ACCRA
AFRICA CLIMATE CHANGE RESILIENCE ALLIANCE

A report for the Africa Climate Change Resilience Alliance

Planning for an Uncertain Future

Promoting adaptation to climate change through Flexible and Forward-looking Decision Making

Lindsey Jones, Eva Ludi, Elizabeth Carabine, Natasha Grist

Aklilu Amsalu, Luis Artur, Carina Bachofen, Patrick Beautement, Christine Broenner, Matthew Bunce, Janot Mendler de Suarez, William Muhumuza, Pablo Suarez and Daniel Zacarias

March 2014

Cover photo: Thomas White, Kampala, Uganda

Planning for an Uncertain Future

Promoting adaptation to climate change through Flexible and Forward-looking Decision Making

Lindsey Jones, Eva Ludi, Elizabeth Carabine, Natasha Grist

Aklilu Amsalu, Luis Artur, Carina Bachofen, Patrick Beautement, Christine Broenner, Matthew Bunce, Janot Mendler de Suarez, William Muhumuza, Pablo Suarez and Daniel Zacarias

March 2014

Published by ODI 2014
203 Blackfriars Road, London SE1 8NJ, UK

Copyright © ODI, 2014

Readers are encouraged to quote or reproduce material from this report for their own publications, as long as they are not being sold commercially. As copyright holder, ODI requests due acknowledgement and a copy of the publication.

The views and opinions presented in this report are those of the authors and do not necessarily reflect those of ODI, ACCRA, ACCRA consortium members and affiliates, DFID or the alliance members of CDKN.

Photography by Thomas White, Kampala, Uganda

Designed by Nicky Barneby @ Barneby Ltd
Edited by Roo Griffiths
Printed by Copyprint UK Ltd, London

ISBN 978 1 909464 63 6

ACCRA – the Africa Climate Change Resilience Alliance – is a research, advocacy and capacity building consortium of Oxfam GB, the Overseas Development Institute (ODI), Care International, Save the Children and World Vision International. It works in Mozambique, Uganda and Ethiopia.

ACCRA research and capacity building was supported by Red Cross/Red Crescent Climate Centre and The abaci Partnership.

ACCRA is funded by the UK Department for International Development (DFID).

Game design was supported by the Climate and Development Knowledge Network (CDKN), funded by the UK Government and the Netherlands Directorate-General for International Cooperation (DGIS).

Table of contents

Acknowledgements vi

Abbreviations and acronyms vii

Figures viii

Tables ix

Boxes x

Executive summary xi

1. Introduction 1

2. Background and context 5

2.1 Objectives of ACCRA Phase 2 research 8
2.2 What is FFDM and why is it important? 8

3. Game-enabled reflection as a tool to promote FFDM 11

3.1 Game component of the game-enabled reflection approach 13
3.2 Reflection component of the game-enabled reflection approach 14
3.3 Evolution of the game-enabled reflection approach and ACCRA workshops 15

4. Research methods 19

4.1 Political economy analysis 21
4.2 Baseline key informant interviews 22
4.3 Quantitative panel survey 22
4.4 Follow-up interviews 24
4.5 Internal consultation and consolidation 24
4.6 Limitations of the research process 24

5. Results 27

5.1 Uganda 29
5.2 Ethiopia 36
5.3 Mozambique 41

6. Discussion and analysis 49

6.1 Understanding the context 51
6.2 Workshop delivery and its perception 52
6.3 Common themes across the three countries 54

7. Learning and critical reflections 59

7.1 Key lessons learnt 61

8. Conclusions and recommendations 65

8.1 Conclusions 67
8.2 Recommendations 68
8.3 Practical options for introducing FFDM in organisational structures and processes 69

References and Appendices 71

Acknowledgements

The authors would specifically like to acknowledge the contributions and inputs of the many women, men and children involved in the delivery of ACCRA's research in: Kotido, Uganda; Gemechis, Ethiopia; and Guijá, Mozambique.

Valuable insights, support and comments were also received from across the ACCRA team through Saskia Daggett and Dorcas Apio (ACCRA International), Charlotte Stemmer and Medhin Fissha (ACCRA Ethiopia), Melquisedec Gomes da Silva and Saide Anlaue (ACCRA Mozambique), and Margaret Barihaihi and Tracy Consolate Kajumba (ACCRA Uganda).

We also acknowledge the invaluable inputs provided by the facilitators that helped to successfully run the game and reflection sessions during the workshops.

Thanks also to Ben Norskov, Ida Benedetto and Mohini Dutta of Antidote for developing the game.

Useful inputs were also received from ACCRA steering group members Chris Anderson and Martin Rokitzki (Oxfam GB), Nidhi Mittal and Lydia Baker (Save the Children), Karl Deering and Catherine Pettengell (Care International), and Jason Garrett and Maggie Ibrahim (World Vision).

Finally, the authors are indebted to reviews done by Courtenay Cabot Venton, Salvatore Di Falco, Maren Duvendack, Jessica Hagen-Zanker, Simon Levine, Tom Mitchell and Josephine Tucker.

Every effort has been made to faithfully reflect the responses of interviewees for the analysis of this report. However, any inferences made must remain the sole responsibility of the authors.

Abbreviations and acronyms

ACCRA	Africa Climate Change Resilience Alliance
CCA	Climate Change Adaptation
CSO	Civil Society Organisation
DFID	Department for International Development
DRR	Disaster Risk Reduction
FFDM	Flexible and Forward-looking Decision Making
GTP	Growth and Transformation Plan
HIV	Human Immunodeficiency Virus
IUCN	International Union for Conservation of Nature
LAC	Local Adaptive Capacity
M&E	Monitoring and Evaluation
NGO	Non-governmental Organisation
ODI	Overseas Development Institute
PEA	Political Economy Analysis
PEDD	Plano Estratégico de Desenvolvimento Distrital (Strategic District Development Plan)
PESOD	Plano Económico, Social e Orçamento do Distrito (District Economic, Social and Budget Plan)
PQG	Plano Quinquenal do Governo (Five-year Plan)
RCCC	Red Cross/Red Crescent Climate Centre
SWOT	Strengths, Weaknesses, Opportunities and Threats

Figures

Figure 1: The Local Adaptive Capacity (LAC) framework 7

Figure 2: FFDM ways of working matched onto the ACCRA LAC framework 9

Figure 3: One of five posters detailing desired adaptive FFDM behaviours 15

Figure 4: Timeline of ACCRA's research activities 22

Figure 5: Map of Kotido district, Uganda 29

Figure 6: Uganda survey - characteristics of participants 31

Figure 7: Breakdown of responses across three rounds of surveys in Uganda 31

Figure 8: Likelihood of positive change in Uganda participants' jobs and district development planning generally 32

Figure 9: Future changes most likely to have an impact on the district's development up to 2030 in Uganda survey responses 33

Figure 10: Perceived constraints to FFDM in district development planning before and after the workshop in Uganda survey responses 34

Figure 11: Map of Gemechis *woreda*, Ethiopia 35

Figure 12: Ethiopia survey – characteristics of participants 37

Figure 13: Breakdown of responses across three rounds of surveys in Ethiopia 37

Figure 14: Likelihood of positive change in Ethiopia participants' jobs and district development planning generally 38

Figure 15: Future changes most likely to have an impact on the district's development up to 2030 in Ethiopia survey responses 39

Figure 16: Perceived constraints to FFDM in district development planning before and after the Ethiopia workshop 40

Figure 17: Map of Guijá district, Mozambique 41

Figure 18: Mozambique survey – characteristics of participants 43

Figure 19: Breakdown of responses across three rounds of surveys in Mozambique 43

Figure 20: Likelihood of positive change in Mozambique participants' jobs and district development planning generally 44

Figure 21: Future changes most likely to have an impact on the district's development up to 2030 in Mozambique survey responses 45

Figure 22: Perceived constraints to FFDM in district development planning after the workshop from coded Mozambique survey responses 46

Figure 23: Participant workshop evaluation responses from Ethiopia, Mozambique and Uganda 52

Figure 24: Participant responses on innovative nature of workshop from Ethiopia, Mozambique and Uganda 52

Figure 25: Perceptions of the game's usefulness in exploring FFDM (post-survey) 53

Figure 26(A–D): Breakdown of survey responses for participants across three survey rounds in Ethiopia, Mozambique and Uganda 55–56

Figure B1: Examples of Development Cards 78

Figure B2: District Development Tracker 79

Figure B3: Event Cards 79

Figure B4: Reviewing games strategy to assess ways of winning 80

Tables

Table 1: Workshop activities to raise awareness of FFDM ways of working 14

Table 2: FFDM behaviours experienced through gaming 17

Table 3: Exploring the 'wiggle room' for doing things differently through exercises 17

Table 4: Overview of mixed methods approach 21

Table 5: Numbers of participants during different stages of the ACCRA research in Kotido 30

Table 6: Numbers of participants during different stages of the ACCRA research in Gemechis 36

Table 7: Numbers of participants during different stages of the ACCRA research in Guijá 42

Table A1: Mean, standard deviation and median participant responses across three survey rounds 74

Table A2: Levels of statistical significant in responses across all survey rounds – Friedman test 75

Table A3: Levels of statistical significance in responses in paired surveys – Wilcoxon test 75

Table A4: Significant differences in responses by Ethiopia participant characteristics 76

Table A5: Significant differences in responses by Mozambique participant characteristics 76

Table A6: Significant differences in responses by Uganda participant characteristics 77

Boxes

Box 1: FFDM ways of working 9

Box 2: Characteristics and practical questions for reflecting on the degree to which decision making is flexible and forward-looking 10

Box 3: Experience of running the game-enabled reflection approach with young people in Maputo, Mozambique 16

Executive summary

CHANGE AND UNCERTAINTY are at the heart of development. Ever-shifting development trajectories require planning processes that move away from fixed targets and short-term planning cycles.

Yet many development actors (whether governments, donor agencies, non-governmental organisations (NGOs) or businesses) continue to plan for the near term, assuming 'normal' conditions, with little room for manoeuvre or contingency. Three- to five-year planning and funding cycles remain the norm, with consideration of consequent long-term implications for investments rare.

The need for decision making that is flexible, forward-looking and able to adapt to the unexpected is therefore clear. One approach for achieving this is 'flexible and forward-looking decision making' (FFDM). But what it is it, and how can it be operationalised in practice?

In its simplest terms, FFDM is defined as the ability to anticipate, incorporate and respond to changes with regard to governance, structure and future planning. To deal with uncertain futures, FFDM cannot base its decisions solely on evidence from past or existing capabilities and structures; it must also consider possible futures.

Although the operationalisation of FFDM is context-specific, and there are many different pathways to achieving it, in practical terms decision making is flexible and forward-looking when it:

- Recognises that change will happen and requires adaptation, but that the specific direction and magnitude of change, as well as the implications for development trajectories, are uncertain.
- Is able to consider and reason about the impacts of different drivers of change on development trajectories and plans accordingly in order to maintain progress.
- Can identify enablers and initiate steps to overcome barriers to adaptation.
- Can, where needed, make changes to structures and planning processes to implement adaptation effectively, whether incremental or transformational.

However, a transition towards supporting FFDM is likely to face significant obstacles. In some cases, it will require a complete transformation and an overhaul

Key Messages

- Despite change and uncertainty being at the heart of development, many actors continue to plan for the near-term with little room for manoeuvre or contingency. Three- to five-year planning and funding cycles remain the norm. A move towards promoting more Flexible and Forward-looking Decision Making (FFDM) is therefore crucial.
- As a concept, FFDM is relatively straightforward to understand. In practice, though, it is often hard to relate to complex real-world problems. We therefore need new approaches to help communicate and promote the principles that make up FFDM to development practitioners.
- FFDM need not be seen as a stand-alone approach, but the principles of FFDM can and should be embedded in other relevant approaches such as those focusing on resilience-building, climate change adaptation or sustainable development.
- Innovative tools that encourage two-way exchange of knowledge and experiential learning can help in communicating abstract concepts. ACCRA trialled a "game-enabled reflection approach", combining serious games with structured reflection sessions.
- Understanding the political-economy context, ensuring political buy-in and identifying 'champions of change' are key for promoting the uptake and implementation of FFDM in development policy and practice.
- Effective promotion of the principles of FFDM requires fundamental changes to the way that development is thought about, funded, implemented and evaluated. It cannot simply be left to those at the receiving end of development funds to ensure their interventions are promoting FFDM.
- Trialling and researching innovative experiential tools require a balance between allowing the approach to evolve and improve to achieve the highest possible capacity building outcomes, and focusing on consistency of the approach itself and how it is implemented to ensure high-quality rigorous research.

of current practices, recognising that organisational structures, mindsets, priorities and incentives of development actors are deeply ingrained and often slow to change. Promoting principles of FFDM within development policy will also require tailored guides, participatory tools and practical case studies to help ensure successful uptake and implementation.

This report documents the activities of the Africa Climate Change Resilience Alliance (ACCRA) in seeking to strengthen FFDM among district development actors. It describes research carried out while trialling an innovative and interactive tool to promote FFDM – a 'game-enabled reflection approach' – accompanied by capacity-building activities. ACCRA undertook case studies at the district level in three countries, namely, in Kotido, Uganda, in Gemechis, Ethiopia, and in Guijá, Mozambique. Building on these three case studies, this report outlines key findings and makes recommendations on how to better support decision-making processes for an uncertain future. It does so in view of helping to understand the use of FFDM as well as the effectiveness and limitations of a game-enabled reflection approach.

The ACCRA programme and its objectives

ACCRA is a consortium of five development partners – Oxfam GB, the Overseas Development Institute (ODI), CARE International, Save the Children and World Vision International. Established in 2009, it engages in research, capacity building and advocacy in Ethiopia, Mozambique and Uganda, working with governments, NGOs/civil society organisations (CSOs) and communities.

In seeking to support adaptive capacity at the local level (in this context the term 'local' refers to actors and processes that operate at the community level and below), ACCRA's research team in Phase 1 sought to understand what makes a community able to adapt to change. This resulted in the development of the Local Adaptive Capacity (LAC) framework (see Jones et al., 2010). Building on previous literature, and validated through nine district case studies across the three ACCRA countries, the LAC framework describes five key characteristics of local adaptive capacity: the asset base; institutions and entitlements; knowledge and information; innovation; and forward-looking and flexible decision making and governance.

To apply the learning from Phase 1 (see Levine et al., 2011), ACCRA chose to trial a hands-on approach in support of adaptive capacity. Findings from ACCRA's earlier research pointed to a need to support district development actors where tools and guidance for enhancing capacity were either inadequate or absent. Recognising that promoting five different characteristics of adaptive capacity through a single tool may be a challenge, and that all five characteristics are interrelated, the consortium opted to focus primarily on one: FFDM.

As a concept, FFDM is relatively straightforward to understand. In practice, though, it is often hard to communicate and to relate to complex real-world problems. We therefore need new approaches to promoting the principles that make up FFDM. One solution comes in the form of 'serious games' supported by tools to initiate reflection on how to relate principles of FFDM experienced during the game to the real world. Through a partnership with the abaci Partnership and the Red Cross/Red Crescent Climate Centre, ACCRA developed a 'game-enabled reflection approach' to promoting FFDM.

The game-enabled reflection approach was tailored for district-level planners and developed into a two- to three-day workshop, accompanied by capacity-building activities. The objective of ACCRA's research component was therefore to design, trial and document this approach to promoting FFDM with district development planners in each of the three ACCRA countries. This was done with the intention of gaining a better understanding of the merits and limitations of an emerging and little researched approach in the context of climate change adaptation (CCA).

A game-enabled reflection approach

'Serious' games can elicit experiential knowledge of complex real-world problems in a memorable, fun and compelling way. A game-enabled reflection approach was chosen because it is able to simulate a system of changing conditions, plausible decisions and related outcomes without having to go through a potentially risky process of actual trial-and-error.

One thing is clear, however: running games without structured reflection will not confer the knowledge and skills needed to act on the lessons learnt during gameplay. Because conditions in all three countries were not immediately conducive to adopting the principles of FFDM straight into the existing policy environment (largely because of rigid planning structures set out by central government), desired behavioural changes were promoted by combining capacity building in the LAC framework with game sessions and in-depth reflection. Having first introduced the FFDM principles and desired behaviours, participants then experienced working in an FFDM way by playing the game – and in the next step

started to think how they might use the insights gained in their line of work.

Game playing needed to be embedded in reflection sessions to help players understand the 'wiggle room' (i.e. the scope for freedom of action or thought) available to them in the real world, and weigh the challenges and opportunities in collectively moving towards FFDM ways of working. This 'wiggle room' is context-dependent, but may include autonomy to explore new partnerships; seeking information and advice from external sources; greater collaboration across sectors, across districts or between districts and national levels; pooling resources; and drawing up contingency plans. Each of these can often be done within the context of otherwise rigid central structures, top-down planning systems and lack of resources.

While a game will not, without being impossibly complex, expose players to the full range of FFDM behaviours and potential ways of working, these are some of the desirable outcomes that can be stimulated by a game-enabled reflection approach:

- Imagining and considering possible (not just probable) futures over long timescales;
- Appreciating that decisions taken in isolation are usually suboptimal;
- Understanding that there is seldom a single 'right' answer;
- Accept the inevitability of short-term shocks and long-term pressures;
- Realising that FFDM ways of working involve not only the district level but also collaboration across institutional, governance and sectoral boundaries;
- Experiencing the benefits of doing more with less (discovering synergies);
- Gaining confidence in exploring FFDM ways of working, that is, experimenting with different strategies over the course of the game and raising difficult issues in a safe space;
- Appreciating that there are many ways in which success can be measured or judged.

Evolution of ACCRA's game-enabled reflection approach

The workshop methodology evolved from Uganda to Ethiopia and finally Mozambique, and reflects the research and facilitation team's learning of what works well and what works less well. The workshop was delivered in the three countries at different times relative to the annual planning cycle, thus insights gained could not necessarily be applied immediately in planning processes. It was not designed as a standalone product; it was always envisaged that it would be accompanied by focused capacity-building activities. Finally, the three countries' socio-political and cultural contexts are very different, which may have influenced the workshops' outcomes and impacts considerably.

ACCRA's research and methods

Understanding the characteristics of adaptive capacity is far from easy. Adaptive capacity (i) is context-specific; (ii) is largely intangible (key enablers of adaptive capacity, such as power or agency, are often difficult to observe); and (iii) has no commonly agreed means of measurement. No single research tool or method is adequate to identify whether and how ACCRA's activities have influenced the decision-making processes of local governments – and in the process enhanced their and their constituents' adaptive capacity. Both qualitative and quantitative methods are needed, as outlined in the table below. In applying this mixed methods approach, the research team sought to analyse and document the impact of the game-enabled reflection approach, and accompanying capacity-building activities, in the context of ACCRA's three country case studies. (See Table on page xvi)

Although a multi-methods approach is desirable for assessing the impact of capacity-building activities, it is not without its caveats:

1. Surveys, to be able to produce meaningful results, should include a large number of participants. As only a limited number of participants attended the FFDM workshops, the extent to which it was possible to draw robust conclusions is limited. This does not diminish the intrinsic value of the information gathered.
2. Although the research methodology and timelines were designed so they could be carried out in a similar manner in each country, this was not always possible, owing to contextual, political and in some cases natural factors (severe flooding required the rescheduling of activities in Mozambique). Drawing direct comparisons of findings across countries is thus difficult.
3. Although they have many uses, surveys cannot capture all of the nuances in understanding different interpretations and applications of the workshop. Respondents might not always fully understand the question, might be rushed, might answer to meet what they assume to be the researcher's expectations or might answer strategically to better address their own needs.

Overview of mixed methods approaches adopted by ACCRA's research team

Research tool	Format	Sequencing	Purpose
Political economy analysis	Qualitative	Three to five months before workshop	Understand background and district planning and decision-making context
Baseline key informant interviews	Qualitative	One to two weeks before workshop	Unpick existing policy landscape and structures
Panel surveys	Quantitative	Three rounds: pre-workshop (immediately before), post-workshop (immediately after) and follow-up (five to nine months after)	Measure perceived changes among workshop participants over time
Follow-up interviews	Qualitative	Five to nine months after	Explore drivers of change in district decision-making processes
Internal consultation and consolidation	Qualitative	Subsequent to all three country workshops	Validate experiences and outcomes across the three study countries

4. Although the results of both the quantitative and the qualitative research show that a game-enabled reflection approach can communicate complex issues to lay audiences, as noted by participants in the Guijá workshop, Mozambique:

   'The workshop strengthened our thoughts and initiatives and planning – but is not the sole cause of the changes.' (Director of Health, Guijá district, 2013)

   '[The workshop] reinforced what people were already doing in response.' (Director of Agriculture, Guijá district, 2013)

Attributing observed change solely to the workshop is impossible. Furthermore, the time period between the workshop and the follow-up qualitative research was too short to see concrete examples of change in, for example, district plans.

While taking account of the challenging and constantly evolving policy environment, and despite the above caveats, the research and facilitation teams did their best to maintain rigour and robustness in the research process.

Understanding the context in each of the research sites

Although the three countries in which ACCRA is working are distinct in many aspects – climatically, economically and politically – findings from the political economy analysis point to a number of similar challenges influencing the applicability of FFDM principles at the district level.

1. **Top-down planning and decision making.** Although many government functions are devolved to lower administrative levels, major decisions are taken at national level, with limited scope for adaptation to district or community realities. For example, the Ethiopian five-year development plan defines targets the country wishes to achieve. District development plans are prepared in line with this national plan and its priorities and targets. A central characteristic of this top-down system relates to funding mechanisms. Lower administrative units, especially districts, typically do not raise their own funds through taxation, but rely on centrally administered block grants, often clearly earmarked for specific investments in key development sectors (such as agriculture, rural infrastructure, water supply, education, health etc.) but rarely for crosscutting issues such as disaster risk reduction (DRR). As highlighted in the case of the Kotido workshop, Uganda:

   'We are not really in charge of our plans and budgets. Every Ministry sends its own guidelines.' (District Chairperson, Kotido district, 2013)

2. **Lacking agency and ownership of development initiatives at district level.** Limited opportunities exist to adapt district plans to include new priorities or approaches in the face of sudden shocks (like flooding) or gradual stresses (like shifting patterns of rainfall). This is particularly problematic for issues relating to climate change and resilience, given their cross-sectoral nature and consequent exclusion from national priority areas.
3. **Lacking awareness and incentives for action on adaptation and DRR.** This is perhaps the largest barrier to motivating district governments to adopt FFDM-related principles within longer-term planning processes. Not only is the structure of planning cycles rigid (i.e. districts receive budgets only for certain activities and plan for 'business as usual', generally over annual cycles), but also issues of adaptation, DRR or resilience are not included in the evaluation of a district's 'success' in delivering on targets. Unsurprisingly, district governments in each of the three countries are appraised against central priorities, with performance criteria concentrating on outputs

(e.g. numbers of water points installed) instead of outcomes (e.g. health improvements resulting from increased access to safe water), sustainability or impact. Given the cross-sectoral and often intangible nature of promoting adaptive capacity or supporting DRR activities, FFDM-related indicators are lacking in monitoring and evaluation and performance assessment criteria.

ACCRA's research findings

Recognising that there are differences in the context and implementation of the workshop in each of the three countries, a number of common findings emerged from the research:

1. **A game-enabled reflection approach can help in communicating FFDM to development practitioners.** Overall, the game-enabled reflection approach did well in bringing across the need to ensure decision making can deal with change and uncertainty. It also proved a useful tool for communicating a new and somewhat abstract concept to development practitioners at the district level. Common examples of how ACCRA's intervention helped inspire action included broader understandings of decision making in the planning processes, greater promotion of cross-sector working and information sharing and awareness raising of the risks of climate change and wider development drivers. In Uganda, closer links have been established between Kotido district and the Natural Resource Department responsible for the dissemination of weather forecasts:

   'Now [weather forecasts] come monthly. The Chief Administrative Officer has made it a necessity for them to be disseminated to all local officials.' (Senior Education Officer, Kotido district, 2013)

   However, although all three countries registered a sharp spike in participant's confidence in relation to understanding FFDM immediately after the workshop, levels waned slightly during the follow-up evaluations. There was also clear evidence of the need for longer-term support in helping local development actors in operationalising FFDM.
2. **Participants associate FFDM with collaboration and integration, rather than flexibility and planning for future change.** Although respondents generally perceived FFDM to be difficult to operationalise, they nevertheless saw areas where they could take action and put some of the principles into practice. In follow-up qualitative interviews, all respondents demonstrated some basic understanding of what FFDM was and could imply for district planning, with varied levels of understanding. Several months after the workshop, many participants were found to understand FFDM mainly as collaborating with colleagues and across sectors: '*we saw the need to work together*' (Director of Health, Guijá district, 2013). Although it is equally important, it was less common to hear interviewees mention flexibility to be able to deal with unexpected changes as something they had retained of the principles of FFDM and would try to apply in their daily work.
3. **There were similar impacts across different social groups.** Interestingly, only rarely did participants' characteristics, such as age, sector of work or number of years spent working in the district, lead to a significant difference in the survey responses.

Learning and critical reflections

From the wealth of knowledge gained over two years of ACCRA research and capacity building, valuable lessons have been learnt on how to promote and incentivise real change. Among others, these relate to how to package and communicate complex and abstract conceptual messages to reach development practitioners; novel means to bring together different stakeholders to inspire collaboration and coordination; and methods for conducting research to measure impact in challenging (and constantly evolving) policy environments.

Some of these lessons echo long-standing principles of development research, contributing to an expanding body of literature (e.g. the need to recognise local and district context, including language, for effective delivery, or the role of 'champions of change' in promoting new initiatives). Others are relatively new to the field, and may require further exploration and elaboration, in particular which tools are best suited to effectively communicate complex and abstract concepts such as FFDM, or how best to organise a 'game-enabled reflection approach' for strengthening adaptation.

Below we describe a number of key lessons that arose:

1. **Communicating an abstract concept to a lay audience is difficult, but can be enabled through innovative experiential learning and reflection tools.** Insights from both the qualitative and the quantitative research indicate that many workshop participants struggled to relate to the different components of FFDM, instead associating it solely with collaboration, coordination or mainstreaming. One important lesson learnt was that activities that support greater flexibility and forward-looking decision making are largely context-specific: what works in one context may not have the

same results in another. As FFDM does not follow a single path, care must be taken to ensure the messages communicated in promoting it (or any other abstract concept) are not only palatable but also conducive to the diversity of pathways for achieving it in different contexts.

Another learning point was the need to provide better links between the concept of FFDM and ACCRA's LAC framework. The LAC describes adaptive capacity as comprising five 'distinct yet interrelated' characteristics, as described earlier. While people may be relatively comfortable with one conceptual framework, trying to impose and communicate two theory-laden concepts has distinct challenges.

2. **Understanding the district context, ensuring political buy-in and identifying 'champions of change' are key for promoting FFDM.** District officials in all three countries do have some space for putting the principles of FFDM into practice, that is, utilising the 'wiggle room' available (e.g. by collaborating more strongly across sectoral boundaries). Examples of attempts to exploit this 'wiggle room' can be seen in the case of West Haraghe, Ethiopia:

   '[After the workshop] we increased involvement of the community in the identification and prioritisation of district problems. In addition, the planning process now considers future challenges and problems in anticipation. For example, the district's emergency plan was previously prepared based on prevalent disaster risks – after the disasters occurred. But we now use weather forecast information, and preparation of the emergency plan is carried out not only based on what is prevailing but also in anticipation of potential hazards.' (Zonal Official, West Hararghe, 2013)

   However, opportunities like these quickly reach their limits unless active support and buy-in from top-tier decision makers and political leaders is guaranteed. Because adopting the principles of FFDM implies such a fundamental departure from business-as-usual ways of district planning and decision making, the role of 'champions of change' is central to its success. Without committed decision makers and political leaders – at the district and especially at higher administrative levels – change is unlikely to occur and planning will continue to be carried out in a rigid and short-term manner.

3. **Evaluating new approaches often requires difficult trade-offs between research and capacity building.** The aim of ACCRA's research was twofold – to enhance local adaptive capacity by trialling a game-enabled reflection approach to promote FFDM; and to document any impact the approach may have on district decision making. This meant the research team faced a number of difficult trade-offs. Almost all of these boiled down to two decisions: on the one hand allowing the design of the game-enabled reflection approach to evolve and improve as each iteration was developed and implemented in-country; and on the other hand ensuring high-quality rigorous research – which implies consistency of the approach itself and how it was implemented in each of the three case study areas. This 'give and take' influenced every part of the research and capacity-building process, from selection of workshop sites and timing to sequencing of sessions within the game-enabled reflection approach, and tailoring the design of quantitative surveys.

4. **Successful and sustainable interventions require considerable and well-timed investment.** Is a game-based reflection approach suitable to promoting FFDM? Yes, but only if it is carried out with sufficient time and resources and if it is followed through in full. Responses from the qualitative and the quantitative research indicate that participants considered the approach innovative, and different to the standard forms of capacity building delivered at the district level (typically workshops or meetings). However, coordination of such an innovative activity is not straightforward. The design process must ensure the approach promotes the right messages, is succinct enough to maintain levels of interest and attention over two to three days and resonates with the intended audience. To ensure a new approach is really going to have the desired effect, soliciting inputs from partners during the design phase, field testing (trialling the approach with a small group beforehand), translation and extensive training of facilitators are likely to be required. Finally, finding the right balance of game play and reflection sessions is essential: game play builds confidence in understanding the principles of FFDM, and reflection sessions enable learning on how to apply them in practice to drive institutional and policy change. Each of these activities adds significantly to the resources, inputs and coordination needed.

5. **Changing perceptions and institutional structures is a gradual process, requiring continued support.** A government or organisation's existing structures, as well as a person's values and perspectives, are deeply woven into existing ways of working. Bringing about change through an external intervention – whether promoting FFDM or encouraging gender mainstreaming – rarely happens overnight, in many cases requiring long-term and targeted support. What makes it hard (but not necessarily unique) to encourage FFDM in practice is the intangibility of many of its processes and the difficulty in measuring progress.

   An important piece of learning is that delivery of development research has to be flexible and

forward-looking in and of itself, particularly when aiming to trial and refine a new approach or innovative tool. If delivering research is the sole aim, then much will be lost in terms of enhancing the capacity-building process. Although ACCRA's research may not be able to provide empirical evidence to attribute change *solely* to the game-enabled reflection approach (as envisaged at the outset), it does provide useful preliminary evidence of what does and does not work in the delivery of a new tool in an area that has seen little prior research. Alongside further evidence and testing, findings from ACCRA's research can help shape a stronger vision of how to better support adaptive capacity at various levels of decision making.

Conclusions

Decision making, even under normal circumstances, is a tough job. Add climate change-related uncertainties and it becomes even harder. Decision makers have to not only confront difficult problems, but also operate under difficult conditions. Thus, district-level decision makers need tools that help them deal with complexity in a flexible manner and also allow them to consider potential future threats – climate-related and otherwise.

ACCRA and its partners addressed precisely this need, by developing a game-enabled reflection approach focusing on FFDM in a complex and uncertain environment. This approach showed great potential for enabling district-level decision makers to experience outcomes of decision making in a safe environment and under a range of time horizons and uncertainties. The combination of gameplay and reflection sessions, whereby insights from experiences during the game were discussed and reflected on in relation to 'real-world challenges', allowed for in-depth learning and hands-on exposure to FFDM principles.

The research accompanying ACCRA's activities in Ethiopia, Mozambique and Uganda provides the evidence that impact is possible and decision makers can be sensitised to deal with complex issues and future uncertainties. Low sample sizes, lack of baseline information and insufficient knowledge about external interventions in each of the districts made the job of attributing observed changes directly to ACCRA interventions difficult (if not impossible). Nevertheless, by combining qualitative and quantitative data, the research was able to demonstrate that ACCRA's interventions certainly had a role to play in supporting greater awareness of the need for FFDM among district decision makers.

Insights from ACCRA's research also point to how traditional understanding of adaptation planning can be enhanced through greater recognition:

- That principles of adaptation extend beyond climate change and need to consider other changing conditions;
- Of the importance of bridging the national with the local, in particular with regard to incentive structures, target setting and planning cycles;
- That there will always be uncertainty and that precise information about the future is not always available; and
- That considering alternative pathways and contingencies is important to prevent mal-adaptive development trajectories.

In order to have impact and address the often deep-rooted barriers to more flexible and forward-looking district-level decision making, a game-enabled reflection and learning approach should be (i) tailored to local and district contexts; (ii) done over a longer period accompanied by ongoing capacity building; and (iii) supported and bought into by top-tier decision makers and political leaders.

Recommendations

To achieve all of this, based on our learning and on insightful comments received from ACCRA consortium members, partners and district-level workshop participants we recommend the following:

Recommendation 1: Development partners need to experiment with and use experiential tools that help communicate the complexities of planning for change and uncertainty. There is tremendous value in communicating abstract concepts and frameworks that help unpack complex issues such as adaptive capacity or resilience through the lens of FFDM. We also recognise that a game-enabled reflection approach is not the only way of promoting FFDM, and more research will be needed to explore the merits and limitations of other approaches.

However, three key lessons are important. First, capacity cannot be built without continuing support. In addition, although the communication of complex issues such as FFDM appears to resonate with all stakeholders, attention needs to be paid to connecting what can be done in conceptual terms with real-world suggestions on how this can be implemented in practice. Second, contextualisation and support in thinking through the implications for adaptive capacity of putting FFDM into practice are far harder to facilitate. There is a need for

considerable technical support and guidance from actors both within and outside of the NGO community. Third, ACCRA's game-enabled reflection approach is but one tool that can help communicate the merits of FFDM as a means to strengthen capacity.

Recommendation 2: Development actors need to pay more attention to understanding and appreciating the political economy of the surrounding context. Gaining a better understanding of barriers to and opportunities for FFDM means identifying potential 'champions of change' who can drive the process forward, and identifying windows of opportunity, either in relation to the existing planning process that might offer specific opportunities to introduce novel ideas around FFDM, or offered by national development processes that might help raise issues otherwise difficult to introduce.

Recommendation 3: All characteristics of adaptive capacity need to be better promoted within development policy and practice. Linking principles of FFDM more strongly with the other characteristics of adaptive capacity described under the LAC framework would enable decision makers to assess the different dimensions of the LAC framework and how far they support or hinder flexibility and longer-term thinking. Such an integrated approach is also recommended as many of the FFDM principles specifically target the areas where LAC dimensions overlap – for example, using climate information to inform the distribution and allocation of critical assets, or supporting innovation to identify suitable livelihood options in a rapidly changing economic and social environment.

Recommendation 4: All development actors need to move towards incorporating principles of FFDM into their programming and operations; it's not simply a tick-box approach. Effective promotion of the principles of FFDM requires fundamental changes to the way development is thought about, funded, implemented and evaluated. It cannot simply be left to those at the receiving end of development funds to ensure their interventions are promoting FFDM by means of a simple guideline or checklist. Rather, a wide range of organisational structures and processes need to open up opportunities for encouraging the uptake and application of FFDM principles among all key actors: from redefining roles, responsibilities and incentive systems to recruitment and training and defining specific indicators for monitoring and evaluation (M&E).

FFDM has many potential overlaps with recent debates about operationalising resilience. Ensuring organisations are abiding by the principles of FFDM is a requirement for resilient organisations – those that are able to thrive in the face of change and uncertainty. In practice, this can be done in many ways, not just through promoting tools that help communicate and enable an understanding of FFDM principles, but also through incorporating crucial aspects into M&E systems.

One way of changing behaviour among development partners and ensuring two-way communication is to promote co-exploration and co-production of knowledge, which involves jointly understanding the needs and realities of those involved in or affected by an issue and working up solutions together. Such approaches also require actors to be cognisant of power and power relationships. If done well, a game-enabled reflection approach should embody the key principles of co-exploration and co-production such as jointly defining the issue at stake, sharing experiences and knowledge from the perspective of the workshop participants and workshop organisers and identifying solutions together.

Practical options for introducing FFDM in organisational structures and processes

Promoting FFDM requires actions on the part of all development actors. However, each actor has a different role to play. Below, we highlight a number of practical actions that can be undertaken in supporting development policy and practice to move beyond from fixed targets and short-term planning cycles.

District government:

- Recognising inherent limitations in the rigidity of policy cycles and planning processes, there is always *some* 'wiggle room': opportunities exist to do things differently. For example, even when strict targets are handed down from central government, district governments often decide the specific modalities of implementation.
- Collaboration across and within different sectors is a good way to start. It allows for sharing of resources and harmonisation of related activities. This can begin simply through regular updates and exchanges, or more meaningfully through joint planning initiatives, pooling of human and financial resources and sharing of technical staff.
- As part of the planning process, reflection on where the district aims to be on time horizons beyond the traditional three- to five-year planning cycles is important. Internal discussions and exercises to encourage people to envisage (the many) possible

futures and pathways to get there are potential options. In many contexts, robust information on the future is not available at the scale and level of certainty required by district decision makers, so ensuring district plans are able to anticipate, shape and mitigate uncertain and changing risks is important. For example, in Uganda, each district is required to establish its own district disaster management committee. These are tasked with developing contingency plans and defining the various roles and responsibilities of district development actors, in the face of a number of hazards (ranging from common threats such as drought to largely unpredictable and rare events such as earthquakes). Yet having a plan is not enough. Being able to adequately mobilise the resources and the technical capacity to implement it is equally important. Part of the application of FFDM is addressing the need to periodically review, assess and update existing plans to accommodate for change.

NGOs and CSOs:

- As actors that are expected to promote and support the uptake of FFDM, NGOs and CSOs need to demonstrate that they too are abiding by its principles. This would mean moving away from the delivery of purely technical packages towards more support for other characteristics of adaptive capacity. In relation to the LAC framework, this implies a shift from focusing on supporting the 'asset base' to, for example, greater emphasis on creating an enabling environment for fostering innovation. This also means a move towards more flexible programming, resource and staff allocation and cross-sectoral programming. In many ways similar to district planners, NGOs are prone to focusing their activities and programmes on shorter-term timescales, often with a very narrow sectoral focus.
- Not only do NGOs and CSOs have a role to play in promoting FFDM internally, but also they are key agents of change in supporting its uptake by other actors. Specific areas where NGOs and CSOs can play a role include mobilising technical and financial resources to promote ongoing dialogue around FFDM; promoting collaboration across sectoral boundaries; bringing stakeholders that would not normally collaborate together; and sharing learning and practical experience.

National governments:

- National governments play a key role as they set the parameters for planning at all administrative levels. National governments should therefore (i) encourage districts to develop longer-term strategies that incorporate principles of FFDM; (ii) give greater levels of freedom to lower levels of administration to define and shape their own development targets based on local needs and priorities; (iii) recognise that change and uncertainty will influence the achievement of predefined targets, and promote mechanisms that allow for greater flexibility; (iv) incentivise the utilisation of FFDM principles, through target setting and provision of guidance for development planning as well as for FFDM performance indicators; and (v) prevent a 'siloed' approach to planning through encouraging greater coordination across sectors and ministries, between different levels of government and between government and other relevant actors.

Donors and multilateral agencies:

- Donors and multilateral agencies need to ensure their internal structures and processes are also able to respond to changing priorities and unforeseen circumstances. They set the parameters by which many NGOs and CSOs deliver their development activities and interventions, yet, even in the face of changing conditions, few donors encourage recipients of their support to deviate from their original terms of reference. Measures should be put in place to enable greater flexibility in the delivery of project outputs to accommodate for changing pressures by moving away from target-based thinking to looking for beneficial outcomes in the longer term. In addition, the timescales of donor funding, typically ranging from two to five years from inception to completion, provide very little incentive for programmes to consider and promote longer-term objectives within their own activities. There is considerable scope for the application of FFDM principles to improve these ways of working.

1. Introduction

POLICYMAKERS FACE DIFFICULT decisions and trade-offs in planning for the future. Some choices will be oriented towards short-term priorities: how to respond to a recent flood? What actions to take following a seasonal forecast suggesting a high likelihood of below-normal rainfall? Others will require more long-term thinking: what infrastructure to invest in to support a shift from rain-fed to irrigated agriculture? How high to build protective river levees near a rapidly expanding town?

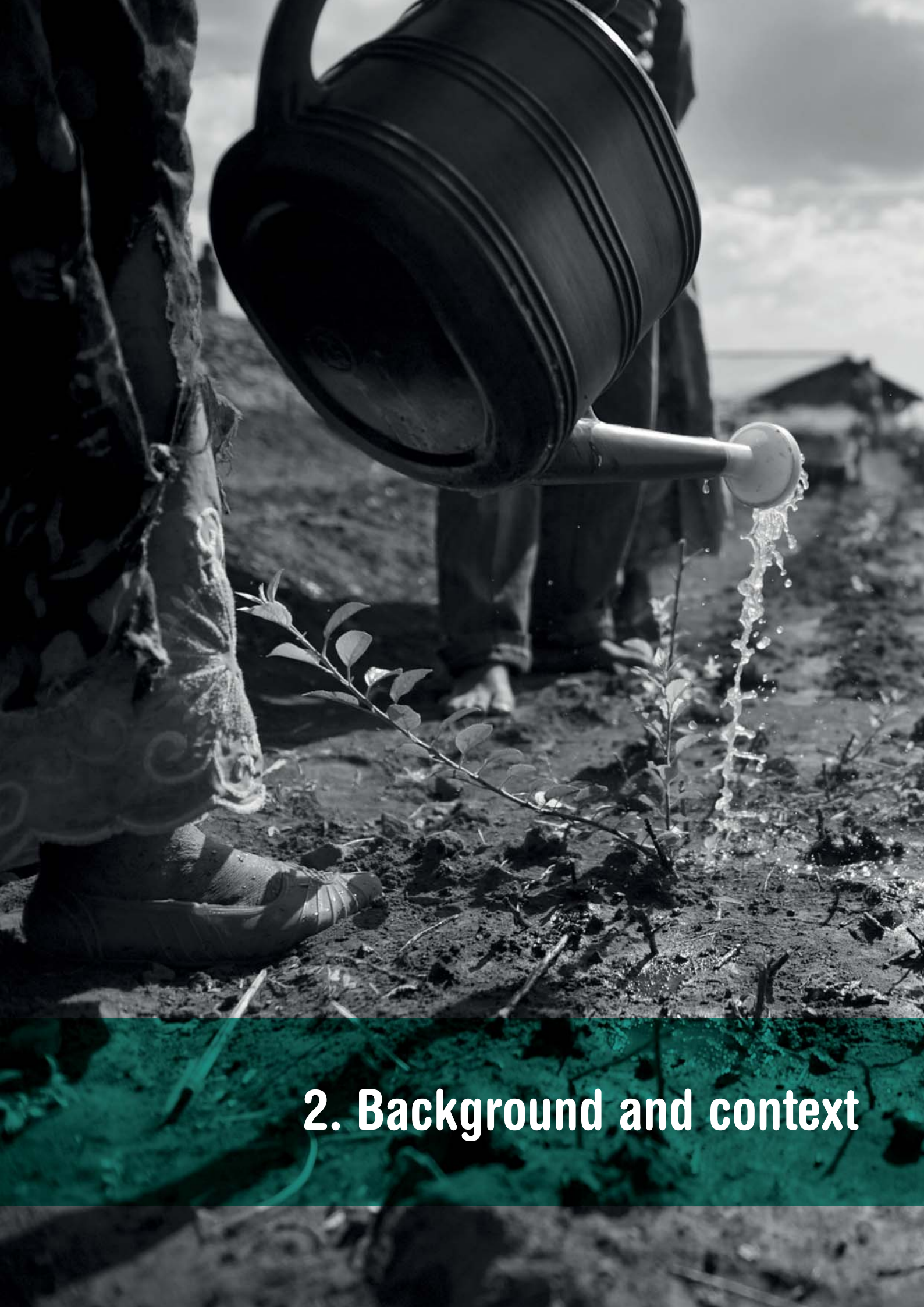
Policy choices such as these are compounded because many environment and development drivers have changed and will continue to change over time. For example, climate change, depleting natural resources and population pressures are each likely to have an impact on future plans and policies. For many of these drivers, the nature and extent of change are difficult to predict, which means decisions can never be taken in light of an entirely certain future outlook. It is also important to consider that decisions are rarely taken in a rational way – that is, one supported purely by 'evidence-based policymaking'. Political pressures, vested interests and historical contexts all muddy the waters, and influence how and why decisions are made.

Despite these challenges, improving policymakers' capacity to plan for the future is an important priority given the range of uncertainty over development trajectories. Yet, despite the need to recognise the complexity of decision making in an uncertain future, many development actors (whether national or district governments, donor and United Nations agencies, non-governmental organisations (NGOs) or businesses) continue to plan on relatively short-term timescales, with little room for manoeuvre or contingency. Three- to five-year planning cycles remain the norm, with few considerations of the long-term implications of investments. A move towards the promotion of more flexible and iterative forms of planning is therefore crucial.

Phase 1 of the Africa Climate Change Resilience Alliance (ACCRA) (see also Section 2) developed and used the Local Adaptive Capacity (LAC) Framework to assess how development interventions were contributing (or undermining) the adaptive capacity of people and communities and which development interventions might strengthen it. The LAC consists of five interrelated characteristics: the asset base; institutions and entitlements; knowledge and information; innovation; and flexible forward-looking decision making. This last component, flexible and forward-looking decision making (FFDM), stands in the centre of ACCRA's Phase 2 research. In its simplest form, FFDM is defined as being able to anticipate, incorporate and respond to changes with regard to governance, structure and future planning (Levine et al., 2011).

However necessary, a transition towards FFDM is likely to present considerable challenges to current development practice. In some cases, it will require complete transformations; organisational structures, priorities and incentives of development actors are deeply ingrained and often slow to change. Promoting principles of FFDM within development policy will require changes to each of these, supported by tools and guides to help ensure successful uptake and implementation.

This report documents the activities of ACCRA in seeking to strengthen FFDM among district development organisations. It describes research conducted over an 18-month period trialling a 'game-enabled reflection' approach and further capacity building activities in three African study sites: Gemechis in Ethiopia; Guijá in Mozambique; and Kotido in Uganda. Building on these three country case studies, it outlines key findings and makes recommendations on how better to support decision-making processes for an uncertain future.



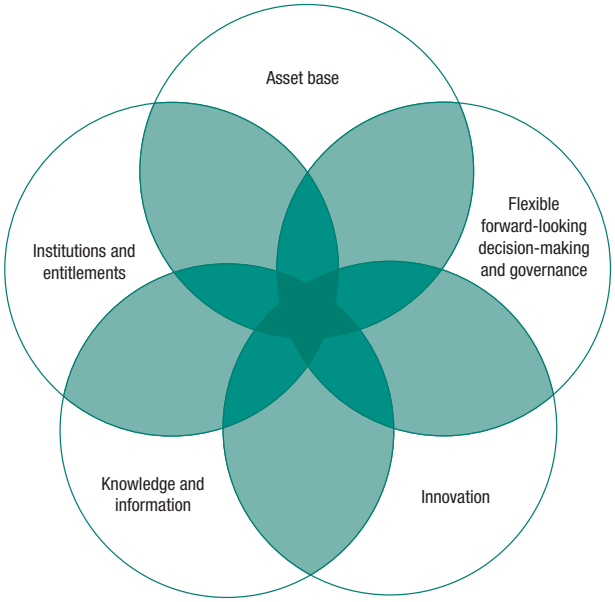
2. Background and context

ACCRA IS A CONSORTIUM of five development partners: Oxfam GB, the Overseas Development Institute (ODI), CARE International, Save the Children and World Vision International. Established in 2009, it engages in research, capacity building and advocacy in three African countries (Ethiopia, Mozambique and Uganda), working with governments, NGOs and communities. ACCRA's objectives are twofold: (i) to work together with district and national governments and CSOs to strengthen capacity to implement interventions that can build communities' adaptive capacity; and (ii) to encourage learning and co-production of knowledge across countries and disciplines.

In seeking to support adaptive capacity at the local level, ACCRA's research team, led by ODI, started by trying to understand what makes a community more (or less) able to adapt to change. This resulted in the development of the Local Adaptive Capacity (LAC) conceptual framework.[1] Building on previous literature, and validated in nine district case studies across the three ACCRA countries, the LAC framework describes five key characteristics of local adaptive capacity: the asset base; institutions and entitlements; knowledge and information; innovation; and flexible and forward-looking decision making and governance (see Figure 1).

In the first phase of ACCRA's research, the LAC framework was used to understand how existing social protection, livelihoods and disaster risk reduction (DRR) projects led by ACCRA members in collaboration with district governments were contributing to (or reducing) the adaptive capacity of people or communities, and how these approaches could be strengthened. Results highlighted how development interventions needed to do more to support the agency of communities: focusing on meaningful engagement and participation with partners; supporting the strengthening or building of institutions and not simply providing technological or infrastructural packages; and facilitating innovation to expand people's range of choices. It also concluded that the five characteristics of adaptive capacity did not stand alone, but rather shaped and depended on each other. Designing and implementing interventions thus needs to be done in

Figure 1: The Local Adaptive Capacity (LAC) framework



Adaptive capacity at the local level	
Characteristic	**Feature that reflect a high adaptive capacity**
Asset base	Availability of key assets that allow the system to respond to evolving circumstances
Institutions and entitlements	Existence of an appropriate and evolving institutional environment that allows fair access and entitlement to key assets and capitals
Knowledge and information	The system has the ability to collect, analyse and disseminate knowledge and information in support of adaptation activities
Innovation	The system creates an enabling environment to foster innovation, experimentation and the ability to explore niche solutions in order to take advantage of new opportunities
Flexible forward-looking decision-making and governance	The system is able to anticipate, incorporate and respond to changes with regard to its governance structures and future planning

Source: Jones et al. (2010).

1. For more on the LAC framework see Jones et al. (2010).

ways that enhance how assets, institutions, innovation, knowledge flows and decision making contribute to increased agency, and to more informed decision making for the longer term.[2]

2.1 Objectives of ACCRA Phase 2 research

Taking forward the learning from Phase 1, ACCRA chose to trial a hands-on approach in support of adaptive capacity at the district level. Findings from ACCRA's earlier research suggested that, although district development actors needed support, tools and guidance on how to enhance capacity were either inadequate or lacking. Given the wide-ranging nature of adaptive capacity, and the desire for maximum value-added and impact, the consortium opted to focus on a single characteristic of adaptive capacity, FFDM, as an entry point (while recognising the interrelated nature of all five characteristics that support local adaptive capacity). The objective therefore was to design, trial and document an approach to promoting FFDM within district development planning in each of the three ACCRA countries. This was done with the intention of gaining a better understanding of the merits and limitations of an emerging and little-researched approach in the context of climate change adaptation. It was also agreed that one district per country would serve as a research and trialling site. This was because the proposed approach was highly innovative and needed focused attention by all ACCRA stakeholders, also aimed at better linking of research and capacity-building activities.

Although from a conceptual point of view FFDM is relatively straightforward, in its application and in practice it is often hard to communicate and to relate to real-world problems (see Jones et al., 2013a). A new approach was therefore needed. The proposed solution came in the form of participatory game- and reflection-based tools, herein named 'game-enabled reflection' approaches. Games allow for the communication of complex messages to people through a process of two-way learning and engagement (Mendler de Suarez et al., 2012). As an approach, this is an emerging tool used by many NGOs and development actors to communicate the need to change ways of working and considering different options. Through a partnership with the abaci Partnership and the Red Cross/Red Crescent Climate Centre, ACCRA developed a 'game-enabled reflection approach' to promoting FFDM. This was combined into a two- to three-day workshop to be run with district-level policymakers.

Alongside further capacity-building work run by the ACCRA network, the various district-level activities aimed to showcase the successes and weaknesses experienced in trying to promote FFDM through a novel, participatory and interactive approach. The hope was that the findings could serve future related activities, and if effective, be scaled up and modified/replicated in other contexts.

2.2 What is FFDM and why is it important?[3]

Climate change can been described as a 'super wicked problem' (Levin et al., 2009). At its most basic, this means that it is a complex and ever-changing challenge: there is no single solution, no single actor has the power to implement solutions and those attempting to solve the problem are often part of the cause (see Jones et al., 2013a).

Given the nature of the problem, ensuring developing countries can adapt to climate change requires recognition (i) of the continually changing (economic, demographic or political) context within which climate change impacts play out, (ii) of the continually changing circumstances of stakeholders and also (iii) that their adaptive capacity to different climate events may change over time (as may the support needed to enhance it). Yet how can this be achieved? One key part is to ensure decision making can deal with a constantly changing and uncertain future. In practice, this means employing FFDM.

In its simplest terms, FFDM is defined as being 'able to anticipate, incorporate and respond to changes with regards to governance, structure and future planning' (Levine et al., 2011). Based on the principles of Climate Change Adaptation (CCA), a key characteristic of complexity-inspired FFDM is that it does not base its decisions solely on evidence from the past, or on extant capabilities and structures, but also on consideration of possible futures (see Jones et al., 2013a for detailed discussion of the principles of CCA). As core characteristics of adaptive capacity, FFDM 'ways of working' are the shared act of exploring potential future interactions and working out how to address the consequences arising from a range of challenging possible futures.

2. For detailed findings from ACCRA's Phase 1 research, see Levine et al. (2011).

3. For further details on complexity and FFDM, see Jones et al (2013a).

Box 1: FFDM ways of working

Decision-making processes are flexible and forward-looking when they:

- Recognise that change will happen and requires adaptation, but that the specific direction and magnitude of change, as well as the implications for development trajectories, are uncertain.
- Are able to consider and reason about the impacts of different drivers of change on development trajectories and plans accordingly in order to maintain progress.
- Can identify enablers and initiate steps to overcome barriers to adaptation.
- Can, where needed, make changes to structures and planning processes to implement adaptation effectively, whether incremental or transformational.

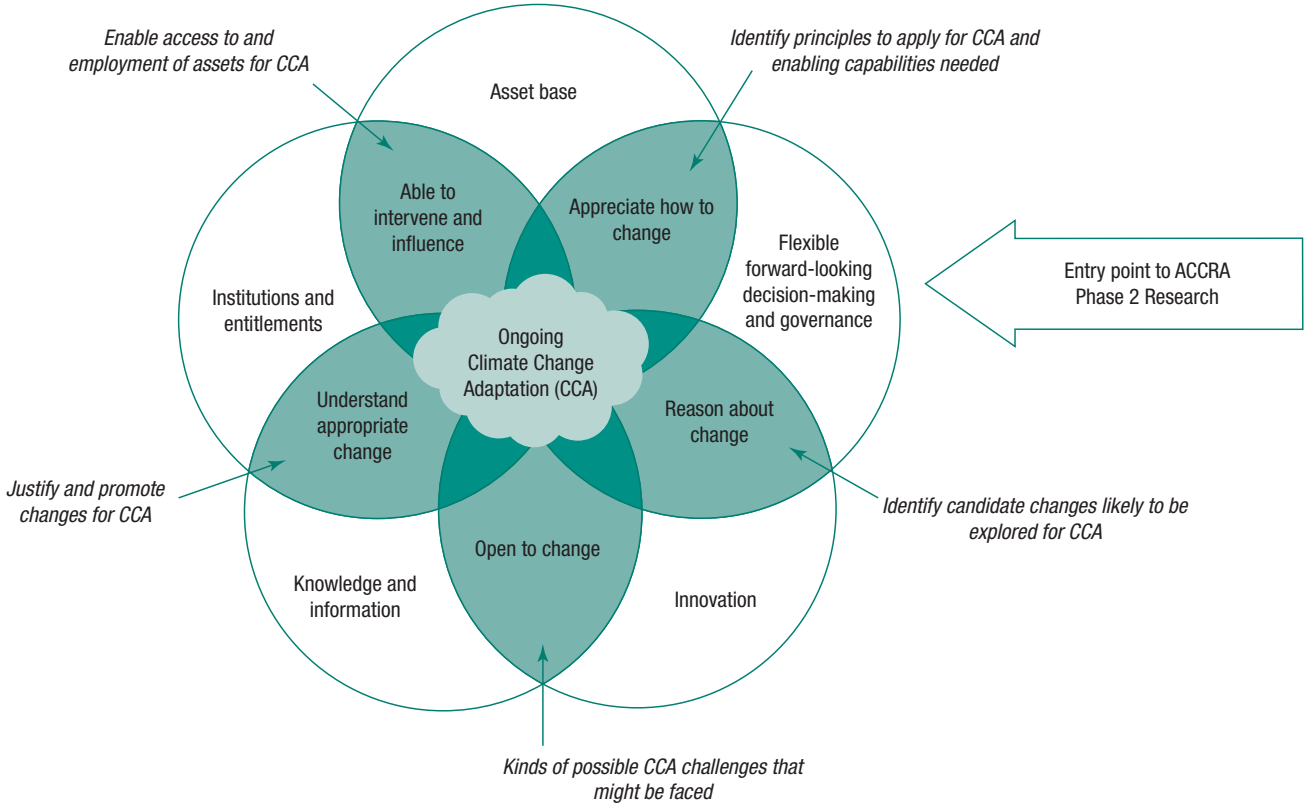
Source: Adapted and expanded from Jones et al. (2013a).

These FFDM ways of working relate strongly to adaptive capacity, and can be mapped onto the LAC framework as shown in Figure 2.[4]

To achieve FFDM ways of working, people have to be able to appreciate the variety of levels and timescales over which change happens and adaptation must occur, and to identify what their contributions/interactions with other actors might need to be. It is not just about making plans, as we know these rarely match up to the changing realities of the future; nor is it about documenting 'optimum' change processes, as we know that we will still have to deal with unexpected things and so will always be playing 'catch-up'. Instead, it is about being open to the possibilities of change, being able to reason about future pathways, appreciating different options and pathways for change, and above all identifying the enablers, tensions and blockers to adaptation that need to be addressed if people are to acquire the capacity to bring about change on the ground.

Listed in Box 2 are examples of the type of practical questions that can be asked of any development and humanitarian intervention in relation to understanding adherence to FFDM ways of working and supporting adaptive capacity more widely. As an illustrative guide, these questions explore the components of the LAC, seeking to understand existing and potential adaptive capacity within a given context. They are not exhaustive;

Figure 2: FFDM ways of working matched onto the ACCRA LAC framework



Source: Adapted from Jones et al., 2013a.

4. The statements in italics in the boxes indicate the outcomes that follow for CCA from adopting FFDM ways of working.

Box 2: Characteristics and practical questions for reflecting on the degree to which decision making is flexible and forward-looking

1. **Understand and employ forward-looking decision making effectively, e.g.:**
   - Have we considered possible threats and opportunities that may arise over long-term time horizons? *E.g. acknowledging that rainfall patterns may not be the same as they were in the past.*
   - Have we reflected and learned what did and didn't work in the past? *E.g. how we dealt with past trends like population growth, food price shocks and access to technology.*
2. **Use knowledge and information in meaningful ways, e.g.:**
   - Have we understood what kinds of information we can get, what they tells us, and how to integrate them? *Such as being able to access and interpret information from the Meteorological Service over various timescales.*
   - Have we incorporated different sources of knowledge, interests and views of all stakeholders in planning? *Such as strengthening community outreach, awareness and participation in the design and delivery of district planning.*
3. **Have evolving institutions and fair entitlements, e.g.:**
   - Have we addressed issues of power, hierarchy and patronage? *Such as ensuring that vulnerable and marginalised groups are empowered in planning procedures.*
   - Have we built on existing institutions that have proven capacities for adapting to change? *Such as strengthening capacities and mainstreaming* FFDM *into existing committees and groups.*
4. **Foster innovation and develop enabling environments, e.g.:**
   - Have we tried to explore the 'wiggle room' to allow for greater flexibility and promote forward-looking decision-making? *Such as experimenting with new ideas and local innovations.*
   - Have we introduced appropriate incentives to allow stakeholders to change their perceptions, behaviours and actions? *Such as championing initiatives and self-organisation.*
5. **Access and utilise assets/capabilities as necessary, e.g.:**
   - Have we collaborated with other sectors and agencies and built mutual trust? *Such as establishing a working relationship with the Meteorology Department to better access and understand weather/climate forecasts.*
   - Have we looked for opportunities to extend the working environment and relationships between key actors. *Such as lobbying and applying pressure on key central agents.*

Source: Jones et al., 2013a.

many more questions could, and should, be asked of a particular intervention in genuinely seeking to evaluate decision-making processes. However, they do provide a useful starting point in terms of translating some of the more academic and abstract proponents of FFDM and complexity. More importantly, they also serve as a basis to ground capacity-building tools and approaches to promoting CCA, including the approach for game-enabled reflection employed in this research (described in Chapter 3).

3. Game-enabled reflection as a tool to promote FFDM

IN TAKING FORWARD THE LEARNING from Phase 1 of ACCRA's research and capacity-building activities, the consortium chose to promote a game-enabled reflection approach. No such approach had been developed to promote FFDM, thus we proposed a new one. This approach was chosen as games have shown to be able to elicit knowledge of complex real-world problems in a memorable, fun and compelling way. Games can simulate changing conditions, plausible decisions and related outcomes – and can thus allow people to experiment without the risk of a 'trial-and-error' process in the real word. Overall, games can be effective learning tools; as players move from confusion to discovery and understanding, experimental learning can drive meaningful dialogue on what appropriate planning in development and climate change adaptation might look like. In the situation of ACCRA, a game-enable approach was therefore developed that combined game elements with reflection sessions to help workshop participants understand the basic principles of FFDM and how they relate to development planning, explore the 'wiggle room'[5] available to them to translate principles of FFDM into their everyday work despite the many constraints they face, and to identify the challenges and opportunities for collectively moving towards FFDM ways of working (Jones et al., 2013a). This 'wiggle room' is context dependent, but may include autonomy to explore new partnerships; seeking information and advice from external sources; greater collaboration across sectors, across districts or between districts and national levels; pooling resources; and drawing up contingency plans. Each of these can often be done within the context of otherwise rigid central structures, top-down planning systems and lack of resources.

Below, we describe the various components of the approach, as well as how it evolved during the course of its application in Uganda, Ethiopia, and Mozambique.

5. 'Wiggle room' is defined as the scope for freedom of action or thought.

3.1 Game component of the game-enabled reflection approach

The objective of the game is to expose workshop participants to principles of FFDM in a non-threatening and safe environment. In the game, players are district officials (the majority of the workshop participants were actually district officials representing a range of sectors). Each player is responsible for making annual investment decisions, and each decision will determine the development path of each player's district. Players may choose among many development options, and will face many dilemmas.

Each player's overall goal is to develop and play out the best 30-year climate change adaptation strategy, competing with each other to end up with a district that is best able to flexibly deal with current and future climate change impacts. At the same time, each group of district officials – four to five players at a table – form a region. All the regions are also competing with each other. So players want to be flexible and adapt to climate change at both the district and the regional level.

The five LAC themes are introduced to the game players, and examples are used to illustrate how FFDM relates to them (see Figure 4 and Annex C).

Communities adapting to climate change are ones that:

- Understand and employ forward-looking decision-making effectively;
- Use knowledge and information in meaningful ways;
- Have evolving institutions and fair entitlements;
- Foster innovation and develop enabling environments;
- Access and utilise assets/capabilities as necessary.

Selected FFDM principles and ways of working – elements that are also part of the game – are then introduced, such as:

- Thinking longer term;
- Collaborating across districts, between different levels of government; and between government and non-government actors;

- Keeping options open to be ready for the unexpected; or
- Developing cross-sector projects.

The game consists of one practice cycle, after which it is played 'for real', which includes ideally four Planning and Investment cycles. Each cycle is seven years in length.

At the beginning of each seven-year cycle, players are given partial information about the kinds of volatilities – good or bad – that may affect development. At the end of each cycle, the type of event is revealed by drawing one Event Card; its impact on development in players' districts is discovered by spinning the Impact Wheel (see Annex B for details on game material and how the game is played).

A selection of FFDM principles are translated into ways of winning the game. These are:

1. **Sector developer:** This prize is for planning for the longer term, for example by investing beyond one game cycle or by not always going for 'quick wins'.
2. **Regional developer:** This prize is for collaborating with other districts in the region – and part of that is how well the player can persuade people to work together.
3. **Most diverse developer:** This winner is the person who has developed the widest mix of adaptive projects.
4. **Most flexible developer:** This prize is for keeping options open for unexpected change and being open to future development opportunities.
5. **Best CCA developer:** Players choose the winner of this category through critical reflection and discussion of each district's development strategy at the end of the game. The winner of this category is able to explain to others why his or her decisions were most flexible and forward-looking and most adaptable to climate change-related events.

3.2 Reflection component of the game-enabled reflection approach

Work at the start of Phase 2 (the political economy studies and production of a conceptual paper on FFDM drawing on insights from complexity science, Jones et al., 2013a) indicated that conditions in all of the three countries involved were not yet conducive to a move directly to FFDM ways of working, largely because of rigid planning structures and targets set out by central government. Instead, three steps were required:

1. Raise participants' awareness of the FFDM themes and the required associated behaviours (for details see Jones et al., 2013a) – to be achieved through FFDM reflection sessions;
2. Enable people to experience what FFDM ways of working feel like, through the use of game-enabled tools;
3. Support reflection on the application of FFDM ways of working to the real world by finding 'wiggle room' in their jobs to work in an FFDM way. This was initially done through case study exercises that prepared the ground for ongoing capacity building.

The desired behaviours associated with each of these three steps and the way they were promoted in and beyond the in-country workshops are shown in Table 1.

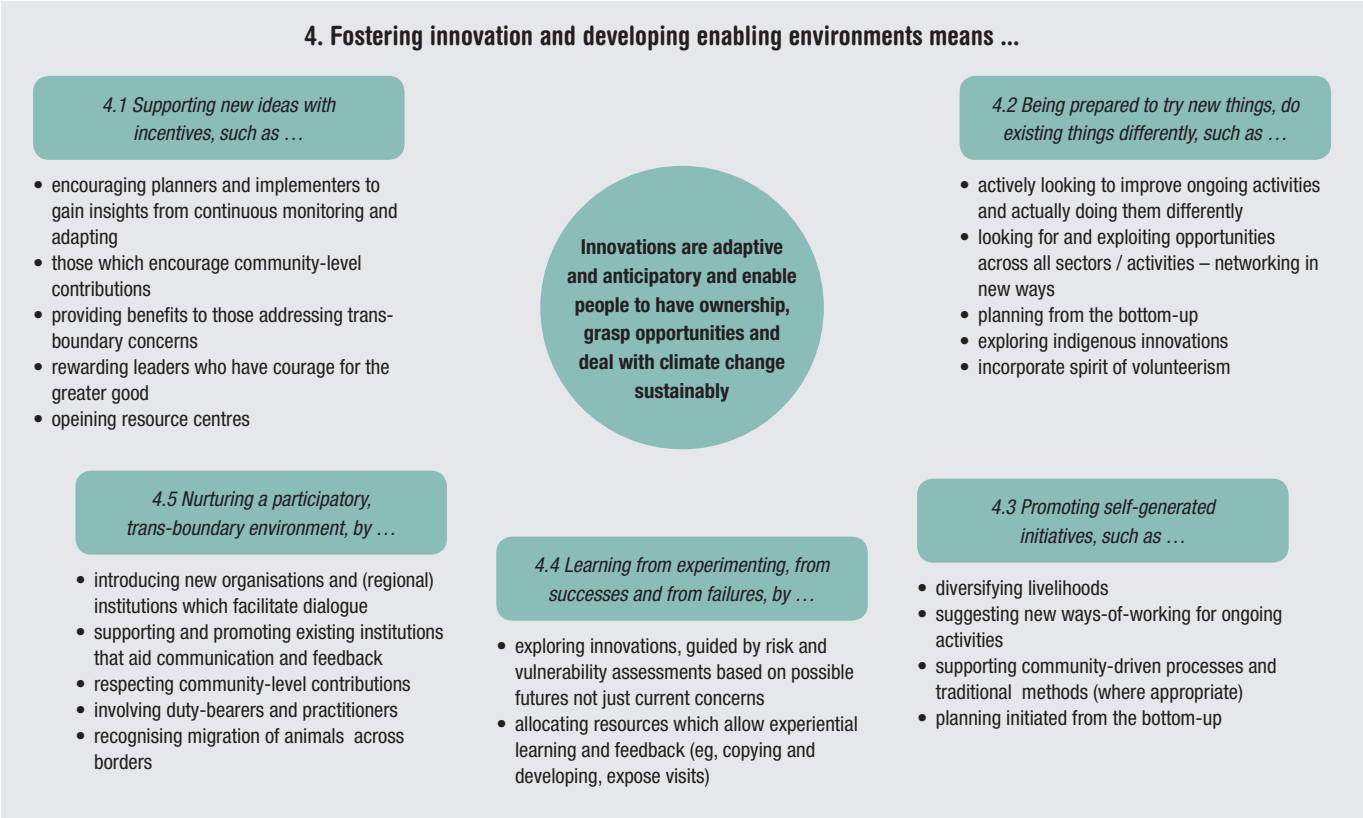
At the start of each workshop, it was necessary to set the wider context of CCA within which the workshop activities sat. In these reflection sessions, participants were exposed to the FFDM themes, had their relationship to the LAC clarified and then explored the desired FFDM behaviours and ways of working in more detail. This scene-setting is necessary to put the game play in context, as the game, by itself, does not teach FFDM, although it does raise aspects of it (see Table 1).

Table 1: Workshop activities to raise awareness of FFDM ways of working

Desired FFDM behaviour	How stimulated in reflection sessions
Understanding the nature of climate change and the need for FFDM	Presentation, examples of good and bad anticipatory practice – the wider context within which the workshop sits
Relating the components of the LAC to the FFDM theme	Presentation, showing the connection between the LAC, the themes and the desired behaviours (in poster form, see Figure 3)
Assessing effective FFDM ways of working – how do we know we have it	Discussion
Understanding the types of adaptation and their strengths/weakness	Through storytelling (presenting reactive, deliberative and flexible and forward-looking behaviours)
Exploring the FFDM ways of working in more detail	In group work, reviewing and discussing the 'FFDM Poster' – example in Figure 3

To make these FFDM behaviours more tangible, a set of posters was produced, one for each of the LAC components (see Figure 3 and Annex C). The posters represent an important repository of learning about what FFDM ways of working might look like in practice. The posters illustrate the behaviour necessary for adaptation in everyday terms that have been expressed and revised in consultations with various stakeholders at national and district levels.

Figure 3: One of five posters detailing desired adaptive FFDM behaviours



See Annex C for the other characteristics and their relationship to FFDM.

3.3 Evolution of the game-enabled reflection approach and ACCRA workshops

A central part of running the FFDM workshops in country with district government experts and decision makers was the prior training of game facilitators. Facilitators were primarily trained in facilitating the games part of the workshop approach, with support from Red Cross/Red Crescent Climate Centre (RCCC) colleagues. Responsibility for moderating and facilitating the reflection sessions rested with the ACCRA research and facilitation team (the abaci Partnership and ODI), supported by ACCRA country coordinators.

The game-enabled approach to learning about FFDM evolved with each facilitator training and research workshop; adjustments to the game itself as well as to the process for training game facilitators were made in direct response to feedback from participants and as a result of the learning-by-doing approach of the project research and facilitation team. Indeed, the game as well as the curriculum to train facilitators in the FFDM game used in Mozambique reflected much of the learning and experience the project team gained during the Ethiopia and Uganda facilitator training and research workshops.

Adjustments the project research and facilitation team made took many forms, including:

- Modifications to materials in order to improve the game's ability to communicate and spur learning and dialogue about FFDM within different district contexts (e.g. using country-specific terminology);
- Improved integration of game play and reflection sessions; for example, during the Uganda research workshop, the research and facilitation team learnt that the game and reflection sessions could be better integrated, and so for the Ethiopia and Mozambique workshops game and reflection sessions were run slightly differently and in modified sequence;
- Continuous updates to the facilitator script were made, and its role in supporting newly trained facilitators evolved from a long manual of rules to a more concise explanation of how the game should be set up, introduced, played, coordinated with reflection sessions and debriefed;
- A practice game session with youth was organised in Mozambique, which offered trained facilitators an opportunity to test their facilitation skills in a challenging yet non-threatening environment; the research and facilitation team learnt that this type of opportunity was invaluable for building confidence and solidifying newly trained facilitators' knowledge

Box 3: Experience of running the game-enabled reflection approach with young people in Maputo, Mozambique

After the training of the trainers' event, the new facilitators of the approach had the chance to work with a group of young people from the national youth parliament for a day. They taught them the approach and went through the simulations with them, overseen by the ACCRA team. The workshop with the youth was a good opportunity for the game facilitators to practice for the district workshop.

The ACCRA team noted that the engagement and enthusiasm of the young people showed that children and youth should not be seen purely as a vulnerable group to be protected but as active and strong agents of change: *"it was a great experience not only as an extra practice for the facilitators, but as an important evidence that children's active participation is critical and must be incorporated in the planning process at local level."* (ACCRA Mozambique Coordinator, 2013).

Several lessons were learnt about how the facilitators could improve their skills, including:

- Speeding up the start of game play, and being energisers throughout, with timelines.
- Encourage storytelling and narratives by example, if needed.
- Capture real life issues mentioned, relate the game back to forward-looking decision making and long term views in planning and the need for flexibility in the face of climate change.
- Paying attention to common errors in game play – time markers, using the severe impact wheel, being clear on the group projects benefits to those who invest.

All the new facilitators agreed that running the game-enabled reflection approach with young people had been a very valuable experience. In the post-workshop reflection, opinions were divided among facilitators whether they enjoyed it more working with youth or with district officials.

of the FFDM game, underlying FFDM principles and key emergent learning moments.

An important lesson for the project research and facilitation team regarding replicability of a game-enabled approach to learning about FFDM was clear: while ACCRA research objectives for Ethiopia, Mozambique and Uganda were the same, challenges and outcomes involved in game facilitator training sessions and running the FFDM workshops varied significantly across the three countries. What was the reason for this? Even if the project team had arrived with a tried and tested approach for training facilitators and for running the FFDM workshops, local factors (political, cultural, language, personalities in the room etc.) would always have required improvisation, and in some cases readjustment of expectations and approaches, no matter how prepared the research and facilitation team was to train others in game-enabled learning on FFDM. This does not relate only to the training of facilitators, but equally to the way the workshops were run in general.[6]

To use a game-enabled reflective approach for FFDM requires preparedness and flexibility on the part of the facilitators and researchers so they can make adjustments in response to district context in order to maximise the potential of this tool for learning and dialogue on FFDM. Engaging with counterparts early on is crucial, as they have an essential role to play in ensuring the game-enabled learning approach is introduced in a way that appeals to participants' needs and interests and reflects conditions at the district level as much as possible, and so that those trained in facilitating the game have opportunities to put their newly acquired skills to use to further learning and dialogue on FFDM beyond the initial research workshop.

In Mozambique, the approach was also tested with a small group of young people to see whether it was applicable and of use to them (see Box 3).

3.3.1 Experiencing FFDM ways of working through gaming

The FFDM game used in the three country workshops was produced by Antidote Game (*playistheantidote.com/*) in collaboration with RCCC and based on inputs from the ODI research team and the abaci Partnership (a full script detailing how to run the game is available at *www.climatecentre.org/site/accra*). Although the game could not, without being impossibly complex, give players full experience of all the range of FFDM behaviours and potential ways of working, Table 2 shows which aspects were stimulated.

6. An example Storyboard, detailing all the activities needed to run a successful workshop, is available at *www.abaci.net/library/lib-index.htm*

Table 2: FFDM behaviours experienced through gaming

Desired FFDM behaviour	How experienced through professional gaming
Imagining and considering possible (not just probable) futures over long timescales	The game was designed around four cycles, each of seven rounds. Short-termism was penalised.
Appreciating that decisions could not be taken in isolation	Impacts of unforeseen events were 'connected' in the game in many subtle ways not immediately evident at the outset. Linear thinking was discouraged.
Understanding that there is never a single 'right' answer	The game could be played in many ways and outcomes were never the same. Players had to adapt in the moment, trade off different decisions and provide contingencies ready for the unexpected.
Experiencing short-term shocks and long-term pressures	Climate-related shocks, such as floods or droughts, and non-climate-related ones, such as energy crises, were introduced with Event Cards, and their severity simulated with an Event Wheel. The longer-term pressures were embedded in the game's design (e.g. to achieve certain outcomes required sustained commitment from players over time).
Realising that FFDM ways of working are not just for the district level	The game promoted collaboration across departments and from district to national level. Even donors and aid agencies are implicated.
Experiencing the benefits of doing more with less	Group Projects for investment opportunities were available, which enabled players to share risks, costs and benefits. Discourse was stimulated to justify projects.
Gaining confidence in exploring FFDM ways of working	Gaming provides a 'safe space' where contentious and challenging issues can be explored (especially concerning political economy issues).
Appreciating that there are many ways in which success can be judged	Multiple Ways of Winning were provided (see Section 3.1). The criteria for the "Best CCA developer" were not predefined. Through discussion, players decided which mix of approaches constituted, in their judgement, the 'best' player overall.

3.3.2 Preparing to use FFDM in practice through exercises

Having introduced the FFDM themes, ways of working and desired behaviours, and with the players having experienced working in an FFDM way, the next step was for the participants to start to think how they might use the insights gained during the workshop in their line of work. Most importantly, people needed to start thinking about how much 'wiggle room' they actually had to do things differently, given the barriers that exist to more flexible planning that is able to account for future uncertain events (see Jones et al., 2013b). At first, many people listed all the constraints and blockers (e.g. set development targets, limited staff numbers and capacity, earmarked funds, limited budget to cover operational costs etc.) and declared they had no option to change these. However, through the exercises and discussions, they began to see that this was not entirely true. The exercise required each team of four people to develop and present on a district planning proposal that used as many of the FFDM behaviours as possible.

Following these exercises, the ACCRA team in Ethiopia and Uganda then engaged with participants to find out what kind of ongoing support and capacity building might be required to begin to make the FFDM ways of working a long-term reality. The results of those discussions are not part of this report.

Table 3: Exploring the 'wiggle room' for doing things differently through exercises

Desired FFDM behaviour	How, explored through exercises
Finding out what 'wiggle room' participants have	The exercise, based on real-world challenges, encouraged people to adapt their planning processes and identify what they could really do differently. This was partly achieved through putting together participants who did not normally work together.
Incorporating FFDM ways of working into their proposal	Facilitators guided the teams and commented on their proposals during development.
Deciding on the FFDM success criteria they wished to promote	Proposals had to clearly demonstrate benefit in FFDM terms; it was not enough to say 'we will collaborate, we will think ahead'. Teams had to demonstrate how this was to be done in practice. Part of this was being challenged on who was doing the judging, e.g. a good plan from the national government perspective might be bad for districts or communities.
Learning from their peers by sharing insights and successes	The proposal briefing, judging and prize giving was a vital 'reality check' for many participants, who began to actively share lessons.

4. Research methods

UNDERSTANDING THE CHARACTERISTICS of adaptive capacity is far from easy. Adaptive capacity is (i) context-specific; (ii) largely intangible (key enablers of adaptive capacity, such as power or agency, are often difficult to observe); and (iii) has no commonly agreed means of measurement. With this in mind, trying to identify if and how ACCRA's activities have influenced the decision-making processes of district governments (and in the process enhanced their adaptive capacities) cannot be done using a single research tool or method. A variety of qualitative and quantitative methods are therefore needed.

In applying a mixed methods approach (see Table 4), ACCRA's research team sought to analyse and document the impact of a series of capacity-building activities – relating primarily to a 'game-enabled reflection approach' to promoting FFDM – in the context of a districts each in Uganda, Ethiopia and Mozambique. For a full timeline of research activities, see Figure 4 (overleaf).

For each country, the following research activities were undertaken.

Table 4: Overview of mixed methods approach

Research tool	Format	Sequencing	Purpose
Political economy analysis	Qualitative	3–5 months before workshop	Understand background and district planning and decision-making context
Baseline key informant interviews	Qualitative	1–2 weeks before workshop	Unpick existing policy landscape and structures
Panel Survey	Quantitative	3 rounds: pre-workshop (immediately before), post-workshop (immediately after), follow-up (5–9 months after)	Measure perceived changes among workshop participants over time
Follow-up interviews	Qualitative	5–9 months after	Explore drivers of change in district decision-making processes
Internal consultation and consolidation	Qualitative	Subsequent to all three country workshops	Validate experiences and outcomes across the three study countries

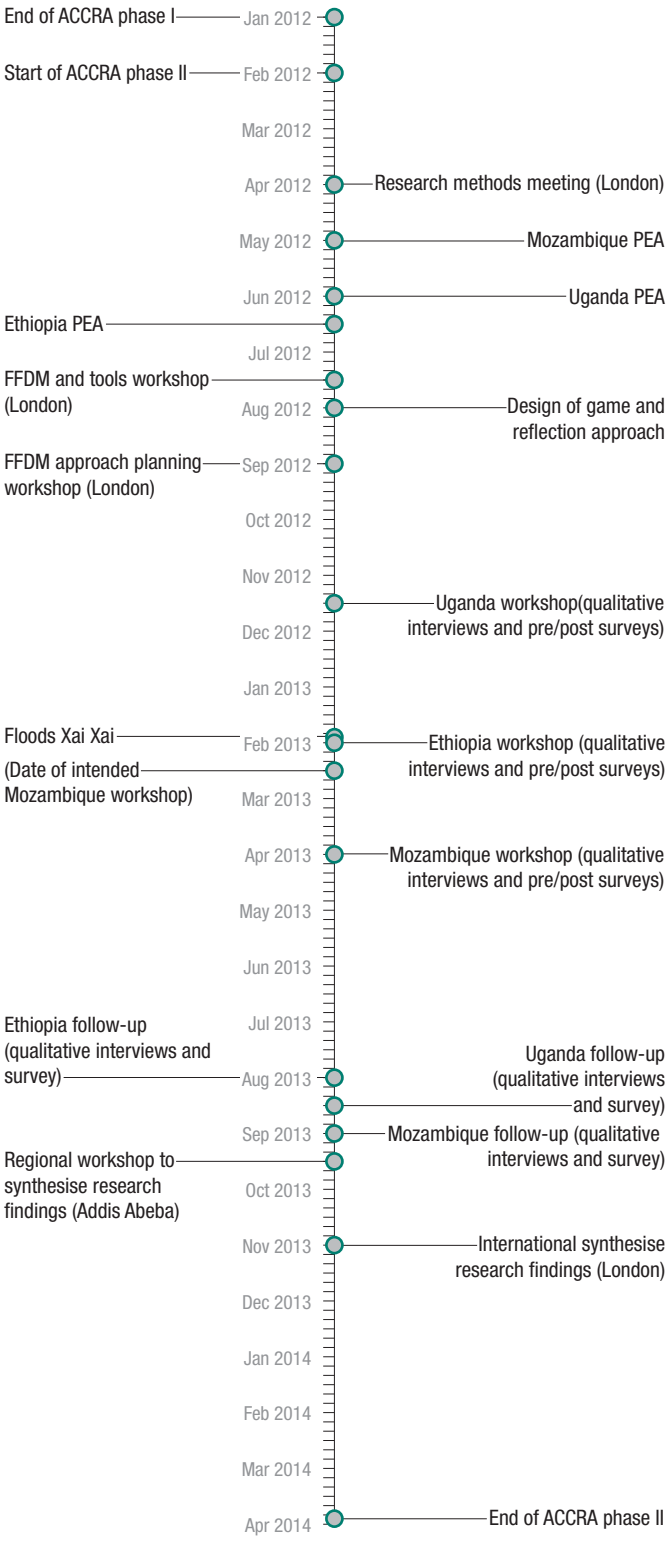
4.1 Political economy analysis

In understanding how any capacity-building approach can bring about positive change, it is first important to have an appreciation of the context at district level. Most importantly, a solid understanding of the underlying social and political structures that govern access and entitlement to key resources and power dynamics (i.e. its political economy) is key to ensuring that any tools or capacity-building approaches are relevant and do not disrupt existing institutional arrangements. To inform ACCRA's capacity-building activities, and help shape the research, a rapid political economy analysis (PEA) was conducted in each of the three country sites (see Jones et al., 2013b).

PEA focuses on key drivers – structural, institutional and actors/stakeholders – of policy and programming that influence district-level development planning and its outcomes. It is a process of understanding the interaction of political and economic processes in a society. The focus is on understanding how ideas, power and resources are distributed and contested in different contexts, by different people or groups at different scales, and the implications for development outcomes (Harris et al., 2011; Tanner and Allouche, 2011). The approach aims to get beneath the formal structures (i.e. what happens on paper) to reveal the underlying incentives and institutions that enable or frustrate change (i.e. what happens in practice) (DFID, 2009). In the context of governance, this provides a useful approach for identifying and executing feasible policy and programming within institutional and governance constraints (Fritz et al., 2009). Specifically a problem-driven PEA approach identifies the processes, challenges and barriers for specific policy issues – such as CCA – in a bid to identify useful entry points and pathways to successful development interventions (DFID, 2009; Fritz et al., 2009).

In carrying out the PEA, we conducted a literature review to establish current political structures and drivers behind governance and power relations (both past and present). To support this, we held semi-structured interviews with a number of district and national informants in order to identify enablers and barriers to

Figure 4: Timeline of ACCRA's research activities



FFDM within district planning and decision-making processes. Each of these was carried out three to five months before the in-country workshops, and helped shape the design of the game-enabled reflection tools that followed (see Figure 4). For more on the approach and results of ACCRA's PEA phase of research across each of the three country sites, see Jones et al. (2013b).

4.2 Baseline key informant interviews

To be able to track possible impacts of ACCRA's game-enabled reflection approach as trialled in the three workshops and, where applicable, follow-up capacity-building activities, it was first important to establish what the conditions were before an approach was implemented – essentially, a 'baseline'. In order to do this, we held semi-structured interviews with key informants in each of the ACCRA study sites (Uganda n=13, Ethiopia n=11, Mozambique n=20). These accompanied the surveys (as the questions given to the key informants were in essence the same as those in the surveys). However, the responses were qualitative in nature, and interviewees were probed in greater depth, allowing for fuller exploration of the drivers of any change. Inputs were sought across a range of roles and expertise, including from technical officials in district and national government; government administrators; community representatives; and NGO actors. Responses to the interviews were then partially transcribed and coded.

4.2 Quantitative panel survey

The objective of the ACCRA panel survey was to track changes in people's perceptions in relation to FFDM and the impact of the workshop over time. Data were collected a number of times – specifically, pre-workshop (on the day of the workshop); post-workshop (immediately after the workshop); and as a follow-up (between five and nine months after the workshop).[7] Two different categories of questions were included in the panel survey: questions that were only asked in one of the three rounds and questions that were repeated in all three rounds to assess how participant's perception of specific issues changed over time.

Questions covered a range of topics, including respondents' understanding of the concept of FFDM; their perceptions of the relevance of FFDM; their perceptions of the level of FFDM in district decision making; their perceptions of the impact of future threats on district development; and how they rated the effectiveness of the ACCRA workshop. Responses to most of these questions were delivered along a five-point Likert scale, that is, as a set of prescribed answers that fit along a scale from high to low. For example, respondents were asked the following question: 'How flexible is district development planning in responding to future

7. Delivery of the follow-up surveys varied in each country (Ethiopia: six months; Mozambique: five months; Uganda: nine months).

changes in the medium term (between now and 2030)'; possible answers were the following: extremely flexible; very flexible; moderately flexible; slightly flexible; and not at all flexible. Each answer is assumed to be evenly spaced (i.e. the difference between 'extremely' and 'very' should be the same as the distance between 'moderately' and 'slightly'), thus making it possible to treat the responses as interval data and measure them accordingly (see section below for a discussion on the assumptions and limitations in interpreting Likert scale data). Importantly, any inferences and findings taken from the survey results need to be triangulated with further qualitative findings.

Where Likert scale data were not appropriate, open-ended questions were asked, such as the following: 'What are the two biggest constraints to FFDM in district development planning?' Answers were coded to allow them to be categorised and grouped accordingly.

4.3.1 Pre-survey

The pre-survey acted as a baseline for measuring the impact of any change in people's perceptions over time, and was delivered at the start of the workshop (Uganda: n=35, Ethiopia: n=18, Mozambique: n=20). Information was gathered with regard to the respondent's job title, length of time working in the district (or relevant other administrative level for workshop participants from, for example, zonal or national level), function and role in decision making, gender and age. This allowed for observation of differences between groups. In addition, in order to minimise the risk of a 'response shift bias' (the change in understanding people obtain from a clarification of a particular term, Howard, 1980), we administered the questionnaire to workshop participants after a brief introductory session on principles of FFDM – the first act in each of the three country workshops.

4.3.2 Post-survey

Post-surveys were delivered towards the end of each of the ACCRA workshops (Uganda: n=31, Ethiopia: n=23, Mozambique: n=21). As the workshops closed with a celebratory exercise (deemed likely to strongly bias respondents' answers), the post-survey was delivered just prior to this. The survey featured to a large extent the same questions as the pre-survey.

4.3.3 Follow-up survey

Follow-up surveys were delivered between five and nine months after the workshops were held in each of the case study locations (Uganda: n=36, Ethiopia: n=23, Mozambique: n=21). Originally, it was planned to carry out follow-up surveys nine months after the workshops, which would have better allowed for assessing how much of the learning from the FFDM workshop would be taken up in the next years development planning round. However, timelines had to be adjusted in each country to take account of unexpected internal and external events. For example, in the context of Mozambique, a large flood event affected the study site, causing a national disaster and requiring the postponement of the workshop by three months. Individuals who had taken part in the workshops and who had previously conducted the pre- and post-surveys were posed questions related to those in the prior surveys. This allowed an assessment of individuals' changing perceptions over time. In addition, the survey featured a number of additional questions to evaluate the perceived effectiveness of the workshop (for a sample of the survey see Annex D)

4.3.4 Selection of interviewees and workshop participants

Interviewees for the PEA key informant interviews came from both district and national levels, and were identified based on their knowledge of district-level planning processes. In all countries, great care was taken to include both technical experts and actual decision makers from relevant sector ministries (e.g. agriculture, water, planning, women's affairs, infrastructure development, DRR etc.), as well as representatives from civil society organisations (CSOs) and NGOs. We also carried out interviews with farmers in selected communities, so as to obtain their views of the planning process in general and of their involvement in decision making in particular.

Baseline key informant interviews were held with people who would then also attend the workshops. These were mainly representatives from district government, and again represented both technical experts/decision makers and representatives of CSOs and NGOs present in the district.

Identification of workshop participants was carried out in close collaboration with ACCRA partners. This generally involved drawing up a long list of district technical experts and decision makers from relevant government line ministries. The relevant district office then carried out final selection of workshop participants. For example, in Ethiopia, invitation letters were sent to the relevant district government departments asking them to nominate two people – one technical expert and one office head (i.e. decision maker). Similarly, NGOs and CSOs were invited to nominate participants for the workshop.

Unfortunately, a number of participants were not present throughout the entire workshop and therefore

missed filling in either the pre- or the post-workshop survey. Similarly, we were not able to locate all workshop participants for the follow-up surveys. This reduced the number of survey responses filling in all three surveys we could use in subsequent analyses. This resulted in small numbers of respondents filling in all three surveys that were used in later analyses (Uganda: n=31, Ethiopia: n=18, Mozambique: n=13)

Qualitative follow-up interviews were held with a selection of workshop participants and a small number of individuals not previously engaged with the ACCRA process, for cross-validation. Interviewees were selected partly based on their availability at the district at the time of research and their willingness to take part in the interview, as well as purposefully, to ensure a good spread of interviewees across sectors, including technical experts as well as decision makers.

4.3.5 Data analysis

Analysis (using SPSS) of the ACCRA surveys was carried out in a number of ways. First, we used descriptive statistics to get a handle on the composition and make-up of workshop participants in each of the three case study locations. Second, we analysed responses by presenting them in the form of diverging stacked box plots to show the distribution of responses for each question across the three rounds of the panel survey. Third, we extended the analysis to present different means, medians and standard deviations of Likert scale responses. This allowed for a simple comparison of survey responses for each individual question over time. Fourth, we applied non-parametric statistical tests to understand if differences between surveys were statistically significant, and therefore more robust (and with a lower likelihood that any observed difference in survey responses owed to chance). In all cases, tests were conducted between paired samples (i.e. each individual's responses were compared across the three surveys they filled in).

To conduct the statistical analyses, we applied two non-parametric tests. A Friedman test (Corder and Foreman, 2009) was used to see if there were significant differences between all three survey responses. If significance was observed, it suggested there was a low chance that the difference in all three answered (pre-/post-/follow-up) surveys could be attributed to chance. Part of this difference could then be attributed to external factors (such as the influence of ACCRA's capacity-building activities, or other interventions by other agents). However, attribution to a single event is difficult, and can be further elaborated only through triangulation with other sources of information, such as qualitative interviews.

To allow for greater depth of analysis, a Wilcoxon matched pairs test was used. This compares individuals' responses across two surveys. As the pre-survey was acting as a baseline, the comparisons of interest were between the pre- and post-surveys and the pre- and follow-up surveys. This allowed for an observation of whether statistical significance was observed over two time periods, and therefore a more precise evaluation of perceived change.

4.4 Follow-up interviews

The objective of the follow-up interviews was primarily to gain greater depth and clarity on the effectiveness of ACCRA's activities in the district and to gain a better insight into possible causal factors behind any impact or policy changes that were attributed through the quantitative surveys to the workshops. Interviews were semi-structured in nature and followed a similar structure as the questions asked in the three rounds of the survey.

4.5 Internal consultation and consolidation

The final source of information was derived from two regional internal workshops held in Addis Ababa (September 2013, involving national coordinators and capacity-building officers) and London (October 2013, with participation from representatives from RCCC, the abaci Partnership and ODI). These sought to elicit feedback and recommendations from the researchers involved in supporting the design, delivery and evaluation of the three country workshops. Feedback was sought through a variety of consultative processes, with all responses grouped and clustered in order to synthesise any recommendations.

4.6 Limitations of the research process

Although a multi-methods approach such as the one developed and applied by the ACCRA research team is desirable for assessing the impact of capacity-building activities, it is not without its caveats:

1. Surveys, in order to be able to produce meaningful results, should include a large number of participants. However, as only a limited number of participants

attended the FFDM workshops, the number of survey participants here was necessarily limited. Results presented in the figures in the following sections (and tables with statistical analyses provided in Annex A) need therefore to be interpreted with caution. It is also for this reason that we did not attempted to compare survey results across countries and run statistical analyses to detect country-specific differences. This does not diminish the intrinsic value of the information gathered.

2. Although the research methodology and timelines were designed in such a way that they could be carried out in the same manner in each country, this was not always possible, for a number of reasons. First, timelines had to be adapted to take account of internal or external events, and it was thus not possible to run the different research activities in each country at the same time relative to the district planning process. This resulted in different timelines in each country and, most notably, different time lags between the workshop and the follow-up research, which may have significantly influenced the results. Second, national researchers focusing on the qualitative research, as well as ODI researchers, were different in each country, which may have influenced the collection, analysis and interpretation of information. Third, workshop facilitators were different in each country. Again, it is highly likely that this led to different workshop experiences for the participants and therefore different survey results.
3. Although they have many uses, surveys cannot capture all of the nuances in understanding different interpretations and applications of the workshop. Respondents might not always fully understand the question, might be rushed, might answer to meet what they assume are the researcher's expectations or might answer strategically to better address their own needs. An example of this might be seen in the mismatch in Mozambique between a low understanding of FFDM and medium to high perceived relevance to respondents' jobs and district planning (see Figure 19).
4. Although the results of both the quantitative and the qualitative research show that a game-enabled reflection approach such as the one designed by ODI, the abaci Partnership, RCCC and Antidote is able to communicate abstract and complex issues to lay audiences, attributing observed change (e.g. with regard to the level of appreciation of the importance of incorporating flexibility and longer-term thinking into decision making) solely to the workshop is impossible, because of a number of compounding factors. Key among these are capacity-building activities carried out by ACCRA, but also other actors, not only directly on issues related to FFDM but also in relation to integration of CCA and DRR. Furthermore, the time period between the workshop and the follow-up qualitative research was too short to see concrete examples of change in, for example, district plans.

Reasons for these caveats are numerous. They relate partly to external events, partly to resourcing and time constraints. In an ideal world, the workshops would have been standardised, delivered at the same point in time relative to the planning cycle in each country; the same researchers would gather data; they would have featured a larger sample, including a control; there would have been repetition of workshops with the same target audience (but different individuals participating) to limit selection bias; and all participants would have attended and stayed for the full duration of the workshops, filling in all survey responses appropriately.

Unfortunately, we do not live in an ideal world, and compromises had to be made. Nevertheless, the research and facilitation teams did their utmost to maintain rigour and robustness in the research process while taking account of a challenging and constantly evolving policy environment.

5. Results

RESULTS OF THE VARIOUS ROUNDS of ACCRA's research are separated into country-by-country analyses. These are presented below and include summarised findings from both the quantitative and the qualitative sources of data. With regard to analysis of the survey results, it is important to note that the sample size for all three surveys was relatively low, especially in Ethiopia and Mozambique. Therefore, any statistical computations need to be interpreted with care and considered alongside the study's qualitative findings. Despite this, outputs from the surveys are an important complement to other sources of data used in the analysis, and contribute substantially towards our understanding of people's changing perceptions and attitudes towards FFDM.

5.1 Uganda

Kotido district is located in Karamoja region of northern Uganda (see Figure 5). This is a semi-arid area with annual average rainfall of approximately 520mm and temperatures ranging from 20 to 35 degrees centigrade. Climate variability is a feature of Kotido, with droughts and floods posing the primary hazards within the district (Muhumuza and Jones, 2013).

Karamoja has a long history of conflict and insecurity, contributing to its position as an under-developed and chronically poor region within Uganda. Kotido has an estimated population of 377,102,[8] primarily supported by agro-pastoralist and pastoralist livelihood activities. Approximately 80% of the population lives below the poverty line (see Jones et al., 2013 for more).

5.1.1 Characteristics of district development planning

Although district development planning is decentralised on paper, government spending in Uganda is delivered through the national priority sectors of roads, water, health, education and agriculture. While the district development process is designed to involve a wide range of stakeholders and to be holistic, in practice planning is limited to these five areas, and initiatives outside of these sectors are not supported. Often, the role of district councils is reduced to deciding the locations in which to implement centrally determined plans (Muhumuza and Jones, 2013).

In Kotido, drought management and DRR are two important planning activities not provisioned for under the government framework. While attempts have been made to create a structure for disaster preparedness and response at district level, with Kotido establishing a district disaster management committee, such activities must be resourced from within the district itself, presenting a challenge to marginal areas like Kotido that have narrow tax bases and limited sources of revenue. Thus, little progress has been made towards planning for current and future risks. (For more details on the political economy of decision making in Kotido, see Jones et al., 2013b).

Figure 5: Map of Kotido district, Uganda

Source: Based on GADM database. www.gadm.org

8. Based on 2002 Census: www.ubos.org/index.php?st=pagerelations2&id=16&p=related%20pages%202:2002Census%20Results

5.1.2 Results from three rounds of ACCRA research

Thirteen people participated in the qualitative interviews held with key informants one week prior to the ACCRA workshop in Kotido district in November 2012. These baseline key informants included district officials, technical experts and NGO staff. Not including the workshop trainees, a total of 35 participants responded to the pre-workshop survey and 31 to the post-workshop survey. An additional participant took part in the follow-up survey, bringing the total to 36.

Table 5: Numbers of participants during different stages of the ACCRA research in Kotido

Source of information	Number of participants
Baseline key informant interviews (qualitative)	13
Pre-workshop survey	35
Post-workshop survey	31
Follow-up survey	36
Follow-up interviews (qualitative)	23

The participant characteristics presented in Figure 7 are based on the 31 participants who took part in all three survey rounds. Analyses of participants' characteristics showed that there were no significant differences in responses between gender and sector (see Table A6 in Annex A). Responses regarding the flexibility of district development planning and incorporation of future challenges in the medium and long term were shown to be dependent on the length of time spent in the district. All other questions showed no statistical significance between participants' characteristics.

Follow-up qualitative interviews were also undertaken in Kotido district in August 2013. A total of 23 follow-up key informants took part in these interviews.

5.1.3 Confidence in understanding the concept of FFDM

The majority of participant reported moderate confidence in understanding the concept of FFDM before the workshop (44%), increasing to 'very confident' directly afterwards (58%). The follow-up survey carried out nine months after the workshop showed lower confidence amongst participants than post-workshop but generally higher than pre-workshop levels (52% 'very confident', 44% 'moderately confident'). These trends in confidence in understanding the concept of FFDM were significant across the three survey rounds ($p=0.019$), particularly the rise directly after the workshop ($p=0.003$). These results are in line with expectations, with the decline in confidence observed in the follow-up surveys possibly owing to the realisation of the scale of the challenge of putting FFDM concepts into practice after a period of time, based on qualitative follow up key informant interviews.

In the follow-up interviews held nine months after the workshop, around half of respondents still had a fair idea of the concept of FFDM, although they could not necessarily provide a full overview of the different aspects of FFDM. Rather, they mentioned one or two characteristics of the concept, such as 'flexibility in planning' or 'planning for unforeseen eventualities'. Others indicated that FFDM was about 'adaptation to arising situations' or 'integrating risks into development plans'. Around 30% of respondents saw FFDM as cross-sector collaboration in planning.

5.1.4 Relevance of FFDM

In the baseline key informant interviews, the majority of respondents (12 of 13) agreed that the principles of FFDM were relevant to district development planning. It was acknowledged that FFDM would give districts the opportunity to be more innovative and independent of development partners in planning for disasters. However, it was also felt that the principles of FFDM could not be applied in practice because of a lack of resources at district level, the rigidity of grants earmarked for a limited set of development interventions and a top-down approach that promotes dependency on external actors.

5.1.5 Flexibility of district development planning in responding to future change

The majority of baseline key informants (9 of 13) reported an absence of flexibility in district development planning in Kotido owing to central government restrictions imposed on planning and funding processes, particularly in the area of emergency preparedness. For example, no funds were set aside to deal with a cholera outbreak in 2011, and the district had no choice but to appeal to the Office of the Prime Minister and development partners. Several informants (4 of 13) felt there was limited flexibility in district development planning given the bureaucracy involved in reallocating central funds to districts in the event of need. Some sectors, education for example, were reported as having a 10% reallocation allowance. However, reallocation is reportedly rare in practice because of frequent budget cuts. Lack of flexibility was attributed in part to the narrow tax base of the district and in part to a lack of political will. For example, as one key informant explained:

'The district has not done anything to address the negative effects of climate change. There is a lot of charcoal making in

Figure 6: Uganda survey – characteristics of participants

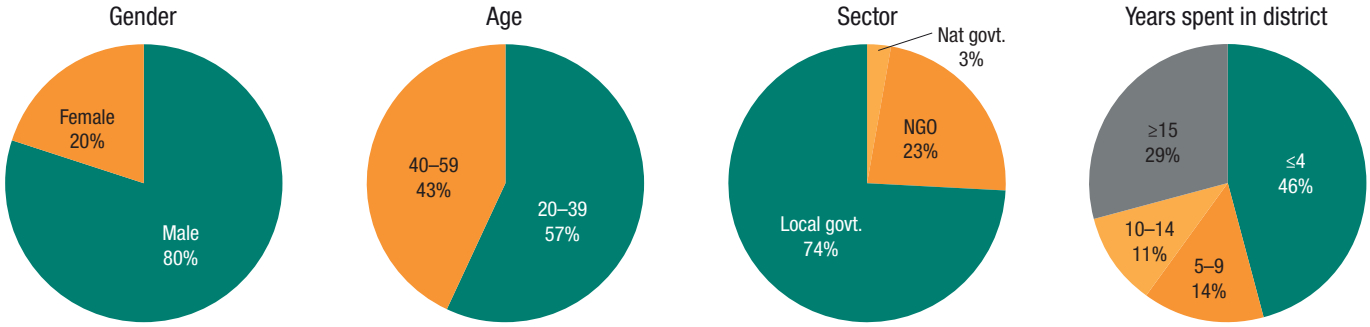
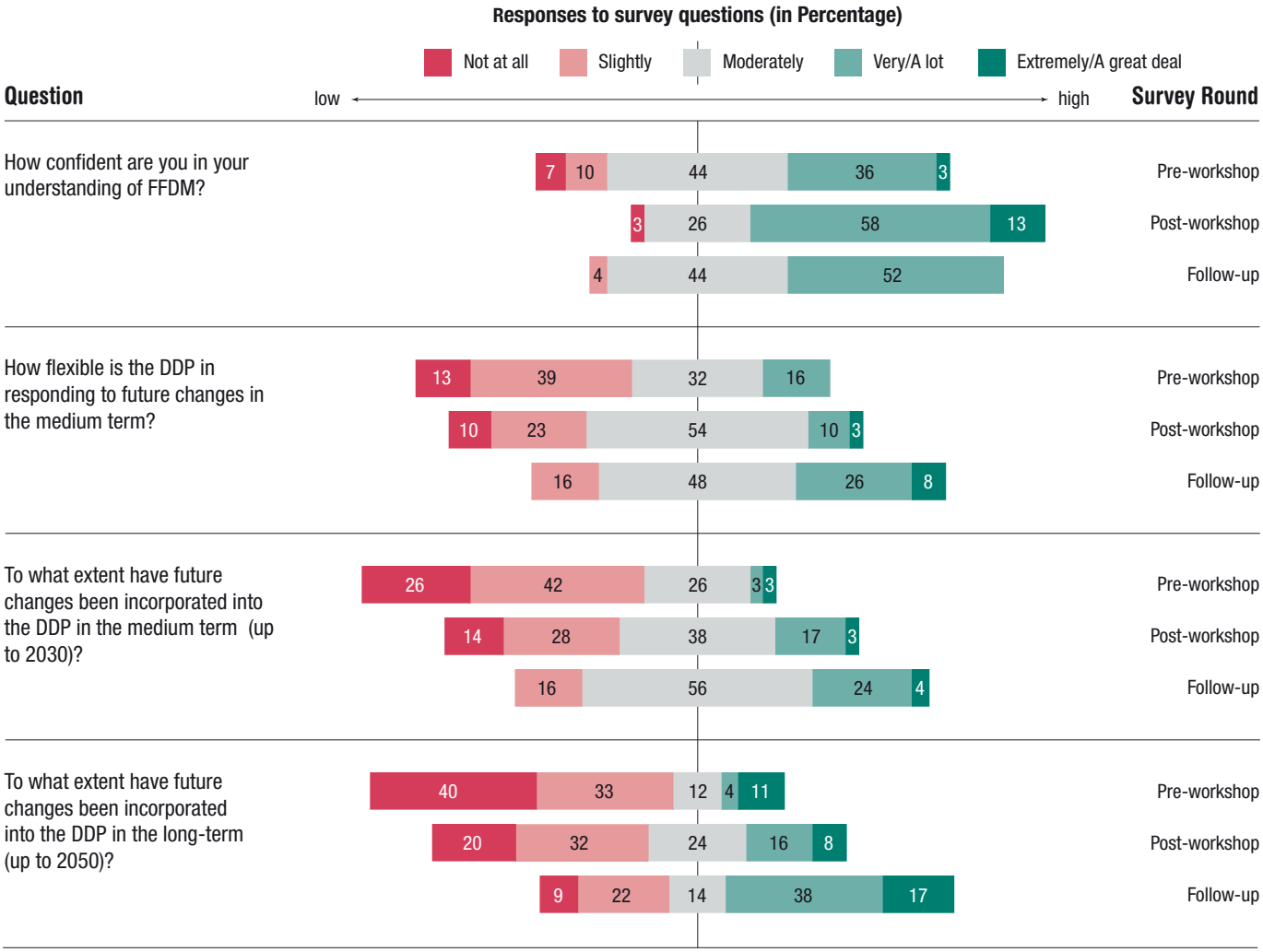


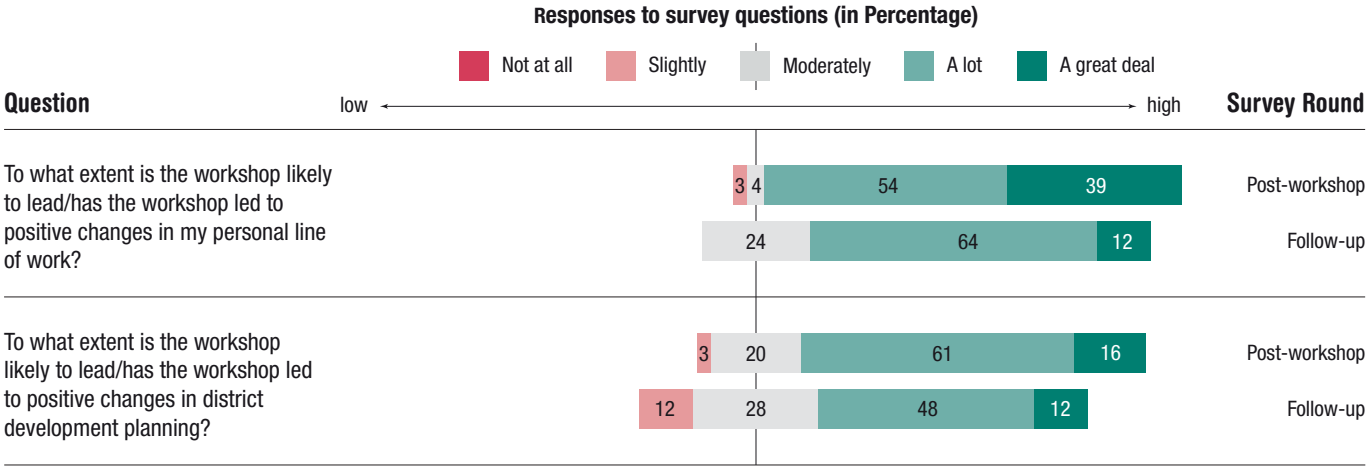
Figure 7: Breakdown of responses across three rounds of surveys in Uganda



the district. Communities are ignorant about the effects of what they are doing […] There have not been deliberate attempts to put a by-law in place to protect the environment.' (NGO partner, Kotido, 2012).

The majority of pre-workshop survey responses supported the view that district development planning is only 'slightly flexible' (39%). However, participants appeared to revise their opinion post-workshop, with the majority judging district development planning to be 'moderately flexible' in the medium term (up to 2030) compared to what they had originally thought (54%). This may owe to the realisation that there is more 'wiggle room' than originally perceived, particularly in relation to the extent to which collaboration and information sharing can be achieved without external support. In the follow-up survey, 18% more participants reported district development planning to be 'very flexible' compared to post-workshop responses and no participants selecting 'not at all flexible' (down from

Figure 8: Likelihood of positive change in Uganda participants' jobs and district development planning generally



10% post-workshop), perhaps in acknowledgement of existing areas of 'wiggle room' within an apparently rigid planning system. The differences in perceptions of how flexible DDP is in responding to future changes in the medium-term appear to be highly significant (p=0.000), particularly between the pre-workshop and follow-up surveys (p=0.003).

5.1.6 Incorporating future changes in district development planning

According to the majority of baseline key informants (10 of 13), future changes up to 2030 and 2050 were not being incorporated in district development planning, which was largely attributed to lack of funding. For example, earlier attempts at contingency planning for drought and animal diseases were judged ineffective, as they had not been incorporated into the district development plan. As one informant stated in the baseline interview,

'We are not really in charge of our plans and budgets. Every Ministry sends its own guidelines.'
(District Chairperson, Kotido, 2012).

The remaining baseline key informants (3 of 13) felt that the strengths, weaknesses, opportunities and threats (SWOT) analysis carried out by all sectors as part of district development planning was sufficient in terms of incorporating future changes. Some of them did concede that in practice this process captures only current, not long-term, issues.

The majority of survey participants' responses before the workshop suggested that the extent to which future changes had already been incorporated into district development planning in the medium term (up to 2030) and long term (up to 2050) were relatively little (42% and 33% respectively). After the workshop, and again in the follow-up survey, the majority of participant responses suggested an increased perception of the extent to which future changes were incorporated into district development planning in the medium term with 38% and 56% respectively reporting 'a moderate amount'. For the long term, the majority of participants showed little difference in their view of district development planning in the post-workshop survey but a marked difference in the follow-up survey responses with the majority (38%) reporting the extent to which future changes were incorporated into DDP to be 'a lot'. These trends across the three survey rounds were significant (p=0.000 and p=0.081 up to 2030 and 2050 respectively). Exploring responses between pre- and post-workshop surveys and the pre-workshop and follow-up surveys supported these results for the medium-term timescale (p=0.024 and p=0.000, respectively). For the long-term timescale, perceptions about incorporating future changes appear to have taken longer to increase, with significant results found only between the pre-workshop and the follow-up surveys (p=0.012).

These results signal a greater awareness after the workshop and beyond of the challenges of planning in the medium and long term. It is feasible to suggest that immediate consideration was given to the medium-term timescale after the workshop, and this was extended to consideration of the longer term as time went on.

5.1.7 Likelihood of positive change

After the workshop, the majority of participants perceived the likelihood of positive change in their jobs and in wider district development planning as a result of the workshop to be 'a lot' (54% and 64% respectively) or 'a great deal' (39% and 16% respectively). This positive change appeared to have declined slightly for both participants' own jobs and district development planning generally in the follow-up survey, which was a statistically significant result (p=0.045). Interestingly,

the likelihood of positive change appeared to be slightly greater within participants' own jobs than within district development planning more generally, with no significant trend identified for the latter.

In the follow-up interviews, all respondents overwhelmingly acknowledged that the FFDM and capacity-building activities had been useful in their day-to-day activities. Examples given included a broader understanding of decision making in the planning process, helping to plan ahead, promoting cross-sector working and information sharing and raising awareness of risks. Several respondents felt their private household activities had also been improved.

5.1.8 Perceptions of future challenges

Key informants in the baseline interviews identified a range of future threats and opportunities. Widely acknowledged threats included environmental degradation owing to flooding and human activities (e.g. deforestation, charcoal production and bush clearance) and insecurity and prevalence of arms in the district. Initiatives promoting sedentary agriculture over pastoralism were mentioned in the context of internal migration, cultural rigidity in accepting new approaches, social exclusion and spread of diseases. Inadequate funding and capacity within the district were also cited, alongside poor harmonisation of government programmes and poor relations between technical and political leaders. The two highest ranked opportunities identified were the advent of relative peace owing to improved security and changing community attitudes to education, with improved service provision in this sector. Presence of development partners was also considered useful in terms of helping to build capacity.

The pre- and post-workshop survey responses reinforced these findings, with the majority of participants identifying changing weather patterns as the factor most likely to have the biggest impact on district development planning up to 2030. This was followed by changes in the natural resource base, in political stability, in population dynamics, in food availability and in disease incidence. Fewer participants cited changes in energy supply. The responses pre- and post-workshop were largely similar, with changes only in the natural resource base (pre: 13%, post: 23%) and incidence of disease (pre: 11%, post: 3%).

5.1.9 Constraints to FFDM in district development planning

All 13 respondents in the baseline key informant interviews mentioned funding constraints as barriers to FFDM in district development planning, particularly with regard to restrictive conditional central government grants and the narrow tax base of the district. Lack of education in the community and associated inability to hold leaders accountable was the second most cited constraint, followed by government corruption at both central and district levels affecting service delivery. Finally, limited capacity and technical knowledge were mentioned as barriers. The consensus of all interviewees was that FFDM could be better promoted through improved district revenue streams, including from locally generated sources and central government. Mutual cooperation with development partners and learning from other districts were also mentioned as means of overcoming these constraints to FFDM in district development planning.

The biggest constraints to FFDM in district development planning cited in survey responses supported these findings. These open-ended responses were summarised as a combination of lack of resources, lack of leadership, lack of capacity and lack of collaboration or rigidity in the planning process. These factors were very similarly attributed, with only few differences observed between pre- and post-workshop surveys. A notable exception being that a small number of participants appeared to have revised their views on

Figure 9: Future changes most likely to have an impact on the district's development up to 2030 in Uganda survey responses

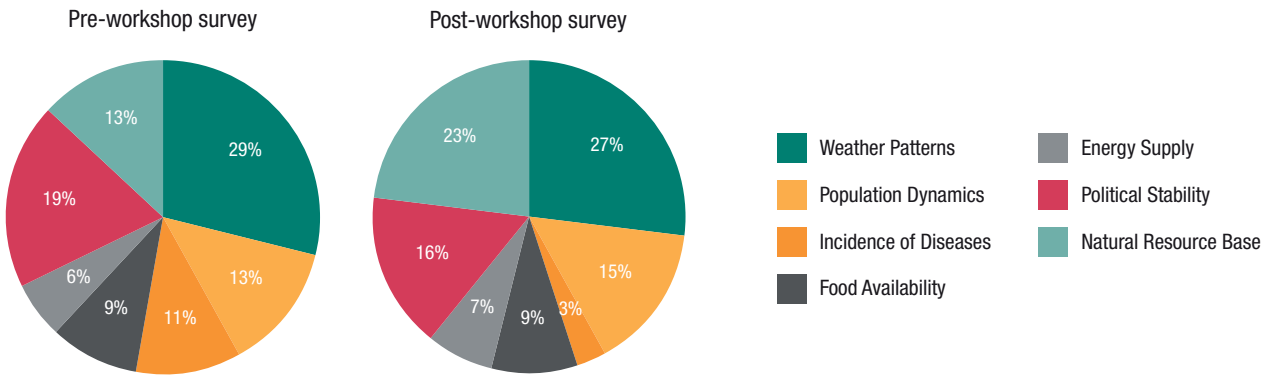
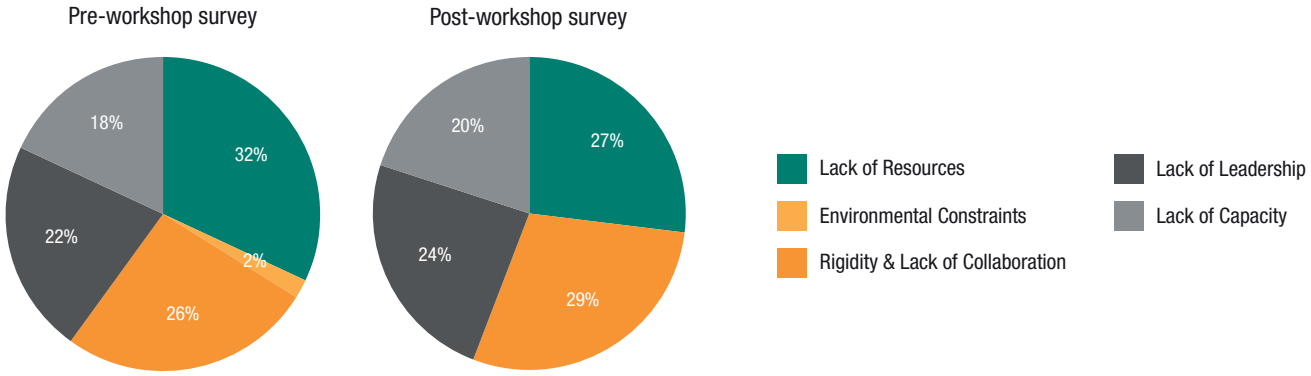


Figure 10: Perceived constraints to FFDM in district development planning before and after the workshop in Uganda survey responses



the potential of resources in constraining FFDM after the workshop, rather emphasising lack of leadership or capacity.

5.1.10 Changes in planning of FFDM

In the follow-up interviews held nine months after the workshop, the majority of respondents (18 of 23) confirmed that there had been a great deal of positive change in how district planning meetings happened in Kotido since the workshop and capacity-building activities. There was reportedly greater emphasis on early warning, environmental issues and climate change risks, with each sector required to address these in their activities and projects. According to the clerk to Kotido, the district development plan is being updated

'[…] to accommodate all crosscutting issues, including climate change. Before the ACCRA *training , climate change was not directly catered for in the district plans but now it is there. This is because of awareness by* ACCRA.'

At the request of district government, a capacity-building workshop was held in Lira by ACCRA and Oxfam to assist with building FFDM principles into the district development plan while also meeting national-level criteria. This Lira workshop was said to have effected significant change in this respect.

While the annual district development planning cycle and the five-year planning horizon have not changed, there is reportedly more preparedness to manage disasters compared with in the more reactive approach taken previously. Interviewees expressed hope that the 30-year planning horizon of Vision 2040, a strategic national plan for Uganda's socio-economic development up to 2040, would lead to more forward-looking planning processes. Similarly, the organisational structure of the district does not appear to have changed. According to one planning official, '*Roles have not changed but are being assigned differently*', with every sector head being responsible for addressing climate change issues in their plans. While no champion figures appear to have emerged since the workshop and capacity building, some felt it was too early for such change to have come about.

Interviewees reported more cross-sector engagement and collaboration, with more meetings and information sharing taking place between district technical officials and development partners. Advice on vulnerabilities, for example, is being sought more often from NGOs. For example, the Natural Resources Department, now responsible for climate change action, is making greater use of weather forecast information, which, according to a senior education officer, '*now [weather forecasts] come monthly. It used to come to specific people and quarterly. The Chief Administrative Officer has made it a necessity for them to be disseminated to all local officials.*' Raising awareness at the community level has also become more of a priority, with more stakeholder engagement in the planning process. However, interview responses indicated that, while progress had been made, more could be done to seek new information and engage external expertise to improve planning on a range of issues, including climate change.

Over half the follow-up key informants felt that influential district policymakers were engaged and committed to promoting FFDM principles. For example, the unsustainable cutting of trees in the district, which was raised in the first round of interviews, has been addressed since, with efforts to enact a by-law supported by political leaders. Other interviewees felt political leaders preferred to act only where they could identify political gain.

5.1.11 Changes in implementation

While there was no overwhelming response from key informants in the follow-up interviews about how engagements with line ministries had changed, a few

felt that funds were being released for previously rejected activities. For example, according to the acting district agricultural officer, '*Line ministries have now strengthened the practice of giving funds for data collection and management of crop agronomy practices, awareness creation and agricultural infrastructure*.' The example of increased weather forecast information was also cited as positive change in the Meteorology Department. Also, a monitoring indicator for climate change has been implemented since the ACCRA intervention. Others felt that new activities could not be implemented because '*The budget guidelines will not allow it*' and '*The hands of district government are tied*.'

Over half the respondents in the follow-up interviews reported new vertical and horizontal relationships with partners who were involved in decision making and implementation, primarily through information sharing and early engagement. Examples given were World Vision, Save the Children, Caritas and the International Union for Conservation of Nature (IUCN), most of which are established partners. This change has reportedly been driven by development partners, who were '*pushing hardest*' and providing funds for collaboration.

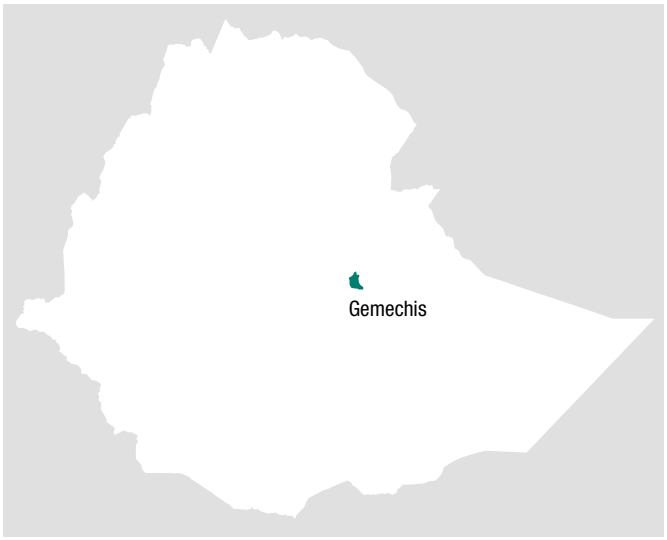
When asked about desired future changes to district development planning as a result of the workshop, interviewees identified a series of measures. These included prioritisation and funding of climate change issues in district plans, decentralisation of budgets and priority setting from central to district government, increased stakeholder awareness, improved availability of information and data, continuous capacity building of staff and greater collaboration between departments and sectors.

5.2 Ethiopia

Gemechis *woreda* (district) is located in West Hararghe zone of Oromia region of Ethiopia (see Figure 11). Average annual rainfall ranges from 850mm to 1,000mm, with an average of 150 rainy days distributed over two rainy seasons (July-September and March-May). Gemechis has an estimated population of 184,238[9] and comprises both highland areas, where rain-fed agriculture is the primary livelihood activity, and lowlands, where irrigation supports the production of a range of cash crops alongside rain-fed small-scale subsistence agriculture, based on crop and livestock production, including grazing.

9. Based on 2007 Census: www.csa.gov.et/newcsaweb/images/documents/pdf_files/regional/Oromya1.pdf

Figure 11: Map of Gemechis *woreda*, Ethiopia



Source: Based on GADM database. www.gadm.org

West Hararghe Zone in general and Gemechis in particular are among the most disaster-prone areas in Ethiopia, susceptible to both droughts and floods, which adversely affect agricultural production and contribute to food insecurity (Amsalu & Ludi, 2013). As employment opportunities are limited, the population is heavily reliant on food relief to cope with crop failures.

5.2.1 Characteristics of district development planning

In Ethiopia, *woreda* development plans are prepared under the framework of the national Growth and Transformation Plan (GTP). The GTP 2010–2015 sets out comprehensive and detailed targets by sector, defining development priorities for lower administrative levels. In some instances, this hierarchical planning process can lead to a disconnect between community priorities and those specified in *woreda* development plans (Amsalu and Ludi, 2013), and local communities have limited involvement in the planning process despite government directive for a participatory planning process.

Woreda experts admit planning is not flexible in terms of incorporating future risks and uncertainties, but rather is based on targets defined at higher administrative levels, as well as assessment of the current situation and past experience (Amsalu and Ludi, 2013). However, Ethiopia does have significant experience in dealing with emergencies, and *woreda* early warning committees are charged with assessing and reducing the adverse effects of potential disasters, with the support of the zone and regional government where necessary (ibid.). However, these responses remain largely reactive and generally focus on the impacts of existing and visible risk. (For more details on the political economy of decision making in Gemechis, see Jones et al., 2013b).

5.2.2 Results from three rounds of ACCRA research

Table 6: Numbers of participants during different stages of the ACCRA research in Gemechis

Source of information	Number of participants
Baseline key informant interviews (qualitative)	11
Pre-workshop survey	18
Post-workshop survey	23
Follow-up survey	23
Follow-up interviews (qualitative)	13

Eleven people took part in the first round of baseline key informant interviews one week before the ACCRA workshop was held in Asebe Teferi[10] in February 2013. These were *woreda* or zonal officials, seven of whom had taken part in ACCRA's programme of training activities. Not including the workshop trainees, eighteen participants responded to the pre-workshop survey and an additional five people, one of whom was female, responded to both the post-workshop and the follow-up surveys.

The participant characteristics presented in Figure 12 are based on the 18 participants who took part in all three survey rounds. Analyses of participant characteristics showed no statistically significant differences in responses between age and length of time spent in the district (see Table A4 in Annex A). Only one woman participated in the workshop – symptomatic of the low representation of women in government and politics in Ethiopia – and, because she did not participate in the pre-workshop survey, it was not possible to draw conclusions on the role of gender in responding. Statistically significant differences in responses by sector were shown for confidence in the concept of FFDM and the relevance of FFDM to participants' jobs in the pre- and post-workshop surveys and in the pre- and follow up surveys ($p=0.029$ and $p=0.038$, respectively). All other questions showed no statistical significance between participant characteristics.

Follow-up qualitative interviews were undertaken with government officials from Gemechis *woreda* and West Hararghe zone in August 2013. A total of 13 individuals took part in these interviews.

10. The FFDM workshop was held in Asebe Teferi, the capital town of West Hararghe zone, and included participants from Gemechis *woreda* and West Hararghe zone.

5.2.3 Confidence in understanding the concept of FFDM

Those participants interviewed in the first round who had not participated in ACCRA training on integration of CCA and DRR showed a fair understanding of the principles and importance of FFDM in district development planning, although they acknowledged they would have benefited more from participating in the training programme.

The majority of survey participants (54%) showed a high degree of confidence in understanding the concept of FFDM before and after the workshop (54% and 63% respectively). Several more participants reported 'extremely confident' levels of understanding in the post-workshop (25%) compared to the pre-workshop surveys (6%), a trend that remained in the follow-up survey responses (23%). The change in confidence in understanding the concept of FFDM across the three survey rounds was significant ($p=0.095$), especially the increase in post-workshop confidence ($p=0.035$), as would be expected.

In the follow-up interviews held six months after the workshop, almost all respondents demonstrated some basic understanding of the concept of FFDM, although this varied. Around half (6 of 13) understood FFDM as planning through collaboration and integration of sectoral activities, and planning for unforeseen circumstances and challenges. Others understood FFDM as flexibility in planning and planning in different timescales.

5.2.4 Relevance of FFDM

All baseline key informants acknowledged the relevance of the principles of FFDM to the planning of development activities in Gemechis *woreda* and West Hararghe zone. No marked difference was observed between those individuals who had participated in ACCRA training and those who had not, although the positive effect of the training was generally evident in responses. For example, community participation was felt to have increased since the training and officials felt more enabled to change conventional planning traditions and address future risks and uncertainties.

The workshop itself was seen as likely to bring new insights and perspectives into planning activities and greater potential for community engagement in the planning process, while raising awareness of disaster risks and preparedness. Although conventional planning was considered to be forward-looking, in that five-year plans are already in place, respondents acknowledged that this was relatively short term and focused on current rather than future risk. Current plans were seen

Figure 12: Ethiopia survey – characteristics of participants

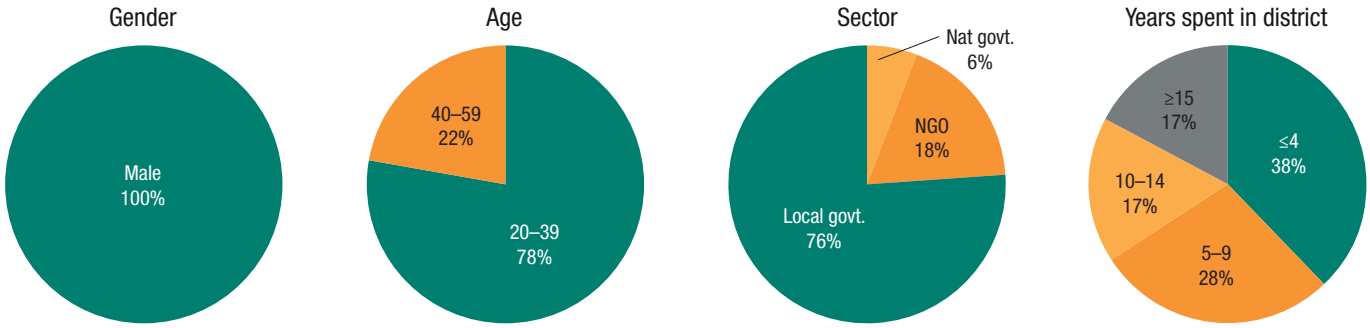
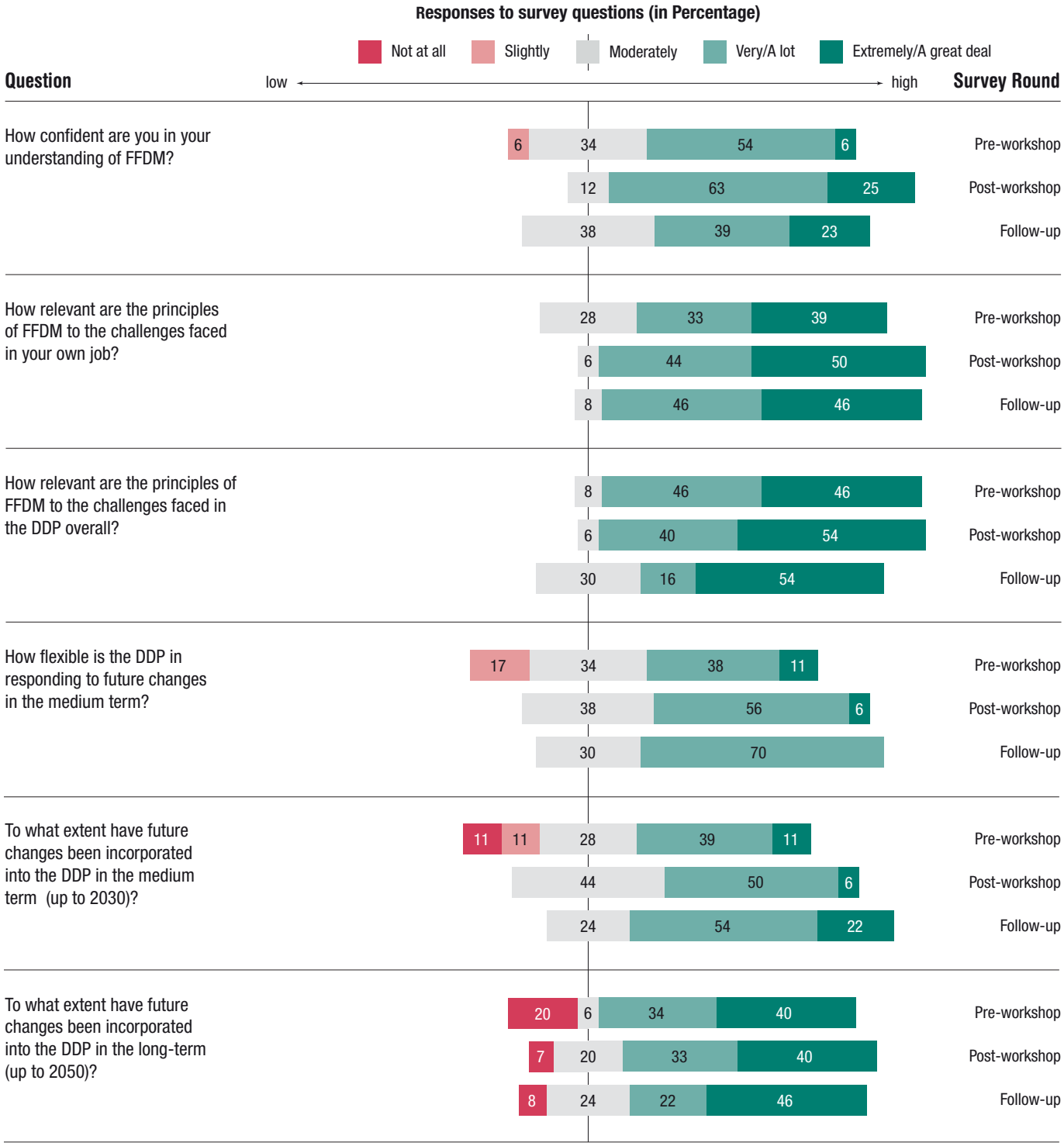


Figure 13: Breakdown of responses across three rounds of surveys in Ethiopia



as too reliant on natural resource utilisation without consideration of sustainability.

The majority of survey participants before the workshop also felt the principles of FFDM were 'extremely relevant' to their own jobs (39%), with this view generally strengthened after the workshop (50%). This was a statistically significant difference (p=0.084). While the relevance of FFDM to participants' jobs appeared to reduce slightly from post-workshop levels in the follow-up survey (46%), this was not a significant difference. Responses suggested a similar trend in perceptions of relevance to DDP more generally, starting with the majority of participants reporting FFDM to be 'extremely relevant' before the workshop (46%) and increasing after the workshop (53%) and in follow-up surveys (54%). The difference between pre- and post-workshop responses was statistically significant (p=0.046).

5.2.5 Flexibility of district development planning in responding to future change

According to the baseline key informants, the five-year framework for district development planning in Ethiopia has long-term positive effects with respect to DRR and CCA. The planning process was seen as flexible enough to accommodate activities that contribute to addressing future risks and uncertainties. While the *woreda* reportedly has the liberty to include additional activities within its plans without interference from higher levels of governance, there are budget and time constraints, and priority is typically given to activities to achieve targets handed down from central and regional government. For example, although there is farmer demand to diversify into poultry production, there is no plan and corresponding budget in place that would allow the district to support this. Meanwhile, farmers receive excessive amounts of fertilisers since this is included in the plan.

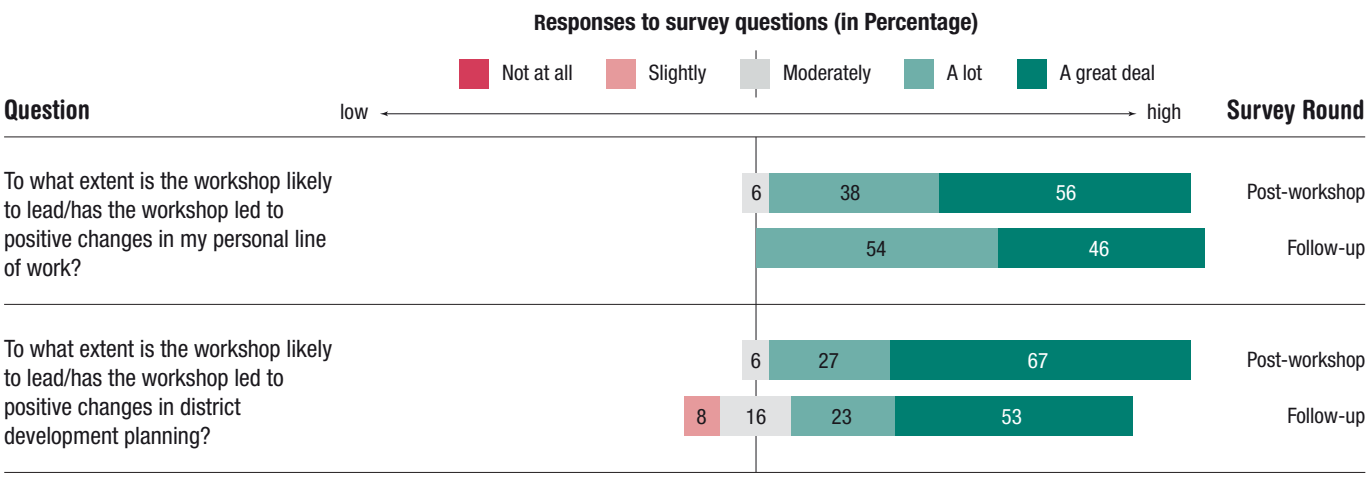
The majority of participants felt that district development planning was 'moderately flexible' in terms of responding to future changes in the medium term (up to 2030) before the workshop (38%). This opinion appeared to have been revised upwards after the workshop (56%) and in the follow-up survey (70%), but the differences were not statistically significant.

5.2.6 Incorporating future changes into district development planning

Baseline key informants indicated that there had been several efforts to incorporate activities that help mitigate future threats. Examples included implementation of grazing controls to restore areas affected by degradation. It was claimed that future threats were often identified in collaboration with communities; for example, gully control and tree planting are taking place in sites communities have highlighted as degraded.

The majority of survey participants who believed the extent to which future changes had been incorporated into district development planning in the medium term (up to 2030) was ' a lot' before the workshop (39%), with the number of participants sharing this view increasing after the workshop (50%) and again in the follow-up survey (54%). Notably, those who had felt future changes were 'not at all' incorporated into district development planning in the medium term before the workshop revised their views upwards post-workshop. The difference across the three survey rounds was statistically significant (p=0.085). In particular, the difference between the pre-survey and follow-up survey was statistically significant (p=0.039). The majority of participants believed the extent to which future changes had been incorporated into district development

Figure 14: Likelihood of positive change in Ethiopia participants' jobs and district development planning generally



planning in the long term (up to 2050) was 'a lot' before the workshop with little difference between survey rounds, although again fewer participants reported future changes to be 'not at all' incorporated into district development planning in both the post- and follow-up surveys.

5.2.7 Likelihood of positive change

The extent to which the workshop was perceived as likely to lead to positive change in participants' jobs more generally was judged by the majority of participants to be 'a great deal' in the post-workshop survey (56%) and 'a lot' in the follow-up survey (54%). Likelihood of positive change in district development planning more generally was judged by the majority of participants to be 'a great deal' in both the post- and follow-up surveys (67% and 53% respectively). However, these differences were not statistically significant.

In the follow-up interviews held six months after the workshop, all respondents said ACCRA's workshop and capacity-building activities had been useful for their careers. However, only a few mentioned applying insights they had gained in their planning activities.

5.2.8 Perceptions of future challenges

Baseline key informants mentioned a number of threats likely to have significant impacts on the development activities of the *woreda*, including population growth and scarcity of agricultural land, leading to environmental degradation and conflict over resources. Water shortages and deforestation were seen as serious threats, as were the risk of flooding to agricultural land and infrastructure and changing rainfall patterns. Opportunities to overcome these threats identified by interviewees included ecosystem restoration, spread of irrigation and livelihood diversification. It was also mentioned that many of the more labour-intensive interventions would become easier to implement because of increasing labour availability.

Pre- and post-workshop survey participants cited changing weather patterns as the future change most likely to have an impact on district development planning up to 2030. This was followed by changes in the natural resource base, with fewer participants attributing likely impacts to changes in food availability, population dynamics, incidence of disease, energy supply and political stability. The relative importance of these factors from the perspective of participants appeared to differ only slightly between the pre- and post-workshop surveys.

5.2.9 Constraints to FFDM

Baseline interviewees identified the need for greater political awareness and will to support FFDM in district development planning. They also identified lack of financial and material resources and relatively high turnover of political leaders and technical experts as constraints. Pressure to meet government development targets in designated timeframes was cited as a constraint to focusing on additional activities such as DRR or specific actions geared towards CCA. Limited knowledge of risks and impacts at the *woreda* and community levels results in resistance to new initiatives. Existing activities in place to address these, for example farmer training centres, are not functioning well. At the zonal level, the focus for planners is on consistency with the regional framework plan, rather than aggregated *woreda* plans. Interviewees emphasised the importance of training for *woreda* sector officials and technical experts and raising awareness in the community to promote FFDM. Regional authorities also have to buy in to the concepts of FFDM to support initiatives at lower administrative levels.

The biggest constraints to FFDM in district development planning cited by survey participants were summarised as a combination of lack of resources, lack

Figure 15: Future changes most likely to have an impact on the district's development up to 2030 in Ethiopia survey responses

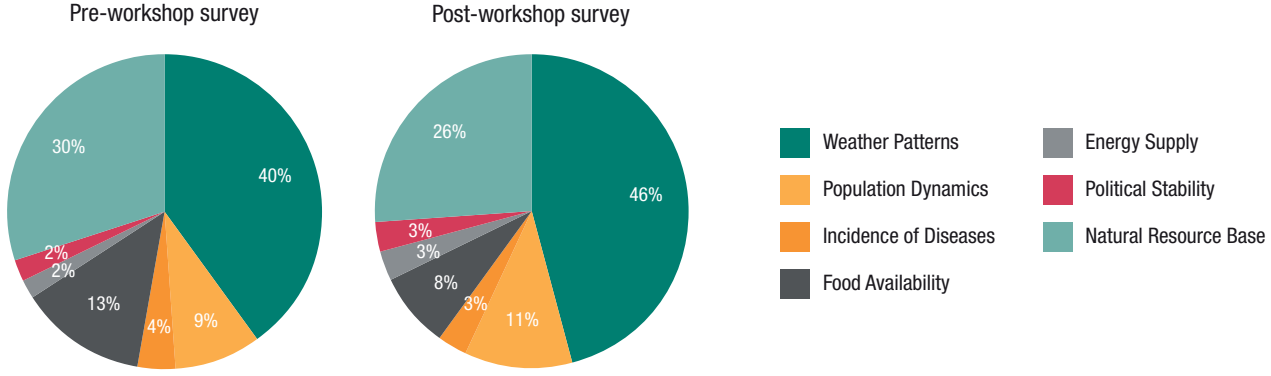
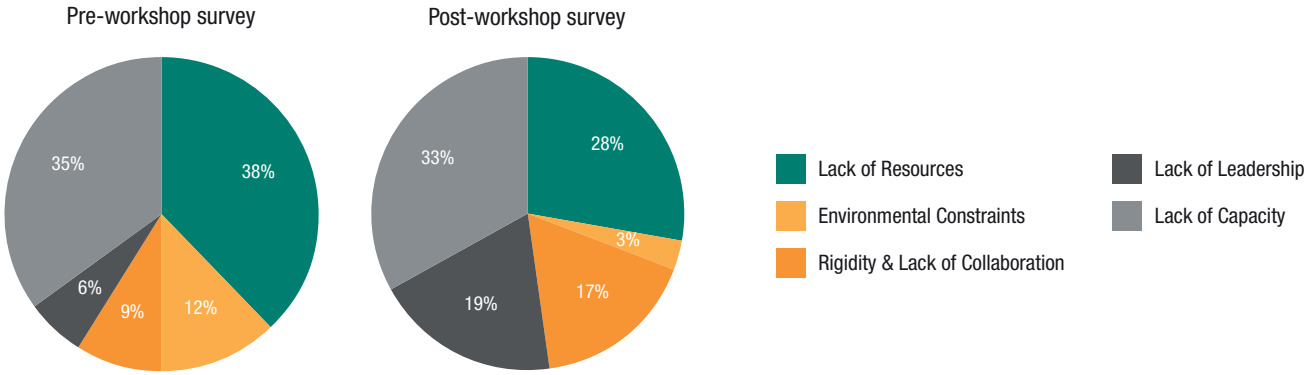


Figure 16: Perceived constraints to FFDM in district development planning before and after the Ethiopia workshop



of leadership, lack of capacity, lack of collaboration or rigidity in the planning process and environmental constraints. Lack of capacity and lack of resources were given as the greatest constraints, with a smaller proportion of participants citing environmental constraints. Interestingly, the proportion of participants citing lack of resources as a constraint in the pre-workshop survey decreased post-workshop, with an associated increase in those citing lack of leadership. A number of interviewees stressed that, although they themselves had understood the concept of FFDM and what needed to be changed, support from political leaders is needed to ensure change on the ground.

5.2.10 Changes in planning of FFDM

In the follow-up interviews held six months after the workshop, around half of respondents felt there had been changes in how planning meetings took place. For instance, the *woreda* office of agriculture had made efforts to bring together experts from other sectors, such as water, health and infrastructure, to jointly prepare integrated five-year plans. One key informant summarised several ways in which the planning process has changed since the workshop:

'*[After the workshop] we increased involvement of the community in the identification and prioritisation of district problems. In addition, the planning process now considers future challenges and problems in anticipation. For example, the District's emergency plan was previously prepared based on prevalent disaster risks – after the disasters occurred. But we now use weather forecast information, and preparation of the emergency plan is carried out not only based on what is prevailing but also in anticipation of potential hazards.*' (Zonal Official, West Hararghe, 2013).

Others did not agree that change had occurred, stating a lack of coordination among workshop participants and limited recognition about the necessity for change on the part of decision makers as reasons. There is also apparently limited expertise related to integrating available information in such a way as to support planning activities. Follow-up interviewees do not believe it is possible for *woreda* development planning to consider longer time horizons, given the five-year national planning framework.

More than half of interviewees reported changes in the topics of discussion in *woreda* planning since the workshop, including the importance of integrating activities and collaboration between sectors, the need to strengthen community engagement to expand activities such as watershed protection and training of other colleagues in the principles of FFDM. In this regard, some initiatives have been carried out in the *woreda* to train nine colleagues from different sector offices.

Only around 27% of follow-up interviewees indicated that district policymakers were committed to promoting FFDM, citing the example of training described above and integration of crosscutting activities between sectors. However, in many cases, district policymakers are reportedly engaged with other political commitments and give priority to meeting national targets set by the government. No decision makers have taken a leadership role, although *woreda* and zonal officials have shown initiative in promoting the principles of FFDM. Workshop participants were mainly technical experts – not political leaders who would have the power to significantly change the way decisions are made in view of prioritising actions towards CCA. Several interviewees mentioned that, in order to have measurable impact, policymakers would need to be targeted specifically for workshops like the FFDM one.

5.2.11 Changes in implementation

None of the respondents in the follow-up interviews mentioned different collaborations with line ministries or involvement of new partners as a result of ACCRA's workshop and capacity-building activities. However,

several did note that the FFDM-related activities they had considered had managed to raise the budget requested.

When asked about futures changes they wished to make to *woreda* development planning as a result of the workshop, all interviewees mentioned a desire to convince district decision makers to support FFDM and integration of sectoral activities. Most appeared frustrated by the lack of support from political leaders, emphasising the importance of raising their awareness of FFDM with training and capacity building. Two interviewees also mentioned the importance of having contingency plans in order to deal with future risks and uncertainties.

5.3 Mozambique

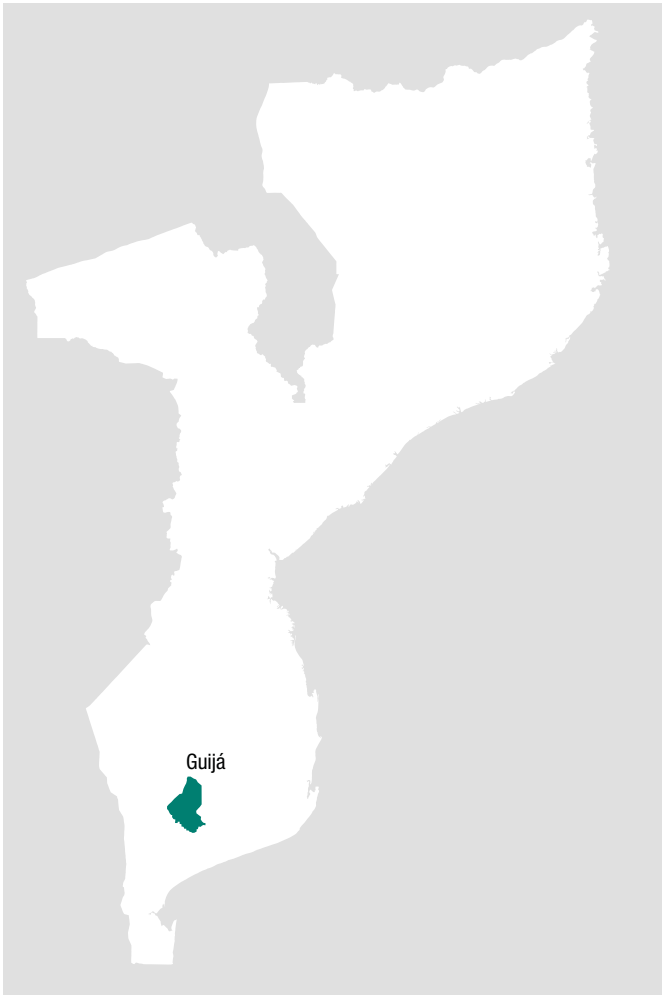
Guijá district is located within Gaza province of southwest Mozambique (see Figure 17). The area is semi-arid, characterised by low and variable rainfall, with an annual average of 400–600mm. Situated within the Limpopo Valley, Guijá is prone to disasters such as droughts, cyclones, floods and storms. In fact, the area suffered a severe flood during the course of the ACCRA Phase 2 research in February 2013, affecting approximately 80,000 people throughout the region (Artur and Anlaue, 2013).

Guijá district has an estimated population of 75,303[11] with a primary livelihood activity of small-scale rain-fed agriculture. The northwest of the district receives relatively less rainfall and is therefore more drought-prone. The farmers of this area are not well equipped to store food reserves, and food insecurity is a problem.

5.3.1 Characteristics of district development planning

Similar to Ethiopia and Uganda, Mozambique has a highly centralised planning process. District planning is undertaken under a five-year plan – *plano quinquenal do governo* (PQG). Based on the PQG, districts develop their own five-year strategic district development plan – *plano estratégico de desenvolvimento distrital* (PEDD). The PEDD process involves a team of technical staff who assess current development status, strengths, weaknesses and opportunities. The PQG and PEDD guide annual district economic, social and budget plans – *plano económico, social e orçamento do distrito* (PESOD), which are funded from central level. Each district then proposes a budget to the provincial administration, which decides which initiatives to fund. Other sources of

Figure 17: Map of Guijá district, Mozambique



Source: Based on GADM database. www.gadm.org

funding are available from central government, but these must be bid for through a competitive process, which can be dependent on political factors (Artur et al., 2012).

Planning to respond to climate change has become a top priority in Mozambique, especially since the severe floods of 2000. Until recently, climate change has been regarded as primarily an environmental issue, with responsibility for action lying with the Ministry for Coordination of Environmental Affairs. However, in the past five years, climate change action has come under the remit of the Ministry of Planning and Development. The National Institute for Disaster Management also plays a key planning role with regard to CCA. In practice, effective district development planning has been constrained by conflicting interests between the central and district levels of government, limited resources available to the district and lack of harmonisation between different plans, which are interpreted differently at all levels (Artur et al., 2012). In addition, there are different governmental and non-governmental command lines for climate change action, including international NGO actors, and meaningful stakeholder participation remains limited (ibid.). (For more details on the political

11. Based on 2007 Census: www.geohive.com/cntry/mozambique.aspx

economy of decision making in Guijá, see Jones et al., 2013b).

5.3.2 Results from all rounds of ACCRA research

Table 7: Numbers of participants during different stages of the ACCRA research in Guijá

Source of information	Number of participants
Baseline key informant interviews (qualitative)	20
Pre-workshop survey	20
Post-workshop survey	21
Follow-up survey	21
Follow-up interviews (qualitative)	17

The first round of baseline key informant interviews in Guijá district was held with 20 individuals in March 2013, before the workshop was conducted in April 2013. A total of 20 participants responded to the pre-workshop survey and an additional person took part in the post-workshop survey. Mozambique survey – characteristics of participants

The participant characteristics presented in Figure 13 are based on the 13 individuals who participated in all three survey rounds. While one female was present at the workshop, she did not take part in the follow-up survey and is therefore not represented in the survey analysis. Important to note is that the district permanent secretary (executive leadership position under the district administrator) attended for part of the workshop and had a strong influence as a champion and political leader. Analyses of participant characteristics showed no statistically significant differences in responses between age and length of time spent in the district (see Table A5 in Annex A). A difference between Mozambique and the other two countries was the presence of community and sub-district officials and civil society representatives (e.g. pastors). This is because country coordinators considered community involvement and a practical training outcome extremely important. Statistically significant differences in responses by sector were shown for the flexibility of district development planning in responding to future changes in the medium term in the pre- and post-workshop surveys and in the pre- and follow-up surveys (p=0.025 and p=0.014, respectively).

Follow-up interviews were held with 17 of the original participants in September 2013.

5.3.3 Differences in application and understanding of Mozambique survey

As the pre-survey in Mozambique was carried out a week before the actual workshop and not at the beginning of the workshop as in the other two countries, there are clear differences between the three stages of the survey. It is understandable that respondents felt far less certain about the meaning of FFDM than in Uganda and Ethiopia. What is then perhaps surprising is that respondents still felt FFDM was relevant to both their jobs and district development planning. There are two explanations to this. First, having an external intervention come to deliver capacity building on a new subject must bring with it the expectation that it is most likely beneficial to them and the district. Second, it is not implausible to assume that something is considered relevant even while not fully understanding all the details. For example, a many people do not understand all the details, drivers and implications of climate change, yet recognise that it is important and will affect them.

5.3.4 Confidence in understanding the concept of FFDM

The majority of participants' confidence in understanding the concept of FFDM was very low before the workshop with 53% describing themselves as 'not at all confident'. The level of confidence increased for the majority of participants to 'very confident' after the workshop (53%) and in the follow-up survey (53%). These trends were statistically significant across all three survey rounds (p=0.000) and between pre- and post-surveys and pre- and follow-up surveys (p=0.001 for both comparisons). The low level of confidence in the pre-workshop survey can most likely be explained by the fact that the survey was carried out a week before the introductory presentation (unlike in the Ethiopia and Uganda research processes). Participants therefore had no previous knowledge of the concepts of FFDM (and therefore the large difference is somewhat to be expected).

5.3.5 Relevance of FFDM

All baseline key informants agreed to some degree that the principles of FFDM were relevant to their own work and to district development planning generally. The reasons provided included the need to adjust plans to fit with allocated budgets, to manage demands from communities and higher levels of government and to make sound investments in infrastructure, education and livelihoods to reduce poverty. Furthermore, it was acknowledged that the district was frequently affected by hazards, which could be better managed through FFDM approaches.

The majority of participants before the workshop were of the view that the principles of FFDM to their own jobs were 'very relevant', and this view remained

Figure 18: Mozambique survey – characteristics of participants

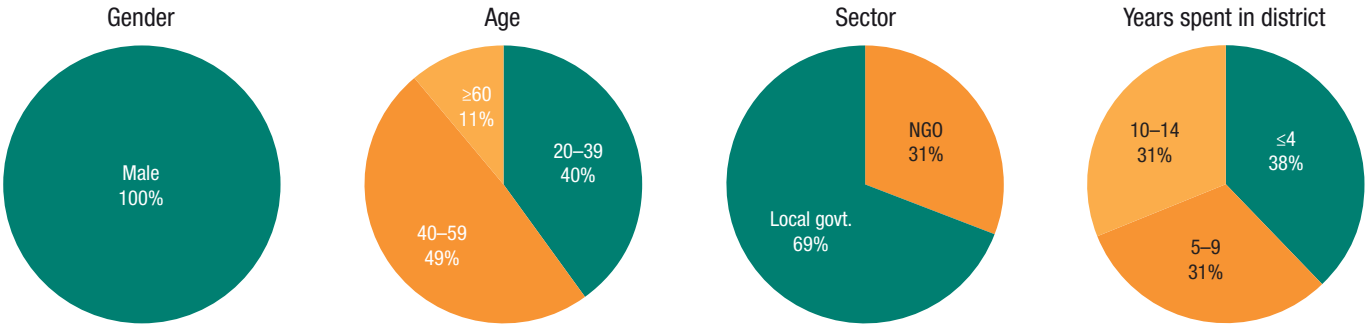
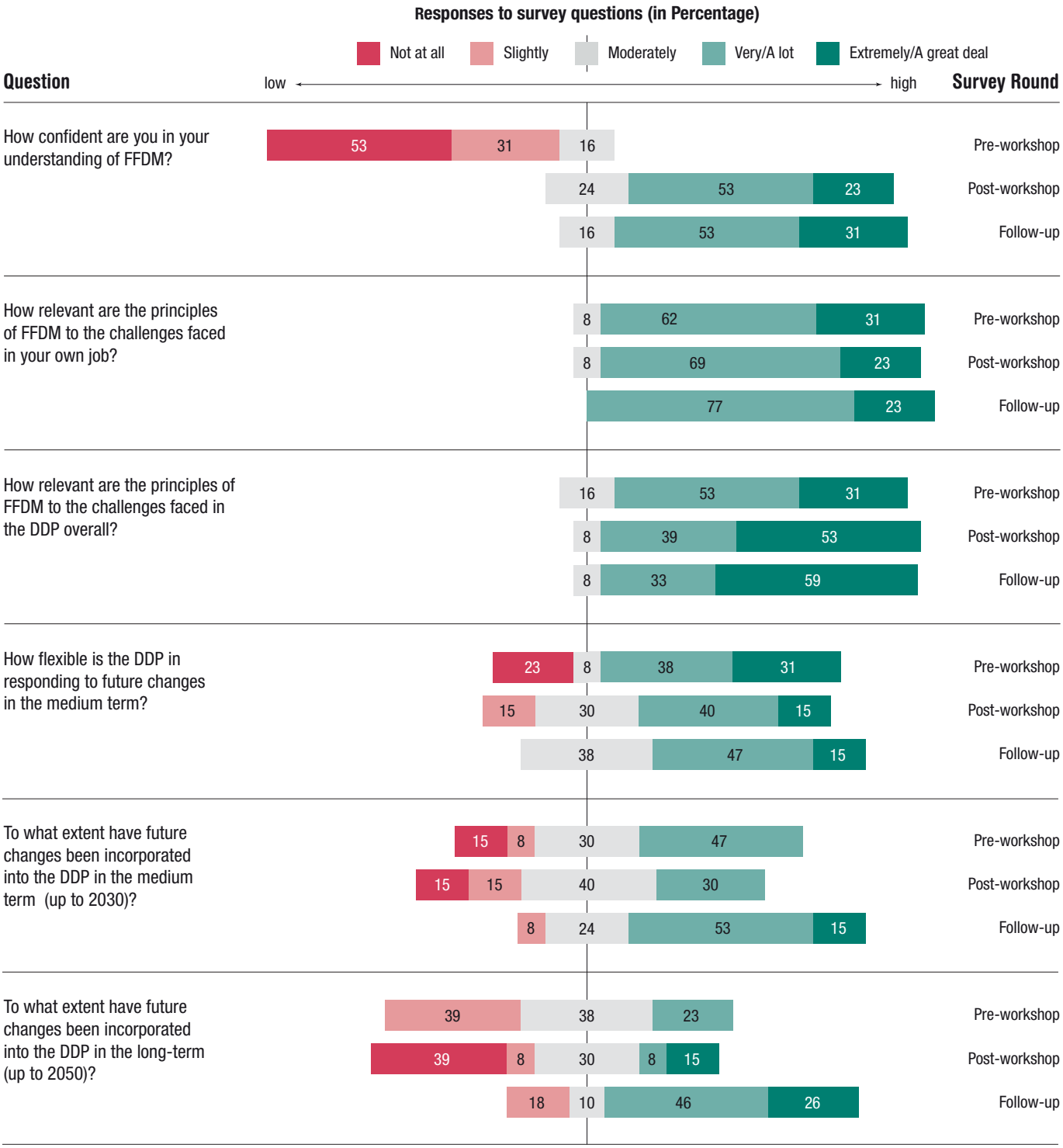


Figure 19: Breakdown of responses across three rounds of surveys in Mozambique



relatively constant across surveys (62% pre-workshop, 69% post-workshop and 77% in the follow-up survey). The relevance to district development planning generally was also recognised initially with 53% of participants describing the principles of FFDM as 'very relevant' to district development planning pre-workshop. This view strengthened after the workshop and in the follow-up survey with the majority of participants describing the principles of FFDM as 'extremely relevant' to district development planning (53% and 58% respectively). Notably, no participants described the principles of FFDM as 'not at all relevant' or 'slightly' relevant to their jobs or district development planning more generally in any of the surveys. The differences across three surveys are not statistically significant.

5.3.6 Flexibility of district development planning in responding to future change

Baseline key informants gave mixed responses about current flexibility in district development planning. Top-level district government officials tended to suggest that plans were very flexible, citing illustrative examples like adapting the plan to guide investment away from flood risk zones and to promote new agricultural crops in the district. Others felt the annual plans (PESOD) had limited or no flexibility, whereas mid-term five-year development plans can better accommodate changes if they do not depart too far from approved interventions. The majority of community leaders and NGO staff did not provide an answer to this question as they felt they lacked sufficient knowledge about district development planning processes.

The majority of participants in Mozambique felt before the workshop that district development planning was 'very flexible' or 'extremely flexible' in responding to future changes in the medium term (up to 2030) (38% and 31% respectively), although 23% felt district development planning was 'not at all flexible'. These opinions appeared to be have been revised after the workshop with most participants describing district development planning as 'very flexible' both in the post-workshop survey and in the follow-up survey (40% and 46%, respectively) and no participants responding 'not at all flexible'. However, these differences were not statistically significant.

5.3.7 Incorporating future changes into district development planning

The majority of baseline key informants felt there was little to no incorporation of future changes in district development planning, especially for the long-term horizon (up to 2050). This was attributed in part to the lack of long-term vision at country level. Again, community leaders and NGO staff did not respond to this question, given their lack of knowledge about the planning process. However, these individuals favoured a longer-term view, with one likening development to the long struggle for liberation in Mozambique. Another noted that important infrastructure planning should not be done *ad hoc*.

The majority of survey participants believed before the workshop that extent to which future changes had been incorporated into district development planning in the medium term (up to 2030) was 'a lot' or 'a moderate amount' (47% and 30%, respectively). In the post-workshop survey, these proportions altered to 38% and 31%, respectively. This was not a statistically significant difference. In the follow-up survey however, the majority of participants (53%) described the extent to which future changes have been incorporated in the medium term as 'a lot' (53%) or 'a great deal' (15%), with none selecting 'not at all'. This was a statistically

Figure 20: Likelihood of positive change in Mozambique participants' jobs and district development planning generally

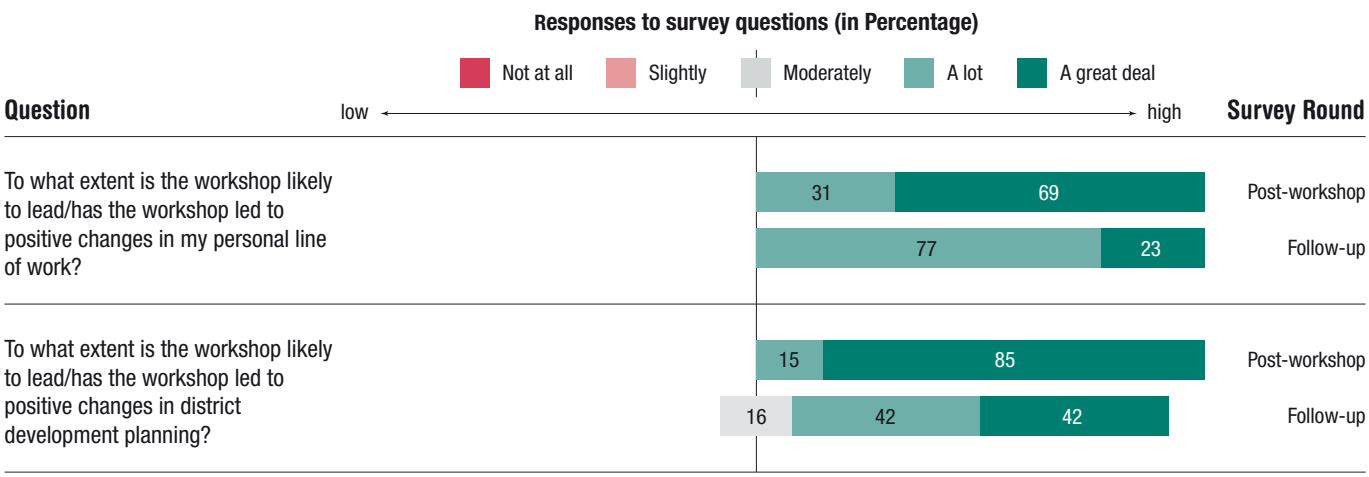
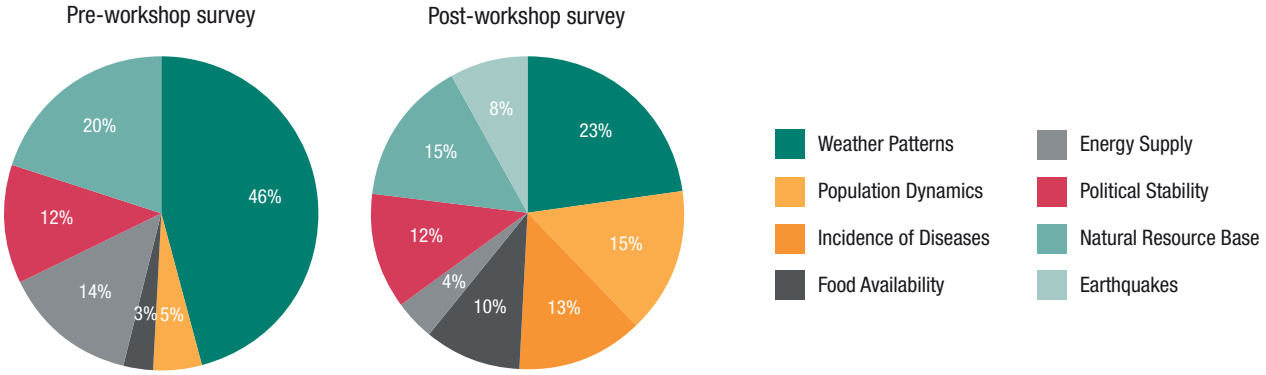


Figure 21: Future changes most likely to have an impact on the district's development up to 2030 in Mozambique survey responses



significant difference compared to the pre-workshop survey (p=0.085). When asked about the extent to which future changes have been incorporated in the long term (up to 2050), the majority of participants selected 'a little' (39%) or 'a moderate amount' (38%) before the workshop. The breadth of responses increased in the post-workshop survey, with the majority of participants describing the extent of incorporation of future changes in the long term as 'not at all' (39%) or 'a moderate amount' (30%), with several selecting 'a great deal' (15%). In the follow-up survey, the responses were generally more positive (47% 'a moderate amount', 26% 'a great deal'). The differences between pre- and post-workshop survey responses and pre- and follow-up survey responses were both statistically significant (p=0.084 and p=0.004, respectively). The trends across all three survey rounds appear to be highly significant for both the medium and long term timescales (p=0.011 and p=0.001 respectively).

5.3.8 Likelihood of positive change

Generally, survey participants thought that just after the workshop that there was 'a great deal' of chance for the workshop to lead to positive change in their own jobs and district development planning (69% and 85%, respectively), but this declined slightly in the follow-up survey (23% and 42%, respectively) with the majority of participants selecting 'a lot' (77% and 42%, respectively). These are both statistically significant trends (p=0.014 and p=0.053 respectively).

5.3.9 Perceptions of future challenges

Baseline key informants listed weather-related changes as the major factor likely to affect future development. They thought considerable government and private investment could offset this risk. Public and private investment in irrigation and infrastructure, for example, was also seen as key to overcoming future challenges. Environmental degradation was identified as the second most significant future challenge, especially where it can be linked to hazards such as flooding. Other factors mentioned included decentralisation, the spread of diseases such as HIV and unplanned urbanisation.

The majority of survey participants cited changing weather patterns as the future change most likely to have an impact on district development planning up to 2030, in both the pre- and post-workshop surveys, although the proportion decreased by approximately half in the latter survey (46% and 23%, respectively). This was followed by changes in the natural resource base and political stability. Several participants attributed likely impacts to population dynamics in the post-workshop survey (15%), up from 5% in the pre-workshop survey. A similar trend was shown for the impacts of energy supply, with 14% of participants citing this in the pre-workshop survey as a likely impact, declining to 4% in the post-workshop survey. Fewer participants cited changes in food availability and earthquakes.[12]

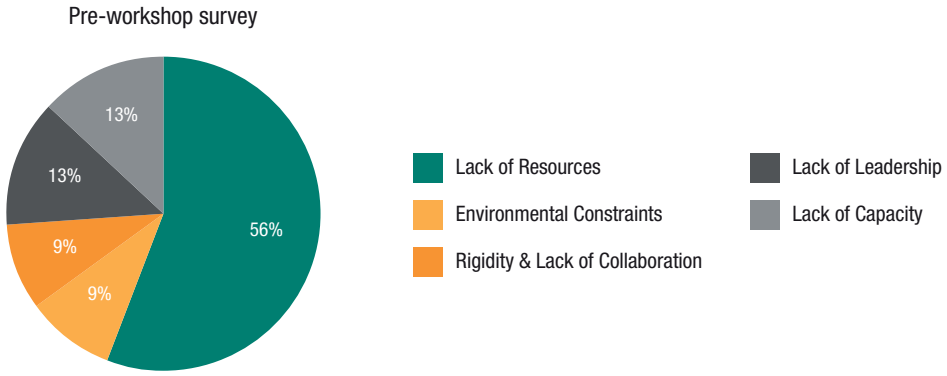
5.3.10 Constraints to FFDM

Baseline key informants saw limitations in human and financial resources, coordination between sectors and agencies and monitoring of interventions as constraints to FFDM in district development planning. Negative attitudes towards development and hazards, and dependency on higher levels of administration for key decisions and approvals, were also seen as barriers.

The constraints to FFDM in district development planning cited by survey participants were summarised as a combination of lack of resources, lack of leadership,

12. The relative importance of these factors from the perspective of the participants appeared to differ substantially between the pre- and post-workshop surveys. This may owe partly to the omission of Question 15 of the pre-workshop survey ('If there are other important changes not named above (in Question 14), please indicate them'). The corresponding question in the post-workshop survey (Question 11) is included in Figure 21.

Figure 22: Perceived constraints to FFDM in district development planning after the workshop from coded Mozambique survey responses



Note: Given differences in the way the Mozambique survey was conducted compared with in Ethiopia and Uganda, open-ended questions on the pre-workshop survey were not included.

lack of capacity, lack of collaboration or rigidity in the planning process and environmental constraints. In the post-workshop survey in Mozambique, lack of resources was given as the greatest constraint, with a smaller proportion of participants citing lack of leadership and lack of collaboration or rigidity in the planning process as constraints, followed by lack of capacity and environmental constraints.

5.3.11 Changes in planning of FFDM

How has planning changed since the workshop? The respondents echoed two responses:

'The workshop strengthened our thoughts and initiatives and planning – but is not the sole cause of the changes.' (Director of Health, Guijá district, 2013).

'[The workshop] reinforced what people were already doing in response.' (Director of Agriculture, Guijá district, 2013).

The extreme flooding event of February 2013 in the district stimulated very strong interest and related planning among the district planners and the communities of the district. Therefore, some actors (like the Department of Health) have now integrated disasters in to their planning so they are a priority for next year (but note that funds for full execution are limited). There is now a plan for disaster management for all districts – though this owes to reactions to recent extreme events, rather than being attributable to the FFDM workshop.

Another significant change is that the district planning process now includes more bottom-up participation – again this is not directly attributable to the FFDM workshop:

'We aren't just stuck with top down activities: we work from the bottom up and it's a much more open process.' (Head of Chivongoene sub-district, 2013).

The changes that have occurred relate to changing attitudes and confidence, as well as collaboration and cooperation. The budgeting process at national level remains the same, but the way it is implemented, and the amount of collaboration involved with communities, is different, or at least could be different, as shown in one sub-district after the workshop. But it should be noted that this claim was not investigated further or triangulated by crosschecking with community members.

Inter-departmental collaboration has improved according to some: while formal collaboration has not changed, informal links have increased and there are now more inter-departmental interactions, '*as we saw the need to work together*' (director of health, Guijá district, 2013). However, the external perception of one NGO project manager is that these interactions are continuing as before and have always been quite well coordinated.

The budget the district receives has remained the same but there are some new development priorities, including promotion of drought-resistant crops, investment in higher-lying areas that are not susceptible to flooding and the possibility of building an alternative government office in an area not prone to flooding, so that, when flooding occurs, district government can still function effectively.

There are many changes participants would like to see included in future planning processes to make it more flexible and forward-looking, including,

- A technical officer to accompany heads of posts and their assistants to all external meetings that discuss future decisions and climate change;
- More funding for resettlement;
- A planning system that is more flexible and allows for redirecting resources from one activity to another in case of a disaster;
- Stronger bottom-up participation in planning and

more interaction at community level, including more decentralised decision making;
- More decentralised funding so sub-districts have some control over resources. This would also enable taking account of differences in each sub-district and specificities – not one size fits all;
- Increasing the budget and stopping the practice of budget cuts; and
- Requests to involve all stakeholders properly in the planning process, especially community leaders and representatives from sub-district and locality level. It is also suggested that government strengthens its engagement with CSOs and considers the church an important partner in planning and implementation.

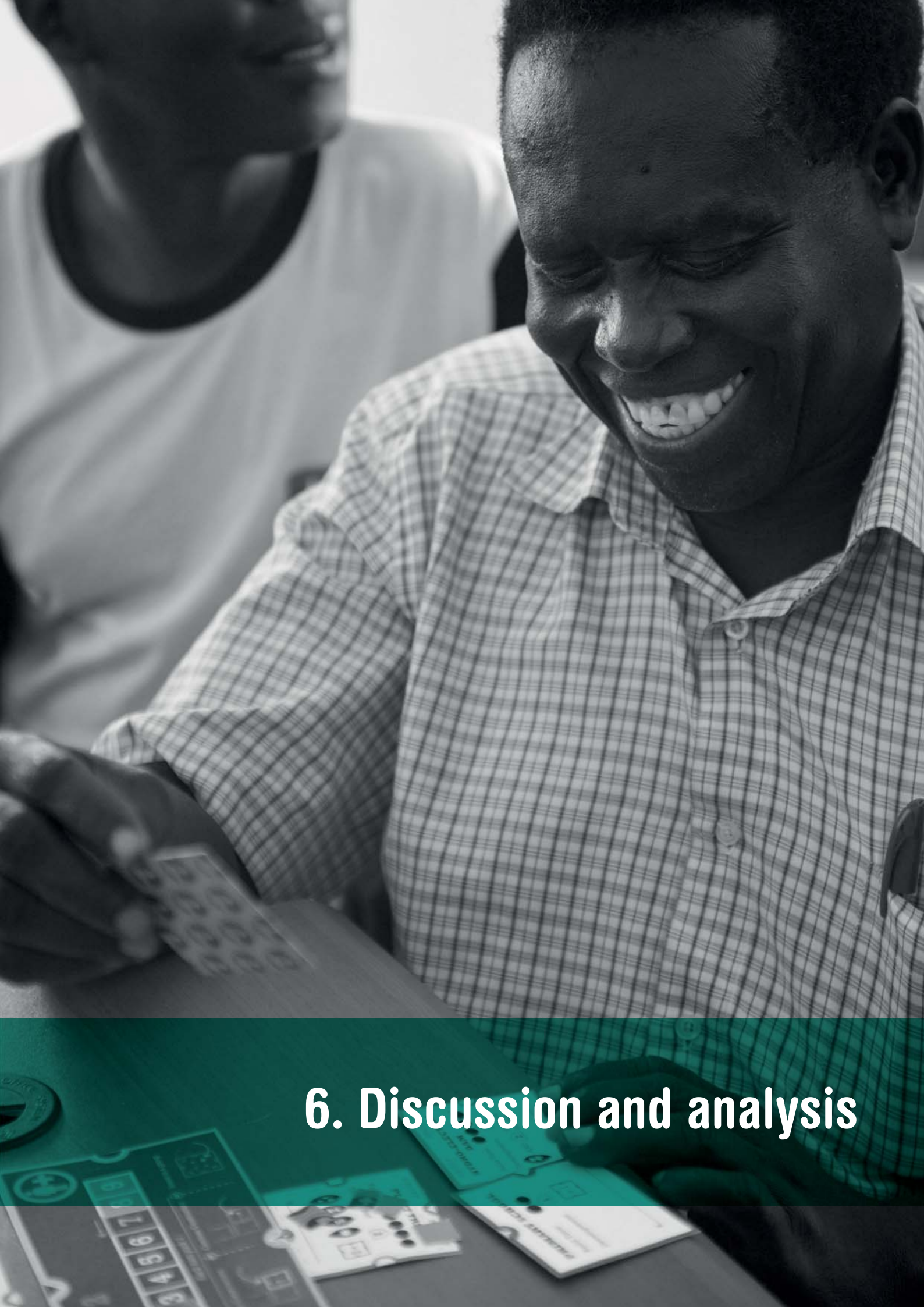
5.2.12 Changes in implementation

There have been few formal changes in implementation since the FFDM workshop. The permanent secretary for the district was fundamental in bringing this training and the related topics to her district, with support from the chief administrator (who is her senior in the district). One sector director mentioned that the permanent secretary had been instrumental in her role as champion for issues around DRR: '*Now we talk about natural disasters in all our meetings*'. The permanent secretary was also trained in the game facilitation in Maputo prior to the workshop in the district.

Examples of others taking issues of CCA and DRR as well as FFDM principles forward include the following:

- The director of agriculture is taking this forward and being more flexible about planning for the future, and is willing to make changes according to need from the budget allocated to his department.
- The head of one sub-district is taking this forward at community level through future visioning with the community to produce more food and create food reserves.
- The leader of one locality (administrative unit under the sub-district) said everyone now touches on issues of climate change and DRR.

There are no new partners involved in the district as a result of this training, although some mentioned different types of interactions with existing partners. They also mentioned willingness to engage differently with partners. For example, one participant reported, '*We negotiated with the [new] banana company to build open drainage channels to avoid floods in the future*'.



6. Discussion and analysis

6.1 Understanding the context

ALTHOUGH THE THREE COUNTRIES in which ACCRA is working are distinct in many aspects – climatically, economically and politically – findings presented above and discussed below point to a number of similar challenges worth highlighting.[13]

6.1.1 Top-down planning and decision making

Generally, planning and decision making at the district level seem top-down in nature. Although many government functions are devolved to lower administrative levels, major decisions are taken at national level, with limited scope for adaptation to district or community realities. The situation in Ethiopia serves as a good example: the five-year development plan defines targets the country wishes to achieve. *Woreda* development plans are prepared in line with the national plan and the priorities and targets set therein. A central characteristic of this top-down system relates to funding mechanisms. Lower administrative units, especially districts, typically do not raise their own funds through taxation, but rely on centrally administered block grants. Often, however, these are clearly earmarked for specific investments focusing on key development sectors. All three countries, for example, have defined specific poverty reduction sectors that are prioritised and receive the lion's share of the budget: agriculture and rural development, health, education, water and energy and finance and economic development in Ethiopia; agriculture, fisheries, employment, good governance and human development in Mozambique; and roads, water, health, education and agriculture in Uganda. Besides this, an overwhelming portion of the budget is reserved for recurrent expenditures – in Ethiopia, a typical *woreda* sector budget allocates less than 10% to capital investments, with more than 90% allocated to recurrent costs, of which the majority is allocated for salaries.

13. For a detailed discussion, see Jones et al. (2013b).

6.1.2 Lacking agency and ownership of development initiatives at district level

Partly linked to centrally defined development priorities and a lack of capacity to generate funds at district level is the lack of district agency and ownership in responding to change. If new approaches or priorities are needed – owing to a sudden shock (like flooding) or gradual stress (like shifting patterns of rainfall) – then limited opportunities exist in terms of adapting district development plans accordingly. This is particularly problematic for cross-sectoral challenges, such as climate change adaptation, as they do not fit directly into the national priority areas. Furthermore, target setting at national level, as well as more detailed planning at district level, is generally done with a 'normal year' in mind. Plans rarely cater for any unexpected shocks or stresses that may affect the delivery of development at the district level. Indeed, development plans and targets account poorly for shocks, such as those anticipated through seasonal forecasts and outlooks. Even less visible is any integration of future changes in annual or five-year plans.

6.1.3 Lacking incentives for action on adaptation and DRR

This is perhaps the largest barrier to motivating district government to adopt FFDM-related principles in longer-term planning processes. Not only is the structure of planning cycles rigid (i.e. districts receive budgets only for certain activities and plan for 'business-as-usual', generally over annual cycles), but also issues of adaptation, DRR or resilience are not included in the evaluation of a district's 'success' in delivering on targets. Unsurprisingly, district governments in each of the three countries are appraised against central priorities, with performance criteria concentrating on outputs (e.g. numbers of water points installed, numbers of classrooms built) instead of outcomes (e.g. improvements to health as a result of increased access to safe drinking water, increased educational levels allowing people to access further training and better-paid jobs), sustainability or longer-term impact. Given the cross-sectoral and often intangible nature of promoting

adaptive capacity or supporting DRR activities, FFDM-related indicators are lacking in monitoring and evaluation (M&E) and performance assessment criteria. Moreover, in recognising existing constraints on financial and technical resources in each of the three district governments, support for the principles of adaptation and FFDM is not a priority and does little to encourage key actors (such as the chief administrative officer or the *woreda* chair) to take them forward within district planning. Part of the problem is that promoting FFDM can be done very differently depending on the context and specific needs. With this in mind, advocating for the general principles of FFDM to be taken up, without adequate guidance and demonstrable examples, is likely only to lead to a box-ticking exercise.

6.2 Workshop delivery and its perception

Despite the above contextual factors, a number of common findings emerged across the three countries:

6.2.1 Perceptions about the workshop and approach

The post-workshop surveys from all three countries showed that the majority of participants found the workshops to be much or slightly better that they had expected (see Figure 23). Also, all participants found the workshop to be very or extremely innovative (see Figure 24), and most enjoyed the interactive aspects and the '*exciting*' combination of activities, including

Figure 23: Participant workshop evaluation responses from Ethiopia, Mozambique and Uganda

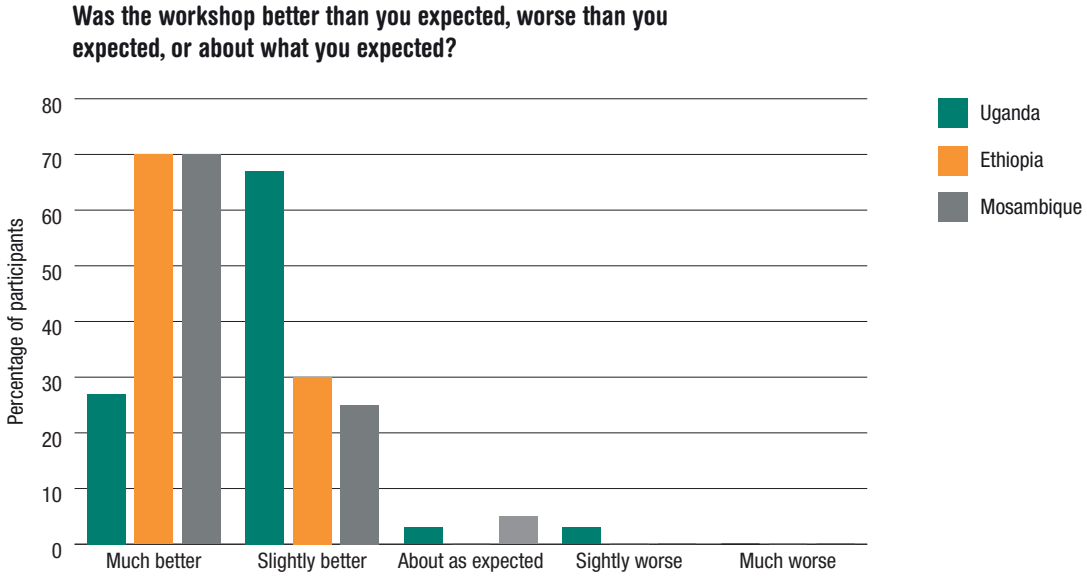
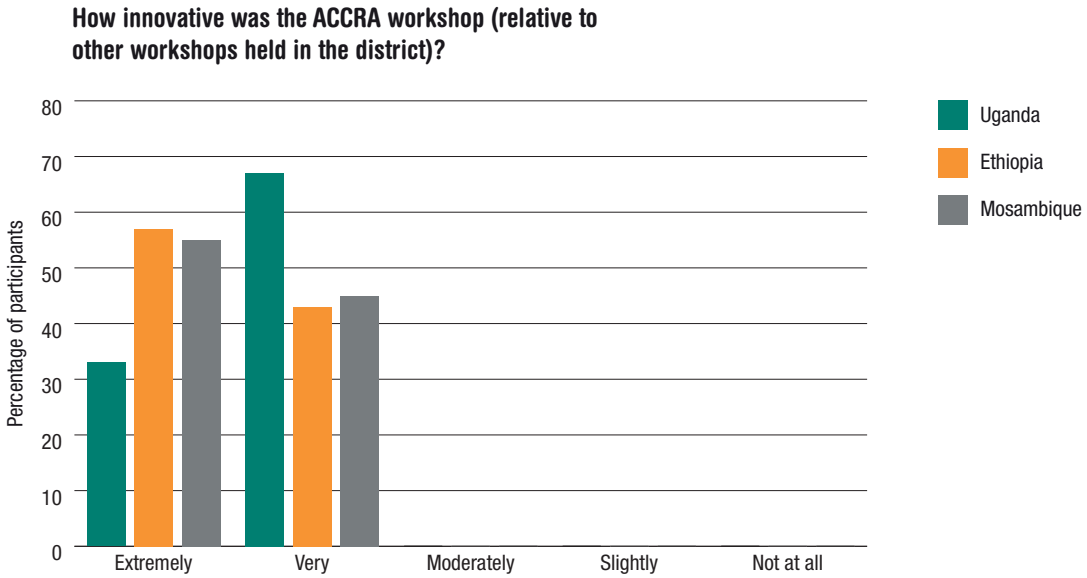


Figure: 24: Participant responses on innovative nature of workshop from Ethiopia, Mozambique and Uganda



presentations, the game, facilitated reflection sessions and 'voting with your feet'. The value of working in groups, sharing experiences and learning about climate change issues was also noted across the three countries.

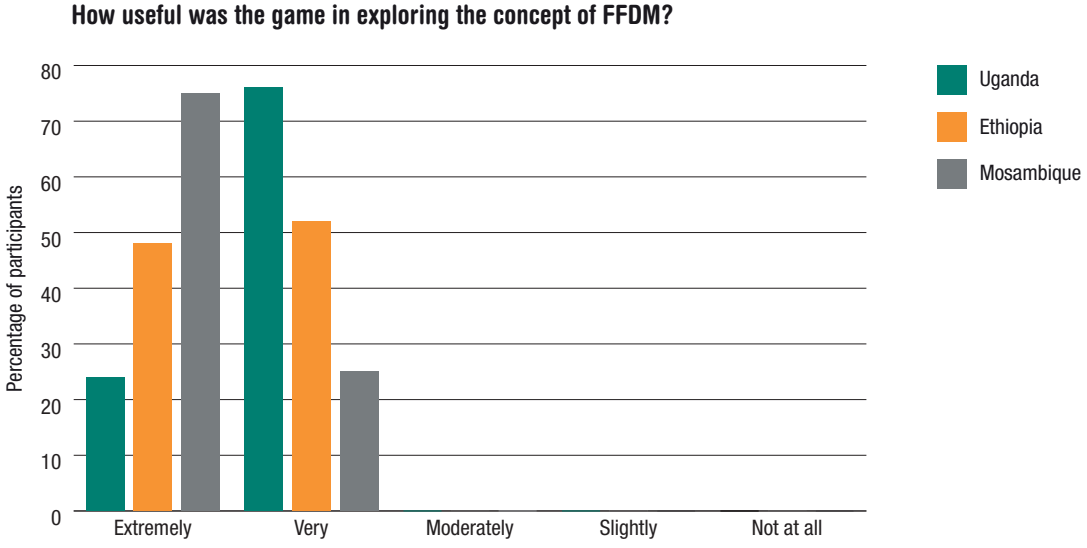
Aspects that participants across all three countries disliked were mostly related to time constraints (i.e. the workshop was either too long or too short, time organisation of workshop could be improved, more discussion time would be useful) and the experience of 'losing' the game through the shocks delivered by the Impact Wheel and the loss of development investments. This raises interesting questions about designing games with 'winners' and 'losers' to communicate concepts that are in reality much more complex in terms of outcomes. A small number of participants mentioned communication problems, such as confusion over the game rules (e.g. in Uganda) and language barriers (e.g. in Ethiopia), although several commended the facilitators. Looking ahead, many participants requested repeat workshops/trainings and participation of a wider group of actors.

6.2.2 Differences in how the workshop was delivered in the three countries

One of the aims of the research component of Phase 2 was to develop a methodology that could be applied uniformly across the three countries. To some extent this was successful, inasmuch as all three countries structured the research similarly (see also Table 4 and Figure 4): the research process kicked off with a PEA of current district development planning, followed by the deployment of the workshop (including baseline key informant interviews, pre- and post-workshop survey), followed by follow-up research five to nine months later (including follow-up interviews and a survey). Despite these procedural similarities, a range of differences with regard to how the workshop was run need to be mentioned here. These may have influenced the impact of the FFDM workshop on district-level planning:

- Different people facilitated the three FFDM workshops. Only one facilitator (Carina Bachofen, RCCC) was present at all three workshops. The research and facilitation team (ODI and the abaci Partnership) was different in each country, partly influenced by country experience and language knowledge.
- The workshop methodology evolved from Uganda to Ethiopia and finally Mozambique and reflects learning by the research and facilitation team of what works well and what works less well. Responses related to the usefulness of the game in exploring FFDM from the post-workshop survey (Figure 25) might be an illustration of this. While only 24% of respondents in Uganda considered the game extremely useful, this percentage increased to 48% in Ethiopia and finally to 75% in Mozambique. Although many factors will influence such a favourable assessment of the usefulness of the game, its evolution to make it more practical and relevant to the specific context may have contributed as well. Generally, this can be seen as a strength of our approach. However, in terms of comparing results and impacts across countries, it can also be viewed as a shortcoming, as it makes attributing impacts to the way the workshop was conducted more difficult.
- The workshop was delivered in the three countries at different times relative to the annual planning cycle. Therefore, insights gained on principles of FFDM could not necessarily be applied immediately

Figure 25: Perceptions of the game's usefulness in exploring FFDM (post-survey)



in planning processes. Furthermore, the workshop in Mozambique was delivered after a major natural disaster – the flooding of the Limpopo River in January/February 2013, which affected Chokwe, Guijá, Bilene and Xai-Xai districts of Gaza Province. This event is likely to have led to increased awareness of impacts of natural hazards, including awareness around possible future climate change impacts, and may have influenced the degree to which there was top-level buy-in to aspects of FFDM. In Ethiopia, on the other hand, the workshop took place during a major national soil conservation campaign, in which decision makers and political leaders were heavily involved. This influenced the mix of participants in the workshop and resulted in lower-than-anticipated participation of decision makers and political leaders (e.g. heads of departments) as opposed to technical experts.

- The workshop was never designed as a stand-alone product; it was always envisaged that it would be followed up by focused capacity-building activities. In Mozambique and Uganda, for example, the workshop was followed by a substantial capacity-building exercise on incorporating FFDM into DDP while also meeting national criteria that might have had a significant influence on how respondents perceived FFDM and its relevance, especially in the follow-up survey and interviews. Strong follow-up and continuous capacity-building efforts are also required to counteract the high staff turnover at district level observed especially in Ethiopia and Uganda. Although ACCRA was successful in providing insights into the principles of FFDM to a considerable number of district staff, whether they will still be in the district during the next planning round remains uncertain – already a number of staff have moved on from Gemechis district, Ethiopia, in the five months since the workshop was delivered and the follow-up research was conducted.
- Finally, the socio-political and cultural contexts are very different in each country and may have influenced the outcome and impact of the workshop considerably. An example might the strong culture of hierarchy and the following of opinion leaders instead of expressing own views in Ethiopia.

6.3 Common themes across the three countries

Despite the above factors that will have had an influence on the workshop outcome and impact, albeit one we are unable to clearly attribute, a number of common themes across the three countries arise.

6.3.1 A game-enabled reflection approach can help communicate FFDM to development practitioners

Overall, the game-enabled reflection approach did well in bringing across the need to ensure decision making was able to deal with change and uncertainty. It also proved a useful tool for communicating a new and somewhat abstract concept to development practitioners at the district level. Common examples of how ACCRA's intervention helped inspire action included broader understandings of decision making in the planning processes, greater promotion of cross-sector working and information sharing and awareness raising of the risks of climate change and wider development drivers. However, although all three countries registered a sharp spike in participant confidence in understanding FFDM immediately after the workshop, levels waned slightly during the follow-up evaluations. There was also clear evidence of the need for longer-term support in helping local development actors in operationalising FFDM.

Differences in understanding of concepts of FFDM and in how far future changes are incorporated into district development planning in the medium and longer term are more pronounced in Mozambique and Uganda between pre-, post- and follow-up surveys, and also stretch over a wider range of answers. In Ethiopia, differences between pre-, post- and follow-up surveys are less pronounced and generally higher than in the two other countries. How much cultural aspects may have played a role is difficult to assess, but a tendency can be observed in Ethiopia whereby, generally, answers fall on average values, and it is possible to observe a high degree of convergence of individual opinions as opposed to strong personal opinions at both ends of the spectrum.

In all three countries, survey respondents were confident immediately preceding the workshop that the workshop and its messages would lead to both positive changes in their personal line of work as well as in district development planning in general. In both Ethiopia and Uganda, respondents were more confident about the positive impact the workshop would have on their own job than they were in relation to the district development plan. In Mozambique, however, respondents were of the opinion that the workshop would influence district development planning more strongly. This difference is likely to be influenced by the attention the district and issues around climate change received in the aftermath of the serious flooding that happened in the research area earlier that year. As can be expected, this confidence declined over the following months after the respondents realised that translating the principles of FFDM as discussed during the workshop into practical action was more difficult than anticipated. Positive, however, is the fact that in the follow-up surveys

Figure 26A: Breakdown of survey responses for participants across three survey rounds in Ethiopia, Mozambique and Uganda – confidence in understanding FFDM.

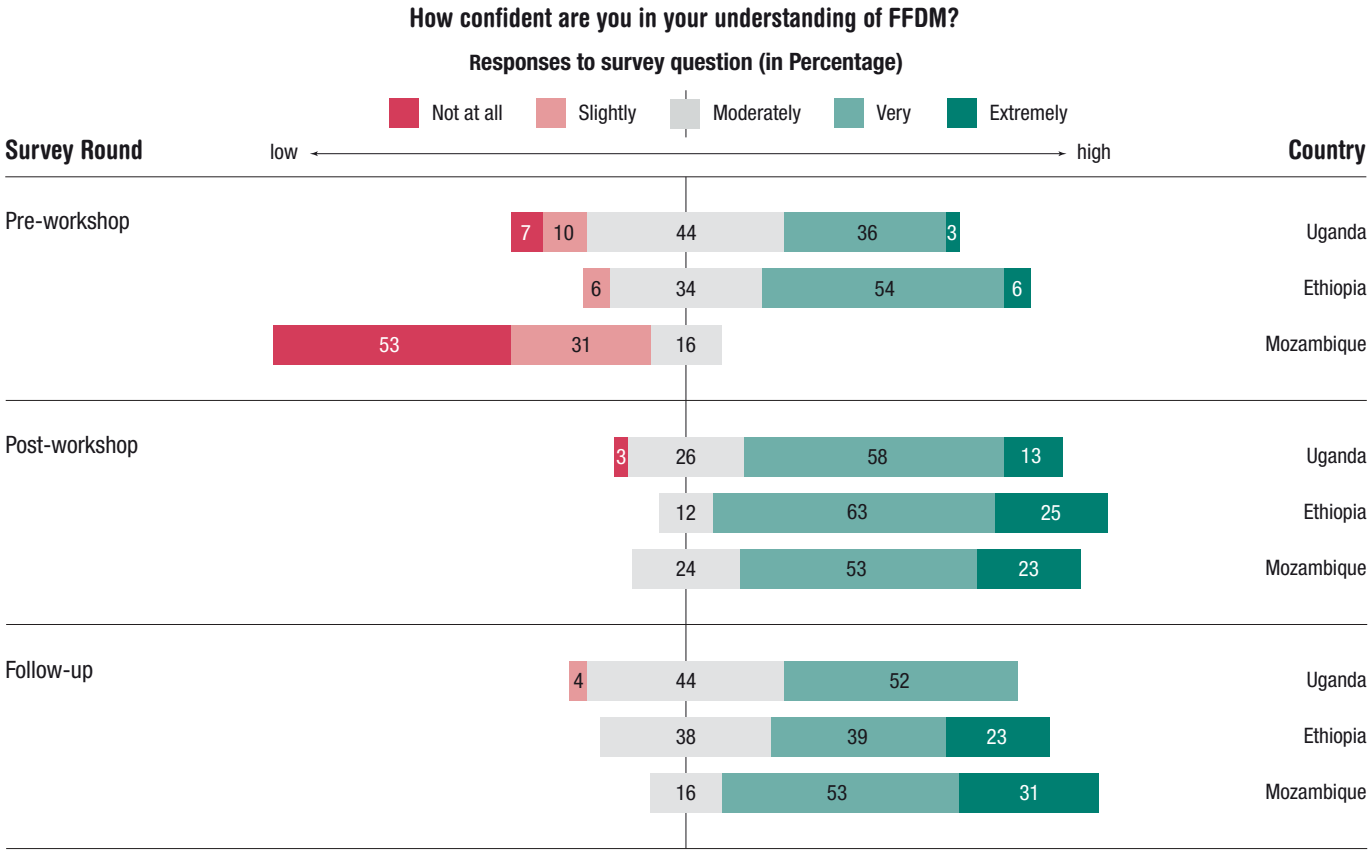


Figure 26B: Breakdown of survey responses for participants across three survey rounds in Ethiopia, Mozambique and Uganda – Flexibility of DDP in responding to future changes in the medium term.

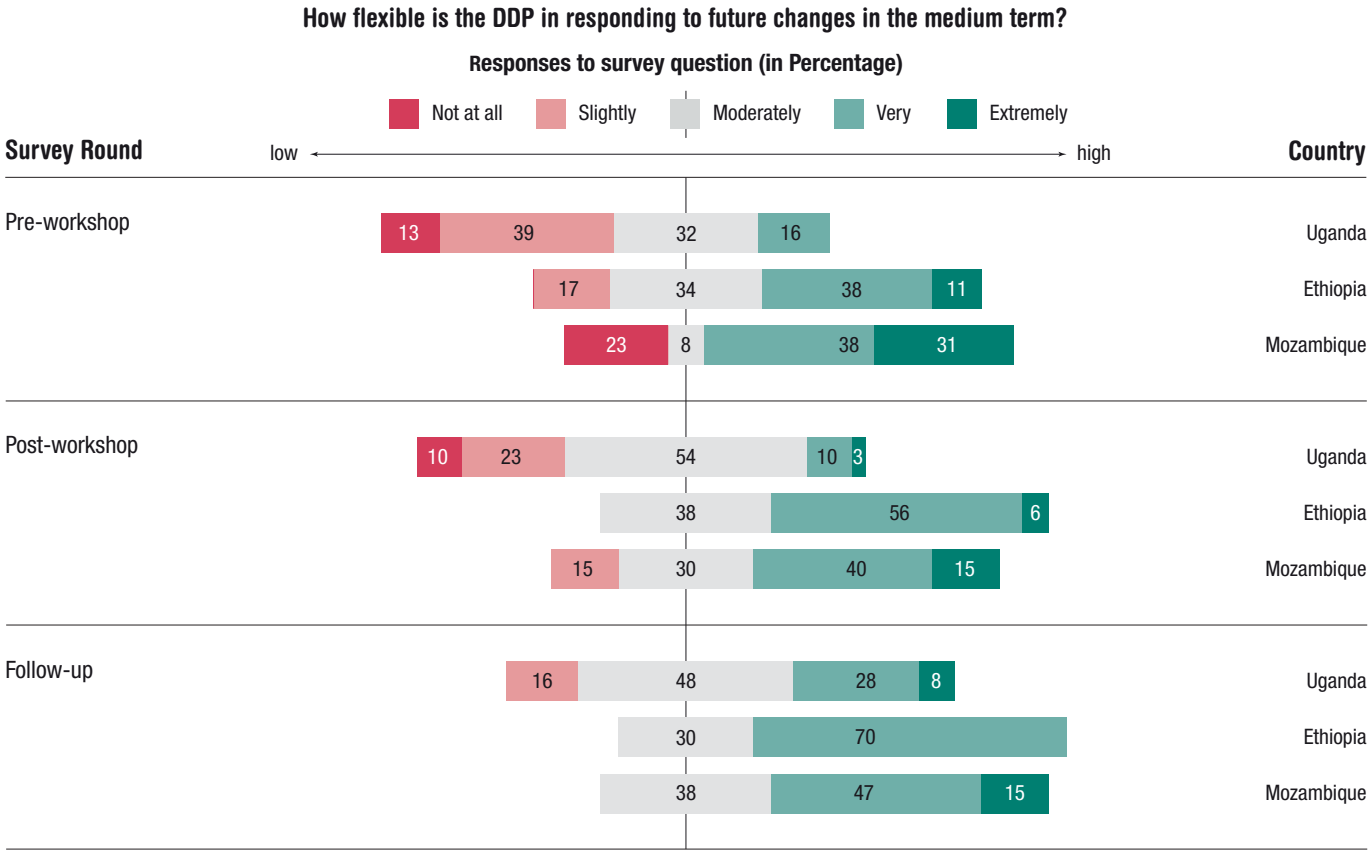


Figure 26C: Breakdown of survey responses for participants across three survey rounds in Ethiopia, Mozambique and Uganda – extent of incorporation of future changes into DDP in the medium term

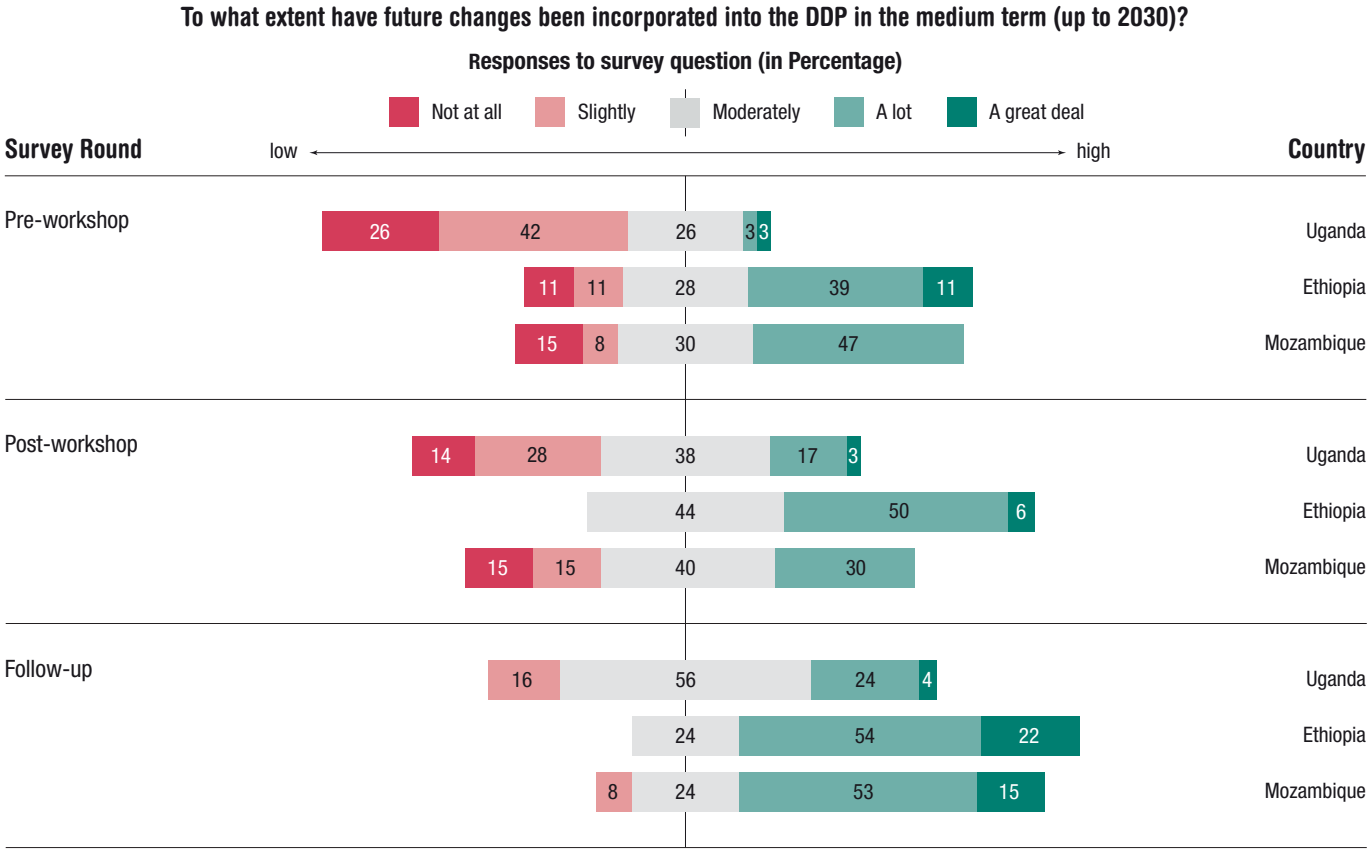
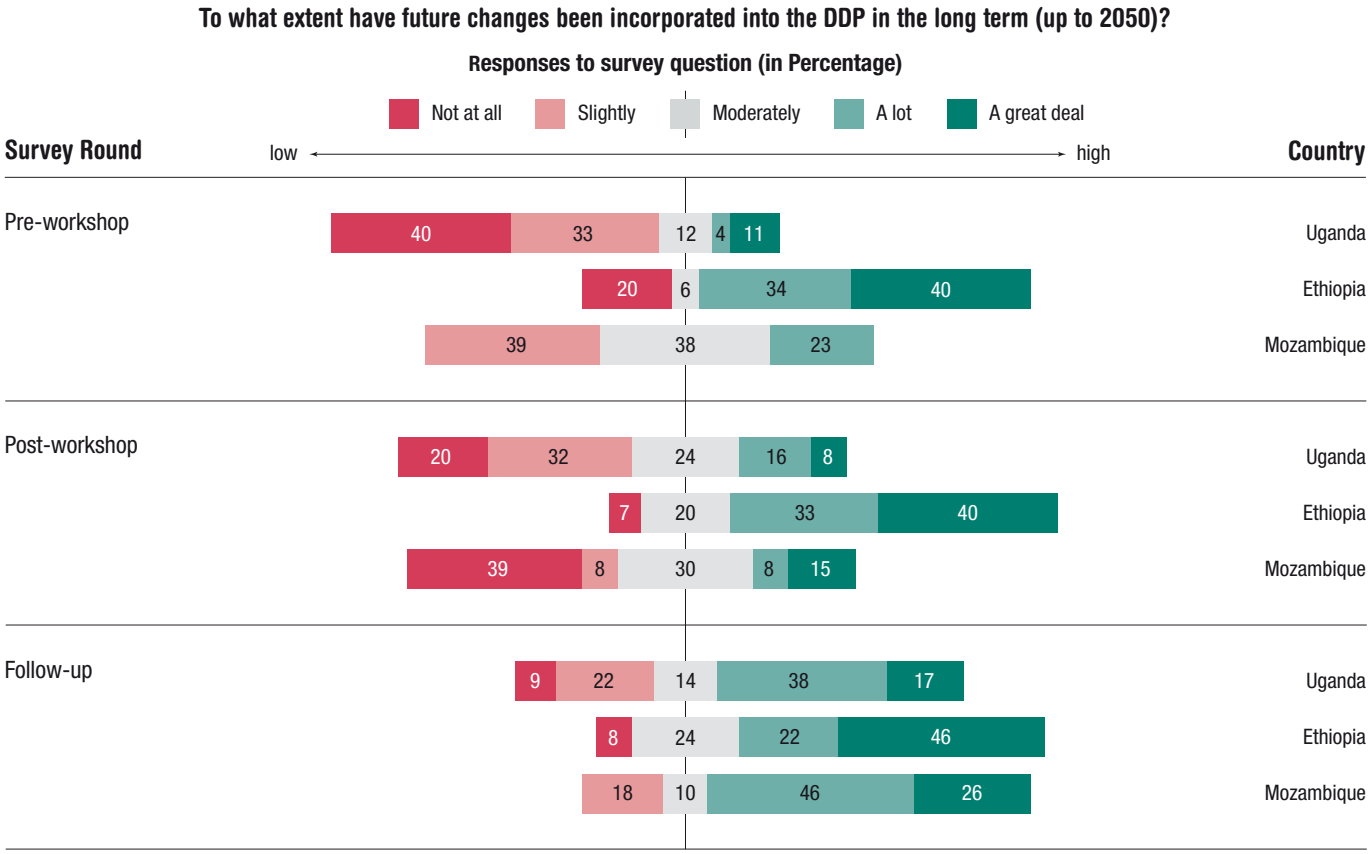


Figure 26D: Breakdown of survey responses for participants across three survey rounds in Ethiopia, Mozambique and Uganda – extent of incorporation of future changes into DDP in the long term



five to nine months after the workshop, all respondents still believed the workshop would influence personal activities positively to a certain degree. However, the extent the workshop would influence district development planning more generally led to mixed responses in all countries, with some participants revising their view downwards in the follow-up surveys.

6.3.2 Characteristics of FFDM are primarily associated with collaboration and integration rather than flexibility and planning for future change

Although respondents generally perceived FFDM as a concept that was difficult to relate to in real life and even more difficult to operationalise, they nevertheless saw areas where they could take action and put principles into practice. In follow-up qualitative interviews, all respondents demonstrated some basic understanding of what FFDM was and could imply for district planning, although the level of understanding varied among participants. Several months after the workshops, the majority of respondents in Ethiopia (6 of 11 interviewed workshop participants) and a third of respondents in Uganda (7 of 23 interviewees) were found to understand FFDM in the context of district planning as planning conducted in collaboration and integration of sectoral activities. The importance of collaboration – across sectors as well as with other actors from central government, the NGO community or international development partners – was directly experienced in the game and resonated well with participants, as it was an activity they could put into practice mainly because it depends less on financial and human capacity, which is often in short supply at district level.

Collaboration and sectoral integration is certainly an important component of FFDM. Equally important aspects, such as flexibility to be able to deal with unexpected changes, were mentioned less often as something interviewees would remember of the principles of FFDM. This may well have to do with the fact that respondents generally perceived the process of district planning to be guided largely by targets set at higher administrative levels and by budget constraints over which they had no control. Collaboration and sectoral integration, however, can be done at the district level to a certain degree within current limitations set by the planning and budgeting process (what we called 'wiggle-room') (see also Section 3).

6.3.3 Similar impact across different social groups

Our intention was to invite a mixed group of participants to the workshops, representing the situation of the district administration in each country. This included having representatives from the various sectors, as well as balanced representation of men and women, of older and younger staff and of staff that had been in position for several years as well as newcomers. Besides government, we also invited representatives of NGOs, research organisations and selected national ministries or organisations. With the exception of gender balance, the participants most likely represent the situation of the district administration relatively well (see Figures 6, 12 and 18).

Interestingly, only rarely did the characteristics of participants (age, sector, years spent working in the district) show a significant difference in the survey responses. In Uganda, for example, among the many different questions, the only survey response that was significantly different depending on the respondent's years of service related to the flexibility of district development planning and incorporating future challenges in the medium and long term. In Ethiopia, respondents' characteristics with regard to sector were relevant only in terms of confidence in the concept of FFDM and the relevance of FFDM to their job. In Mozambique, there were significant differences among sectors in which respondents were employed and flexibility of planning in responding to future changes. This may, however, have been influenced by the fact that Mozambique was the only country where community and sub-district representatives were present.

6.3.4 Changing relative importance of future changes on district development

Respondents were asked to identify two future changes[14] likely to have the biggest impact on district development in the medium (up to 2030) term. If specific important changes were not mentioned, they could add additional ones in the following question (see Figures 9, 15 and 21). In Mozambique and Uganda, the influence of weather patterns on district development decreased from the pre- to the post-workshop survey (Mozambique: 46% to 23%; Uganda: 29% to 27%). Likely explanations relate to the content of the game and the reflection sessions during the workshop itself and the emphasis given to non-weather-related changes (such as diseases, energy crises, slow-onset stresses such as soil degradation etc.) as important drivers of change and triggers of damage to investments. For example, in the Mozambique and Uganda post-workshop surveys, factors such as population dynamics, status of the natural resource base and diseases had gained in importance. Contrary to this, weather patterns were seen as more important in

14. Weather patterns; population dynamics; incidence of diseases; food availability; energy supply; political stability; and natural resource base.

the post-survey as compared with the pre-survey (40% versus 46%) in the Ethiopian workshop. Explanations are not straightforward, but might relate to the fact that many of the other drivers, such as diseases or food shortages, are actually weather-related in places such as Gemechis district, which heavily depend on rain-fed smallholder agriculture (e.g. are drought-induced).

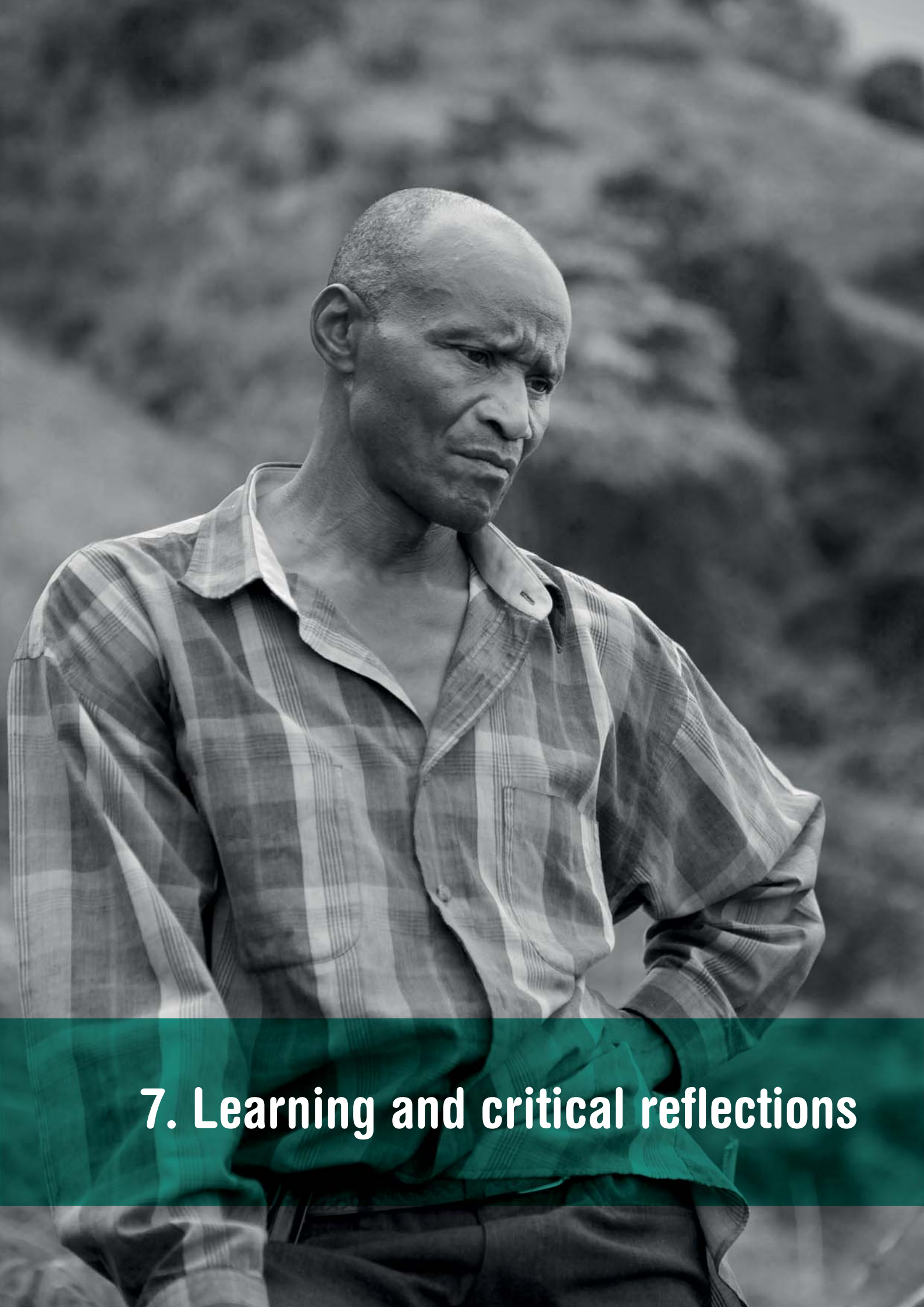
6.3.5 Changing perceptions of constraints to FFDM

For Ethiopia and Uganda, where information is available from both pre- and post-workshop surveys on constraints to FFDM in district development planning, it is interesting that 'lacking resources' decreases in importance as a constraint to FFDM from the pre- to the post-workshop surveys. This is most likely a result of discussions held during the workshop that identified other constraints, such as rigidity of planning processes and lack of collaboration or leadership by decision makers and political leaders, as equally crucial to successful flexible and forward-looking planning. These survey results are also reflected in the qualitative interviews held with selected workshop participants five to nine months after the workshops, who mentioned lack of leadership as a crucial factor in FFDM not been taken forward more vigorously, despite influential decision makers in the district taking issues of climate change and adaptation very seriously.

This points to two things. First, despite climate change being perceived as an important threat in the ACCRA districts, addressing its impacts needs firm commitment by decision makers and political leaders – people we might not necessarily have had among the workshop participants. Second, district officials do have some space for putting FFDM principles into practice, for example by collaborating more strongly across sectoral boundaries, but such attempts quickly reach their limits unless active support and buy-in by top-tier decision makers and political leaders is guaranteed. Because adopting principles of FFDM implies such a fundamental departure from business-as-usual ways of district planning and decision making, the role of 'champion of change' becomes central to its success. Without committed decision makers and political leaders – at the district but also at higher administrative levels – change is unlikely to occur and planning will continue to be carried out in a rigid and short-term manner.

6.3.6 No further information or inputs sought

None of the surveyed participants in any of the three countries mentioned in the follow-up interviews that they had sought inputs from external experts or additional information that could have influenced planning decisions. Explanations given related mainly to the rigidity of the planning process, whereby development targets were largely set and budgets allocated to specific sectors, which left little room for districts to act on locally identified and informed priorities.



7. Learning and critical reflections

FROM THE WEALTH OF KNOWLEDGE gained over two years of ACCRA's research and capacity-building activities, valuable lessons have been learnt on how to promote and incentivise real change. Among others, these relate to how to package and communicate complex and abstract conceptual messages to development practitioners; novel means to bring together different stakeholders to inspire collaboration and coordination; and methods for conducting research to measure impact in challenging (and constantly evolving) policy environments.

Some of these lessons echo longstanding principles of development research, contributing to an expanding body of literature (e.g. the need to recognise local and district context, including language, for effective delivery, or the role of 'champions of change' in promoting new initiatives) (Roberts, 2008). Others are relatively new to the field, and may require further exploration and elaboration, in particular how to effectively communicate complex and abstract concepts such as FFDM, or how best to organise a 'game-enabled reflection approach' for strengthening adaptation.

Below we describe a number of key lessons that arose.

7.1 Key lessons learnt

7.1.1 Communicating an abstract concept to lay audiences is difficult, but can be enabled through innovative experiential learning and reflection tools

Although the principles of FFDM are relatively straightforward, selling a theoretical concept is a challenge to package and convey to district decision makers. Insights from both the qualitative and quantitative research indicate that many workshop participants struggled to relate to the different components of FFDM, instead seeing it as synonymous with collaboration, coordination or mainstreaming, as described in Chapter 6.

One important lesson learnt was to recognise that FFDM does not follow a single path: there are many ways of promoting FFDM. In addition, activities that support greater FFDM are largely context-specific: what works in one context may not have the same results in another. In relation to the ACCRA workshops, what proved most useful was the communication of simple guiding principles related to FFDM (such as those described in Chapter 2). These are straightforward enough for non-technical audiences to understand easily. They are also flexible enough to be tailored to specific district contexts and applied in a number of different ways. For example, making sure a community or institution is 'able to reason about future possibilities' can be manifested through the development of future climate and development scenarios and strategic planning to ensure contingency is built into investments at risk of current and future threats, or simply through closer links to national meteorological services. Among many other contextual factors, how it is achieved in practice will fully depend on levels of awareness and willingness to act on FFDM, how vulnerable a given community or institution is to external threats and the resources and capacities at their disposal. With this in mind, care must be taken to ensure the messages communicated in promoting FFDM (or any other abstract concept) not only are palatable but also conducive to the diversity of pathways for achieving it in different contexts.

Another learning point was the need to provide better explain the overlaps between FFDM and other characteristics of adaptive capacity – described in the LAC framework as composed of: the asset base; knowledge and information; institutions and entitlements; innovation; in addition to FFDM (see Figure 1). While people may be relatively comfortable with one conceptual framework, trying to impose and communicate two theory-laden concepts has distinct challenges. However, findings from the internal consultation and consolidation clearly point to the demand for clear explanations as to how the two frameworks are related (see Figure 2). This would allow participants to better understand where the principles of FFDM fit in, as well as encouraging them to be mindful of how the other characteristics relate to the workshop messages and activities.

7.1.2 Understanding the district context, ensuring political buy-in and identifying 'champions of change' are key for promoting FFDM

District officials in all three countries do have some space for putting the principles of FFDM into practice, that is, utilising the 'wiggle room' they have available, for example by collaborating more strongly across sectoral boundaries. However, such attempts quickly reach their limits. A key factor in ensuring active participation and uptake of lessons learnt is buy-in from political leadership. In all three countries this was cited as a key motivator in sustaining efforts to promote FFDM after the ACCRA workshops. Indeed, recognising commonalities in the political economy of district decision making across the three study sites, the need for high-level policymakers to drive forward any policy changes is somewhat evident in the face of a relatively top-down system of governance and administration. As with buy-in by political leaders, the role of 'champions of change' in promoting new initiatives cannot be stressed enough.

Two further factors play a key role in the success of the approach's uptake. First is the need to invest in good facilitators. Facilitators are the people to whom participants first turn to understand both the principles of FFDM and the game. Selecting individuals who are competent and comfortable facilitators is very important, as they need to be fully up to speed not only with the principles of FFDM for decision making and how to carry out the reflection session, but also with how to run and moderate the game with confidence. In the case of ACCRA's approach, facilitators were given one to two days' worth of training beforehand. This proved to be relatively meagre; spending more time to further equip the facilitators in running and hosting the workshop would have been helpful.

Second is the need to ensure local input in the design and delivery of the game. When introducing a new approach, particularly one that may be unfamiliar to the target audience (in the case of ACCRA's study sites, few participants will have played board games of this manner), it is important to ensure people can relate to and engage with it. Time therefore needs to be spent adapting the approach to the district context, whether this means including local names and activities in the game or actually involving beneficiaries in the actual game design process. Small adjustments to accommodate for this were made in the ACCRA approach in each of the three countries. However, feedback from the internal consultation and consolidation highlighted that more could have been done to adapt components of the game-enabled reflection approach to district environments. For example, the Development Cards used in the game were, to begin with, often out of touch with typical development projects participants would have expected to witness in real life – such as large infrastructural investments. These were quickly adjusted in subsequent editions of the game to better suit real decisions taken by policymakers and communities.

7.1.3 Evaluating new approaches often requires difficult trade-offs between research and capacity building

The aim of ACCRA's research was twofold – to enhance local adaptive capacity by trialling a game-enabled reflection approach to promote FFDM, and to document any impact the approach may have on district decision making – which meant the research team faced a number of difficult trade-offs. Almost all of these boiled down to two decisions: on the one hand allowing the design of the game-enabled reflection approach to evolve and improve as each iteration was developed and implemented in-country to achieve the highest possible capacity-building outcomes; and on the other hand ensuring high-quality rigorous research, which implies consistency of the approach itself and how it was implemented in each of the three case studies. This give-and-take influenced every part of the research and capacity-building process, from selection of workshop sites and timing, to sequencing of sessions within the workshops and tailoring the design of the quantitative surveys. Indeed, although it was not an explicit objective at the onset of the programme, it quickly became evident that the approach was closely mimicking an action research model, with single-, double- and even triple-loop learning (see Argyris, 1976).

Other complicating factors are that both the political and the natural environments, in which ACCRA chose to conduct its research in, were challenging and constantly evolving. With regard to the former, government planning cycles in each of the three countries varied tremendously, thus ensuring the workshops fitted into the right policy window to maximise impact was extremely difficult. Likewise, trying to secure three consecutive days when members of district and national government and representatives from NGOs were each able to attend (and remain for the entire time) proved close to impossible. With regard to the latter, the remote nature of study sites and variability in seasonal climates meant workshops could not always be delivered as intended. In Mozambique, for example, the workshop had to be delayed by three months as a large flood had occurred just prior. Inevitably, this will also have affected the perceptions of workshop participants in terms of how they relate to messages of CCA and FFDM, with the recovery effort from the January 2013 flooding still ongoing.

An important learning is that delivery of development research has to be flexible and forward-looking in and of itself, particularly when aiming to trial and refine a new approach or tool. If delivering research is the sole aim, then much will be lost in terms of enhancing the capacity-building process. If capacity building is the sole aim, then much will be lost in delivering high-quality empirical research. It is rarely possible to do both; sacrifices are inevitable, and mean that neither the research nor the capacity-building elements can be delivered in full. In the case of ACCRA's experience, the impact of these trade-offs are somewhat evidenced by the many caveats provided in the analysis of results in this report. However, the experience also shows that, by ensuring that important elements of both research integrity and looped learning for capacity building are preserved, compromises can be achieved.

Although ACCRA's research may not be able to provide empirical evidence to attribute change directly to the game-enabled reflection approach (something initially envisaged at the outset of the ACCRA research process), it does provide useful preliminary evidence of what does and does not work in the delivery of new tools in a body of work that has received little prior research. Alongside further evidence and testing, findings from ACCRA's research can help shape a stronger vision of how to better support adaptive capacity at various levels of decision making.

7.1.4 Successful and sustainable interventions require considerable and well-timed investment

Is a game-and-reflection approach suitable to promoting FFDM? Yes, but only if it is carried out with sufficient time and resources and if it is followed through in full. Responses from the qualitative and the qualitative research indicate that participants considered the approach innovative, and different to the standard forms of capacity building delivered at the district level (typically workshops or meetings). (See Figure 23)

However, the coordination of such an innovative activity is not straightforward. The design process must ensure the approach (i) promotes the right messages, (ii) is succinct enough to maintain levels of interest and attention over two to three days and (iii) is context-specific enough so it resonates with the intended audience. To really make sure a new approach is going to have the desired effect, soliciting inputs from partners during the design phase, field testing (trialling the approach with a small group beforehand), translation and extensive training of facilitators is likely to be required. Each of these activities adds significantly to the resources, inputs and coordination needed.

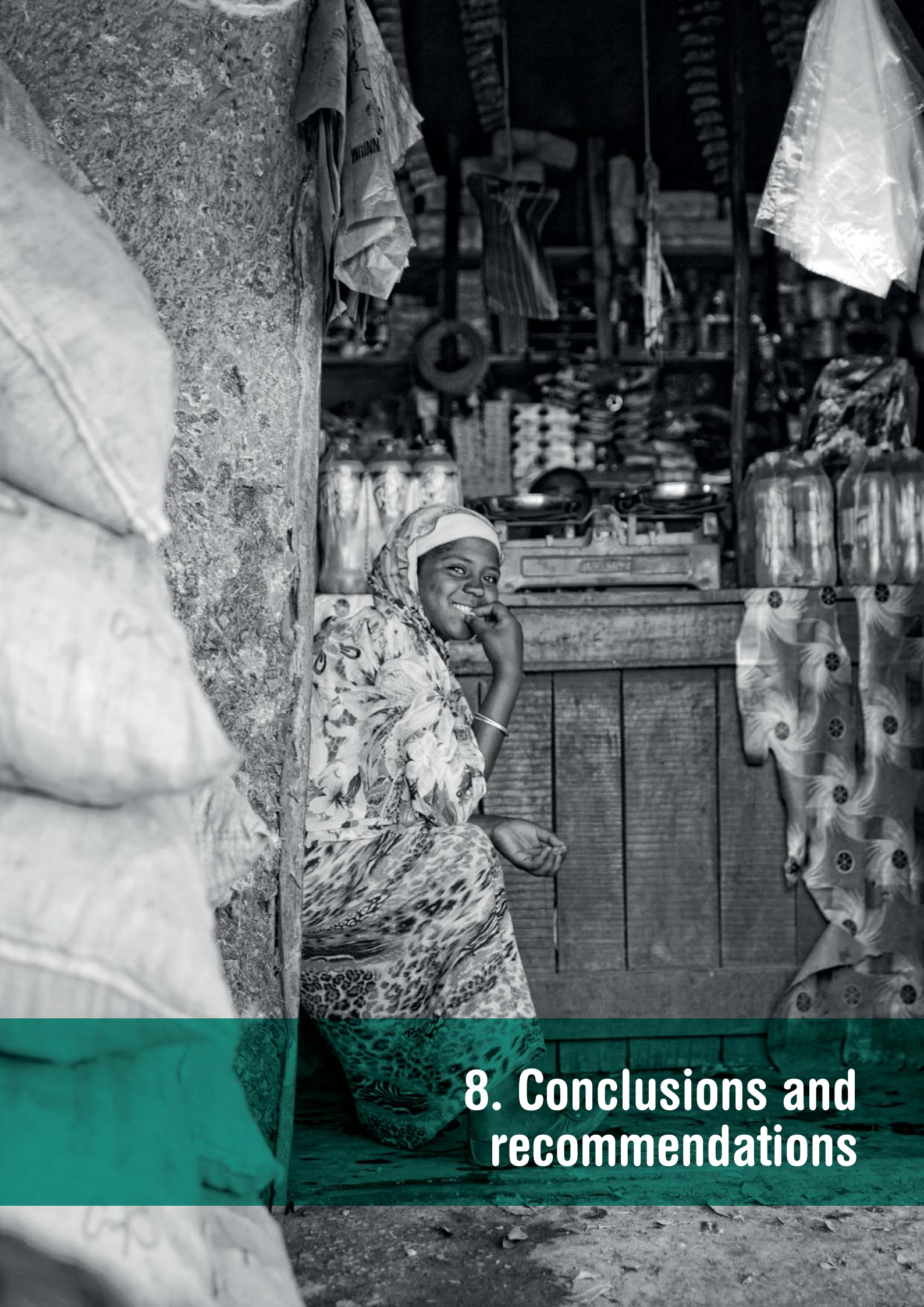
In the context of ACCRA's game-enabled reflection approach, each workshop also required the input of at least two workshop coordinators (one in charge of the game element of the workshop, the other in charge of the reflection element) in addition to between four and eight game facilitators (each responsible for leading a small group through the running of the game). When the time of the full ACCRA game-enabled reflection approach is considered (run over three whole days with numerous stakeholders from district and national levels), it is clear that an approach such as this cannot be coordinated lightly. Feedback from participants and facilitators suggest that a lighter version of the approach may also be of use, so as to quickly introduce the concept to lay audiences, as well as act as a 'top-up' to individuals who may have played the game in the past. Not only that, but recognising that in order to effectively promote FFDM do the wide-ranging audience that ACCRA is targeting would require a significant scaling up of activities. Economies of scale would help – for example, in centralising the provision of training services to facilitators, many of whom, with continued support, should be able to run the approach in a number of other context rather than as a one-off exercise. However, this would inevitably necessitate significant technical and financial resources, and therefore requires careful consideration before committing to adopting and promoting a game-enabled reflection approach.

When considering an approach that is trying to promote a complex message through combining a game with reflection sessions, striking the optimal balance between the two is an added challenge. Feedback from the internal consultation and consolidation pointed to the fact that ACCRA's initial activities during the workshop (starting in Uganda) were focused too heavily on the game element (largely owing to time constraints). This detracted from the reflection sessions, and meant many of the exercises designed to encourage people to relate the game to the real-world activities were somewhat hampered. This omission was significant, as it meant that, while workshop participants left feeling confident in their understanding of FFDM and the need to promote it within district decision making (evidenced by post-workshop survey responses), many felt that an understanding of *how* to apply it to their day-to-day activities was needed in order to drive any institutional and/or policy change. For this reason, it is important to consider the approach not as 'game-based' but rather as 'game-enabled' in practice.

7.1.5 Changing perceptions and institutional structures is a gradual process, requiring continuing support

Perhaps the most obvious but least surprising lesson from ACCRA's research and capacity building is that interventions delivered as a one-off and in isolation are unlikely to succeed. A government or organisation's existing structures, as well as a person's values and perspectives, are deeply woven into existing ways of working (for more, see ACCRA PEA: Jones et al., 2013b). Bringing change through an external intervention – whether promoting FFDM or encouraging gender mainstreaming – in many cases requires long-term and targeted support. What makes it hard (but not necessarily unique) to encourage FFDM in practice is the intangibility of many of its processes and the difficulty in measuring progress.

It is for this reason that ACCRA's research aimed to document changing perceptions and progress over time. Although five to nine months after the inception of an intervention is in itself barely sufficient to track real change at the individual and collective levels, it does provide a useful window into how processes of change might operate at the district level. Both qualitative and quantitative findings point to clear differences in participants' perceptions in relation to many aspects of FFDM (e.g. confidence in understanding FFDM, judgement of how relevant FFDM is to district decision making etc.) as well examples of where efforts to promote FFDM have been encouraged. Evidence from ACCRA's research can go a long way in helping showcase this. Yet, while changes in attitudes, perceptions and support are relatively easy to document, demonstrating how these have led to concrete actions (such as new policies or changes to organisational structures) is far harder. Harder still is attributing any such changes to a specific intervention or cause – particularly given the many competing actors, agendas and interests that shape development policy.



8. Conclusions and recommendations

8.1 Conclusions

DECISION MAKING, EVEN UNDER NORMAL circumstances, is a tough task. Add climate change-related uncertainties to it and it becomes even harder. Decision makers not only have to confront difficult problems, but also operate under difficult conditions, often with limited staffing, a limited budget that is earmarked to specific development activities and little say in the allocation of available resources. Thus, district-level decision makers need tools that help them deal with complexity in a flexible manner and also allow them to consider potential future threats – climate-related and otherwise.

ACCRA and its partners addressed precisely this need, by developing a game-enabled reflection approach focusing on FFDM in a complex and uncertain environment. This approach showed great potential for enabling district-level decision makers to experience outcomes of decision making in a safe environment and under a range of time horizons and uncertainties. The combination of gameplay and reflection sessions, whereby insights from experiences during the game were discussed and reflected on in relation to 'real-world challenges', allowed for in-depth learning and hands-on exposure to FFDM principles.

The research accompanying ACCRA's activities in Ethiopia, Mozambique and Uganda provides evidence that impact is possible and decision makers can be sensitised to deal with complex issues and future uncertainties. Low sample sizes, lack of baseline information and insufficient knowledge about external interventions in each of the districts made the job of attributing observed changes directly to ACCRA interventions difficult (if not impossible). Nevertheless, by combining qualitative and quantitative data, the research was able to demonstrate that ACCRA's interventions certainly had a role to play in supporting greater awareness of the need for FFDM among district decision makers.

Insights from ACCRA's research also point to how traditional understanding of adaptation planning can be enhanced through greater recognition:

- That principles of adaptation extend beyond climate change and need to consider other changing conditions;
- Of the importance of bridging the national with the local, in particular with regard to incentive structures, target setting and planning cycles;
- That there will always be uncertainty and that precise information about the future is not always available; and
- That considering alternative pathways and contingencies is important to prevent mal-adaptive development trajectories.

In order to have impact and address the often deep-rooted barriers to more flexible and forward-looking district-level decision making, a game-enabled reflection and learning approach should be (i) tailored to local and district contexts; (ii) done over a longer period accompanied by ongoing capacity building; and (iii) supported by and bought into by top-tier decision makers and political leaders.

Just focusing on enabling technical experts to anticipate future changes and develop flexible strategies on how to deal with them will not be successful unless there is support from the political establishment, which is also required to gradually address some of the political economy drivers that act as barriers to more flexibility and longer-term thinking in the face of growing uncertainties.

Above all, the ACCRA experience showed that delivery of development research has itself to abide by the principles of FFDM. Trying to conduct research on a capacity-building approach that is evolving at the same time leads to difficult trade-offs and complications. This is inevitable, but should not discourage efforts to combine and benefit from the merits of interlinking research with capacity building in a development context.

8.2 Recommendations

To achieve all of this, based on our learning and insightful comments received from ACCRA consortium members, partners and district-level workshop participants, we recommend the following:

Recommendation 1: Development partners need to experiment with and use experiential tools that help communicate the complexities of planning for change and uncertainty

There is tremendous value in communicating abstract concepts and frameworks that help unpack complex issues such as adaptive capacity or resilience through the lens of FFDM. We also recognise that a game-enabled reflection approach is not the only way of promoting FFDM, and more research will be needed to explore the merits and limitations of other approaches.

However, three key lessons are important. First, capacity cannot be built without continued support. While enthusiasm for FFDM was high following each of the country workshops, evidence from the surveys and interviews showed that this quickly wanes without follow-up activities. In addition, although the communication of complex issues such as FFDM appears to resonate with all stakeholders, attention needs to be paid to connecting what can be done in conceptual terms (e.g. promoting greater flexibility in decision-making processes, or planning for future potential threats) with real-world suggestions on how this can be done in practice that relate to the district context (e.g. creating a direct partnership between a district government and the central meteorological service, or instigating a 15-year strategy document to give a longer-term vision to traditional 5-year development plans).

Second, contextualisation and assistance in thinking through the implications for adaptive capacity of putting FFDM into practice are far harder to facilitate. There is a need for considerable support and guidance – and maybe also support and technical expertise from actors outside of the NGO community. Long-term engagement and partnerships in supporting decision makers in applying the principles of FFDM in practice are needed, going beyond mere capacity building and awareness raising.

Third, ACCRA's game-enabled reflection approach is but one tool that can help communicate the merits of FFDM as a means to strengthen capacity. Other examples of tools that promote a two-way exchange of knowledge and experiential learning include participatory downscaling and visualisations, and role play to help explore different aspects of communicating and promoting FFDM. Its application in this sector is still relatively novel, and more needs to be done to uncover its merits and limitations. Further experimentation and innovation in finding appropriate ways not only to communicate complex messages to lay audiences but also to support the process of delivering real policy change (whether incremental or transformational) are needed.

Recommendation 2: Development actors need to pay more attention to understanding and appreciating the political economy of the surrounding context

Gaining a better understanding of barriers and opportunities for FFDM, especially political economy drivers that influence the uptake of more flexible and long-term planning and decision-making approach, is crucial. In practice, this process is most easily facilitated through identifying potential champions for change. With the right champions identified, these actors can drive the process forward, and identify windows of opportunity in relation to either the existing planning process that might offer specific opportunities to introduce novel ideas around FFDM or the national development processes that might help raise issues otherwise difficult to introduce.

Introducing ideas and principles of flexibility and long-term thinking into development planning and decision making should also be based on an analysis of where this offers greatest opportunities. This might not necessarily be the district, as it was in the case of ACCRA; based on insights gained throughout the past two years, it might actually have to start at higher, most likely national, level, given the often top-down nature of development planning processes and the limited agency of district planners.

Recommendation 3: All characteristics of adaptive capacity need to be better promoted within development policy and practice

Over the past four years of ACCRA research, capacity building and advocacy, a great number of development actors at different levels, both from government and from the NGO community, have been exposed to the LAC framework as a tool to assess development interventions with regard to their contribution to strengthening the adaptive capacity of people and organisations. Linking principles of FFDM more strongly with the other characteristics of adaptive capacity described under the LAC framework would enable decision makers to assess the different dimensions of the LAC and how far they support or hinder flexibility and longer-term thinking. Such an

integrated approach is also recommended as many of the FFDM principles specifically target the areas where LAC dimensions overlap (see Annex C), for example with regard to using information for more informed decision making about asset allocation, providing targeted support to fostering innovation in a specific sector as an enabler of long-term adaptation or even transformative change to deal with impacts of climate change.

Recommendation 4: All development actors need to move towards incorporating principles of FFDM into their programming and operations; it's not simply a tick-box approach

To effectively promote the principles of FFDM requires fundamental changes to the way development is thought about, funded, implemented and evaluated. It cannot simply be left to those at the receiving end of development funds to ensure their interventions are promoting FFDM by means of a simple guideline or checklist. Rather, a wide range of organisational structures and processes need to open up opportunities for uptake and application of FFDM principles to be encouraged among all key actors: from redefining roles, responsibilities and incentive systems to recruitment and training and specific indicators for M&E.

FFDM has many potential overlaps with recent debates about operationalising resilience. Ensuring organisations are abiding by the principles of FFDM is a requirement for resilient organisations – those that are able to thrive in the face of change and uncertainty. In practice, this can be done in many ways, not just through promoting tools that help communicate and understand FFDM principles, but also through incorporating crucial aspects into M&E systems. For example, some of the characteristics, reflections and practical questions identified in Box 2 could lend themselves well to being incorporated into existing M&E systems and incentive structures.

One way of changing behaviour among development partners and ensuring two-way communication is to promote co-exploration and co-production of knowledge. Co-production involves jointly understanding the needs and realities of those involved in or affected by an issue and working up solutions together. It also encourages an approach that is bottom-up, evidence-based and demand-driven. Such approaches also require actors to be cognisant of equity, power and power relationships (Stephens et al., 2008). If done well, a game-enabled reflection approach should embody the key principles of co-exploration and co-production, such as jointly defining the issue at stake, sharing experiences and knowledge from the perspective of the workshop participants and workshop organisers and identifying solutions together.

8.3 Practical options for introducing FFDM in organisational structures and processes

Promoting FFDM requires actions on the part of all development actors. However, each actor has a different role to play. Below we highlight a number of practical actions that can be undertaken in supporting development policy and practice to move beyond fixed targets and short-term planning cycles.

District government:

- Recognising inherent limitations in the rigidity of policy cycles and planning processes, there is always some 'wiggle room': opportunities exist to do things differently. For example, even when strict targets are handed down from central government, district governments often decide the specific modalities of implementation. This may include autonomy to explore new partnerships; seeking information and advice from external sources; greater collaboration across sectors, across districts or between districts and national levels; pooling resources; and drawing up contingency plans. Each of these can often be done within the context of otherwise rigid central structures, top-down planning systems and lack of resources. By way of a practical example, in Ethiopia, districts are required to invest in natural resource management and afforestation. Where and how this is implemented is largely up to the district administration. If planned effectively, efforts to promote afforestation can both meet allocated targets as well as reduce the risk of landslide and damage to infrastructure through well-informed site selection.
- Collaboration across and within different sectors is a good way to start. It allows sharing of resources and harmonisation of related activities. Findings from ACCRA's research suggest that many administrators in charge of sector activities had low levels of knowledge regarding the activities of other relevant sectors that would support their interventions. This can begin simply through regular updates and exchanges, or more meaningfully through joint-planning initiatives, the pooling of human and financial resources and the sharing of technical staff.
- As part of the planning process, reflection on where the district aims to be on time horizons beyond the traditional three- to five-year planning cycles

is important. Internal discussions and exercises to encourage people to envisage (the many) possible futures and pathways to get there are potential options. In many contexts, robust information on the future is not available at the scale and level of certainty required by district decision makers, so ensuring district plans are able to anticipate, shape and mitigate uncertain and changing risks is important. For example, in Uganda each district is required to develop their own District Disaster Management Committees. These are tasked with developing contingency plans, and the various roles and responsibilities amongst district development actors, in the face of a number of hazards (ranging from common threats such as drought, to largely unpredictable and rare events such as earthquakes). Yet having a plan is not enough. Being able to adequately mobilise the resources and technical capacity to implement it is equally important. Part of the application of FFDM is addressing the need to periodically review, assess and update existing plans to accommodate for change.

NGOs and CSOs:

- As actors that are expected to promote and support the uptake of FFDM, NGOs and CSOs need to demonstrate that they too are abiding by the principles of FFDM. This would mean moving away from the delivery of purely technical packages towards more support for other characteristics of adaptive capacity. In relation to the LAC framework, this implies a shift from focusing on supporting the 'asset base' to greater emphasis on create enabling environments for: fostering 'innovation'; effective and equitable 'institutions and entitlements'; enhancing accessible 'knowledge and information'; and promoting 'flexible forward-looking decision making'.
  This also means a move towards more flexible programming, resource and staff allocation and cross-sectoral programming. In many ways similar to district planners, NGOs are prone to focusing their activities and programmes on shorter-term timescales, often with a very narrow sectoral focus. To some extent, this owes to the restriction placed on them by funders. NGOs themselves, by applying the principles of FFDM, can therefore have a significant influence in supporting (rather than constraining) adaptive capacity at the local and district level (see, for example, Folkema et al., 2013).
- Not only do NGOs and CSOs have a role to play in promoting FFDM internally, but also they are key agents of change in supporting its uptake by other actors. Specific areas where NGOs and CSOs can play a role is by mobilising technical and financial resources to promote ongoing dialogue around FFDM; promoting collaboration across sectoral boundaries; bringing stakeholders that would not normally collaborate together; and sharing learning and practical experience.

National governments:

- National governments play a key role as they set the parameters for planning at all administrative levels. National governments should therefore (i) encourage districts to develop longer-term strategies that incorporate principles of FFDM; (ii) give greater levels of freedom to lower levels of administration to define and shape their own development targets based on local needs and priorities; (iii) recognise that change and uncertainty will influence the achievement of predefined targets, and promote mechanisms that allow for greater flexibility; (iv) incentivise the utilisation of FFDM principles, through target setting and provision of guidance for development planning as well as for FFDM performance indicators; and (v) prevent a 'siloed' approach to planning by encouraging greater coordination across sectors and ministries, between different levels of government and between government and other relevant actors.

Donors and multilateral agencies:

- Donors and multilateral agencies need to ensure their internal structures and processes are also able to respond to changing priorities and unforeseen circumstances. They set the parameters by which many NGOs and CSOs deliver their development activities and interventions, yet, even in the face of changing conditions, few donors encourage recipients of their support to deviate from their original terms of reference. Measures should be put in place to enable greater flexibility in the delivery of project outputs to accommodate for changing pressures by moving away from target-based thinking to looking for beneficial outcomes in the longer term. In addition, the timescales of donor funding, typically ranging from two to five years from inception to completion, provide very little incentive for supported programmes to consider and promote longer-term objectives within their own activities. There is considerable scope for the application of FFDM principles to improve these ways of working. In practice, this may mean considering alternatives to the traditional Logical Framework approach, such as 'Theories of Change' or 'outcome mapping' that are less prescriptive and time-bound, encourage feedback loops, as well as greater learning and reflection.

References and Appendices

References

Amsalu, A. and Ludi, E. (2013) 'Towards Climate-resilient Development Planning in Ethiopia: The Case of Gemechis Woreda in Oromia Region'. Kampala: ACCRA.

Argyris, C. (1976) 'Single-loop and Double-loop Models in Research on Decision Making'. *Administrative Science Quarterly* 21(3): 363–375.

Artur, L, Zacharias, D. and Bunce, M. (2012) 'Planning for Strengthening Local Adaptive Capacity: Barriers and Opportunities in Mozambique and Guija District'. Kampala: ACCRA.

Artur, L. and Anlaue, S. (2013) 'Flexible and Forward-looking Decision Making: A Pretest Survey in Guijá District'. Kampala: ACCRA.

Corder, G.W. and Foreman, D.I. (2009) *Nonparametric Statistics for Non-statisticians: A Step-by-step Approach*. Trentham, NJ: John Wiley & Sons.

DFID (Department for International Development) (2009) 'Political Economy Analysis: How to Note'. London: DFID.

Folkema, J., Ibrahim, M. and Wilkinson, E. (2013) 'World Vision's Resilience Programming; Adding Value to Development'. Working Paper. London: ODI

Fritz, V., Kaiser, K. and Levy, B. (2009) 'Problem-driven Governance and Political Economy Analysis: Good Practice Framework'. Washington, DC: World Bank.

Harris, D., Koy, M. and Jones, L. (2011) 'Analysing the Governance and Political Economy of Water and Sanitation Service Delivery'. Working Paper 334. London: ODI.

Howard, G.S. (1980) 'Response-shift Bias: A Problem in Evaluating Interventions with Pre/Post Self-reports'. *Evaluation Review* 4(1): 93–106.

Jones, L., Ludi, E. and Levine, S. (2010) 'Towards a Characterisation of Adaptive Capacity: A Framework for Analysing Adaptive Capacity at the Local Level'. Background Note. London: ODI.

Jones, L. and Carabine, E. (2013) 'Exploring Political and Socio-economic Drivers of Transformational Climate Policy: Early Insights from the Design of Ethiopia's Climate Resilient Green Economy Strategy'. Working Paper. London: ODI.

Jones, L., Ludi, E., Beautement, P., Broenner, C. and Bachofen, C. (2013a) 'New Approaches to Promoting Flexible and Forward-Looking Decision Making: Insights from Complexity Science, Climate Change Adaptation and "Serious Gaming"'. London: ODI.

Jones, L., Ludi, E., Amsalu, A. Artur, L., Bunce, M., Matheson, S., Muhumuza, W. and Zacarias, D. (2013b) 'The Political Economy of Local Adaptation Planning: Exploring Barriers to Flexible and Forward-looking Decision Making in Three Districts in Ethiopia, Uganda and Mozambique'. London: ODI.

Levin, K., Cashore, B., Bernstein, S. and Auld, G. (2009) 'Playing It Forward: Path Dependency, Progressive Incrementalism, and the "Super Wicked" Problem of Global Climate Change'. *IOP Conference Series: Earth and Environmental Science* 50(6).

Levine, S., Ludi, E. and Jones, L. (2011) 'Rethinking Support for Adaptive Capacity to Climate Change: The Role of Development Interventions'. London: ACCRA, ODI.

Mendler de Suarez, J., Suarez, P., Bachofen. C., Fortugno, N., Goentzel, J., Gonçalves, P., Grist, N., Macklin, C., Pfeifer, K., Schweizer, K., Van Aalst, M. and Virji, H. (2012) 'Games for a New Climate: Inhabiting the Complexity of Future Risks'. Frederick S. Pardee Center Task Force Report. Boston, MA: The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston University.

Muhumuza, W. and Jones, L. (2013) 'Understanding Barriers and Opportunities to Flexible Forward-looking Decision making: A Political Economy Analysis of District-level Planning in Kotido, Uganda'. Kampala: ACCRA.

Stephens, L., Ryan-Collins, J. and Boyle, D. (2008) 'Co-production – A Manifesto for Growing the Core Economy'. London: New economic foundation (nef).

Roberts, D. (2008) 'Thinking Globally, Acting Locally – Institutionalising Climate Change at Local Government Level in Durban, South Africa'. *Environment and Urbanisation* 20; 521–537.

Tanner, T. and Allouche, J. (2011) 'Towards a New Political Economy of Climate Change and Development'. *IDS Bulletin* 42(3): 1–14.

Appendix

Appendix A: Statistical analysis

Table A1: Mean, standard deviation and median participant responses across three survey rounds

Question		Uganda			Ethiopia			Mozambique		
		Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
How confident are you in your understanding of the concept of Flexible and Forward-looking Decision-Making (FFDM)?	Pre	3.19	0.91	3.00	3.61	0.70	4.00	1.62	0.77	1.00
	Post	3.77	0.81	4.00	4.12	0.62	4.00	4.00	0.71	4.00
	Follow up	3.48	0.59	4.00	3.85	0.80	4.00	4.15	0.69	4.00
How relevant are the principles of FFDM to the challenges faced in your own job?	Pre	4.06	0.57	4.00	4.11	0.83	4.00	4.23	0.60	4.00
	Post	–	–	–	4.44	0.63	4.50	4.15	0.55	4.00
	Follow up	3.96	0.61	4.00	4.38	0.65	4.00	4.23	0.44	4.00
How relevant are the principles of FFDM to the challenges faced in district decision making?	Pre	4.21	1.01	4.00	4.38	0.65	4.00	4.15	0.69	4.00
	Post	–	–	–	4.47	0.64	5.00	4.46	0.66	5.00
	Follow up	4.39	0.78	5.00	4.23	0.93	5.00	4.50	0.67	5.00
How flexible is district development planning in responding to future changes in the medium term (between now and 2030)?	Pre	2.52	0.91	2.00	3.44	0.92	3.50	3.46	1.56	4.00
	Post	2.74	0.89	3.00	3.69	0.60	4.00	3.54	0.97	4.00
	Follow up	3.28	0.84	3.00	3.69	0.48	4.00	3.77	0.73	4.00
To what extent have future changes been incorporated into district development planning in the medium term (between now and 2030)?	Pre	2.16	0.97	2.00	3.28	1.18	3.50	3.00	1.15	3.00
	Post	2.69	1.04	3.00	3.62	0.62	4.00	2.85	1.07	3.00
	Follow up	3.16	0.75	3.00	4.00	0.71	4.00	3.77	0.83	4.00
To what extent have future changes been incorporated into district development planning in the long term (between now and 2050)?	Pre	2.11	1.31	2.00	3.73	1.53	4.00	1.85	0.80	2.00
	Post	2.60	1.23	2.00	4.00	1.13	4.00	2.54	1.51	3.00
	Follow up	3.35	1.27	4.00	4.00	1.23	4.00	3.82	1.08	4.00
On the basis of the skills learned, to what extent has the workshop led to positive changes in my personal line of work?[1]	Post	4.29	0.69	4.00	4.50	0.63	5.00	4.69	0.48	5.00
	Follow up	3.88	0.60	4.00	4.46	0.52	4.00	4.23	0.44	4.00
On the basis of the skills learned, to what extent has the workshop led to positive changes in district development planning?[1]	Post	3.90	0.70	4.00	4.60	0.63	5.00	4.85	0.38	5.00
	Follow up	3.60	0.87	4.00	4.23	1.01	5.00	4.25	0.75	4.00

1. Pre survey used the wording 'to what extent will the workshop lead to positive change'
SD: Standard deviation
1 = Not at all, 2 = Slightly/a little, 3 = Moderately/a moderate amount, 4 = Very/a lot, 5 = Extremely/a great deal

Table A2: Levels of statistical significance in responses across all survey rounds – Friedman test

Question	Uganda	Ethiopia	Mozambique
How confident are you in your understanding of the concept of Flexible and Forward-looking Decision-Making (FFDM)?	0.019**	0.095*	0.000***
How relevant are the principles of FFDM to the challenges faced in your own job?	–	0.104	0.846
How relevant are the principles of FFDM to the challenges faced in district decision making?	–	0.247	0.519
How flexible is district development planning in responding to future changes in the medium term (between now and 2030)?	0.000***	0.554	0.337
To what extent have future changes been incorporated into district development planning in the medium term (between now and 2030)?	0.000***	0.085*	0.011**
To what extent have future changes been incorporated into district development planning in the long term (between now and 2050)?	0.081*	0.405	0.001***

Friedman Test: a non-parametric statistical test to detect significant differences in responses across multiple surveys.
*p ≤ 0.1; ** p ≤ 0.05; ***p ≤ 0.01

Table A3: Levels of statistical significance in responses in paired surveys – Wilcoxon test

Question	Compared Round	Uganda	Ethiopia	Mozambique
How confident are you in your understanding of the concept of Flexible and Forward-looking Decision-Making (FFDM)?	Pre – Post	0.003***	0.035**	0.001***
	Pre – Follow up	0.124	0.129	0.001***
How relevant are the principles of FFDM to the challenges faced in your own job?	Pre – Post	–	0.084*	0.655
	Pre – Follow up	0.366	0.102	1.000
How relevant are the principles of FFDM to the challenges faced in district decision making?	Pre – Post	–	0.046**	0.248
	Pre – Follow up	0.303	0.564	0.248
How flexible is district development planning in responding to future changes in the medium term (between now and 2030)?	Pre – Post	0.204	0.297	0.914
	Pre – Follow up	0.003***	0.317	0.477
To what extent have future changes been incorporated into district development planning in the medium term (between now and 2030)?	Pre – Post	0.024**	0.100*	0.492
	Pre – Follow up	0.000***	0.039**	0.085*
To what extent have future changes been incorporated into district development planning in the long term (between now and 2050)?	Pre – Post	0.069	0.288	0.084*
	Pre – Follow up	0.012**	0.518	0.004***
On the basis of the skills learned, to what extent has the workshop led to positive changes in my personal line of work?	Post – Follow up	0.045*	0.763	0.025**
On the basis of the skills learned, to what extent has the workshop led to positive changes in district development planning?	Post – Follow up	0.122	0.366	0.084*

Wilcoxon Signed Ranks Test: a non-parametric statistical test to compare two related samples (in this case surveys) to assess whether there are significant differences in mean responses.
*p ≤ 0.1; ** p ≤ 0.05; ***p ≤ 0.01

Table A4: Significant differences in responses by Ethiopia participant characteristics

Question	Compared Round	Age	Gender	Sector	Length
How confident are you in your understanding of the concept of Flexible and Forward looking Decision-Making (FFDM)?	Pre – Post	0.290	–	0.029*	0.351
	Pre – Follow up	0.522	–	0.191	0.210
How relevant are the principles of FFDM to the challenges faced in your own job?	Pre – Post	0.641	–	0.123	0.278
	Pre – Follow up	0.300	–	0.038*	0.266
How relevant are the principles of FFDM to the challenges faced in district decision making?	Pre – Post	0.450	–	0.414	0.165
	Pre – Follow up	0.830	–	0.830	0.196
How flexible is district development planning in responding to future changes in the medium term (between now and 2030)?	Pre – Post	0.434	–	0.231	0.522
	Pre – Follow up	0.431	–	0.092	0.581
To what extent have future changes been incorporated into district development planning in the medium term (between now and 2030)?	Pre – Post	0.889	–	0.091	0.253
	Pre – Follow up	0.218	–	0.383	0.330
To what extent have future changes been incorporated into district development planning in the long term (between now and 2050)?	Pre – Post	0.667	–	0.194	0.495
	Pre – Follow up	0.741	–	0.453	0.949

Kruskal-Wallis Differences Test: a non-parametric method for comparing two samples (in this case survey questions) that are not related (or are independent).
* $p \leq 0.05$

Table A5: Significant differences in responses by Mozambique participant characteristics

Question	Compared Round	Age	Gender	Sector	Length
How confident are you in your understanding of the concept of Flexible and Forward looking Decision-Making (FFDM)?	Pre – Post	0.585	–	0.150	0.212
	Pre – Follow up	0.968	–	0.424	0.720
How relevant are the principles of FFDM to the challenges faced in your own job?	Pre – Post	0.571	–	0.704	0.313
	Pre – Follow up	0.401	–	0.534	0.247
How relevant are the principles of FFDM to the challenges faced in district decision making?	Pre – Post	0.733	–	0.418	0.111
	Pre – Follow up	0.227	–	0.124	0.406
How flexible is district development planning in responding to future changes in the medium term (between now and 2030)?	Pre – Post	0.122	–	0.025*	0.308
	Pre – Follow up	0.376	–	0.014*	0.243
To what extent have future changes been incorporated into district development planning in the medium term (between now and 2030)?	Pre – Post	0.540	–	0.180	0.063
	Pre – Follow up	0.122	–	0.051	0.216
To what extent have future changes been incorporated into district development planning in the long term (between now and 2050)?	Pre – Post	0.717	–	0.577	0.578
	Pre – Follow up	0.188	–	0.203	0.185

Kruskal-Wallis Differences Test: a non-parametric method for comparing two samples (in this case survey questions) that are not related (or are independent).
* $p \leq 0.05$

Table A6: Significant differences in responses by Uganda participant characteristics

Question	Compared Round	Age	Gender	Sector	Length
How confident are you in your understanding of the concept of Flexible and Forward looking Decision-Making (FFDM)?	Pre – Post	0.862	0.801	0.758	0.287
	Pre – Follow up	0.802	0.758	0.758	0.287
How flexible is district development planning in responding to future changes in the medium term (between now and 2030)?	Pre – Post	0.021*	0.061	0.473	0.102
	Pre – Follow up	0.499	0.139	0.155	0.039*
To what extent have future changes been incorporated into district development planning in the medium term (between now and 2030)?	Pre – Post	0.801	0.054	0.275	0.193
	Pre – Follow up	1.000	0.519	0.222	0.024*
To what extent have future changes been incorporated into district development planning in the long term (between now and 2050)?	Pre – Post	0.212	0.229	0.265	0.015*
	Pre – Follow up	0.814	0.962	0.228	0.349

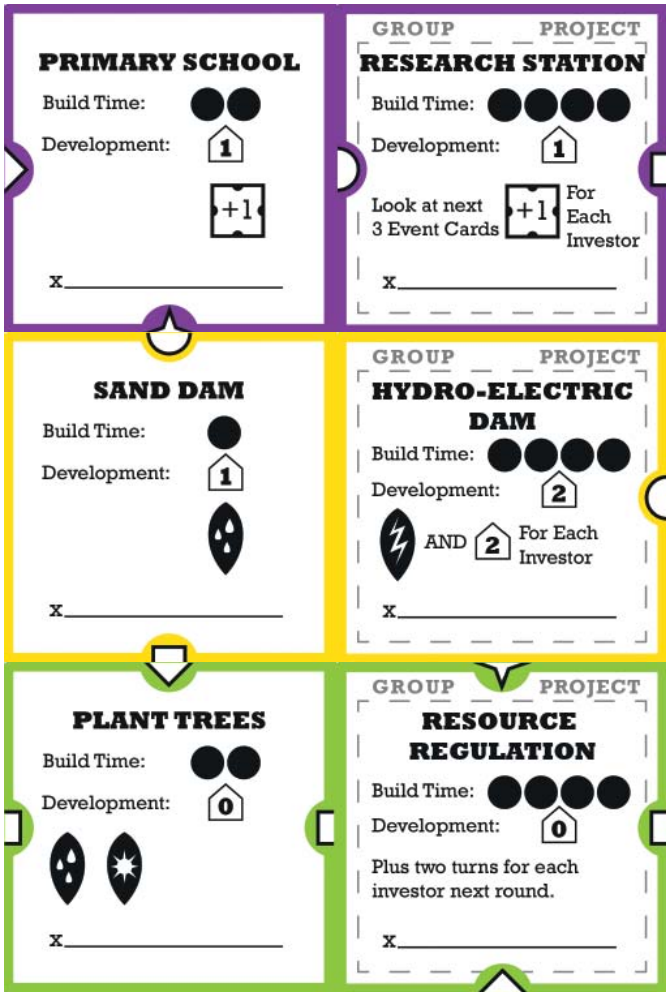
Kruskal-Wallis Differences Test: a non-parametric method for comparing two samples (in this case survey questions) that are not related (or are independent).
* $p \leq 0.05$

Appendix B: Details and methods for running the game

The game consists of the following material:

Development Cards (see Figure B1) in different colours, representing options for development in the five sectors: agriculture and natural resources management (green); energy (yellow); education (purple); health (red); and infrastructure (blue). Group Projects represent a special category of Development Card (represented by a dashed line around the card). Any player can invest in a Group Project, but this cannot be completed without investment by at least one other district (i.e. player). The benefits of investing in Group Projects vary and are indicated on each card; some offer protection shields for all investors, or additional Development Points; others open new development options, allowing investors to draw additional Development Cards.

Figure B1: Examples of Development Cards



Each player selects one of the five **District Cards**, which are in the same colours as the Development Cards and represent the respective sector. Each player has a different Priority Sector in which the district is most in need of development. This does not mean players cannot develop their district in other sectors as well.

Coloured beads are the **Investment Units**. Each player uses one colour, corresponding to the Priority Sector, to keep track of their own turns, investments and points, and also to distinguish them from other players' investments.

Points are recorded on the **Development Tracker** (see Figure B2) by moving the player's Marker (the same as an Investment Unit in the player's colour) up the number of points earned on the sector track corresponding to the colour of the Development Card completed. Some development projects also provide other benefits, such as protection from shocks, depicted by the Shield symbols found on some Development Cards (see Figure B2).

Shields protect the district from shocks such as floods, drought, health or economic crises and energy shortages (see Figure B3). They are shown at the bottom of Development Cards (see Figure B1). For example, investing in tree plantations gives 1 shield each against floods and severe conditions such as droughts. They can be very important depending on what unexpected events occur during a planning cycle (see Figure B3).

There are five Ways of Winning, representing different aspects of FFDM (see Section 3.1 for a detailed discussion of ways of winning)

1. Sector developer;
2. Regional developer;
3. Most diverse developer;
4. Most flexible developer; and
5. Best CCA developer.

Figure B2: District Development Tracker

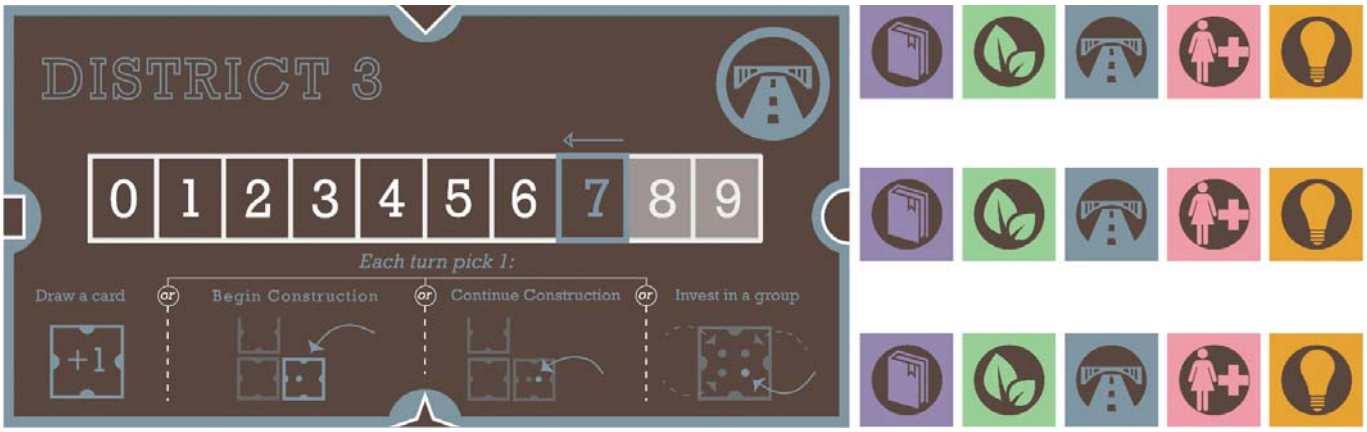


Figure B3: Event Cards

Further details of the game design and how it is run can be found online at RCCC's website – http://www.climatecentre.org/site/accra.

Playing the game

Turns are taken in clockwise order (proceeding to the next player to the left). Each player takes one turn per round. To begin, all players place their Marker on Year 7 of the **District Card timeline**.

Each turn has the following steps:

1. **Move** the Timeline Marker one year to the left.
2. **Choose one of four** possible actions:
   - Draw a card;
   - Begin a development project;
   - Continue a development project;
   - Invest in a Group Project.
3. **Resolve** consequences of each action:
   - Some completed projects offer a player Development Points. The number of Development Points gained by completing a project is shown inside the house icon.
   - Some completed projects offer a player the chance to draw one or more additional Development Cards.
   - Some completed projects offer shields against future events.
4. **Repeat** Steps 1–3 until the cycle is over.

At the end of each cycle, events may occur that will have an impact on each player's district development. **Event Cards** indicate a probability of a certain event occurring at the end of the seven-year Planning and Investment Cycle. All sectors are vulnerable to these events. Players are faced with the challenge of developing their districts in a way that is climate-resilient. At the beginning of each seven-year Planning and Investment Cycle, three Event Cards are drawn. Two of the Event Cards are placed on the table face up and the third face down. This card represents uncertainty about what might be expected in a changing climate – even though there may be forecasts of either adverse or good conditions ahead, there are still events that are uncertain in future. At the end of the seven-year Planning and Investment Cycle, the three cards are shuffled and one is drawn that will affect all players in a specific region. Depending on the type of Event Card, the following actions need to be taken:

- If the card represents a good condition, the game proceeds with the drawing of three new Event

Figure B4: Reviewing games strategy to assess ways of winning

Cards (two up, one down) and a new Planning and Investment Cycle begins.

- If an extreme event is drawn, the players have to find out what type of impact the event will have, and how severe it will be! For this, the Impact Wheel is used.

One player spins the **Impact Wheel** if an extreme Event Card is drawn. Some players may be protected; others will not be protected and pay the consequences. The Impact Wheel has three *types* of negative outcomes:

1. Lose Development Options Cards (cards in hand);
2. Lose Turns;
3. Lose Development Projects already completed or underway in your district.

The Impact Wheel also contains numbers, which determine the *severity* of events. If the ticker lands, for example, on the Number 3, a player needs at least three Shields from that type of shock in order to be protected. If the ticker lands on the Number 3 and a player has only two protection Shields, s/he will still feel the impact but it will be less intense – s/he will only suffer one setback instead of three (3–2=1). To simulate increasing severity of climate change impact in future, a second Impact Wheel is available for Round 4 with severity levels 1 to 4 instead of 1 to 3.

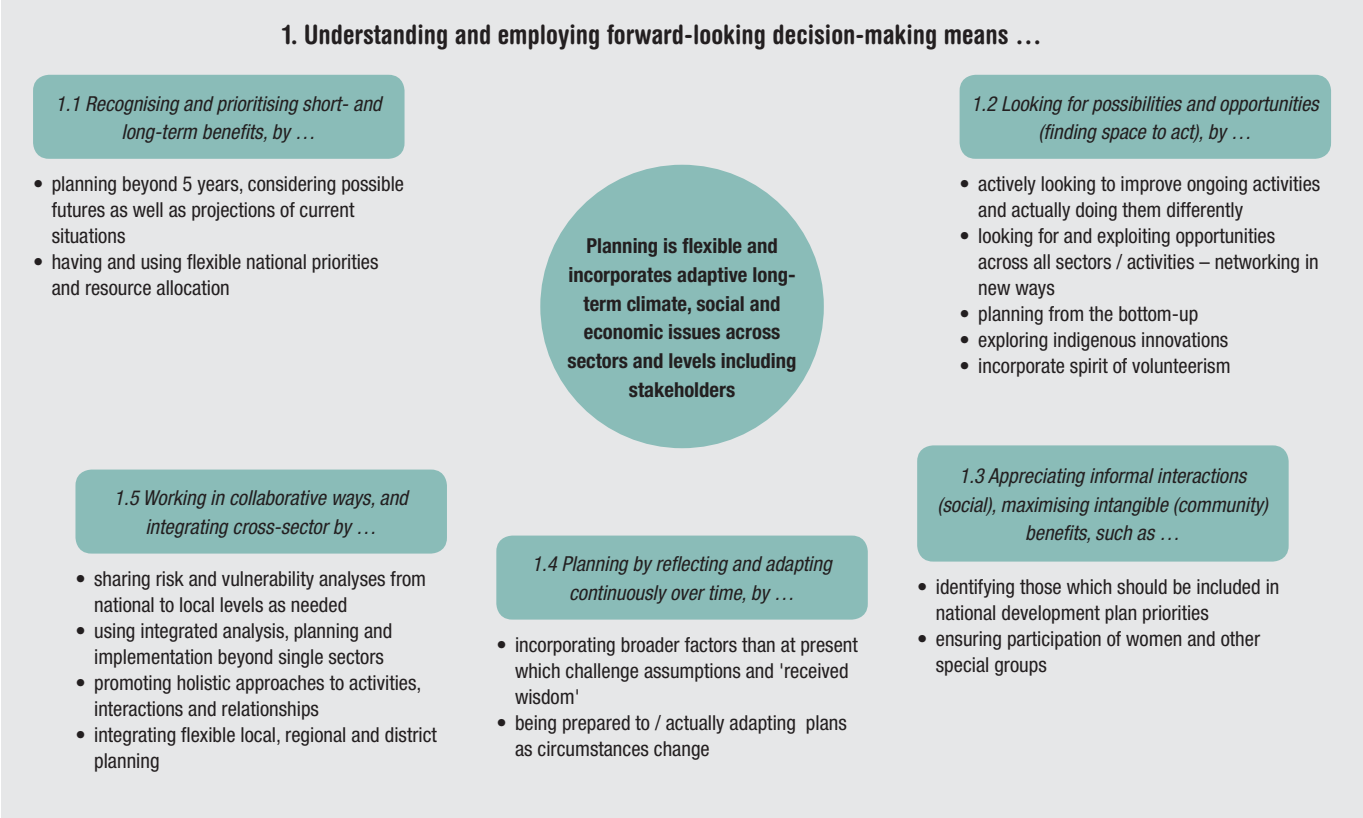
To make the game more relevant to district contexts, at the end of Cycle 1 new Event Cards can be created that represent not the known threats to development but unknown threats. Such new Event Cards can relate to both climate and non-climate events that can have an impact on a district's development options.

For each of the following cycles, two good Event Cards should be removed and replaced with now 'bad' Event Cards to simulate increasing frequency of more extreme, unpredictable or unusual events owing to climate change.

Reviewing game strategies

After each cycle, players should reflect on the strategy they applied in the game and how they might relate to the ways of winning.

Appendix C: Posters mapping FFDM onto the LAC components



2. Using knowledge and information in a meaningful way means …

People get timely information in useable formats to support forward-looking decision-making via established communication and feedback channels

2.1 Recognising appreciating and incorporating the value of local knowledge, by …

- exploring indigenous knowledge and insights to identify those that still work
- emphasising the importance of timely information provision

2.2 Integrating cross-sector information, by …

- collaborating actively across the communications and feedback channels
- willingly sharing lessons and experiences across sectors
- creating 'platforms' for sharing lessons and experiences (forums)
- networking openly
- sharing responsibility and accountabilty through planning
- monitoring and evaluating in adaptive ways (different indicators)

2.5 Expressing, visualising and communicating information in an accessible manner, by …

- ensuring that usable and accessible media are used
- simplifying the information provided to users
- acting on the need to provide different types of information to different users: youth, women, PLWD (People Living with Disabilities)
- better academic expertise at working with local communities
- using local examples

2.4 Teaching children and adults the utility of information, and how to interpret it by …

- building community capacity to interpret and translate information
- giving women's views a voice
- building ability to use technology effectively

2.3 Appreciating what is available and where it is – and trusting it, by …

- highlighting key resources that provide timely information
- establishing channels for communication and feedback by using suitable shared platforms
- exploiting technology appropriately

3. Having evolving institutions and fair entitlements means …

Innovations are adaptive and anticipatory and enable people to have ownership, grasp opportunities and deal with climate change sustainably

3.1 Collaborating across agencies and communities, by …

- involving stakeholders in decision-making processes at all levels (regardless of tribe, age, race or gender)
- improving coordination, integration and sharing of information across disciplines (scientific and indigenous)
- providing working facilities

3.2 Being trustworthy and respecting contracts / agreements, by …

- sharing relevant information and adhering to terms and conditions in agreements openly
- formulating relevant policies about to unsure enforcement
- acknowledging and acting on the need for trust and showing respect in practice
- setting binding timeframes for agreements
- ratifying agreements

3.5 Recognising rights and responsibilities, by …

- involving all stakeholders including beneficiaries and duty-bearers, (including women and children) - sense of ownership
- providing (self) enforcement of policies, laws and responsibilities
- respecting rights to information, land titles etc
- sensitizing rights holders / duty bearers to their responsibilities

3.4 Providing advice, protection and support, such as …

- providing protection and support to those carrying out enforcement
- provide assets and resources needed (eg, transport)

3.3 Promoting equitable access to and control of resources at all levels by …

- engaging in fair negotiation and arbitration (by neutral arbitrators accepted by both parties)
- empowering vulnerable groups such as women and children
- exposing those who act in selfish interests
- encouraging community participation

4. Fostering innovation and developing enabling environments means ...

Innovations are adaptive and anticipatory and enable people to have ownership, grasp opportunities and deal with climate change sustainably

4.1 Supporting new ideas with incentives, such as …

- encouraging planners and implementers to gain insights from continuous monitoring and adapting
- those which encourage community-level contributions
- providing benefits to those addressing trans-boundary concerns
- rewarding leaders who have courage for the greater good
- opeining resource centres

4.2 Being prepared to try new things, do existing things differently, such as …

- actively looking to improve ongoing activities and actually doing them differently
- looking for and exploiting opportunities across all sectors / activities – networking in new ways
- planning from the bottom-up
- exploring indigenous innovations
- incorporate spirit of volunteerism

4.5 Nurturing a participatory, trans-boundary environment, by …

- introducing new organisations and (regional) institutions which facilitate dialogue
- supporting and promoting existing institutions that aid communication and feedback
- respecting community-level contributions
- involving duty-bearers and practitioners
- recognising migration of animals across borders

4.4 Learning from experimenting, from successes and from failures, by …

- exploring innovations, guided by risk and vulnerability assessments based on possible futures not just current concerns
- allocating resources which allow experiential learning and feedback (eg, copying and developing, expose visits)

4.3 Promoting self-generated initiatives, such as …

- diversifying livelihoods
- suggesting new ways-of-working for ongoing activities
- supporting community-driven processes and traditional methods (where appropriate)
- planning initiated from the bottom-up

5. Accessing and utilising assets / capabilities as necessary means …

Processes, people's abilities and skills development, social networks, information sharing etc comes first over physical (money-based) assets

5.1 Knowing what / who / when is available, where they are and their status (abilities, willingness, able to work / function etc), by …

- focussing on community sustainable diversification skills and experiments
- utilising private-sector / NGO involvement
- doing adaptive resource management
- understanding needs, costs / overheads of working differently

5.2 Involving other sectors (in decisions about competing priorities etc), by …

- incorporating community-based skills and insights
- working up from community-level crop / livestock value addition to the national
- including private-sector contributions
- encouraging cross-planning sector coordination meetings

5.5 Having the means to 'pay' for assets / capabilities, such as, by …

- utilising the opportunities available via new markets and sectors
- sharing skills and capabilities
- being able to ensure the sustainability / availability of assets and capabilities
- cooperating on shared provision

5.4 Being prepared to share and re-allocate assets / capabilities, by …

- building on information and experience-sharing
- being open about the actual availability and utility of assets
- promotion of regional cooperation

5.3 Being trained and competent in their use / deployment, by …

- focussing on development of community-based business skills
- employing capabilities available at any level, including via market linkages
- training of decision-makers
- putting in place capacity-building to enable change

ODI
203 Blackfriars Road, London SE1 8NJ, UK

Tel: +44(0)20 7992 0300
Fax: +44(0)20 7992 0399
Email: publications@odi.org.uk

www.odi.org.uk