**ADAPTATION AT SCALE IN SEMI- ARID REGIONS (ASSAR) PROJECT**

# ASSAR WA Research into Use Training Workshop: Transformative Scenario Planning, Stakeholder Mapping & Analysis, and Vulnerability & Risks Assessment

**CENTRE FOR AFRICA WETLANDS**

**UNIVERSITY OF GHANA (ACCRA)**

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CARIAA Collaborative Adaptation Research Initiative in Africa and Asia

UNIVERSITY OF GHANA

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## Abbreviations

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| ASSAR | Adaptation at Scale in Semi-arid Regions |
| ASSAR WA | Adaptation at Scale in Semi-arid Regions West Africa |
| ADDRO | Anglican Diocesan Development Organisation |
| ACDEP | Association of Church-based Development |
| CCAFS | Climate Change and Food Security |
| CARE | Cooperative and Assistance for Relief Everywhere |
| CSIR | Council for Scientific and Industrial Research |
| FARA | Forum for Agricultural Research in Africa |
| GCDP | Ghana Community-Based Rural Development Project |
| GIDA | Ghana Irrigation Development Authority |
| GMeT | Ghana Meteorological Agency |
| IESS | Institute for Environment and Sanitation Studies |
| ICRISAT | International Crop Research Institute in Semi-arid Tropics |
| IFDC | International Fertilizer Development Centre |
| IFPRI | International Food Policy and Research Institute |
| IWMI | International Water Management Institute |
| MMDA | Metropolitan, Municipal and District Assembly |
| MESTI | Ministry of Environment, Science, Technology and Innovation |
| MGCSP | Ministry of Gender, Children and Social Protection |
| MoFEB | Ministry of Finance and Economic Planning |
| MoFA | Ministry of Food and Agriculture |
| MoH | Ministry of Health |
| MLNR | Ministry of Lands and Natural Resources |
| MLGRD | Ministry of Local Government and Rural Development |
| NANDRIDEP | Nandom Deanery Integrated Development Project |
| NDPC | National Development Planning Commission |
| NHoC | National House of Chiefs |
| PAS | Presbyterian Agriculture Station |
| RCC | Regional Coordinating Council |
| RiU | Research into Use |
| SADA | Savana Accelerated Development Authority |
| SEND | Social Enterprise and Development |
| ShE | Stakeholder Engagement |
| TSP | Transformative Scenario Planning |
| UCT | University of Cape Town |
| UDS | University for Development Studies |
| UG | University of Ghana |
| USAID | United State Agency for International Development |
| VRA | Vulnerability Risk Assessment |
| WAAP | West Africa Agricultural Programme |
| WASCAL | West Africa Science Service on Climate Change and Adapted Land Use |
| WRC | Water Resource Commission |

## BACKGROUND

The ASSAR research project seeks to answer the question of "*What are the barriers and enablers for effective medium term (2030 and beyond) adaptation and what responses enable more widespread, sustained adaptation*?" To do this, regional research teams such as West Africa will need to employ a number of methods that can (i) gain a deeper understanding of the current dimensions of risks, vulnerabilities, and adaptation responses across and within different groups of people in the study sites, and (ii) transform climate adaptation policies in ways that promote the long term wellbeing of the most vulnerable groups in the semi-arid regions of Asia and Africa. For each of these objectives, two different categories of methodologies are being considered as instruments, the stakeholder engagement and analysis as well as vulnerability risk will address the first objective, and the latter objective will be addressed using the transformative scenario planning.

The transformative scenario planning (TSP) method would be used as a participatory way to stimulate innovative thinking on the potential futures of selected issues identified in the study areas that could potentially hinder or enable adaptation. This would provide information that will be used in the second phase of research, where closer examination is given to how different types of governance, in the form of formal and informal structures, instruments, and social norms, influence, or could potentially influence, vulnerabilities and responses in different ways.

To address the second objective, the stakeholder mapping and analysis and vulnerability risk assessment activities will involve capacity building, continuous broad stakeholder engagement, knowledge management and communications, interactions with boundary organisations, as well as building coalitions with advocacy partners. This approach will enable an understanding of the power dynamics of different stakeholder groups and will also help in the design of research that is meaningful, relevant and impactful to diverse levels of policies and practice.

This report documents the process and outputs of training sessions on each of the methods described above for the ASSAR West Africa team members, i.e., from Mali and Ghana. The trainings were held in Accra, Ghana, between 28th September and 2nd October, 2015.

## PART ONE: TSP Training Workshop

### 1.0 Introduction

To understand how the RiU methodologies can be successfully used in the research and the synthesis phase of the ASSAR project, a five day workshop was held from the 28th September to 2nd October, 2015 at the Centre for Africa Wetlands (University of Ghana), Accra. The workshop brought together international experts from OXFAM, participants from the University of Cape Town (UCT), Reos partners, START, International Crop Research Institute in Semi-arid Tropics (ICRISAT)-Mali and the Institute for Environment and Sanitation Studies (IESS), University of Ghana. The participants were mainly made up of the ASSAR West Africa (ASSAR WA) research team members. The facilitators of the workshop were Colleen Magner, managing director of Reos Partner and Dinesh Budhram, a consultant at Reos Partner (see list of participants in Appendix 1 and the workshop agenda in Appendix 2).

### 2.0 Objectives of TSP training

The objectives of the training workshop were to:

- Introduce the Transformative Scenario Planning (TSP) methodology to the Adaptation at Scale in Semi-arid Regions (ASSAR) West Africa (WA) team.
- Test TSP at the local context
- Inform future research and TSP planning in the region

### 3.0 Day One: Overview of Scenario Planning

The workshop commenced with a welcome note from Adelina Mensah, one of the co- Investigators of the ASSARWA Team, followed by self -introductions from the various participants. To set the pace for the training on TSP, participants were first given the opportunity to discuss what TSP is and its importance. Generally, participants perceived that it was a new way of doing research that could bring a positive change for developmental issues; however, they had a vague understanding of how the TSP concept could be successfully adopted in the research phase of ASSAR's programmes. Dinesh Budhram facilitated this exercise.

Colleen Magner gave an overview of what scenario planning (SP) entailed and explained that it is a method of creating structured, well-considered stories describing a small set of possible future contexts and how they might occur. She noted that the development of SP was very popular in the military for strategic studies and in the oil industry in the 1960s, where there were oil price hikes in the Middle East causing instability.

### 3.1 TSP Agreements

Before convening a TSP, agreements between the workshop participants must be made. These can include keeping the information confidential, keeping a picture of ASSAR research in mind, being open to other applications, giving everyone an opportunity for equal voice and suspending judgements.

In scenario planning, two orientations towards the future were also noted, which included an Adaptive Orientation and a Transformative Orientation. In adaptive scenario planning, one need not, cannot or should not change a context; the group must accept it and adapt to it. In a transformative scenario planning, the context is, or could become unsustainable or unacceptable; we cannot and should not and need not adapt to it; the group must try to change it. The Mont Fleur scenario exercise in South Africa was discussed to give clarity on how to use a TSP. In that exercise, participants in the TSP viewed apartheid as unacceptable and unsustainable and saw the opened political negotiations as an opportunity for a change.

### 3.2 When to use Scenario Planning

It was highlighted that- scenarios are used when a group of people realise that:

- The situation they are in is unacceptable, unstable or unsustainable.
- They cannot solve the problem on their own, as the situation is too difficult or complex
- People don't trust each other enough to work together, they cannot transform their situation directly or it is too polarised to be able to approach it head-on.

However, when a dominant actor does not want to cooperate, then an SP would not succeed.

### 3.3 Five Steps in Convening a TSP

The following describes the steps in convening a TSP:

#### 3.3.1 Step One: Convening a team from the whole systems (Co-Initiating)

In order to successfully convene a team from the whole system, there is a need to articulate problems or issues that one wants to address. In addition, there is the need to seek out allies interested in changing a particular issue. Other activities for consideration in the process include, forming a convening team, drawing up a list of stakeholders who are involved in any given system, beginning a project plan (which includes drawing up objectives, timelines, budgets etc.) as well as looking for individuals who are insightful, influential and committed.

However, the presentation noted that convening a team could be quite challenging in areas such as getting the problem definition right or seeking neutrality. Besides, getting access to the stakeholder could be cumbersome as could be convincing stakeholders to participate, including those who may

have an interest in the status quo. Establishing the necessary trust for the participants to feel safe in engaging with the process or defining the scope of the project could also be challenging.

### 3.3.2 Step Two: Observing what is happening (Co-Sensing)

This involves exploring the experiences and knowledge of the participants themselves on the issue to be addressed. The issue to be addressed could also be explored through research, media, learning journeys or conversations with "remarkable people" to unearth important information. It was noted that, observing what is happening builds a rich picture of current reality and the driving forces of a given issue. A driving force is anything that could influence the future, for example the quality of governance. Observing what is happening, however, requires openness, patience and resilience to stay with the confusing, complex or uncomfortable phase.

### 3.3.3 Step Three: Constructing stories about what could happen

In constructing scenarios, there is the need to identify the driving forces behind the problem to be addressed. It was noted that the driving forces need to be written in a value-neutral way as well as been specific to the context. Also, there is the need to identify the barriers and enablers that may weaken or strengthen the TSP process, respectively. In addition, there is the need to observe important or impactful certainties and uncertainties about the future which should be plausible, clear, challenging and relevant.

### 3.3.4 Step Four: Discovering what can and must be done

The fourth step involves monitoring and scanning for early warning signals or issues that could compound a problem. In discovering what must be done, stakeholders and actors in the TSP would have to identify options for survival if the situation happened. This step also requires taking a transformative stance which involves taking an action to influence the system.

### 3.3.5 Step Five: Acting to transform the system

The fifth step basically involves implementing the transformative stance decided on by the group which could influence the system.

## 3.4 Group Exercise

To obtain a practical experience in how these five steps could be used, the ASSAR WA team proposed focusing on possible futures for managing natural resources at local levels in the semi-arid region of Ghana. The TSP issue was articulated around the fact that several actors currently would want to change the unsustainable use of resources, seeking ways to create more equitable use since this relates in many ways to sustainability (Figure 1). Participants also played the role of a convening team and mapped out stakeholders who they considered to be influential. These included resource

users, land owners, traditional authorities, non-governmental organisations (NGOs), researchers and policy makers.

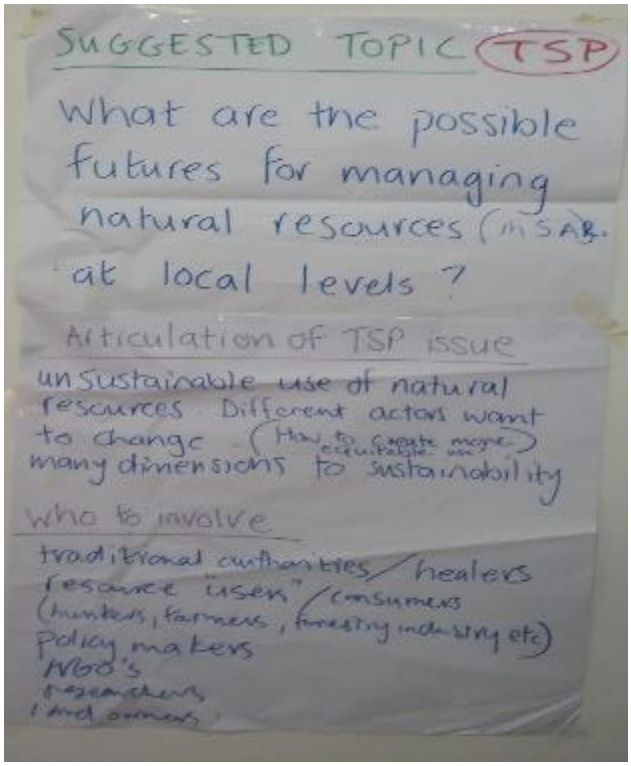


*Figure 1: Participant's suggested topic, articulated issue and stakeholder mapping for the TSP exercise*

For the second step, the participants interviewed each other, with the purpose of questioning each other's assumptions, truly listening for thoughts, feelings and perceptions about the issue in question. The key questions that were asked were: "What concerns you the most? What are you most uncertain about?" Issues that were raised went from questioning local capacities to manage natural resources, to conflicts between traditional authorities and the new governance models being put in place as a result of decentralisation, from the way land is inequitably distributed between men and women, to access to and management of water resources.

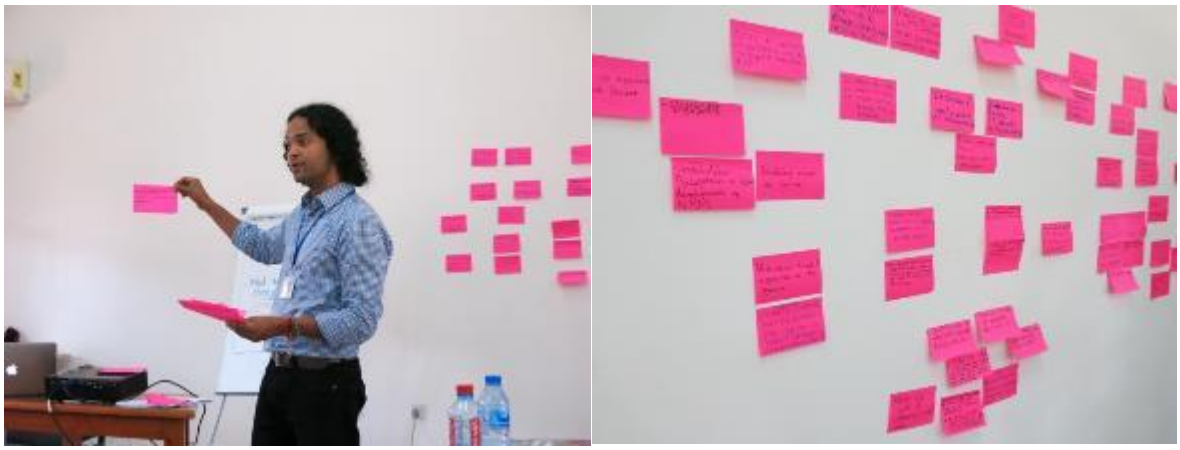

*Figure 2: Step 2- Observing what is happening*

In the third step, which involves constructing stories about what could happen, participants identified key driving forces (non-directional variables, which form the building blocks for scenarios) that could influence the future management of natural resources. The driving forces included the degree of inclusion of different social groups, the nature of governance, extent of engagement of vulnerable groups, rainfall variability, poverty levels and other factors (Figure 3). Participants also identified the certainties and uncertainties about the future. Based on these discussions, two key driving forces (rainfall variability and the nature of governance) were identified as the most important or impactful uncertainties about the future which participants constructed stories about.

*Figure 3: Participants mapping out driving forces that could influence future management of natural resources*

### 3.5 Day Two: Group Exercise

On the second day, after clarifying questions which participants had concerning the TSP presentations and the exercises carried out the day before, the exercise on how to conduct a TSP using the example of unsustainable management of natural resources in the semi-arid region of Ghana continued. Participants created useful scenarios of possible futures around unsustainable management of natural resources. As the two key driving forces identified, the nature of governance system (centralised versus decentralised) was plotted against the impact (low or high) arising as a result of rainfall variability (Figure 4).

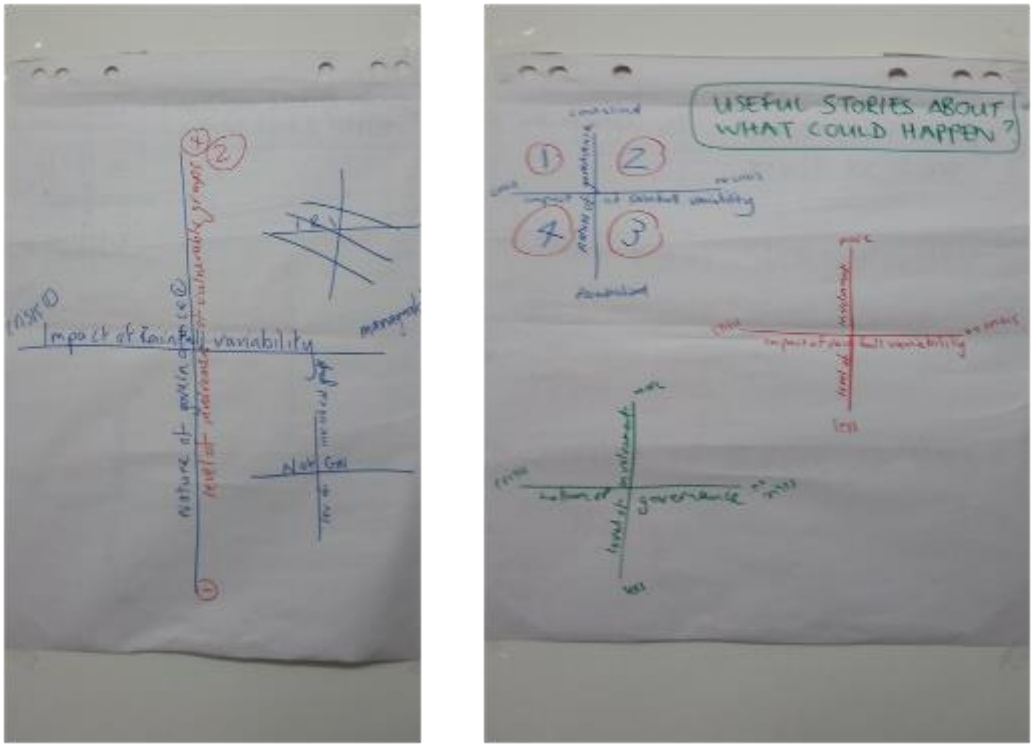


*Figure 4: Plotted graphs*

### 3.6 Scenarios

There were four scenarios representing a range of issues for each quadrant at the intersection of the two axes on the nature of governance (on the y axis) and the impact of rainfall variability (on the x-axis). Four groups were formed to describe possibilities for each quadrant as follows:

#### 3.6.1 Centralised System and more Crisis Scenario

In a centralised system coupled with high crisis due to rainfall variability, participants projected useful stories about what could happen between 2015 and 2035 (Figure 5). Likely events included the enactment of top down land management policies and the curtailment of local extension services in 2015. Flood and drought events were the likely shocks that could be experienced between 2015 and 2035. Between 2015 and 2020, small farmers could lose lands to government favoured land grabs. However, due to land grabs, extreme flood events alternated by drought, and the lack of local extension services, could impact the agriculture sector causing low crop yields such as maize, eventually resulting in a "Banku (one of the staple food of Ghanaians) crisis". Rising food prices due to shocks during that period could also lead to increased child malnutrition. It was therefore expected that government may have to invest in food imports to solve the food crisis.


*Figure 5: A centralised government and a more crisis scenarios*

Between 2020 and 2025, the likely events could also include a trickling effect of the crisis experienced in the previous years. For example, farmers may be compelled to practice mono-cropping due to decreased land sizes from land grabs. Increased dependence on chemical fertilizer to increase crop yields could eventually decrease soil health. Also, there could be increased movement into protected areas which could cause government interventions for conserving protected areas. Landless farmers could engage in illegal mining activities as an alternate source of livelihood. During the same period, there could be mounting tensions between traditional rulers and government officials on resource ownership and use, as local governance structures are unable ensure fair distribution of resources.

In the midst of all these crises, youth would migrate to southern Ghana, especially Accra, by the year 2020, leading to increasing sanitation problems. One benefit of this is a likely increase in employment in the sanitation sector. Between the period of 2020 and 2030, flooding events in semi-arid Ghana could be catastrophic as the National Disaster Management Organisation, NADMO, is unable to reach flood victims quickly due to the centralised system of government. By the year 2035, there could be a deterioration of forest and water resources, conflicts between resource users and protected areas managers with increased disparity between southern- and northern-Ghana. There could also be political uprising, and Ghana could return to a least developed country (LDC) status with a negative shift in human development.

### 3.6.2 Centralised System and a 'no-Crisis' Scenario

In a centralised system and no crisis arising as a result of rainfall variability between a timeline of 2015 and 2035 (Figure 6), local government structures could be withdrawn. This could minimize the central government's provision of funds and services to local communities in semi-arid Ghana. At the same time, local communities would also find it difficult to access government services. The trickling effect of this system of governance would be increasing power of traditional authorities over local communities by 2025. Agro-tech innovations will only be limited to the capital city where the central government is located, limiting agricultural productivity at local levels. The nature of governance could also amount to a power struggle between the central government and traditional authorities on resource ownership and use. Traditional authorities could also permit the introduction of illegal use of natural resources to earn more in the 2030s. However, a drought event could weaken existing coping strategies of local people. By the year 2035, power struggles between traditional authorities and the central government could erupt in clashes over natural resource management and this could awaken a new form of governance which is decentralised.

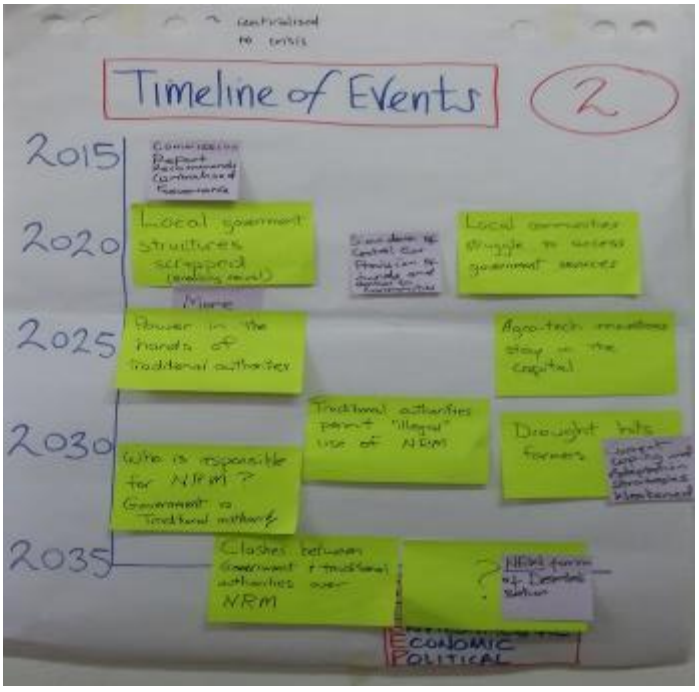


*Figure 6: A centralised government and a no crisis scenario*

### 3.6.3 Decentralised Government and a 'no-Crisis' Scenario

The third scenario was a decentralised government with no crisis in an event of rainfall variability (Figure 7). Scenarios nonetheless considered the occurrence of flood events destroying farms in 2015. Similarly, between 2015 and 2020, semi-arid regions could experience droughts with threats on food security. Because of the decentralised government, World Bank funds could be used for an

assessment on flood risk and training at the local level. During the same period, there could be local stakeholder engagements in development planning.

Between 2020 and 2025, climate research programmes would be launched and climate information services would be strengthened at local levels. This period would also have district officials elected for effective implementation of government policies at the local levels. Between 2025 and 2030, there could be conflicts between traditional leaders and elected official over natural resource management without proper engagements. Through effective revenue collection and allocations, district common funds could increase by 40%, which could be used to facilitate natural resource management (NRM) activities and other local development activities. Within this same period, agricultural credit facilities and insurance services would be launched at the local levels to enable farmers' access for increasing and improving agricultural productivity.

Between 2030 and 2035, to promote commodity value chain in the agriculture sector, agro processing activities and infrastructure would be established. At the same time, an inclusive NRM policy guideline would be developed and flood control systems kept in place. Communities would benefit from improved varieties in crops and animal breeds as well as irrigation facilities. Through all the activities by the governments in promoting NRM, a 40% increase in household income could be achieved and a 50% reduction in unemployment and migration.


*Figure 7: A decentralised government and a no crisis scenario*

### 3.6.4 Decentralised System and 'more Crisis' Scenario

The last scenario was a decentralised governance system and more crises due to rainfall variability (Figure 8). The stories created were of low rainfall threatening food security in semi-arid Ghana between 2015 and 2020. Within that period, District Assemblies would build small dams for irrigation to promote agriculture intensification in the midst of the crisis encountered. In responding to drought risk, research institutions would develop drought resistant crop varieties for smallholder farmers. This action would encourage more youth into agriculture and with expectations of increased productivity, more community based silos will be built by the District Assembly. Between 2025 and 2030, the booming agricultural activities would encourage traditional authorities to make more lands available for farming and additional dams and silos created to enhance productivity. Between 2030 and 2035, due to increased agricultural productivity, export of food crops is expected to take place, farmers' income levels would improve and school feeding programme would be enhanced with increased enrolment of school children. At the same time, food security would also be improved.

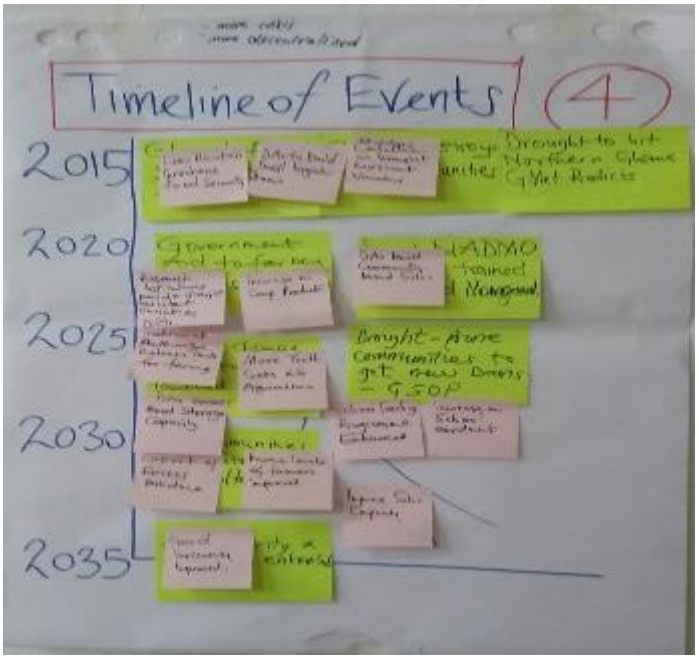


*Figure 8: A decentralised government and a more crisis scenario*

At the end of the exercise winners and losers in each scenario were identified. In scenario one, traditional authorities, policy makers and community members were considered as the winners and at the same time, the losers depending on the action taken. To conclude the transformative scenario planning process (steps 4 – what can and must be done – and step 5 – acting to transform the system), participants would continue the process by then discussing the difference between

taking an adaptive stance ("how can I survive?") and a transformative stance. The latter involves deciding and acting as a group on the scenarios which could positively influence the system. However, this exercise was not conducted, since the scenarios created were used to understand the practicality of conducting a TSP.

### 3.7 Conclusion

The workshop provided insights into new ways of conducting impactful and useful research works for the ASSAR WA team. It is believed the adoption of the TSP exercise in the regional research programme of West Africa will enable the team to unearth key issues that could enable or inhibit future adaptation actions. Moreover, adopting this exercise would also promote pro-activeness in executing adaptation actions as well as promoting effective stakeholder engagements in development planning.

In describing possible areas where TSP could be used, participants noted that it could be used to manage conflicts in natural resource use, to explore energy supply options, coastal or flood risk management, insurance and risk application as well as personal life assessment.

## PART TWO: Stakeholder Engagement and Vulnerability Risk Assessment Training

### 4.0 Introduction

To understand how the RiU methodologies can be successfully used in the research and the synthesis phase of the ASSAR project, the following three days of the workshop (from the 30$^{th}$ September to 2$^{nd}$ October, 2015) were dedicated to a range of RiU techniques which were facilitated by Daniel Morchain and Jesse DeMaria-Kinney (see Appendix 4 for list of participants and Appendix 5 for pictures of the stakeholder mapping exercise).

### 5.0 Training Objectives

The objectives of the session were to:

- Develop a common understanding of the philosophy, benefits and potentials of the ShE processes and further build ShE capacity in the West Africa Regional Research teams.
- Develop and finalise national and sub-regional specific RiU plans and activities.
- Develop skills in selected methods such as stakeholder mapping and analysis and Vulnerability Risk Assessment, VRA.

## 6.0 Methodology and Facilitation

The methodology employed on the stakeholder mapping and analysis exercise was based on the Eva Schiffer's Net-Map (2007). Net-Map is a mapping tool that helps people understand, visualize, discuss and improve situations in which many different actors influence outcomes. It is used to help stakeholders with different interests understand their links and influences concerning a particular issue of concern. As a result of these processes, stakeholders are able to define a common strategy for collaboration and effective problem solving.

In the context of ASSAR WA's research focus area, responding to agriculture intensification within the context of climate change is a situation which is influenced by many different actors. The Net-Map tool was used to determine stakeholders who are likely to influence the adaptation processes, as well as the responses of vulnerable groups within the nexus of governance and decision making across scales. This was achieved by determining the actors involved, how they are linked with other actors, and their level of influence.

### 6.1 Definition of the issue under discussion

After deliberations on the appropriate questions to be addressed in this exercise, the ASSAR WA team settled on "***In the context of climate change and agricultural intensification in semi-arid Ghana, who and what influences the adaptation agenda as well as the responses of vulnerable groups within governance and decision making across scales?"***

### 6.2 Setting up the Mapping Exercise

As the first step in the mapping exercise, workshop participants suggested the various stakeholders who were likely to influence the climate change adaptation agenda in semi-arid Ghana. These submissions were also based on key actors/ institutions that were identified during the Regional Diagnostic Study (RDS, the baseline study) in the first phase of the ASSAR project. The stakeholders were grouped into four categories, namely: policy makers, non-governmental organisations, research institutions and local stakeholders (Table 1). It is worth noting that, the individuals present during the exercise were not representatives of the stakeholders or institutions, thus, views shared do not reflect the opinions of the relevant stakeholders or institutions.

### 6.3 Scale of Operation

Theoretically, the next step of the mapping exercise was to identify the scale of operation of each of the institutions identified. The rationale of this exercise was explained to participants, but for the

purpose of this exercise, this activity was not carried out. In general, the scale at which the identified institutions operate included international, national, district and local levels.

*Table 1: List of stakeholders*

| **Policy Makers** | **Research Institutions** | **NGOs** | **Local stakeholders** | **Other Stakeholders** |
|---|---|---|---|---|
| Ministry of Environment, Science, Technology and Innovation (MESTI) | Ghana Meteorological Agency (GMet) | International Fertilizer Development Centre, (IFDC) | Market Women Association | Media |
| Ministry of Lands and Natural Resources (MLNR) | Council for Scientific and Industrial Research (CSIR) | Forum for Agricultural Research in Africa (FARA), | Microfinances | Agribusinesses |
| Ministry of Food and Agriculture (MoFA) | International Food Policy and Research Institute (IFPRI), | Cooperative and Assistance for Relief Everywhere (CARE International) | Chiefs | Transport Sector |
| National Development Planning Commission (NDPC) | Climate Change and Food Security (CCAFS) | Presbyterian Agriculture Station (PAS) | Youth Groups | Security agencies |
| Ministry of Finance and Economic Planning (MOFEP) | International Water Management Institute (IWMI) | World Vision International | Land Owners | Mining Companies |
| Ministry of Local Government and Rural Development (MLGRD) | University of Ghana (UG) | West Africa Agricultural Programme (WAAP) | Farmer Organisation | |
| Ghana Irrigation Development Authority (GIDA) | University for Development Studies (UDS) | Catholic Relief Services | Disability Organisations | |
| Water Resource Commission (WRC) | West Africa Science Service on Climate Change and Adapted Land Use (WASCAL) | OXFAM | Female-headed Households | |
| Regional Coordinating Council (RCC) | Metropolitan, Municipal and District Assembly (MMDA) | Anglican Diocesan Development Organisation (ADDRO) | Religious Bodies | |
| Ministry of Health (MoH) | | Adventist Development and Relief Agency (ADRA) | Tesong-Taa | |
| Ministry of Gender, Children and Social Protection (MGCSP) | | Water Aid | Migrant communities | |
| Savanna Accelerated Development | | Action Aid | Elderly | |

| | | | | |
|---|---|---|---|---|
| Authority (SADA) | | | | |
| National House of Chiefs (NHoC) | | United State Agency for International Development (USAID) | Orphans | |
| | | Association of Church-based Development (ACDEP) | Widows | |
| | | Social Enterprise and Development Foundation (SEND) | Local business Owners | |
| | | Ghana Community-based Rural Development Project (GCDP) | Community Fire Volunteers | |
| | | Heifer International | | |
| | | Nandom Deanery Integrated Development Project (NANDRIDEP) | | |
| | | ESOKO | | |

### 6.4 Stakeholder Relations

Based on the four categories of the stakeholders identified, the workshop participants were subdivided into representative groups. Acronyms of the stakeholders were written up on a large sheet of paper, which was then copied by each group (Figure 9). The instructions to each group was to identify and classify the type of links between the stakeholders based on the group's specific role (i.e. as a government or research institution, NGO or local groups) as follows.

- **Green** lines for information flow
- **Blue** lines for trainings
- **Red** lines for funds
- **Dashed Blue** lines for policy implementation
- **Black** lines for access to infrastructure

This was done to identify the links between the various stakeholders, for example, who receives information from whom by drawing lines between the actors, or who receives funds from whom. The arrows were used to indicate the directions of the links i.e., the double- headed arrowed line or dashed-line was used when two actors exchanged something (funds or information), while a single headed arrowed line or dashed-line was used when an actor was only receiving something from another.


*Figure 9: the government group copying the acronyms of stakeholders onto a large sheet of paper*

### 6.5 Findings based on the four parameters

After the exercises, groups were asked to identify institutions which had high influence on the climate change adaptation agenda. The following presents outcomes of the mapping exercises by the four groups, i.e. Government, NGOs, Research Institutions and the local groups.

### 6.6 The Government Group

*Information flow*: The government group (Figure 10) perceived GMeT to be the most influential institution in relation to the climate change adaptation agenda in semi-arid Ghana. They perceived that an effective adaptation process was contingent on access to accurate, timely and place-specific climate information. Information on changing climatic patterns could also inform proactiveness of government interventions. Besides, from the lines drawn, GMeT was seen to have links with all others institutions, demonstrating its high level of influence. The Metropolitans, Municipal and District Assemblies (MMDAs) were also perceived to be very important sources of information but not as much as GMeT. The MMDAs serve as a link between government and districts or community levels, by implementing government policies, partnering with other institutions to implement programmes or projects and representing the district or the community at the national level. Other key institutions such as CSIR, UDS and CCAFS were given moderate levels of influence (less than MMDAs and GMeT) in generating information for climate change adaptation.

*Training*: With regards to trainings, MoFA, MMDAs and NGOs (such as CARE, UNDP and OXFAM) were influential in building capacities of smallholder farmers to effectively adapt to climate change. Aside building the capacities of farmers, they played key roles in implementing adaptation projects.

*Funds*: The government group also ranked MoFEP at an equal level of influence as GMet. They perceived that, climate adaptation cannot be successfully executed if there is not adequate budgetary allocation from MoFEP. For instance, dam constructions for irrigation have high start-up costs which cannot be incurred by smallholder farmers. Micro finance institutions were also noted as influencers in the adaptation agenda. For instance, a farmer's access to credit to buy inputs for his/her farm depends on the ready access to credit institutions. High interest rates from micro finances could also deter a farmer from intensifying in his/her farm.

*Policy implementation*: Within the context of policy implementation, the government institutions, NGOs and the local groups were considered to have high levels of influences in implementing climate adaptation policies, since the government institutions implement policies in the country, NGOs often play the advocacy role and the local groups could adopt these policies or neglect them.

*Access to infrastructure*: In terms of access to infrastructure, MoH and MMDAs provide Community-based Health Planning and Services and Markets, respectively, to farmers and local communities. In some communities, MMDAs provide schools as well.

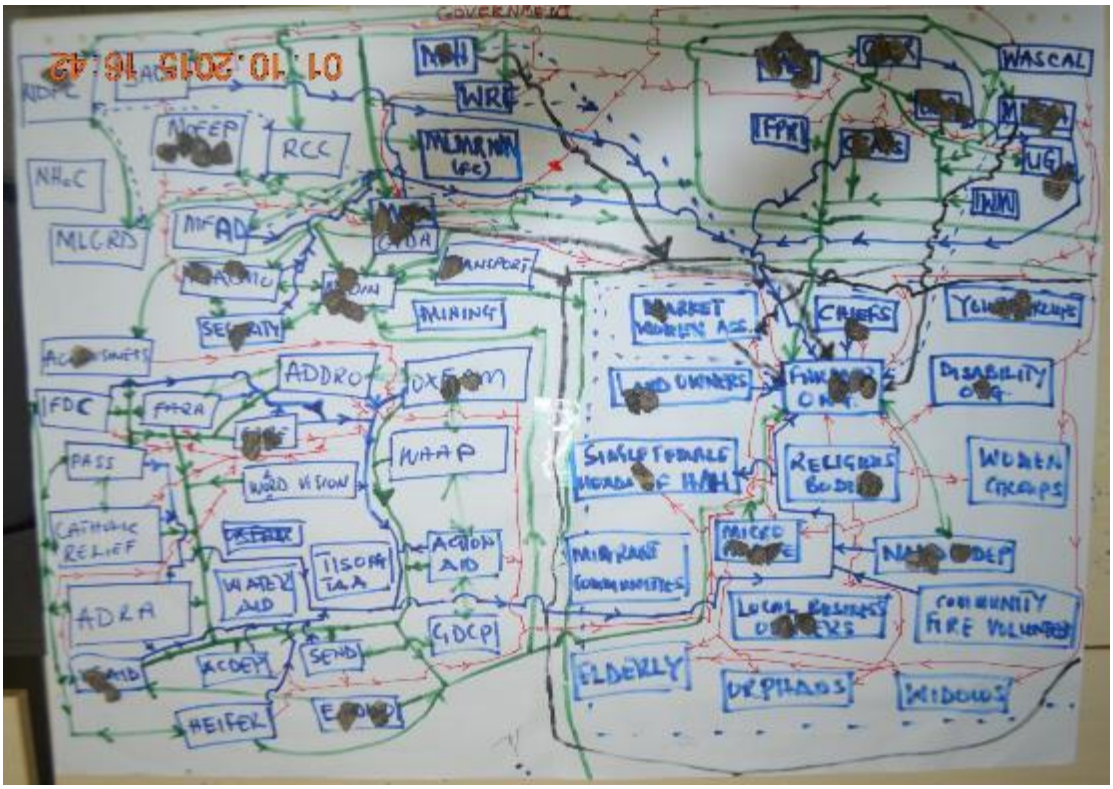


*Figure 10: Government groups combined map of actors and their linkages*

### 6.7 The Research Group

*Information flow*: The research group (Figure 11) perceived that there was a wide network of climate related information among the various institutions. Information sources included government institutions, NGOs, the local group as well as the research institutions.

*Training*: In relation to trainings, the local groups were considered to be the ones receiving trainings and capacity buildings from governmental institutions, research institutions and the NGOs.

*Funds*: According to the research group funds for adaptation projects were facilitated by NGOs with institutions such as MoFEP and NHoC, MoFA, MoH and mining industries funded adaptation projects in local communities.

*Policy implementation*: In the context of power and influence, farmer based organisations were very influential within the nexus of climate change adaptation. It was noted that, farmer based organisations are the final decision makers in the area of implementing adaptation projects; they could choose to implement them or reject them. Similarly, the MMDAs were also as influential as the farmer based organisations as they closely work with farmers and serve as links between local communities and government. More often than not, research institutions or NGOs work in

collaboration with the MMDAs to efficiently execute adaptation projects in local communities or with the farmers. Other influential institutions (less than Farmer based organisations and MMDAs) included; NDPC, SADA, MOH, MLGRD, GMET, OXFAM and Land Owners.

*Access to infrastructure*: The transport sector, agribusiness MoFEP, MoH MLGRD, MMDAs as well as some selected NGOs were given the same level of influence in providing infrastructure (such as potable water, schools, hospitals, markets, silos etc.) to farmers and other people in local communities.

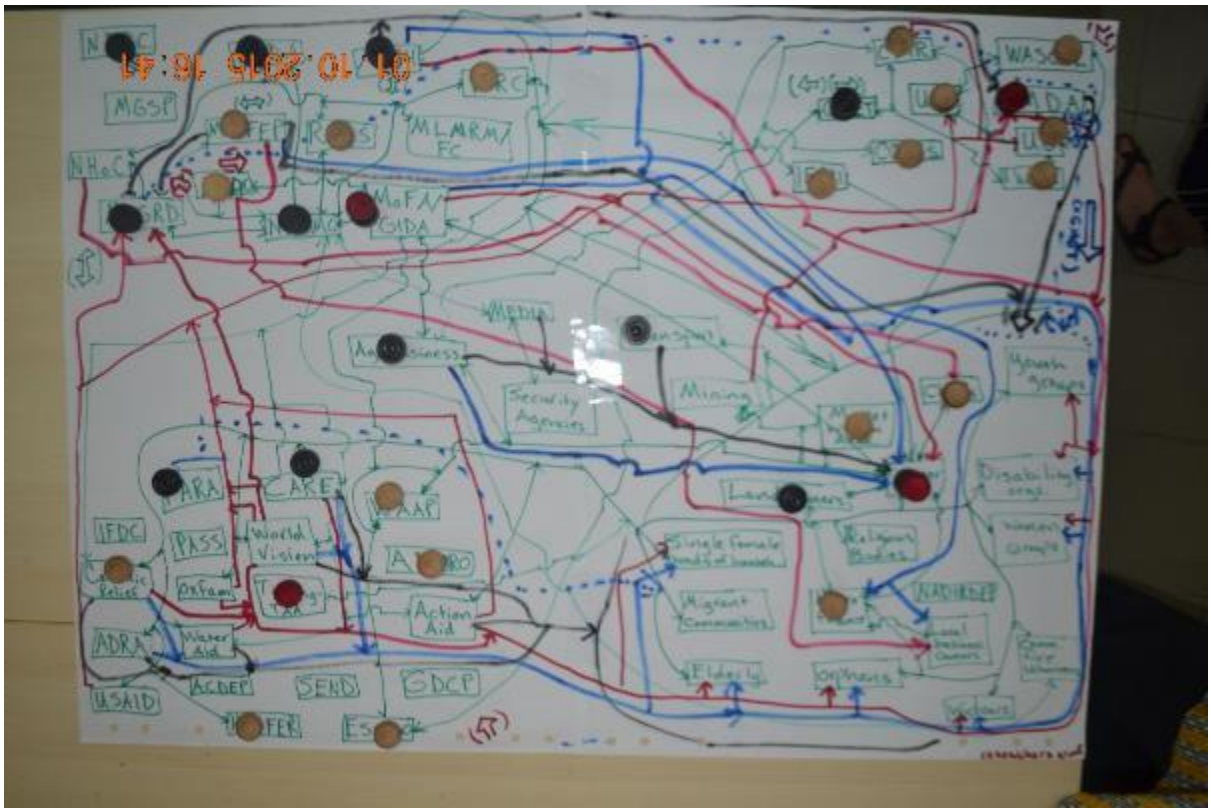


*Figure 31: Research group's combined map of actors and their linkages*

### 6.8 The NGO Group

*Information flow*: For the NGO group (Figure 12), the main source of climate information comes from research institutions (e.g. CSIR and CCAFS), local NGO's (USAID, CARE etc.), the MMDAs as well as the media. There is also information exchange between these groups in enhancing sustainable farming practices. The NGO group also noted the important role of GMeT in delivering seasonal and daily weather forecast to enable farmers to adequately prepare for farming seasons. Aside these organisations, there is also information flow between government agencies like MOFEP, MOFA, GIDA, NDPC, MGCSP, and MLGRD with the NGOs.

*Training*: The NGOs perceived that they were the institutions which provided capacity building and trainings to governmental institutions (such as MoFA), research and local groups (such as UG, UDS,

CSIR). They provide these trainings directly to the local groups or indirectly through government and research institutions to the local groups.

*Funds*: Funds for implementing climate related adaptation projects and research are generated by themselves and they carry out direct implementation or collaborate with other relevant institutions.
*Policy implementation*: Chiefs and traditional authorities were considered very influential since they are highly respected, obeyed and rule over the local people. Some international NGOs such as USAID, OXFAM, SEND Ghana and CARE were also considered to have high levels of power and influence because they provide funds for conducting research, establishing adaptation projects and continuously working and interacting with the local communities. Extension officers were also considered as very powerful as they provide information and teach farmers how to implement improved agronomic practices on their farms. Lastly, farmer based organisations were recognised to be influential, since they decide whether to adopt or reject adaptation practices recommended to them by other institutions.
*Access to infrastructure*: (No mapping was done for this activity)

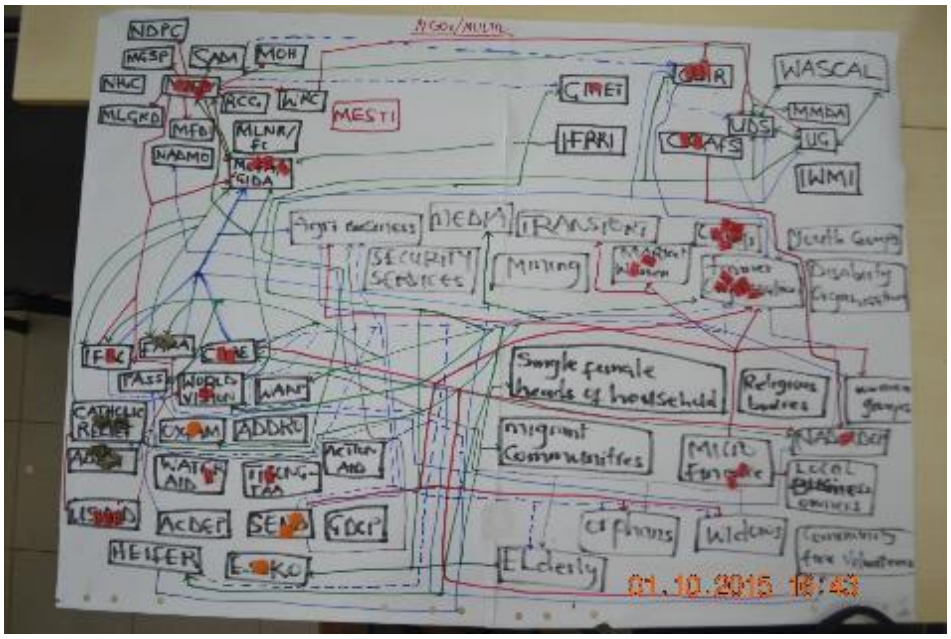


*Figure 42: The NGO groups combined map of actors and their linkages*

### 6.9 The Local Group

*Information flow*: In the context of the local people (Figure 13), the main source of climate related information emanates from institutions that have local presence and engage the local people directly or through other influential bodies or agents. These information sources include; the chiefs

and traditional authorities, district MoFA and extension officers, MMDAs, NGO's operating at the local level (e.g. Care, Oxfam, FARA, and NANDRIDEP), Community radios and Networks.

*Training*: Governmental institutions (such as SADA, MoFA and NADMO), research intuitions (eg. MMDAs) and most NGOs were perceived as institutions that provided capacity building trainings to the local groups.

*Funds*: The local group perceived that most of the funds for climate adaptation projects were facilitated by NGOs (e.g. OXFAM, CARE, NANDRIDEP, ADDRO etc.). MMDAs and MoFA were given lesser influence as compared to the NGOs and Microfinances were considered the least sources of funding.

*Policy implementation*: The local people perceived that institutions of authority and people that are capable of implementing policies as well as supporting them with resources (financial, technological, physical, natural and social) have the most power and influence. These bodies or organizations consist of chiefs, traditional leaders, landowners, youth groups, MoFA and an NGO such as OXFAM.

*Access to infrastructure*: The MMDAs, the transport sector, MoH and NGOs were institutions perceived as having the capacity for providing the necessary infrastructure to support climate change adaptation.

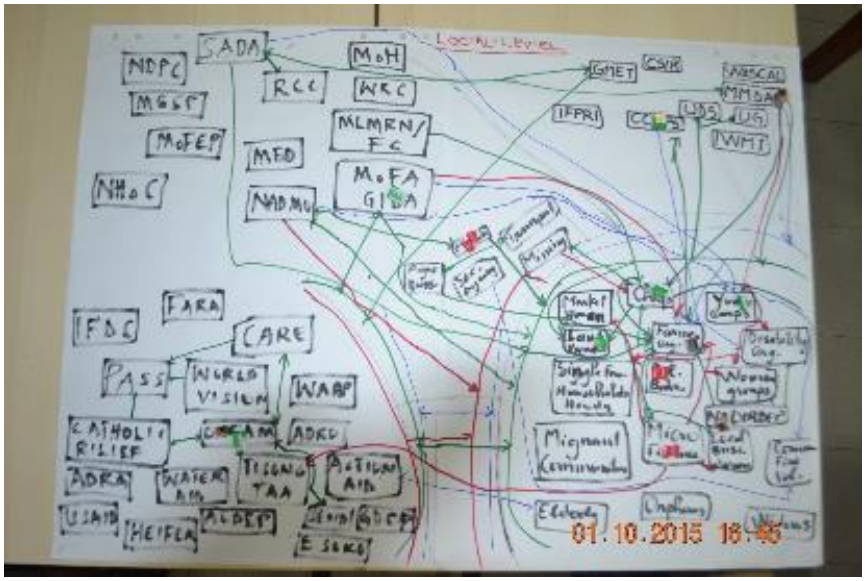


*Figure 53: The local group combined map of actors and their linkages*

## 7.0 Conclusion

The RiU workshop training sought to introduce to the ASSAR WA team, the concepts and skills in stakeholder mapping and power analysis. Considering the fact that climate change adaptation in

semi-arid Ghana does not have a one size fit all solution, identifying stakeholders and understanding their linkages across scales is crucial for effective climate adaptation.

In unearthing policy implementation between actors and their linkages, findings from the government, research and the NGO groups indicated a decentralised governance systems which supports both a top-down and a bottom-up approach to climate adaptation agenda in semi-arid Ghana. This approach helps to satisfy the needs of all stakeholder as one does not feel that actions are been imposed on a particular stakeholder by the other. For information flow, there are loops of climate information circulating among stakeholders from government, researchers, NGOs and local communities. However, the local group had a different view, in that their sources of climate related information excluded institutions that are not within their locality, e.g., the national level government institutions.

With regards to funds, all groups indicated that NGOs and some government institutions facilitated funds for implementing adaptation projects. All groups also pointed out that trainings and capacity building were facilitated by MMDAs, MoFA extension officers, as well as NGOs.

The groups had very different considerations of the most influential actors, i.e., MoFEP and GMeT by the government group, farmers based organisation and MMDAs by the researchers, chiefs, NGOs, land owners and district MoFA officers by the local group, and chiefs, farmer based organisations as well as MoFEP by the NGO group. The varying opinions have implications for sustainable adaptation actions or programmes.

It is worth noting that no final deductions were made from these findings, since these mappings and power analysis exercise were not true reflections of actual actor; however, the exercise gave the ASSAR WA team a practical understanding of how these methodologies could be employed in the latter stage of the research phase where actual actors would be used. Conducting the power analysis gave the ASSAR WA team a better understanding of different actors' perception of who was very influential/powerful in the context of climate adaptation agenda. Understanding all these power dynamics among all actors would also inform proper and effective adaptation actions as well as help identify the drivers of change within a locality. The uptake of this exercise would also improve stakeholder engagements and a ready uptake of research findings.

## 8.0 Vulnerability Risk Assessment

Participants were taken through the vulnerability risks assessment, (VRA) methodology which addresses both local and landscape related issues. The objectives of VRA included promoting inclusive and effective governance; building capacities of stakeholders as well as making findings

useful and usable in adaptation/ development planning and promoting transformational change in planning.

Prior to starting a VRA exercise, there is a need to conduct a power analysis to determine the interventions which may work or not. The steps in conducting a VRA included;

1. The **Pre-vulnerability Assessment**: which involves analyzing the exposure and sensitivity of the identified relevant hazards by combining input from community members and experts, estimating which are the hazards that potentially pose the highest risks to communities' livelihood activities and the most vulnerable groups.
2. The **Impact Chain Exercise**: contemplates the extent of impacts in the next one, two, or three decades with the help of climate models, socio-economic scenarios and other secondary data. It identifies potential intervention actions that will later be scrutinized and prioritized.
3. The **Adaptive Capacity Analysis**: uses the five characteristics of local adaptive capacities developed under the Africa Climate Change Resilience Alliance (ACCRA) as a framework to analyse the extent and the potential of the adaptation measures identified during the impact chains exercise. The characteristics are 1) asset base, 2) flexible and forward looking decision making and governance, 3) innovation, 4) knowledge and information and 5) institutions and entitlements. A scenario planning exercise (as in the example from the Philippines) is a good way for community members and for the expert group to better visualise capacities, potential future impacts and adaptation paths and
4. The **Action Planning Stage** builds a strategy for implementing the identified measures, ensuring that investments are being allocated to the activities that are most vulnerable and/or most relevant for the livelihoods of community members.

Daniel noted that it takes OXFAM about 2 days to conduct a VRA exercise (however this does NOT include preparation time building information to inform the exercise; this earlier phase would include more traditional rapid rural assessment methodologies to build up baseline information). The number of participants involved in a VRA is mostly 20.

## 9.0 General Conclusions

The ASSAR WA team found the TSP, stakeholder mapping and power analysis as well as the vulnerability risk analyses very useful in the training workshop. These have gradually promoted shifts (thinking differently) from the business-as-usual ways of conducting research to conducting a more impactful and useful research works by researchers and students. For ASSAR WA to achieve meaningful research works, two or more of these research-into-use methodologies would be employed to answer the consortia-wide question; "*What are the barriers and enablers for effective*

*medium term adaptation and what responses enable more widespread, sustained adaptation in semi-arid regions*". Also, by adopting RiU, it would foster interactive learning and foster effective collaboration between stakeholders for research uptake.

## APPENDIX 1: TSP Workshop Attendance List

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## APPENDIX 2: TRANSFORMATIVE SCENARIO PLANNING (TSP) TRAINING AGENDA

**DAY ONE**

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| 08h00 | Tea/coffee and arrival | | | Registration table for course packs and coffee/tea |
| 08h30 | Welcome and overview | ASSAR representative | Adelina Mensah | |
| 08h45 | Introduction of trainers, agenda and case study | **Introduction** to Reos Partners and the facilitators: Colleen and Dinesh<br>Broad Agenda/TSP Programme overview (see slides, use flipchart with U and 5 steps of TSP) [our approach for the day – concepts, case, and implications.<br>Introduce the idea of working with a case. Ask one of the WA team to make a few short remarks about why this topic has been selected. We choose a case that everyone can relate to – it may not be what keeps you up at night, but the more you can engage with it here the better, and the choice is based on it being something that everyone is involved with. | **TBC**<br>CM | Data proj |
| 09h15 | Introductions: full group | Warm up round: move around the room and introduce yourself to as many people as possible.<br>Ask 2-3 people: Go to the person that they mentioned. Whose name can | DB | |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | you remember?<br>Round 2: Name and how are they feeling today?<br>Ask a few people: ask a few people to recall names and feeling<br>Round 3: What do you want to take away from the next 1.5 days? | | |
| 09h45 | TSP overview presentation | TSP Overview slides – what TSP is, when it's applicable and how it works<br>This course is about learning through doing. The intention of this upfront presentation is to give some basic concepts that will help us understand what we are doing and give us a common language.<br>After slide on "one future or many?" ask participants to think of and share a few events that surprised them over the last 3 years – as a way of localising the concept of uncertainty. Give a bit of time for this, as it allows the group to experience immediately the texture of scenarios conversations.<br>Q&A if time allows | CM | Data proj |
| 10h15 | Cynics and Believers exercise | Arbitrary assignment of people into one of two roles: half the group are cynics (this workshop will be a complete waste of time and money), half believers (this workshop is the best possible thing to do) – spend 5 min **debating and trying to convince each other** of why you are right and they are wrong. | DB | Flipchart |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | Plenary – Let's hear from the Believers first: What is one thing that your cynic partner said that gave you pause to think, "well they might just have a point here"?<br>What about the cynics? What is one thing that your believer partner said that gave you pause to think, "well they might just have a point here"?<br>Explain that the cynics/believers exercise is practice in **stepping out of your perspective** and wearing a different hat. It's about **suspending your own point of view**. In TSP work this "suspension" is THE core capacity. Detachment from the stories you want to develop.<br>Also, this is an example of what we're **NOT** going to do – not downloading and debating.<br>Slow it down again: What do you want to get out of this course? What do you have to offer? | | |
| 10h30 | *Coffee* | | | |
| 11h00 | **Step 1: Convene a team from across the whole system**<br>**[Stories from the field]** | *"The first step in a transformative scenario planning project is to enrol a team of people from across a whole system* ***who want to—and together are able to—influence the future*** *of that system. This system can be a community, a sector, or a country: any social-political-economic whole that is too complex to be grasped or shifted by any one of its parts."* | CM | Data proj |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | *Adam Kahane*<br>Define "convening" and its particular application in TSP (slide)<br>Demonstrate where it fits in the TSP sequences of steps (slide)<br>Tell a story from Food Futures TSP in SA (slide)<br>Reflection point: what would it take for me to convene a TSP?<br>Buzz with a neighbour (slide)<br>Systems mapping exercise of who the major stakeholders are in case of exploration<br>Share as groups<br>Show Slide on challenges of convening | | |
| 12h00 | *Lunch* | | | |
| 13h00 | **Step 2: Observe what is happening** | *"The second step of a transformative scenario planning project is for the scenario team to build up a rough shared understanding of what is happening in the system of which they are part and which they want to influence. They come to this work with differing positions in and perspectives on the system, and so this process requires them to go beyond their established views and to see with fresh eyes. It requires them to see not just their part of the system but more of the whole system. It requires them to open up and inquire and learn." Adam* | DB | Data proj |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | *Kahane* | | |
| 13h30 | Dialogue interviews | Slide: 4 ways of listening and talking (revised)<br>Slide: Dialogue interview task<br>Instruction: Get into pairs first – do this by finding someone you think is 180 different from you. Then, when pairs are seated together …sit side-by-side looking out together: shoulder-to-shoulder, looking out at the shared terrain rather than a head-to-head. This is an interview – one take the role of interviewer and the other interviewee (10 min) then swap roles (10 min)<br>Ask pairs to write on 2 coloured post-it notes: Each person write down 1 aspect of the **(case scenarios)** that most needs attention from the other person's perspective – share some of these in plenary briefly (each person read their post-it) and stick on the wall. (1 aspect per post-it, use marker not pen, cluster over lunch) | DB | Data proj<br>Large post-it notes<br>Marker pens<br>Wall space |
| 14h40 | Brainstorm driving forces | We're going to add to our observation by searching for driving forces.<br>Explain driving forces (see slide):<br>*"A driving force is a social, technological, economic, environmental, cultural, or political force in or around the system, a small change in which would have a big impact on those aspects of the system that* | CM | Data proj<br>Post its or hexagons<br>Marker pens |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | *matters to us."*<br>*" We can look at these driving forces at three levels: at the level of observable events (like newspaper headlines), at the level of repeating patterns of events across time or space, and at the level of systemic structures (relationships between different parts of the system, the distributions of resources and power, the rules and habits and ways of thinking, and so on).***"**<br>In table groups, brainstorm and search for structural driving forces (STEEP) in the contextual environment – could be from the Dialogue Interviews, or other sources.<br>Express each driving force in the form of a non-directional variable (i.e. in the form "the level or quantity or extent of…"). Write each driving force on a separate post-it note (show slide).<br>The process to best do this is as follows:<br>There is a specific sequence of instructions:<br>1. Each person use the post-it notes to write up separate driving forces (as non-directional variables);<br>2. Post your notes so the team can see them; then<br>3. Discuss the collective group of driving forces by referring to the post- | | |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | its.<br>This is an iterative process. The post-it notes allow you to change and adapt the driving forces as you learn more. | | |
| *15h10* | *Coffee* | | | |
| 15h30 | **Step 3: Construct stories about what could happen** | *"The third step in the transformative scenario planning project is for the team to construct a useful set of scenarios about what could happen in and around their system. To be useful, the scenarios must be* ***relevant, challenging, plausible, and clear****. Useful scenarios open up and enable movement in the thinking and acting of actors across the system." Adam Kahane*<br>"Now we have lots of data and information – going to start to move towards creating our stories – in this method (**deductive**) we're going to create an overall framework within which we'll develop useful scenarios about… " | CM | Data proj |
| 16h15 | Select most uncertain, highest impact driving forces | By reviewing all the post-it notes of driving forces for the group, each team member choose just 2 driving forces they believe are most unpredictable and most impactful so that the group retains a short-list of higher priority driving forces (we are forcing a reduction). As such, the final number of post-its per group is 10 (this is not decided upon by | CM | |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | consensus but by each member choosing two post-its).<br>In your teams, and using the final short-list of driving forces, prioritise these driving forces by Highest Unpredictability and Highest Impact. (show axis on flip chart).<br>The way to do this is to rank first by Unpredictability (on vertical axis), then rank by Impact (on horizontal axis). This is an exercise in relativity (not high/low, but higher/lower). You must be discerning and you must rank them.<br>Then each team divide their axes equally into quadrants. Those with higher unpredictability and higher impact are most interesting.<br>**Note**: Lower unpredictability but higher impact are called certainties (or what Pierre Wack called "pre-determined elements). | | |
| 16h45 | Cluster and vote on key uncertainties: Define 3-4 scenarios | **Plenary:** Teams bring up top right cluster of post-its to the wall – read out and place on the wall – cluster as we go. These are our scenario "building blocks". This is one sense-making or synthesizing tool – there are many others.<br>Each person has only 1 vote so be discerning in your votes. Select the one cluster of driving forces that best meets this criteria:<br>- Highest impact | CM | Wall space<br><br>Sticky dots |

| Time | Agenda Item | Facilitator Notes | Who | Logistics |
|---|---|---|---|---|
| | | - Highest unpredictability<br>- With at least one of them potentially influenceable by a Scenario Team and their allies<br>- Independent of one another<br>Develop 2 axes that enable useful stories (useful = relevant, challenging, plausible, clear) for healthcare. This is the first part of Step 3. | | |
| 17h00 | Form 4 scenario teams and check-out | Number off into scenario teams and move tables/ chairs accordingly | DM | |
| 17h30 | Close | | | |
| 18h30 | *Dinner* | | | |

## APPENDIX 3: TSP WORKSHOP IN PICTURES


*Colleen Magner having a presentation on TSP with ASSAR WA*


*Participants identifying issues faced by smallholder farmers in the semi-arid regions of Ghana and Mali*


*Lively Edmond Totin having some discussions with the rest of the ASSAR WA team*


*Dinesh Budham posting identified issues facing smallholder farmers by workshop participants on the wall for discussions*

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## APPENDIX 5: RiU WORKSHOP IN PICTURES


*A participant explaining the researh group's stakeholder map and the linkages*


*A presentation of the map exercise by the government group*


*A participant explaining the stakeholder map exercise in the Local group*