effects of climate change.
- Can be filled through an informed application of and/or enabling easy access to existing data, information and /or knowledge.
- Does not require action on new research or generation/collection of new data.

- Does not require action related to coordination, institutional processes or practices.

In order to qualify as adaptation knowledge gaps and be included in the scoping paper, all knowledge gaps needed to be consistent with the operational definition of an adaptation knowledge gap in context of the LAKI.

A scoping paper was developed by a consultant containing a pool of identified adaptation knowledge gaps for the sub-region, based on a literature review and with inputs from the Multidisciplinary Stakeholder Group¹ (MSG) .The table below lists the members of the MSG:

Name	Designation	Organisation
Dr Leonard Unganai	Project Manager – UNDP/GEF: Scaling up adaptation in Zimbabwe	Oxfam, Zimbabwe
Dr Arthur Chapman	Hydrologist	Private consultant
Dr Patience Mutopo	Senior Lecturer, Centre for Development Studies	Chinhoyi University of Technology, Zimbabwe
Dr Madaka Tumbo		
Timothy Gotora	Programme Officer – Climate Change	Southern African Development Community (SADC) Secretariat
Prof. Nnyaladzi Batisani	Lead Researcher, Environment and Climate Change	Botswana Institute for Technology Research and Innovation (BITRI)
Tega Shivute	Consultant	Desert Research Foundation of Namibia (DRFN)
Prof Sosten Chiotha	Regional Programme Director	Leadership for Environment and Development (LEAD) Southern and Eastern Africa
Nompumelelo Ntshalintshali	Principal Water Development Analyst	Department of Water Affairs, Mbabane, Swaziland
Moliehi Shale	Programme Manager	Shared Value Africa

¹ **Multidisciplinary stakeholder group (MSG)** – a constituted group of experts who have demonstrated expertise in the sectors/themes identified for the sub-region, and who take part in the scoping of adaptation knowledge gaps in the context of the LAKI and in prioritising the adaptation knowledge gaps during the priority-setting workshop

In total, 52 adaptation knowledge gaps were identified, categorized under 7 thematic areas as follows:

- Agriculture and food security (14 knowledge gaps identified)
- Forestry and biodiversity (12 knowledge gaps identified)
- Water resources (8 knowledge gaps identified)
- Fisheries (3 knowledge gaps identified)
- Energy (2 knowledge gaps identified)
- Meteorological data (4 knowledge gaps identified)
- Settlements and infrastructure (3 knowledge gaps identified)
- Health (6 knowledge gaps identified)

2.2 Priority-setting workshop

The workshop was convened by the UNFCCC and UNEP and organized by the subregional coordination entity, SouthSouthNorth. The workshop was conducted over three days and consisted of plenary discussions, breakout groups and individual exercises. The structure of the three days is indicated in figure 1 below and the detailed agenda can be found in Annex II.

Flow of processes in conducting the prioritization of adaptation knowledge gaps during the priority-setting workshop

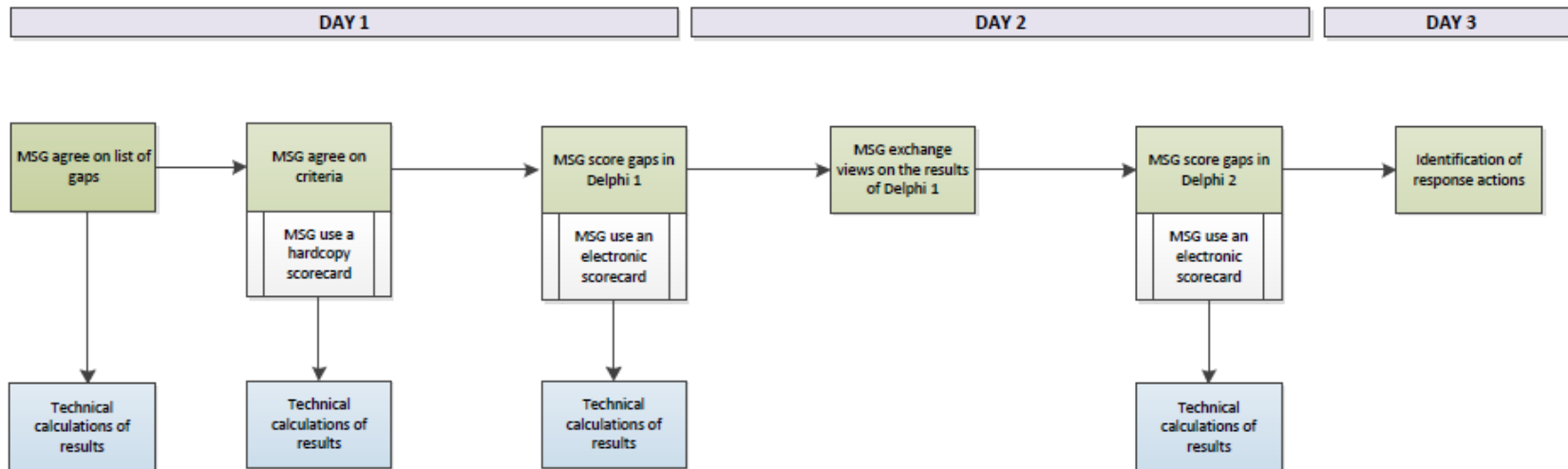


Figure 1: Flow of processes in conducting the prioritisation of adaptation knowledge gaps during the priority-setting workshop

3. Discussion and refinement of adaptation knowledge gaps (Day 1)

The scoping paper served as a starting point for deliberating on the adaptation knowledge gaps identified in the scoping paper. The discussions focussed on whether the gaps identified in the scoping paper were adequate, relevant and could be pursued through the LAKI process. As a result of these discussions, some of the gaps from the scoping paper that were deemed of lesser priority to address were removed, while additional gaps were identified and added to the list. Table 2 shows the total number of adaptation knowledge gaps before and after inputs from the MSG. In addition to the thematic areas from the scoping report, the knowledge gaps that were cross-thematic in nature were clustered under a new thematic area titled 'cross-cutting'.

Table 2: Adaptation knowledge gaps per cluster

Cluster no.	Knowledge gap thematic area	Total number of adaptation knowledge gaps prior to the workshop	Total number of adaptation knowledge gaps after discussion and refinement by MSG
1	Agriculture and food security	14	14
2	Forestry and biodiversity	12	9
3	Water resources	8	7
4	Fisheries	3	1
5	Energy	2	2
6	Meteorological data	4	1
7	Settlements, infrastructure	3	3
8	Health	6	3
9	Cross-cutting	-	3
	TOTAL	52	43

4. Identification and weighting of criteria for prioritisation of gaps (Day 2)

Day 2 started with prioritisation of the knowledge gaps that were refined by the MSG, using the Delphi method. In brief, the Delphi process is a systematic evaluation of responses followed by discussions and repeated evaluations, which are scored and weighted as a means of ranking the MSG's viewpoints. The process of repetition is designed to converge on a relative achievement of consensus and stability of answers.

The MSG discussed the criteria in great detail. The MSG agreed on a set of four criteria as shown in Table 3. Each MSG member ranked the criteria, ranging from 1-4, with the highest value denoting the most important criteria for filling the knowledge gap. The individual ranking results were used to generate the weighted (relative) percentage for each criterion as shown in Table 3.

Table 3: Criteria for prioritization of knowledge gaps

Criterion	Description	Weighted
Sustainability	Filling the knowledge gap will help sustain benefits over the long term	34%
Scale of positive impact on closing the gap	Contribution to climate resilience in filling the knowledge gap. This will increase the resilience of communities and ecosystems to climate change	29%
Urgency	Closing the gap will generate immediate benefits or address urgent adaptation needs	21%
Cross-disciplinary nature of gap	Filling the knowledge gap will have a positive impact on other gaps in different sectors and disciplines.	16%
		100%

5. Scoring the knowledge gaps against the criteria

The MSG was requested to score individually each of the 43 knowledge gaps against the set of agreed criteria. The first round of Delphi ranking was done with all the 43 knowledge gaps. For further refinement of the priorities, a second round of Delphi ranking was done with the top 25 knowledge gaps. Annex III shows the ranked knowledge gaps, the total (weighted) priority scores and the ranking for the top 25 adaptation knowledge gaps. Out of the 25 gaps, the top 16 were chosen as the prioritised knowledge gaps that will require further action.

6. Identification of possible response actions and beneficiaries (Day 3)

On day 3, the MSG provided a preliminary identification of potential response actions to address the 16 priority knowledge gaps identified. In addition, the MSG provided suggestions of organisations that could undertake some of the response actions as indicated in table 4.

Table 4: Possible response actions for the identified knowledge gaps

No .	Priority knowledge gap	Deliverable/s	Best placed institutions	Beneficiaries
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1	Lack of knowledge on the vulnerability of and impacts of climate change on river basins and watershed systems	<ul style="list-style-type: none"> • Scoping study of vulnerability assessments/studies and <i>dissemination</i> of the scoping results (scoping should entail inputs from national planners of river basins, should identify knowledge gap and identify existing vulnerability assessments conducted for river basins and watershed systems in the subregion-provide a basis for further prioritization exercise), followed by: • Vulnerability assessments for producing vulnerability <i>maps/monograph/profile</i> for the <i>prioritized river basins and watershed systems</i> prepared with results from hydrological models and model projections for a range of climate change scenarios for important river basins [PROVIA] • Regional trainings on conducting vulnerability of and impacts of climate change on river basins and watershed systems <p><i>Outputs:</i> Vulnerability maps</p> <p><i>Outcome:</i> <i>Application of the vulnerability maps to prioritize adaptation interventions</i></p>	Individual (regional) consultants	River basin authority, department responsible for water resources management
2	Lack of information on available adaptation options for agriculture	<ul style="list-style-type: none"> • Interactive tool kit providing a detail guide on adaptation options for agriculture (Details: Extension officers need to be engaged in developing such tool kits, Existing tool kit (e.g. Malawi) needs to be used/reviewed in order not to duplicate. These could be printed products such as hand books and can be online in an interactive format) • Online database on good case studies on adaptation interventions for agriculture (targeted for extension farmers with comprehensive description on application of these interventions, why these were 		Extension workers

		<p>effective) [Source: Empirical research]</p> <ul style="list-style-type: none"> Report synthesizing current experience with adaptation options specific for agriculture commodities at regional level. 		
3	Lack of knowledge on the sensitivity of agro-ecological zones across the sub-region to historic and future climate change	<ul style="list-style-type: none"> Synthesis and dissemination of existing information on the sensitivity of the agro-ecological zones to climate change (details: integrate the existing household information at the subregional level) <p><i>Outcome:</i> <i>Integrate climate sensitivity in Updated Agro ecological zoning guidelines</i></p>	Individual consultant	National planners, land managers
4	Lack of knowledge in implementing appropriate climate risk management strategies for agriculture	<ul style="list-style-type: none"> Training of trainers of extension workers for implementing climate risk management strategies for agriculture (combine with deliverable #2) Online database on good case studies of climate risk management strategies (with information on how these strategies were applied and why they were effective) (combine with deliverable #2) <p>(Details: African Risk Capacity has ongoing work but countries have to pay membership fees. Finance for climate risk management)</p> <p>Outcome: <i>Include climate risk in agriculture in national Action plan for disaster Risk management</i></p>		<p>Extension workers</p> <p>National committee for disaster management ; extension workers</p>
5	Lack of knowledge on the vulnerability of and impacts of climate change on river basins and watershed systems	<ul style="list-style-type: none"> Scoping study of vulnerability assessments/studies and <i>dissemination</i> of the scoping results (scoping should entail inputs from national planners of river basins, should identify knowledge gap and identify existing vulnerability assessments conducted for river basins and watershed systems in the subregion-provide a basis for further prioritization exercise), followed by: 		National and regional water planners) (River basin Authority, department responsible for water resources management

		<ul style="list-style-type: none"> • Vulnerability assessments for producing vulnerability <i>maps/monograph/profile</i> for the <i>prioritized river basins and watershed systems</i> prepared with results from hydrological models and model projections for a range of climate change scenarios for important river basins [PROVIA] • Regional trainings on conducting vulnerability of and impacts of climate change on river basins and watershed systems <p><i>Outputs:</i> Vulnerability maps</p> <p><i>Outcome:</i> <i>Application of the vulnerability maps to prioritize adaptation interventions</i></p>		
6	Lack of usable knowledge products on short and long-term meteorological data and seasonal forecasting for agriculture planning	<ul style="list-style-type: none"> • A series of workshops at the subnational level in the subregion between climate scientists, extension workers and farmers focusing on how to turn climate projections into usable information for agriculture (coordinated at the subregional level) • Seasonal planting calendar on crop choice and recommended agronomic practice for extension workers • Mobile app to allow easy access to weather data (May use experience from UNEP in West Africa) 	<p>UNEP</p> <p>UNEP, FAO, IFAD</p>	<p>Extension workers and farmers</p> <p>Extension workers</p> <p>Farmers</p>
7	Lack of clear information on the relative contribution of natural variability, climate change and other human impacts on trends in the hydrological cycles	<ul style="list-style-type: none"> • (Refresher) Courses on the relative contribution of natural variability, climate change and other human impacts on trends in the hydrological cycles • Policy brief on the relative contribution of natural variability, climate change and other human impacts on trends in the hydrological cycles • Synthesis of information on the strength of linkages to the dominant modes of variability – ENSO, IOD and other oscillations 		Water resource planners, climate change department, meteorological department

		(MJC)		
8	Limited knowledge on technologies available for adaptation in the agricultural sector	<ul style="list-style-type: none"> • A guidebook on technologies available for adaptation in the agriculture sector for extension workers • Online database on technologies available for adaptation in the agricultural sector for extension workers • Field training to showcase technologies (from extension officers work with master/ lead farmers) • Synthesis paper on enhancing access to technologies 	CTCN	<p>Extension workers</p> <p>Extension workers</p> <p>Small scale farmers</p> <p>Technology providers, financiers, and planners</p>
9	Lack of knowledge on relationship between climate change and human health including the geographic distribution of human diseases	<ul style="list-style-type: none"> • Synthesis on existing information and knowledge gaps on the relationship between climate change and human health, including the geographic distribution of human diseases, (including malnutrition, water born disease, disaster impacts and emerging and neglected tropical diseases), followed by: • Workshop/training to promote understanding on the relationship between climate change and human health, including the geographic distribution of human diseases <p><i>Outcome:</i> <i>Integrate in epidemiology weather and related mortality and morbidity and produce policy briefs</i></p>		Ministry of health: Public health department
10	Insufficient knowledge on the climate change impacts on hydro power generation	<p>Synthesis of information on how to integrate knowledge on climate change impacts on hydropower generation into energy planning</p> <p>Workshop/course to promote understanding of climate change impacts on hydro power generation</p> <p>Outcome:</p>		National level energy planners

		<i>Integrate water level and discharge trends monitoring in national energy planning</i>		
11	Lack of knowledge on effective integration of climate model results into decision-making	<ul style="list-style-type: none"> • Policy briefs on climate scenarios • Training on effective integration of climate model results into decision-making 		National level planners
12	Lack of knowledge on how to integrate climate science into spatial planning	<ul style="list-style-type: none"> • A paper on assessment of existing city planning criteria for determining sensitivity to climate change impacts and on assessment of ongoing work where climate science has been integrated into spatial planning; followed by: • Workshops (at different levels), including for champions, to promote understanding on how to integrate climate science into spatial planning. • Guidebooks (for city planners)/course modules (for higher education students) on how to integrate climate science into spatial planning 	<p>Durban Charter, ICLEI Africa, Sustainable Cities Programme (C40)</p> <p>Southern African Regional Universities Association</p>	<p>City planners</p> <p>City planners, Champions</p> <p>City planners and higher education students</p>
13	Lack of integrated approach to sustainable energy planning for households	Training/course on an integrated approach to sustainable energy planning for households	<p>1) UNDP (Sustainable energy for All)</p> <p>2) SADC</p>	National energy planners
14	Inadequate access to long-term meteorological data, that limits rainfall-runoff modelling for rivers and floodplains	Training on methods for conducting regional modelling rainfall-runoff for rivers and flood plains (e.g. using global data sets in the absence of national data sets, if access to national data sets is still a challenge.)		National water resource planners/researchers

15	Lack of knowledge on the sensitivity of agro-ecological zones across the sub-region to historic and future climate change	<ul style="list-style-type: none"> • Synthesis and dissemination of existing information on the sensitivity of the agro-ecological zones to climate change (details: integrate the existing household information at the subregional level) <p><i>Outcome:</i> <i>Integrate climate sensitivity in Updated Agro ecological zoning guidelines</i></p>		Ministry of Agriculture: crop production departments , national level extension planners
16	Lack of policy relevant information on the impacts of climate change on forestry, biodiversity and structure , functions and provisions of ecosystems	<ul style="list-style-type: none"> • Synthesis document on interdisciplinary evaluations of impacts of climate change on the various ecosystems. <p>Starting with an initial focus on ecosystem services for the deliverables below</p> <ul style="list-style-type: none"> • Policy briefs on the impacts of climate change on forestry, biodiversity and structure, functions and provision of ecosystem services • Short courses on the impacts of climate change on forestry, biodiversity and structure, functions and provision of ecosystem services 		Ministry responsible for Forestry, biodiversity

ANNEX I- Proceedings of the workshop

Introduction

Dr. Webster Whande, representing the sub-regional coordinating entity², SouthSouthNorth (SSN), welcomed the participants to the Southern Africa priority-setting workshop. In his welcome statement, he pointed out that the Southern Africa meeting was the third priority-setting workshop under the LAKI. In addition he emphasised that this was an opportunity to provide relevant inputs prior to COP21.

This was followed by opening statements by the co-conveners³:

- Dr Youssef Nassef- United Nations Framework Convention on Climate Change (UNFCCC)
- Dr Barney Dickson- United Nations Environment Programme (UNEP)

Dr Nassef provided an overview of the LAKI. He explained that it emerged from having seen over the last 15 years knowledge gaps being repeated, and despite the passage of time, these gaps were not addressed. The LAKI was borne out of that realization. Dr. Nassef and Dr. Dickson stressed the importance of the LAKI in closing some of the knowledge gaps in the subregion to support the up-scaling of adaptation actions. This will require, most importantly, identifying and prioritizing the knowledge gaps that are specific for the region, and coming up with deliverables/ response actions that can be taken forward. They both stressed the importance of developing the right criteria in the prioritization of the knowledge gaps as a crucial aspect of the prioritization methodology.

Dr. Leo Zulu facilitated the workshop. He provided introductory guidance to the MSG of the LAKI methodology in order to manage expectations, and subsequently steer the process in accordance with these expectations.

Refinement of the adaptation knowledge gaps

Dr. Whande presented the scoping report on behalf of the consultant. He presented a summary of how the initial comments from the MSG members were addressed in the report. Dr Whande stressed the importance of ownership of the process and of the LAKI outcome by the members of the MSG. For that reason, MSG members may need to further engage and re-package the knowledge gaps from the scoping report accordingly. Furthermore, the MSG will need to identify the target beneficiaries that that are specific to the knowledge gaps.

² **Subregional coordination entity** – an organization with proven track record of expertise in the target domain, which will provide technical inputs and logistical support to the co-conveners for the organization of the priority-setting workshop and will help coordinate response actions based on the implementation plan

³ **Co-conveners** – UNFCCC secretariat through the Nairobi work programme (NWP) and UNEP and its regional offices within the Global Adaptation Network (GAN)

Dr Whande noted that while the consultant addressed most of the comments, a few fell outside the scope of the LAKI. Comments that relate to institutional and political barriers in adaptation action fell outside the framing of adaptation knowledge gap, as defined by LAKI. See Figure 2 below for definition of knowledge gap defined by LAKI.

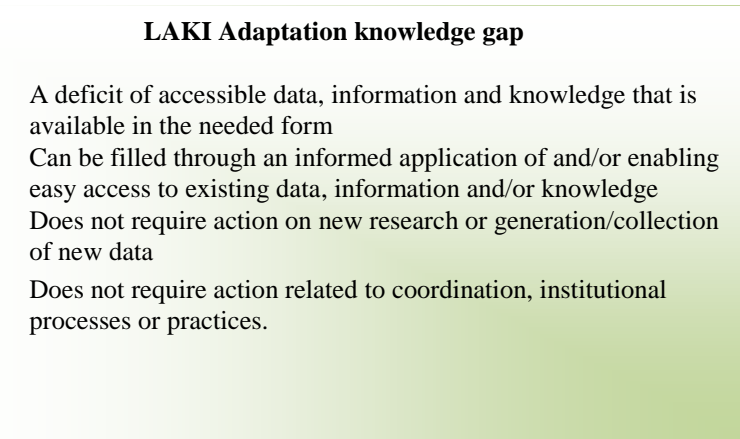


Figure 2: LAKI definition of adaptation knowledge gap

Many participants felt that the political, social, cultural and economic challenges in the implementation of adaptation action were most crucial for the subregion and, while outside the scope of LAKI, need to be noted and perhaps taken up by other organisations. The general view of the participants was that the scoping report captured most of the knowledge gaps, but a few needed re-framing and re-packaging. A new cluster was introduced that cut across all clusters.

Some of the knowledge gaps that were seen to be crucial, but fell outside the scope of LAKI include the following:

- Lack of localized inter-annual and longer-term climate variability to make decisions for adaptation planning and actions
- Poor planning and lack of political will
- Lack of knowledge on how to integrate adaptation actions with the soft/cultural issues such as localised knowledge as opposed to indigenous knowledge (scientific communities)

Identification and weighting of criteria

The facilitator presented the criteria for the prioritization. For consistency across the sub-region, a set of three criteria was presented as a starting point. In addition, the criteria from the previous workshops in the Andean and West Asia Sub-region were presented as potential examples. The MSG in Southern Africa preferred the West Asia approach as it provided a more comprehensive set of criteria. The group however felt that the criterion 'urgency' and 'sustainability' were conflicting. They pointed out that at times, urgent action is not always sustainable. Clarity was given regarding urgency, which meant that 'further delay will lead to further vulnerability'.

Based on that understanding, the participants proceeded with ranking the criteria, assigning values ranging from 1-4.

Prioritisation of the knowledge gaps

The MSG was requested to rank individually each of the knowledge gaps against the 4 agreed criteria. The participants used an electronic scoring matrix and ranked each gap, from a value of 1-5. The higher the value, the more important the knowledge gap is in relation to the chosen criteria.

After the first Delphi ranking, an observation was made by the MSG in relation to the gaps. The top 10 knowledge gaps were mostly related to the impacts of climate change, and gaps 11-24 are mostly around the possible responses to climate change. The members felt that the most important issue relating to adaptation implementation is around responses, and not impacts. Priority for the region therefore should be given to adaptation response to climate change. Another observation was made regarding the lack of knowledge gaps specific to gender. Some suggested that gender be included as one of the criteria. The majority of the participants however did not favour this and it was later suggested by the group that it should be included in the preamble or as a crosscutting issues. After much deliberation, it was agreed that it should be included in the preamble of the report.

A second Delphi ranking was done in order to refine the prioritisation and to ensure robustness of the results. Annex III shows the ranked knowledge gaps, the total (weighted) priority scores and the total ranking for the top 25 adaptation knowledge gaps.

Identification of possible response actions and beneficiaries (day 3)

At the end of day 2, the MSG members agreed to identify response measures and beneficiaries for the top 16 knowledge gaps. The facilitator provided each participant with an electronic template for each member to work on individually. Most of the members submitted the response measures electronically. These inputs were distilled and synthesized and used as a basis for the discussion beginning of day 3. The MSG deliberated on the possible response actions as well as the specific beneficiaries and the best placed organisations to undertake some response actions. The results of the discussion on response measures is summarised in Table 3 above.

Conclusion and way forward

Dr Dickson and Dr Nassef from UNEP and UNFCCC closed the workshop respectively. They both thanked the members for the interactive and engaging discussions. Dr. Dickson reminded the MSG members that there are ways to fill the knowledge gaps through existing mechanisms, such as the Climate Technology Center and Network (CTCN) and the Global Adaptation Network. These mechanisms can be accessed through their national focal points. Dr Nassef mentioned that the outcome of this process will be discussed at the UNFCCC 21st Conference of the Parties in Paris (COP21). He reassured the MSG that there are plans to come back to the sub-region and revisit these gaps to see if any progress has been made with regards to filling them.

The facilitator was thanked for facilitating and keeping the MSG members engaged at all times.

Evaluation by MSG members

The MSG were each provided with an evaluation form to provide feedback on the process, as well as provide recommendations on ways to improve the process in future. The majority of the MSG felt it was a very useful exercise. Some of the specific comments on the process are listed below:

- This was a very useful exercise. Inviting a multi stakeholder group to validate the gaps was a good idea as the MSG are experts in the region and are familiar with the gaps on the ground.
- I'm grateful to be part of this initiative and I have also learnt a lot, and I am looking forward to more projects on similar initiatives in the future. I am willing to contribute my expertise even in the future on adaptation.
- The validation of the scoping report with practitioners at field level was very useful as it helped to refine the gaps.
- This was an important exercise as that it enabled deep engagement of the gaps and teasing out the different knowledge gaps. Ranking them in order of priority was also very useful.
- This was an important workshop with clear expectations.
- This workshop also provided a networking platform for us regional experts working on adaptation

Ways that the process can be improved:

- Improvement can be made in terms of time management as this was very hectic and required more time, particularly the ranking process.
- It would be great to have a brief description of the process of the Delphi method before the MSG start the ranking
- The production of the initial scoping report should not be limited to existing documents only. There is a wealth of knowledge that may not be documented. The process can also benefit immensely from a commissioned survey in the region, to complement the existing reports.
- Summaries of regional reports on issues under discussion would have been useful.

**ANNEX II- Agenda- LAKI – The Priority-Setting Workshop for Southern Africa
sub-region**

16 - 18 November 2015
Venue: Protea Hotel OR Tambo

Draft agenda

DAY 1 - MONDAY, 16 NOVEMBER 2015

<i>Opening and setting the scene</i> 9:00–10:30	
9:00–9:30	<p>Opening Statements:</p> <p>Dr. Youssef Nassef, United Nations Framework Convention on Climate Change (UNFCCC) secretariat</p> <p>Mr. Barney Dickson, UNEP-DEPI</p> <p>Dr. Webster Whande SSN</p>
9:30–10:00	<p>Tour de table - introduction of participants</p> <p>Overview and structure of the workshop (Dr. Leo Zulu)</p>
Coffee break 10:00–10:30	
10:30–11:00	Presentation of the scoping paper (Kulthoum Omari)
11:00–13:00	Discussion on the knowledge gaps as presented in the scoping paper
Lunch break 13:00–14:00	
14:00–15:30	Presentation of the outcomes and discussion to finalize the knowledge gaps (plenary)
Coffee break 15:30–16:00	
16:00–18:00	<p>Identification of criteria for prioritization of the knowledge gaps (plenary discussion)</p> <p>Expectation for Day 2</p>

DAY 2 - TUESDAY, 17 NOVEMBER 2015

9:00–9:30	<p>Introduction to Day 2 activities</p> <p>Q&A</p>
9:30–10:30	<p>Presentation of the weighted criteria (based on results from Day 1)</p> <p>First Delphi round for scoring of gaps against criteria (individual scoring)</p>
Coffee break 10:30–11:00	
11:00– 12:30	Scoring of gaps against criteria (individual scoring) (<i>continued</i>)

	Lunch break 12:30–14:00
14:00–15:30	Presentation of scoring results and discussion of the scoring results (plenary)
	Coffee break 15:30–16:00
16:00–18:00	Second Delphi round for scoring of priority knowledge gaps (individual scoring)
	Expectation for Day 3

DAY 3 - WEDNESDAY, 18 NOVEMBER 2015

	Introduction to Day 3 activities
9:00–10:30	Presentation of the prioritized list of knowledge gaps
	Identification of possible response actions (group exercise)
	Coffee break 10:30–11:00
11:00–12:30	Identification of possible response actions (<i>continued</i>)
	Lunch break 12:30–14:00
14:00–15:30	Reporting by groups on the outcomes of discussions and general discussion
	Coffee break 15:30–17:00
16:00–17:00	Feedback session (plenary discussion)
	Evaluation of the workshop
	Closing of the workshop

ANNEX III- Adaptation knowledge gaps after second round of Delphi ranking

Theme	Knowledge gap description	TOTAL	RANK
Water resources	Lack of knowledge on the vulnerability of and impacts of climate change on river basins and watershed systems (local water planners, water users association)	40,92	1
Cross-cutting	Lack of information on available adaptation options for agriculture (farmers and extension officers)	40,49	2
Agriculture/ food security	Lack of knowledge on the sentivity of agro-ecological zones across the sub-region to historic and future climate change (small holder farmers)	40,47	3
Agriculture/ food security	Lack of knowledge in implementing appropriate climate risk management strategis for agriculture (small holder farming communities)	40,4	4
Water resources	Lack of knowledge on the vulnerability of and impacts of climate change on river basins and watershed systems (national and regional water planners)	40,18	4
Agriculture /food security	Lack of usable knowledge on short and long-term meteorological data and seasonal forecasting for agriculture planning (Agricultural extension department)	40,06	6
Water resources	Lack of clear information on the relative contribution of natural variability, climate change and other human impacts on trends in the hydrological cycles (water resource planners, climate change department)	38,88	7
Agriculture/ food security	Limited knowledge on technologies available for adaptation in the agricultural sector (small-scale farmers)	38,85	8
Health	Lack of knowledge on relationship between climate change and human health including the geographical disticbution of human diseases (Ministry of Health: public health department)	38,35	9
Energy	Insufficient knowledge on the climate change impacts on hydro power generation (national level energy planners)	37,51	10
Meteorolog ical data/ information	Lack of knowledge on effective integration of climate model results into decision-making (national level planners)	37,25	11
Settlements and infrastru ctu re	Lack of knowledge on how to integrate climate science into spatial planning (City planners)	37,2	12
Energy	Lack of integrated and sustainable approach to sustainable energy planning for households (national energy planners)	37,02	13

Water resources	Inadequate access to long-term meteorological data that limit rainfall-runoff modelling for the rivers and floodplains (national water resource planners, researchers)	36,62	14
Agriculture/ food security	Lack of knowledge on the sensitivity of agro-ecological zones across the sub-region to historic and future climate change (Ministry of Agriculture: crop production departments, national level extension planners)	36,55	15
Forestry and Biodiversity	Lack of policy relevant information on the impacts of climate change on forestry, biodiversity and structure , functions and provisions for ecosystems (Ministry responsible for Forestry, biodiversity)	36,21	16
Agriculture/ food security	Lack of information on technology related with food storage techniques as a strategy to reduce post harvest losses and improve the use of available food, (small-holder farmers)	34,69	17
Agriculture/ food security	Gap in knowledge on future carrying capacities of rangelands and how they may be influenced by climate change and variability (Livestock farmers)	34,53	18
Water resources	Limited access to information on arid and semi-arid areas for water resources management in the context of a changing climate (National, subnational and local , water resources planners)	34,12	19
Agriculture/ food security	Gap in knowledge on future carrying capacities of rangelands and how they may be influenced by climate change and variability (Ministry of Agriculture (national extension officers)	33,66	20
Forestry and Biodiversity	Lack of information on access to climate finance for implementing afforestation programmes (forest managers)	33,62	21
Forestry and Biodiversity	Lack of sufficient knowledge on conservation options under different climate scenarios (Local communities dependent on biodiversity and ecosystem services)	33,4	22
Forestry and Biodiversity	Limited access to knowledge about On-farm Agroforestry innovation that enhance resilience to climate change (Small-holder farmers)	33,05	23
Agriculture/ food security	Inadequate understanding of climate induced changes in rangeland/grassland dynamics (Ministry of Agriculture/relevant ministry)	32,59	24
Forestry and Biodiversity	Lack of sufficient knowledge on conservation options under different climate scenarios for ecosystems, including forests and coastal zones. (Ministry of Environment: biodiversity planners, Protected areas managers)	31,28	25

ANNEX IV: List of participants and MSG members

Participants	Role
<ul style="list-style-type: none"> • Dr Youssef Nassef (UNFCCC Secretariat) • Rojina Manandhar (UNFCCC Secretariat) • Dr Barney Dickson (UNEP) • Toshiko Ohga (UNEP) 	Co-convenors
SouthSouthNorth, represented by: <ul style="list-style-type: none"> • Dr Webster Whande • Simbisai Zhanje • Monica Schlottau 	Sub-regional coordination entity
<ul style="list-style-type: none"> • Dr Leo Zulu 	Facilitator of the priority setting workshop
<ul style="list-style-type: none"> • Kulthoum Omari 	

List of MSG members

Name	Designation	Organisation
Dr Leonard Unganai	Project Manager – UNDP/GEF: Scaling up adaptation in Zimbabwe	Oxfam, Zimbabwe
Dr Arthur Chapman	Hydrologist	Private consultant
Dr Patience Mutopo	Senior Lecturer, Centre for Development Studies	Chinhoyi University of Technology, Zimbabwe
Dr Madaka Tumbo		
Timothy Gatora	Programme Officer – Climate Change	Southern African Development Community (SADC) Secretariat
Prof. Nnyaladzi Batisani	Lead Researcher, Environment and Climate Change	Botswana Institute for Technology Research and Innovation (BITRI)
Tega Shivute	Consultant	Desert Research Foundation of Namibia (DRFN)
Prof Sosten Chiotha	Regional Programme Director	Leadership for Environment and Development (LEAD) Southern and Eastern Africa
Nompumelelo Ntshalintshali	Principal Water Development Analyst	Department of Water Affairs, Mbabane, Swaziland
Moliehi Shale	Programme Manager	Shared Value Africa