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Tracking Adaptation and Measuring Development (TAMD) in Ghana

Appraisal and Design Phase Report

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**TAMD Appraisal and Design Phase Report:
Appraisal of Existing Monitoring and Evaluation
Systems in Ghana and Design of TAMD Prototypes**

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Executive Summary

Ghana is already experiencing increasing climatic variability, in the form of unpredictable rainfall, rises in maximum and minimum temperatures, and recurring droughts. Reliance on climate sensitive sectors such as forestry and small-scale agriculture, coupled with a lack of resilience within the energy sector are predicted to amplify the adverse impacts.

The Government of Ghana has recognized that climate change considerations are vital to the achievement of development aspirations, and as such has taken a number of positive strides towards creating an institutional and legislative framework to effectively tackle climate change. There is still, however, a convoluted institutional structure within the Executive for dealing with climate change issues.

The central development policy framework document, The Ghana Shared Growth Development Agenda 2010-2013, explicitly recognises adaptation as the principal way to address the potential impacts of climate change. It thus anchors climate change adaptation firmly within national development ambitions.

The most significant national measure is the current development of the National Climate Change Policy Framework, due to be published in 2013. Its implementation will provide the Government ample opportunity to create a 'policy space' in which to devise and integrate a comprehensive monitoring and evaluation mechanism. There is also the National Climate Change Adaptation Strategy. This has the broad aim of ensuring a consistent, comprehensive and targeted approach to increasing climate resilience and decreasing the vulnerability of Ghana's populace.

The main body legally mandated with responsibility for Climate Risk Management is the National Disaster Management Organisation (NADMO), within the Ministry of the Interior. NADMO and the Environmental Protection Agency collaborate on disaster risk reduction and adaptation.

Ghana's Plan of Action (2011-2015) for Disaster Risk Reduction and Climate Change Adaptation was finalised and adopted in March 2012. It aims to shift the national paradigm from emergency response to disaster risk reduction, and is supported by UNDP. Other important measures include the White Volta Flood Hazard Assessment, Sustainable Land and Water Management, the Savannah Accelerated Development Authority, Integrating Climate Change into the Management of Priority Health Risks, Disaster Prevention and Water Resources Management, the Global Facility for Disaster Recovery and Reduction, and the Africa Adaptation Programme. There are some that focus on the vulnerable Northern areas such as the Joint Programme on Climate Change Adaptation in Northern Ghana, the Climate-Proofed Water Conservation Strategies in Northern Ghana, Ghana North Sustainable Development.

The monitoring of development progress in Ghana is led by the National Planning and Development Commission, with the support of the Ghana Statistical Services. The primary government body responsible for the collection, analysis, and distribution of official socio-economic statistics is indeed the Ghana Statistical Services, which is described as the main coordinating agency of the National Statistical Service in Ghana. As a Central Management Agency and a member of the Monitoring and Evaluation Technical Committee, it produces the data for the indicators for the monitoring and evaluation of development.

Overall, Ghana's development framework is well thought out and comprehensive. The national institutional framework for M&E presents a logical approach to M&E and places appropriate value on such activities. There is a strong emphasis on monitoring activities within the framework, but there are not the corresponding evaluation systems in place.

The current output of the national M&E process is used for informing national development planning, supporting sector policy and programme design, informing the budget allocation process, enhancing transparency and accountability in the management of national resources, encouraging continuous improvement in public policy management, and promoting policy dialogue within Government and between civil society organisations and development partners. Current M&E activities include the Annual Tracking of Implementation of Development Policy, the National Citizens' Assessment survey (Participatory M&E), and the Poverty and Social Impact Analysis. Available sources of data on socio-economic performance include: the Population and Housing Census, the Ghana Living Standards Survey, the Core Welfare Indicator Questionnaire Survey, the Multiple Indicator Cluster Survey, the National Population Council, the Millennium Development Goals reporting, and the World Bank World Development Indicators.

There are a number of factors that may possibly inhibit the integrity of socio-economic data in Ghana. These factors are affected by the conceptualization of the collection and analysis process, the questions asked, the quality and integrity of field assistants, supervision, and quality checks at various stages of data collection, storage and processing. Different development agencies and research institutions gather data with different methods and time-frames, which can make comparability problematic, and may lead to different outcomes. The capacity and capability of those actually collecting the data needs to be taken into account when assessing reliability. The year that is used as a baseline will also need to be considered, as this is another factor that can potentially skew figures. In order to ensure that duplication of efforts is avoided, and assure comparability, there will need to be careful coordination between the various surveys, as well as a close examination of the instruments used. The timeliness of release of data after collection and collation will need to be scrutinised. This refers to not only the processing and release of data post collection, either by request or into the public domain through publishing, but also the regularity of data collection exercises.

Adaptation interventions in Ghana have mainly been at project level and principally donor initiated and led. Therefore, it is hypothesized that the Tracking Adaptation and Measuring Development (TAMD) approach could be useful for assessing the adaptation co-benefits resulting from the sectoral development interventions, and providing a clear link with the national development planning process. Based on national stakeholder consultations and primary research, an integrated sectoral approach is thus suggested for testing the utility of TAMD, rather than an exclusive narrow examination of specific interventions. Suggested case study interventions include: 1) The Food and Agriculture Sector Development Policy (2007) & Medium Term Agricultural Sector Investment Plan, 2011-2015; 2) the Sustainable Land and Water Management Programme (2010-2016); 3) the National Water Policy (2007); and 4) the District Development Facility.

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Key Acronyms

EPA	Environmental Protection Agency
GPRS	Ghana Poverty Reduction Strategy
GSGDA	Ghana Shared Growth Development Agenda
GSS	Ghana Statistical Services
MEST	Ministry of Environment, Science & Technology
NADMO	National Disaster Management Organisation
NCCAS	National Climate Change Adaptation Strategy
NCCPF	National Climate Change Policy Framework

A note on adaptation and resilience – from an ecosystems perspective resilience and adaptive capacity are distinct while descriptions of social systems often use the terms interchangeably. This report addresses mainly how social systems respond to climate change, so for simplicity the term adaptation has been used with the assumption that it is a means to achieving climate resilience.

1. Introduction and Context

The aim of the appraisal was to assess the M&E systems currently in use in Ghana and how the TAMD approach¹ to assessing the developmental effectiveness of climate adaptation investments could enhance them. A similar appraisal was carried out in other countries.

These Appraisal and Design Phase reports describe the degree to which climate change adaptation has been mainstreamed into development planning, the existing M&E systems for development in the economic and social sectors, and the systems currently in place for the M&E of climate change and adaptation interventions. They present the components of a national evaluative framework for climate adaptation and identify interventions that could be appropriate for testing the utility and feasibility of the TAMD approach.

The appraisal in Ghana was based on a literature review and interviews with key informants. The literature review included key policy documents and legislation, as well as primary and secondary information from relevant country studies. Key informants from various organisations were interviewed, including the principal line ministry, the Ministry of Environment, Science and Technology, and other government agencies, such as the Environmental Protection Agency, the National Planning and Development Commission, and the Statistical Service. It also included a number development and civil society organisations.

1.1 Current and Future Climate Effects and Vulnerabilities

Ghana is experiencing increasing climatic variability in terms of unpredictable rainfall patterns, rises in maximum and minimum temperatures, and recurring droughts². Reliance on climate-sensitive sectors such as forestry and small-scale agriculture, coupled with a lack of resilience within the energy sector, increases vulnerability.

Overall **precipitation** has shown a downward trend over the last 50 years, with considerable variations between regions. Such changes are more frequently larger and statistically significant in the southwest of Ghana than those of either mid- or northern Ghana³. An 80mm decrease and increase has been projected in mean monthly precipitation over the summer months for the northern and southern parts of Ghana respectively. Inter-annual variability in rainfall is also expected to increase, with a rise in the intensity of high rainfall events but an overall decrease in the number of rain days⁴.

Seasonal **temperature** variations are most pronounced in the north, with highest temperatures in the hot, dry season (April, May, and June) at 27-30°C. The mean annual temperature has increased by 1.0°C, at an average rate of 0.21°C per decade, but the north / south divide is again evident as the rate of increase has been higher in the northern regions of the country than in the south. The IPCC

¹ The Tracking Adaptation and Measuring Development (TAMD) approach offers a 'twin track' framework for use in many contexts and at many scales to assess and compare the effectiveness of interventions that directly or indirectly help populations adapt to climate change. TAMD emphasises the need to assess development interventions in the light of changing climate risks. The TAMD approach was elaborated by IIED, Garama 3C Ltd and Adaptify. See <http://www.iied.org/tracking-adaptation-measuring-development>, <http://pubs.iied.org/search.php?k=TAMD%3A+A+framework+for+assessing+climate+adaptation+and+development+effects&z=>

² See IPCC, Working Group II: Impacts, Adaptation and Vulnerability, Section 10.2.1.2. Major River Basin Systems, available at <http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp=384>

³ Owusu, K & Waylen, P. Trends in spatio-temporal variability in annual rainfall in Ghana (1951–2000), *Weather*, Vol.64. No.5(2009), p118-19

⁴ Ardey Codjoe, S.N. & Owusu, G., *Climate change/variability and food systems: evidence from the Afram Plains, Ghana*, Regional Environmental Change (2011)

estimates the African continent will experience an increase in mean surface air temperature of 3–4°C for the period 2080–2099 compared with the 1980–1999 period under a mid-range emission scenario⁵.

Agriculture is the chief economic activity in Ghana, with the majority of those in employment reliant on the agricultural sector⁶. Farming systems are vulnerable to erratic rainfall and more frequent droughts and floods, and the yield of non-drought-tolerant crops, such as maize, is expected to decrease⁷. Cocoa is extremely important as an export commodity, but is highly sensitive to changes in climate and susceptible to drought. Dependence on rainfall is particularly pronounced in the semi-arid northern savannah areas. In the transition and forest belts, droughts are not a major problem; however, variations in rainfall — especially deficits in the number of rainy days — pose new challenges to rural livelihoods. There is a shortening of the farming season in many places and the gradual fading of the secondary growing season in transition areas.

Climate change can also exacerbate underlying problems that affect the agriculture sector, such as the north / south social divide, water allocation disputes between the two regions, cross boundary water issues, and tensions arising from economic dependence on crops susceptible to changes in climatic conditions⁸. Furthermore, climate change may lead to the loss of productive lands through the deterioration of ecosystems, and additional burdens to supply chains, such as increased post-harvest losses during storage and distribution. Moreover, encroaching aridity would reduce groundwater recharge and an increasingly arid climate would lead to the depletion of biodiversity and desertification⁹. The likely consequences of such stresses include yield reductions, decreased livestock values, post-harvest losses, and reduced food accessibility and consumption, leading to food insecurity¹⁰. Natural disasters, migrations, and threats to human health can degrade human and social capital and devalue assets and infrastructure in agricultural communities.

The energy sector is also extremely sensitive to fluctuations in rainfall due to its dependence on hydroelectric power, with two hydroelectric plants on the Volta River responsible for up to 60% of installed generation capacity¹¹. Ghana has experienced major power crises in the last decade due to poor hydrology in the Volta Lake, provoking a national debate about power supply. Meteorological data and hydrological modelling indicates that water levels in Lake Volta are highly sensitive to even small changes in rainfall¹². The projected changes in rainfall on account of climate change are expected to have direct impacts on power generation capabilities. This is further exacerbated by the fact that the design of the Akosombo dam was premised on one of the wettest periods on record, which means that optimal power production will be adversely impacted even during relatively short or modest dry periods¹³.

⁵ Nakicenovic N, et al. Special Report on Emissions Scenarios: A Special Report of Working Group III of the Intergovernmental Panel on Climate Change (2000)

⁶ See Table 28: Economically active population 15 years and older by sex, industry and region, 2010 Population & Housing Census, Summary Report of Final Results (2012), page 76

⁷ World Bank Group, Vulnerability, Risk Reduction, and Adaptation to Climate Change – Climate Risk and Adaptation Country Profile: Ghana (2011), page 8

⁸ De Pinto, A. et al., Climate Change, Agriculture and Food Crop Production in Ghana, International Food Policy Research Institute, Policy Paper 3 (2012), page 1

⁹ Agyeman, F et al. (2008) Vulnerability, Impact and Adaptation Assessment Report under NCAP II. Environmental Protection Agency, p136

¹⁰ Kunateh, M.A. Climate change threatens Ghana's food security, The Ghana Chronicle website, available at <http://ghanaian-chronicle.com/climate-change-threatens-ghana%E2%80%99s-food-security/> - accessed 20th December 2012

¹¹ Edjekumhene, I. et al, (2011), 'Low-Carbon Africa: Ghana' Christian Aid/KITE, page 2

¹² Stanturf, J. et al., Ghana Climate Change Vulnerability and Adaptation Assessment, USAID (2011), page 10

¹³ Ibid

1.2 National Approaches to Mainstreaming Climate Change Adaptation

In recent years, the Government of Ghana has recognised that climate change considerations are vital to the achievement of development aspirations, and as such has taken a number of positive strides towards creating an institutional and legislative framework to effectively tackle climate change. The most ambitious of these is the current development of the **National Climate Change Policy Framework (NCCPF)**.¹⁴

Ghana has signed and ratified all the Rio Conventions¹⁵, and has been a visible actor in international climate negotiations¹⁶. Ghana is also an active participant in the Forest Carbon Partnership Facility's REDD+¹⁷ programme, and submitted its revised Readiness Preparation Proposal at the end of 2010. Ghana is preparing its third national communication to the United Nations Framework Convention for Climate Change. This is an opportunity to improve Ghanaians' understanding of climate change effects and of the Government's strategy to deal with these effects.

The **institutional framework** is complex. Ostensibly, the Vice President leads on responding to climate change through Chairmanship of the Environment and Natural Resources Advisory Council. The Council operates at Cabinet level to coordinate activities amongst Ministries, but has met infrequently since 2010¹⁸. The Ministry of Finance and Economic Planning has a convening role for planning and budgeting¹⁹, but the climate change policy lead is the Ministry of Environment, Science & Technology (MEST), which has an oversight and coordination role. The Environmental Protection Agency (EPA) is the technical lead, within which a specialised unit on Energy Resources and Climate Change has been established to serve as the technical focal point on climate change and related issues. The National Climate Change Coordinator is located within this Unit. Responsibility for integrating climate change into the breadth of policy formulation presently falls to MEST and the sectoral Ministries²⁰. The National Climate Change Committee is a multi-stakeholder cross-sector body, comprising 24 members from government, civil society and donor development partners, which advises MEST on matters of climate policy, and is responsible for finalisation of the NCCPF²¹. The National Development Planning Commission advises the President on development planning policy and strategy, and provides the national development policy framework. It also ensures that strategies, policies and programmes are effectively carried out to enhance well-being and living standards on a sustainable basis²². Within the Legislature, climate change issues are bundled together with other environmental issues and scrutinised under the auspices of the Committee of Environment, Science and Technology.

¹⁴ Cameron C., Climate Change Financing and Aid Effectiveness, Ghana Case Study (2011), OECD/Agulhas, page 6. See also Wurtenberger, L. et al (2011), 'Initiatives related to Climate Change in Ghana: towards coordinating efforts', CDKN (2011)

¹⁵ The UNFCCC, the Kyoto Protocol, the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD)

¹⁶ Wurtenberger, L. et al, 'Initiatives related to Climate Change in Ghana: towards coordinating efforts', CDKN (2011), page 7

¹⁷ Reducing Emissions from Deforestation and Forest Degradation, and conservation and sustainable management of forests and the enhancement of forest carbon stocks

¹⁸ Schoch, C. & Smith, B., Preparing Parliament for the Climate Challenge in Ghana, IIED Briefing Paper (2012), page 2

¹⁹ Ibid

²⁰ MEST and the EPA are currently working on the preparation of Ghana's Third National Communication to the United Nations Framework Convention Climate Change (UNFCCC).

²¹ See also Cameron, C., Climate Change Financing and Aid Effectiveness – Ghana Case Study, OECD (2011), page 20

²² Mission of the NDPC, NDPC website, available at <http://www.ndpc.gov.gh/Mission.html> - accessed 19th December 2012

To date, climate change is not sufficiently mainstreamed across all policy areas within the Parliament. The National Democratic Congress has returned for another term in office following the election at the end of 2012. It currently appears that significant structural changes to the institutions mandated to deal with climate change are unlikely, but this will become apparent over the course of 2013.

The most significant national measure is the current development of the National Climate Change Policy Framework (NCCPF). The discussion paper 'Ghana Goes for Green Growth' (2010) was the first step towards a much-needed central overarching policy on climate change. Whilst the development has taken longer than originally envisaged, MEST recently initiated a process of national validation, after which the document will go before Parliament²³. The first phase of the NCCPF, development of the policy document itself, is expected imminently, and the subsequent Strategy and Implementation phases are expected later in 2013.

Ghana's central development policy framework document, the Ghana Shared Growth Development Agenda (GSGDA) 2010-2013, explicitly recognises the need for adaptation as the principal way to address the potential impacts of climate change, and thus anchors climate change adaptation firmly in the national development ambitions²⁴.

The development of the **National Climate Change Adaptation Strategy** (NCCAS) began in 2009²⁵. This had the broad aims of ensuring a consistent, comprehensive and targeted approach to increasing climate resilience and decreasing the vulnerability of Ghana's populace²⁶, and it is envisaged that the NCCAS will inform the subsequent Strategy phase of the NCCPF. Climate adaptation activities are recognised as being vital to development activities in Ghana, such that the formulation of the Strategy has preceded that of the NCCPF.

A number of sectorial instruments specifically cover climate change issues, such as the Renewable Energy Act (Act 832)(2011), and the National Water Policy (2007) which details climate change as a priority focus area²⁷. There are also a number of sectorial instruments that implicitly tackle climate change such as the second Food and Agriculture Sector Development Policy (2007)²⁸, as well as a revised Policy on Forests and Wildlife that has just been approved by the Cabinet²⁹.

The Government began implementing the Natural Resources and Environmental Governance Programme in 2008. It is multi-donor multi-sector budget support programme seeking to improve transparency in systems and procedures for natural resource management, and promote a coordinated approach across government. However, donor funding is ending this year, leaving a degree of uncertainty around its future to help promote systematic planning at the national level³⁰.

²³ Francis, N.B., Ghana Kick-Starts Validation of Climate Change Policy Framework, Diplo's Climate Change Community website - <http://climate.diplomacy.edu/profiles/blogs/ghana-kick-starts-validation-of-climate-change-policy-framework> - accessed 11th Dec 2012

²⁴ Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, Section 4.2.3.1 Climate Variability and Change, page 51

²⁵ Supported by the UNDP 'CC-Dare' project

²⁶ See Section 1.1, National Climate Change Adaptation Strategy, UNEP/UNDP & Ministry of Environment, Science and Technology (2011), p5

²⁷ National Water Policy, 2.2.6 Focus Area 6 – Climate Variability and Change, page 20

²⁸ Food and Agriculture Sector Development Policy (FASDP II), 4.5 Sustainable Management of Land and Environment, page 30

²⁹ Ghana government approves new forest, wildlife policy on Ghana Business News website, available at

<http://www.ghanabusinessnews.com/2012/12/13/ghana-government-approves-new-forest-wildlife-policy/>, accessed 18th December 2012

³⁰ See 'CSOs to strategies on sustainable ways of funding programmes' available at

<http://www.ghanaweb.com/GhanaHomePage/regional/artikel.php?ID=241172>. See also Bird, N. Midterm review of NREG, ODI, available at <http://www.odi.org.uk/work/projects/details.asp?id=2236&title=ghana-natural-resource-environment-governance-nreg-review>

This in turn has implications for the international obligations under REDD+, as NREG is an integral element in ensuring cohesion in policy and coordination of REDD+ activities with other initiatives³¹.

1.3 Measures to Improve Climate Risk Management

The National Disaster Management Organisation (NADMO), within the Ministry of the Interior³², is the main body legally mandated to manage climate risk. However, NADMO and the EPA work collaboratively on Disaster Risk Reduction (DRR) and adaptation³³. The UNDP supports the Government to help ensure the two dovetail more closely. This is in order to strengthen the capacity of key institutions to implement risk reduction measures, and to harmonise policies and practices to manage climate change and disaster risks more effectively³⁴.

The Plan of Action (2011-2015) for Disaster Risk Reduction and Climate Change Adaptation aims to shift the national paradigm from emergency response to disaster risk reduction³⁵. The Plan rests upon the five pillars of the Hyogo Framework of Action³⁶. It represents a coordinated national framework to guide government interventions to help improve Ghana's resilience. It envisages such outcomes via policy change, advocacy, awareness raising, infrastructure investment, as well as the development and implementation of strategies for the prevention of disasters³⁷. The UNDP is now assisting NADMO to effectively implement the plan, and reinforce institutional capacities to better coordinate and implement DRR, preparedness, and response initiatives.

The White Volta Flood Hazard Assessment was funded by the Global Facility for Disaster Reduction and Recovery and completed at the end of 2012. The assessment included hazard maps for different return periods. It developed an operational flood forecasting system, and assessed the impact of potential structural and non-structural measures, including investment in hydrological and meteorological services. The risk assessment and flood forecasting information is now being used by NADMO (and the Hydrological Service Department) for flood warning³⁸.

The Sustainable Land and Water Management project (2011-2016) is financed by the Global Environment Facility and supports improved land planning and sustainable land and water management practices, and therefore contributes to flood protection. Up-scaling of the project has been planned with financing of \$8.73 million for FY13³⁹.

³¹ Ghana REDD+ Readiness Progress Fact Sheet, March 2012, available at http://www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/Ghana%20FCPF%20REDD%20Readiness%20Progress%20Sheet_March%202012.pdf

³² National Disaster Management Organisation (NADMO) Act 517 (1996)

³³ See Ghana: Action plan on disaster risk reduction, climate change adaptation in the offing, on the PreventionWeb website, available at <http://www.preventionweb.net/english/professional/news/v.php?id=25748>. See also

³⁴ Institutional Support to Integrate Climate Change and Disaster Risk Reduction into National Development Plans – Project Fact Sheet, UNDP (2010), page 1. See also UNDP & NADMO 2012 Annual Work Plan – Institutional Support to Integrate Disaster Risk Reduction Into national Development Plans

³⁵ See Sustainable Development, UNDP in Ghana, available at http://www.undp-gha.org/design/operations/index.php?page=sus_develop

³⁶ Guidebook on Integrating Climate Change and Disaster Risk into National Development, Policies and Planning in Ghana, CC Dare/NADMO/EPA (2010)p17

³⁷ UNDP & NADMO 2012 Annual Work Plan – Institutional Support to Integrate Disaster Risk Reduction Into national Development Plans p2

³⁸ Global Facility for Disaster Reduction and Recovery – Ghana Country Update, October 2012, page 2

³⁹ See Projects and Operations, Sustainable Land and Water Management on World Bank Website, available at <http://www.worldbank.org/projects/P098538/sustainable-land-water-managment?lang=en>

The Savannah Accelerated Development Authority's Strategy and Work Plan (2010-2030)

framework document offers policy measures for long term adaptation to reduce the frequency and minimise the impacts of climatic events such as flood and/or drought in the Northern Savannah. The Work Plan specifically provides a framework for disaster preparedness and response including early warning systems and the design of a strategic funding mechanism for disaster response. It also states that disaster risk reduction initiatives should be mainstreamed in all development planning and management processes⁴⁰.

The Joint Programme on Climate Change Adaptation in Northern Ghana (of the FAO, UNDP and WFP) aims to build the capacity of national and local institutions, and strengthen the resilience of poor vulnerable communities in the three Northern Regions to respond to the impact of climate change. This is envisaged through the facilitation of institutional coordination and structured information flows related to climate change. Activities include community-based adaptation initiatives, the provision of alternative livelihoods and improved technologies for agriculture, food security and sustainable use of natural resources, and support for community-based organisations and vulnerable groups to address climate related risks⁴¹.

The Climate Change, Flood Risks and Mitigation, and Contingency Planning in Northern Ghana is a two-year project (2012-14) that involves a collaboration between the Water Resources Commission and Danida. It builds on the lessons from a project that ran 2009-2011: Climate Change Adaptation through Integrated Water Resources Management in the three Northern Regions of Ghana⁴². It supports contingency planning in terms of information dissemination, reliable early warning systems and improved availability of resilient infrastructure. A key thematic area is the move towards increased water security and resilience in the face of climate change⁴³.

The Climate-Proofed Water Conservation Strategies in Northern Ghana have been supported by the NORDIC Environmental Finance Cooperation since 2011. The Water Resources Commission, in partnership with donors has been developing: An Irrigation, Water Storage and Conservation Strategy document; An Inventory of water-related disasters, coping mechanisms and adaptation technologies for contingency planning; Community entry strategies and guidelines for effective intervention; Capacity building modules in climate change and IWRM; and Education and public awareness materials.

Integrating Climate Change into the Management of Priority Health Risks is a large-scale GEF-funded project began in 2010 and due to finish in December 2013. It aims to identify, implement, monitor and evaluate adaptations to reduce current and likely future burdens of malaria, diarrhoeal diseases, and meningococcal meningitis in Ghana through the development and roll out of a national strategy to integrate climate change risks into health sector policies and programmes⁴⁴. The project focuses on: strengthening technical capacities to manage climate change-related health risks; mainstreaming climate change health risks into decision-making at local and national health policy

⁴⁰ Savannah Accelerated Development Authority (SADA), Sustainable Development Initiative for the Northern Savannah Strategy and Work plan - 2010 – 2030, Part 1: Strategic Direction for Sustainable Development of Northern Ghana

⁴¹ Presentation by Sandhu-Rojon, R., UN Resident Coordinator and UNDP Resident Representative Ghana, Climate Change Adaptation and Disaster Risk Reduction: The Case of Ghana, May 11, 2011, available at http://www.preventionweb.net/files/globalplatform/entry_presentation~microsoftpowerpointrubypresentationforglobalplatformfi.pdf

⁴² See Water Resources Commission website, available at <http://wrc-gh.org/en/projects/13/climate-change-adaptation-project>

⁴³ See Denmark in Ghana – Climate Change Projects on the Danida website, available at <http://ghana.um.dk/en/danida-en/climate-change/>

⁴⁴ GEF (SCCF) Project Information Sheet - Integrating Climate Change into the Management of Priority Health Risks, Part 1 Project Information (2010, p1

levels; and strengthening the climate change health risk knowledge base⁴⁵. Demonstration activities will also be implemented in selected pilot areas with particularly high health-related risks due to climate change⁴⁶.

The Ghana North Sustainable Development, Disaster Prevention and Water Resources Management & the Global Facility for Disaster Recovery and Reduction began in 2008 and finishes in 2013. The Global Facility for Disaster Recovery and Reduction is working with NADMO, the EPA, Ministry of Lands and Natural Resources, Ministry of Food and Agriculture, Ministry of Local Government and Rural Development, Ministry of Water Resources, Ministry of Finance and Economic Planning, National Meteorological Agency, as well as various development partners, including UNICEF, WFP, the Danish Embassy and UNDP⁴⁷. The overarching aim is to develop a National Program Framework for Disaster Risk Management and Climate Risk Management to help ensure a comprehensive and integrated programmatic approach⁴⁸.

The UNDP's Africa Adaptation Programme⁴⁹ finished in Ghana in 2012. It focused on improving institutional capacity and financing mechanisms for addressing climate risks, as well as demonstrating positive impacts in linking disaster risk reduction and climate change through the development of early warning systems⁵⁰. Further details are provided in the next section.

1.4 Large-Scale interventions on Climate Adaptation

Adaptation interventions in Ghana have mainly been at the project level, although there have been efforts recently to move towards a coherent policy framework via the National Climate Change Adaptation Strategy. Five large-scale interventions are outlined below.

National Climate Change Adaptation Strategy (NCCAS)

The Environmental Protection Agency (EPA) under the auspices of MEST, prepared the adaptation strategy with support from UNDP and CC DARE in 2011. It offers a packaged delivery of adaptation responses at the project level for the period 2010 to 2020⁵¹. The design and direction were informed by outputs of various sectoral vulnerability and adaptation assessments carried out by national experts, as well as consultation with stakeholders at various levels⁵². The NCCAS is driven by the following principles:

- Adaptation strategies must be looked at in the broader context;
- Stakeholder participation is fundamental;
- Key focus areas are poverty reduction and sustainable development;
- The long-term impacts must be the focus when considering adaptation measures;
- Gender sensitivity and reducing vulnerability must be central considerations.

⁴⁵ Ibid, page 5

⁴⁶ Adaptation Learning Mechanism website, Integrating climate change into the management of priority health risks in Ghana page, available at <http://www.adaptationlearning.net/integrating-climate-change-management-priority-health-risks-ghana> - accessed 18th December 2012

⁴⁷ Disaster Risk Management Programs for Priority Countries: Africa, Country Programmes – Ghana, Global Facility for Disaster Recovery and Reduction, p8

⁴⁸ Ibid, page 10

⁴⁹ Please see Section 1.4 below for a more in-depth discussion of the Africa Adaptation Programme.

⁵⁰ Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa – 'Developing capacity and financing options for mainstreaming climate change adaptation in Ghana, with a focus on early warning systems' – Project Document, UNDP (2009)

⁵¹ Ghana's Second National Communication to the UNFCCC, 2011, Ministry of Environment, Science and Technology, Environmental Protection Unit, p 131

⁵² Section 1.2 Approaches, National Climate Change Adaptation Strategy (2011), EPA / CC DARE, page 7

The basic goal of the adaptation strategy is to increase Ghana's resilience to climate change impacts now and in the future. This is to be achieved through building capacity in terms of infrastructure and knowledge to deal with climate change impacts and reduce vulnerability in key sectors, ecosystems, districts and regions of the country⁵³. The five criteria used to identify priority adaptation interventions are: resilience; sustainability; multiplier effects (co-benefits), replicability and feasibility⁵⁴. Ten interventions were identified as top priority⁵⁵:

- Increasing resilience to climate change impacts: identifying and enhancing early warning systems
- Alternative livelihoods: minimising impacts of climate change on the poor and vulnerable
- Enhance national capacity to adapt to climate change through improved land use management
- Adapting to climate change through enhanced research and awareness creation
- Development and implementation of environmental sanitation strategies to adapt to climate change
- Managing water resources as climate change adaptation to enhance productivity and livelihoods
- Minimizing climate change impacts on socio-economic development through agricultural diversification
- Minimizing climate change impacts on human health through improved access to healthcare
- Demand and supply measures for adapting the national energy system to impacts of climate change
- Adaptation to climate change: sustaining livelihoods through enhanced fisheries resource management

The strategy considers institutional arrangements, from the national to the community levels⁵⁶. As the lead institution the MEST will be responsible for establishing the institutional mechanism to implement the Strategy, and liaising with the National Development Planning Commission to mainstream the Strategy into national development planning processes. It will also coordinate the efforts of the other Government agencies, the private sector and civil society organisations. The National Climate Change Committee will be responsible for the day-to-day management of the Strategy, including preparation of guidelines and supervision of programmes / projects, as well as monitoring and evaluating of programmes / projects. The actual implementation of the NCCAS will be via the sub-national institutions including the District Assemblies under the supervision of the National Climate Change Committee. The Town / Area Councils will prepare plans which will be submitted to the District Assemblies. The Regional Coordination Council will be responsible for monitoring and evaluating the District Climate Change Adaptation Strategy and will liaise with monitoring staff in the National Climate Change Committee to remove potential obstacles to the implementation of District programmes. Civil society is also envisaged as playing a meaningful role in the implementation.

⁵³ Ibid, 1.4 Guiding Principles, Goal, Objectives and Strategies, page 8

⁵⁴ Ibid, Section 3.6.1 Criteria for Selection of Priority Actions. Page 19

⁵⁵ Ibid, Table 3: Priority Adaptation Programmes, Section 3.6. 2 List of Priority Programmes, page 21

⁵⁶ Ibid, See Section 4.2.1 Institutional Arrangements, pages 22-24

The African Adaptation Programme (AAP)

The programme ran a project titled ‘Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa – Developing capacity and financing options for mainstreaming climate change adaptation in Ghana, with a focus on early-warning systems’ in partnership with MEST (2009-2012). The EPA was designated as the implementing agency for the project, which ultimately sought to mainstream pro-poor and gender-sensitive adaptation measures into national and sub-national development processes, and to leverage additional adaptation funding for more effective use. This would happen through the promotion of systemic change to a more integrated approach to climate change adaptation, through inputs into a programme to develop early-warning systems in the country, as well as by supporting strategic policy dialogue and capacity development⁵⁷. The programme carried out the following activities:

- Mapped indigenous approaches and indicators used to predict climatic parameters as early warning signals and triggers for changes in rural livelihood activities,
- Partnered with the National Development Planning Commission to assess the extent of integration of climate change and disaster risk issues into district and national development plans,
- Contributed to Ghana’s Second Communication Report to the United Nation Framework Convention for Climate Change through African Adaptation Programme scoping and impact studies,
- Started discussions with banks and insurance companies to explore new climate finance options,
- Completed audio-visual material on climate change mainstreaming, which has since been utilised as a sensitisation tool in all subsequent meetings⁵⁸.

Innovative Insurance Products for Adaptation to Climate Change (IIPAC) project

This project was developed to enable the insurance sector in Ghana to offer innovative, demand-led and inexpensive insurance products against the financial risks from extreme weather, variable temperatures and fluctuations in levels of precipitation⁵⁹. A study was conducted for eight food crops grown in Ghana on the variation in district level production and yields over the past eighteen years⁶⁰. It concluded that on average Ghana can expect to lose about 5.5% of the value of production of these crops, equivalent to \$228 million, per year⁶¹. The project was implemented by GIZ in partnership with the National Insurance Commission of Ghana and the Ministry of Finance and Economic Planning between 2009 and 2013.

⁵⁷ See Ghana African Adaptation Programme Project Document, UNDP (2011), page 1

⁵⁸ See the Ghana page of the UNDP-AAP website, available at <http://www.undp-aap.org/countries/ghana> - accessed 18th December 2012

⁵⁹ Supra Note 65, page 4

⁶⁰ Including maize, rice, cassava, yams, millet, sorghum, groundnuts and plantains

⁶¹ Stutley, C., Innovative Insurance Products for the Adaptation to Climate Change Project Ghana (IIPACC) – Crop Insurance Feasibility Study, National Insurance Commission / Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Federal Republic of Germany) / GTZ (2010), p 5

World Bank Urban Water Project and Sustainable Rural Water & Sanitation Project

Although the activities under these projects are not directly adaptation projects or indeed climate focussed, they will, nevertheless, have adaptation co-benefits. For example, Component One of the Urban Water Project seeks to rehabilitate the existing network to reduce non-revenue water. It includes dam safety upgrades, meters, engineering and vehicles and equipment for Ghana Water Company Limited's Regional and District offices⁶². One of the main development goals of the project is to increase access to the piped water system in Ghana's urban centres, with an emphasis on improving access, affordability and, crucially, service reliability to the urban poor, which will require adaptation considerations to be integrated into project planning. The project is envisaged to run to 2015.

Community Based Rural Development Project (CBRDP)

This project also does not have a strict climate change focus, but does have certain adaptation co-benefits. The project was initiated by the Government in 2004, largely financed via the World Bank's International Development Association, to tackle rural poverty through augmenting the capacity of rural communities. The project aims to improve productive assets, rural infrastructure, and to facilitate access to key support services from public and private sources.

⁶² See Urban Water Project page on the World Bank Website, available at <http://www.worldbank.org/projects/P056256/urban-water-project?lang=en> – accessed 18th December 2012

2. National M&E Systems for Development in the Economic and Social Sectors

2.1 Government Institutions Involved in Generating Data

The **Ghana Statistical Services (GSS)** support the National Development Planning Commission in monitoring the progress of development in Ghana. It is the primary government body responsible for collection, analysis, and distribution of official socio-economic statistics. It is the central coordinating agency of the National Statistical Service. Under the Statistics Service Law (1985), the GSS is an autonomous body with a Board of Directors who report directly to the Office of the President⁶³. As a Central Management Agency and a member of the M&E Technical Committee, the GSS produces the data from which most of the indicators for the monitoring and evaluation of the Ghana Poverty Reduction Strategy, GPRS II, are derived. It also supports the M&E system by helping in the design of methodologies, approaches and instruments employed in collecting data at the national, regional and district levels.

The **Ministries, Departments and Agencies** are required to contribute in very specific terms to ensure that all areas of statistics and socio-economic data are adequately covered. Their role is to generate official statistics related to the activities of their respective institutions. Each sector ministry is required to maintain line directorates, including those for Policy Planning, Monitoring and Evaluation (PPME) and Research, Statistics, Information and Public Relations (RSIPR). Consequently, statistics units have been set up in each sector ministry under the RSIPR directorates. While the Ministries, Departments and Agencies predominantly compile data for their internal use, they are also supposed to cooperate with GSS to make the data more widely available, both within and outside government. However, there is currently limited release of their data, and only a few of them have databases that can serve as a medium for disseminating their data⁶⁴.

The **National Population Council** was established in 1994 as the highest advisory body to the government on all population issues and to ensure proper coordination and implementation of all population policies and programmes.⁶⁵ A major function of the Council is to undertake and/or commission research on key socio-cultural and developmental issues that impact on the population, and to produce fact sheets on various demographic and socio-economic indicators at the national and district levels⁶⁶. In collaboration with the GSS, the Council ensures timely collection, processing, analysis and dissemination of data to policy makers, planners and the public. The Council also aims to build the capacity of personnel in the field of data collection and analysis, as well as to undertake research to upgrade national research capability in population and development.

⁶³ See GSS website - http://www.statsghana.gov.gh/About_us.html - accessed 12th December 2012

⁶⁴ Ibid, Section 2.4.1 Administrative Data, page 10

⁶⁵ The National Population Council website, available at <http://www.npc.gov.gh/page.php?page=46§ion=22&typ=1> - accessed 19/12/12

⁶⁶ Awusabo-Asare, K., Data for Demographic Development in Ghana, The Population Council (2007), page 4

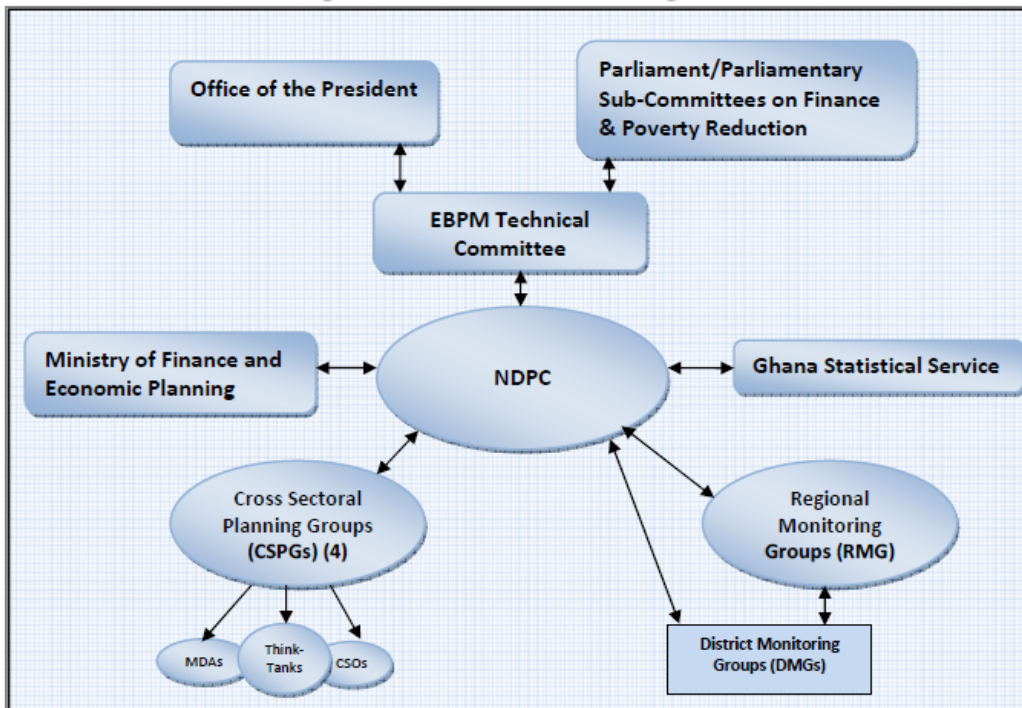
2.2 The M&E of Major Government Interventions

The main development policy for Ghana, the GSGDA, has three volumes: the policy framework; the costing framework; and the monitoring and evaluation framework. Volume Three is yet to be released, despite its scheduled publication in 2011⁶⁷. As part of the previous development frameworks (Ghana Poverty Reduction Strategies I & II), a comprehensive M&E Plan was adopted to track the progress of policy implementation and policy efficacy⁶⁸. Chapter 10 of Volume One offers some clarification of M&E under the GSGDA, and states that the M&E architecture that was established under the GPRS process is to be augmented and strengthened.

The Coordinated Programme of Economic and Social Development Policies 2010-2016 – the long-term policy framework document which the GSGDA implements – also states that the key elements of the M&E system will be strengthened and greater responsibility given to the statutory institutions with direct responsibilities for policy planning and M&E at the sector, regional and district levels⁶⁹.

The National Development Planning Commission has also acknowledged the need to strengthen Ghana's existing institutions and public policy management processes, including M&E and statistics for effective management⁷⁰. Rather than a development of the national M&E structure since GPRS II was launched, there has been a reinforcement of the existing institutional architecture⁷¹ (see Fig 1).

Fig 1. A diagramme of the institutional set-up at the national level⁷²



⁶⁷ Joint Staff Advisory Note on Poverty Reduction Strategy Paper on Ghana Shared Growth and Development Agenda 2010–13. IMF/IDA (2011)

⁶⁸ Section 10.2 Review of the M&E Under the GPRS I & II Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 126

⁶⁹ Section 5.3 Monitoring progress towards implementation, Coordinated Programme of Economic and Social Development Policies 2010-2016: An Agenda for Shared Growth and Accelerated Development for a Better Ghana, page 79

⁷⁰ Resources Spent on M&E and Statistics – Final Report, NDPC (2011), page 3

⁷¹ Ibid, Section 10.5 M&E Institutional Arrangements Under the GSGDA, page 129

⁷² Section 2.3.1 Institutional Framework for National Monitoring & Evaluation, Growth and Poverty Reduction Strategy (GPRS II) National Monitoring and Evaluation Plan (2006-2009), page 6

A brief outline of the roles and responsibilities of main bodies within the M&E system, not already discussed, is given below⁷³.

Evidence Based Policy Making Technical Committee. This Committee is made up of representatives of key Central Management Agencies including National Development Planning Commission, the Office of the President, the Ministry of Finance and Economic Planning, and GSS. The role and responsibility of the Technical Committee is to: promote greater coordination and harmonisation of M&E activities across all levels of government; ensure better information flows; strengthen the capacity of key Central Management Agencies and the Ministry, Departments and Agencies to generate, analyse and disseminate M&E information; and improve communication about M&E processes by addressing the systemic deficiencies in M&E data collection and information flows.

Office of the President. As a key recipient and user of M&E information, the Office of the President plays a key role in ensuring that M&E is adequately resourced and taken seriously by Ministries, Departments and Agencies.

Parliament. The Parliamentary Select-Committees on Finance and Poverty Reduction have the oversight responsibility of making recommendations to Parliament, and influence government policy on poverty reduction through scrutiny of the annual budget and regular interaction with civil society. Parliamentarians are key players in disseminating government policies, programmes and projects, as well as using the outcome of M&E to influence government policies.

The Cross Sectoral Planning Groups. The groups comprise stakeholders from government, donors, private sector and NGOs / civil organisations at the national level, and are responsible for preparation of the Annual Progress Report. They act as monitoring groups at the national level, reviewing performance of the thematic areas under the GSGDA. They will make suggestions on the conduct of evaluations including impact assessments and participatory M&E, as well as provide relevant input to policy formulation. Similarly Regional Monitoring Groups (RMGs) and District Monitoring Groups (DMGs) will conduct and report on M&E activities at the regional and district levels.

The Policy Planning, Monitoring and Evaluation Division (PPMED). The division has oversight and support responsibilities at the sector level (illustrated in Fig 2 below), and has the following roles:

- Undertake M&E needs assessment to support capacity building in the decentralised departments,
- Develop baseline and sector-specific programme indicators and define the indicators for measuring change, especially on cross-cutting issues, gender, environment and social protection,
- Receive from National Development Planning Commission the national core indicators and data collection instruments,
- Establish the sector targets for all relevant objectives in the SMTDP,
- Establish a list of sector programmes / projects to be carried out by the Ministries, departments and agencies that will contribute to achievement of target indicators,
- Monitor progress of sector projects and programmes at district level at regular intervals,
- Collect and collate relevant data on indicator achievement,

⁷³ The description below of each of the roles and responsibilities of each body within the M&E set-up is adapted from Section 2.3 Institutional Arrangements Growth and Poverty Reduction Strategy (GPRS II) National Monitoring and Evaluation Plan (2006-2009)

- Collate and analyse sector data for reporting to the National Development Planning Commission,
- Undertake quarterly and annual performance review / impact assessment of Sector Medium Term Development Plan policies, programmes and projects with all sector stakeholders,
- Support GSS to conduct national surveys and provide inputs into the Ghana Info database,
- Disseminate information obtained from data collected to all stakeholders,
- Facilitate the evaluation of the SMTDPs and make recommendations for policy review.

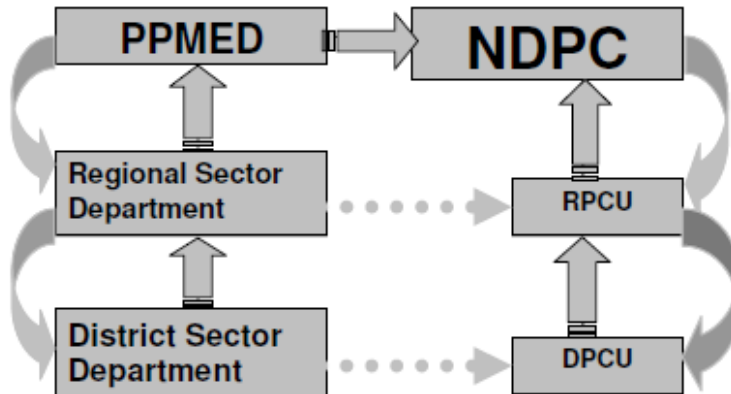
Regional Sector Departments (RSD). The regional departments act as clearing houses that verify information on projects and indicator achievement from district level, before forwarding it to the Regional Planning Coordinating Units and PPMED. They make sure that the projects planned by the districts are capable of achieving the targets of the District Medium Term Development Plan. They coordinate the collection of indicator data from district level and validate district sector-related information. They undertake quarterly Performance Reviews or Impact Assessments of programmes and projects in the region with all sector stakeholders, and submit reports to the National Development Planning Commission. They produce and submit regionally coordinated and harmonised District Sector Annual Progress Reports to RPCUs and PPMED, and support the GSS to conduct national surveys and provide input into the Ghana Information database. They support district based participatory M&E, and disseminate annual progress information to all regional stakeholders.

District Sector Departments (DSD). The Departments are directly responsible for the development and implementation of the District Sector M&E Work Plan. They quarterly review performance under the District Medium Term Development Plan and suggest corrective actions. They liaise with lead PPMED / RSD to agree on goals and targets and define indicators and baselines, monitor progress of projects and programmes, and collect district sector indicator achievement information. They collate and coordinate feedback for transmission to the RSD and support GSS to conduct national surveys and provide input to the Ghana information database. They support district based participatory M&E, and increase public awareness about the national development agenda. They produce a District Sector Annual Progress Report and make recommendations for policy review to RPCUs and Regional Sector Departments.

Regional Planning Coordinating Unit (RPCU). The units provide guidance to the districts on the development and implementation of their M&E Plans, and collate data from district level M&E for the National Development Planning Commission and other stakeholders. They assess, recommend and support M&E capacity building of the District Assemblies, and they review data and verify inconsistencies. They also support GSS formal survey interventions relating to development policy, and facilitate dissemination of M&E reports to all districts and stakeholders. They ensure that gender equity indicators are clearly outlined in the M&E Plans and that information is analysed from a gender perspective. They review and collate the district Annual Progress Reports to produce the Regional reports, and make recommendations for policy review.

District Planning Coordinating Units (DPCU). These units are responsible for the development and implementation of the District M&E Plan. They convene quarterly performance reviews, undertake project inspections, and liaise with RPCUs to agree on goals and targets. They define indicators for measuring change, collect and collate feedback from the sub-district levels for preparation of the District Annual Progress Reports, and disseminate information on development policy.

Fig 2. Institutional arrangements for the sector and decentralised M&E process⁷⁴



2.3 Current Use of Data for the M&E of Economic and Social Development

The output of the M&E process is used for informing national development planning, supporting sector policy and programme design, informing budget allocation, enhancing transparency and accountability in the management of national resources, encouraging continuous improvement in public policy management, and promoting policy dialogue within Government and between Civil Society Organisations and Development Partners⁷⁵.

The GSGDA follows and builds upon the lessons from GPRS II. A continuing theme spanning each of the development frameworks is that of Human Development⁷⁶. The development context has changed from 2006 to 2010 with the exploitation of the Jubilee Oil Field, as well as the attainment of middle income status. The GSGDA has thus evolved the Human Development thematic area, adding the following areas: nutrition and food security, productivity and employment, child survival, development and protection, youth development, ageing, disability, and poverty and income inequalities. Nevertheless, the M&E architecture remains largely unchanged, and the use of socio-economic data would also appear to remain largely the same.

M&E Guidelines are prepared centrally by the National Development Planning Commission and the Cross Sectoral Planning Groups for the various sectors and districts. An agreed set of indicators established at this top level is cascaded down to the RPCUs and then to the DPCUs. The latter have the responsibility of developing and implementing the M&E plans, and then preparing Annual Progress Reports. Once this exercise has been completed, it is the job of the Planning Commission to collate and synthesise the data into a national Annual Progress Report against the GSGDA⁷⁷.

⁷⁴ Ibid

⁷⁵ Chapter 10, Monitoring and Evaluation, Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 165

⁷⁶ See Chapter 7, Human Development, Productivity, and Employment, Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 92 and

⁷⁷ Supra Note 109. See also Section 9.1.3.5 Promotion of Development Dialogue Around National, Sector and District Plans, Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 154

The **Annual Tracking of Implementation of Development Policy** involves the following steps, culminating each year in the production of the Annual Progress Report:

1. formation of Cross Sectoral Planning Groups mirroring thematic areas in the development policy,
2. inception meeting involving the Cross Sectoral Planning Groups,
3. commencement of data collection,
4. validation of data,
5. drafting of reports,
6. validation of draft report by stakeholders,
7. publication of final report.

The **Annual Progress Report** is the key instrument for reporting on development progress in Ghana, and the annual process is designed to provide up-to-date data for the Government to inform decisions and recalibrate programme implementation as required, and to assess whether resources are being used effectively and efficiently. It will also form the basis for policy dialogue with stakeholders, including informing development partners and civil society organisations on the extent of progress government is making to achieve the national development objectives⁷⁸.

The **National Citizens' Assessment survey (Participatory M&E)** is designed to obtain feedback from citizens at the grassroots about the extent to which the key development objectives are being met from their perspective, and to assess whether citizens are experiencing the expected impact from the gains made in the macroeconomic environment. This offers local communities the opportunity to voice their views on how to improve the implementation of development measures.

The **Poverty and Social Impact Analysis (PSIA)** is periodically undertaken to evaluate the social impacts of development policies, programmes and projects. It determines possible adverse impacts, or potential increases in economic risk to individuals and vulnerable groups, and identifies complementary policy interventions to minimise any negative effects of development policy interventions.

Specific evaluation activities are not identified within the government's overall M&E framework, and it would appear that currently more emphasis is placed on monitoring. There is, however, the recognition that data should be fed into a comprehensive Evaluation Framework following monitoring activities⁷⁹.

⁷⁸ Taken from Section 4.2 Annual Monitoring of Progress Towards Implementation of GPRS II, Growth and Poverty Reduction Strategy (GPRS II) National Monitoring and Evaluation Plan (2006-2009), page 21

⁷⁹ Section 10.4 Monitoring and Evaluation under GSDSA, Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 167

3. M&E of Climate Change Adaptation Interventions

As outlined above, the National Climate Change Adaptation Strategy (NCCAS) aims to offer a coordinated adaptation response in Ghana. It outlines a comprehensive M&E Framework. There is to be a dedicated M&E Unit established under the National Climate Change Committee to monitor the implementation of the Strategy and evaluate its impact⁸⁰. The M&E Unit will seek to:

- Progress the implementation of the Strategy within time and cost schedules,
- Assess quantitative and qualitative progress of implementation of programmes and projects,
- Monitor the maintenance of capital assets created so that the expenditure earmarked for the purpose in the national and district budgets is in fact utilised for the purpose,
- Plan expenditure to ensure that sectoral outlays are not disturbed, and that outlays earmarked for specific projects are not diverted for other purposes without compelling reasons⁸¹.

The NCCAS process was initiated in 2011, but the document was not finalised until late 2012. The M&E Unit has not yet been formally set up, so no comment can be offered on the Unit's operational effectiveness.

Ghana's Second Communication Report to the United Nation Framework Convention for Climate Change highlights that the implementation of the Strategy will involve a degree of 'learning by doing'. It states that Ghana needs to build knowledge and capacity so that it can deal with climate change impacts and increased vulnerability.

From the current research, it is unclear the degree to which M&E of climate adaptation measures is currently integrated into government systems and processes. Although a number of the climate risk management initiatives above did indeed set out M&E procedures and plans, the monitoring and evaluation appear to have been established and undertaken by the development partners and subsequently shared with the government. For example, under the Africa Adaptation Programme the National Project Manager is responsible for undertaking the M&E activities, and is only required to share the results with the Executive Board, upon which representatives from MEST will sit⁸². The same appears to be true for the Integrating Climate Change into the Management of Priority Health Risks⁸³.

However, looking forward, 2013 will see the publication and staggered implementation of the NCCPF, and this will provide the Government ample opportunity to create a 'policy space' in which to devise and integrate a comprehensive M&E mechanism within this umbrella policy.

⁸⁰ Supra Note 34, section 4.2.5 Monitoring and Evaluation, page 25

⁸¹ Ibid

⁸² VII Monitoring Framework and Evaluation, African Adaptation Programme Project Document, page 41

⁸³ See Indicative M&E Workplan and Budget, GEF (SCCF) Project Information Sheet - Integrating Climate Change into the Management of Priority Health Risks, Part 1 Project Information (2010), page 64

4. Components of a National Evaluative Framework for Climate Adaptation

4.1 Availability and Quality of Data on Socio-Economic Performance

In order for Ghana to effectively develop economically whilst integrating climate resilience into planning processes, the use of demographic and socio-economic data for decision-making will be essential. It is necessary to know how to access available data and the quality of the data. It needs to be determined how the data will be utilised by policy-makers and other government stakeholders to assess climate vulnerabilities and development status in various scenarios of with/without or before/during/after interventions. The data from various sources outlined below will be useful in order to establish a baseline to evaluate development performance in the areas of well-being, vulnerability and food, water and energy security (Track 2).

The **Population and Housing Census (the Census)** was most recently conducted in 2010, and the results became available in 2012⁸⁴. Whilst it may appear that it has taken a significant time for collation and publication of the results, this is in line with an indicator set by the United Nations Population Fund for the GSS for enhanced capacity⁸⁵. The enumeration phase involved the deployment of over 50,000 trained field personnel to every part of the country to collect information on households, individuals, housing units and community facilities. A Post Enumeration Survey was also carried out to assess the degree of census coverage, as well as the accuracy of the responses received⁸⁶. The census aims to provide socio-economic data for planning and for evaluating government policy interventions at the national, regional and district levels, and to plug the data gaps that have arisen from the creation of new districts. Topics selected for inclusion in the 2010 Census questionnaire were based on UN Recommendations for the 2010 Round of Population and Housing Censuses worldwide and the needs of data users.

The **Ghana Living Standards Survey (GLSS)** is a nation-wide survey (based on a nationally representative sample of 8,687 households), which collects information on population, education, health, employment and time use, migration, housing conditions and household agriculture. The most recent survey (No.5) covered the period September 2005 to September 2006. The Sixth round has recently been launched, with a focus on the labour force and the use of financial services by households. Findings will be distinguished by region, by urban / rural residence and by ecological zone, with special attention given to areas within the Savannah Accelerated Development Authority (SADA) zone⁸⁷. It should be noted that Household surveys such as the LSS are considered to be the least reliable of data sources⁸⁸.

⁸⁴ See Ghana Statistical Service releases census results, available on <http://www.ghanaweb.com/GhanaHomePage/regional/artikel.php?ID=240661> – accessed 13th December 2012

⁸⁵ See Ghana UNDAF 2012-2016 Narrative, Thematic area 4: Transparent and Accountable Governance, Enabling Environment for Effective Plan Preparation and Implementation, Monitoring and Evaluation, Output 12.1; 'By 2016, Ghana Statistical Service (GSS) and key MDAs have enhanced capacity to produce gender disaggregated data', a key target is to complete census analysis by 2012.

⁸⁶ See 2010 Population And Housing Census - Release Of Final Results, on Government of Ghana website, available at <http://www.ghana.gov.gh/index.php/information/speeches/13411-2010-population-and-housing-census-release-of-final-results>

⁸⁷ Acheampong, J., 6th Round Of Living Standards Survey Launched, Modern Ghana website, 17th October 2012, available at <http://www.modernghana.com/news/424619/1/6th-round-of-living-standards-survey-launched.html> - accessed 12th December 2012

⁸⁸ Supra Note 29, page 4

The **Core Welfare Indicator Questionnaire Survey** was last carried out in 2003, so the information will now be out of date. However, it may be useful as a basis for comparison. It is a district-based probability sample⁸⁹ that covered a total of 49,003 households nationwide, with 405 households drawn from each district, and more from the metropolitan areas⁹⁰.

The **Multiple Indicator Cluster Survey (MICS)** was last conducted in 2006, and based largely on the necessity to monitor progress towards goals and targets from the Millennium Declaration and the Plan of Action of A World Fit for Children (2002), as well as to provide up-to-date information on progress towards goals established by the GPRS II (2006). A representative probability sample of 6,302 households was selected nationwide.

The **National Population Council** has been described in section 2.1. It aims to ensure that population considerations remain central to development planning, and ensure timely collection, processing, analysis and dissemination of data to policy makers, planners and the public at large⁹¹. That being said, there is very little raw or processed data available on the Council website, and it is consequently unclear how accurate this information is, how it has been collected or indeed how it is or can be utilised. The most up-to-date document available from the website is from 2006, and largely covers information gleaned from the other sources described above.

The **Millennium Development Goals (MDGs)** were last reported on in 2010 by the National Development Planning Commission and UNDP. The data used in producing the report was principally derived from a number of other surveys that have been conducted in Ghana up to 2009, as well as institutional data from government ministries, departments and agencies⁹². Independent national consultants met with national and international stakeholders who informed the content, structure, analysis and level of data disaggregation (depending on availability) of the report. Stakeholders commented on drafts and a validation meeting was organised to discuss comments and build consensus on recommendations for improving performance towards the Goals.

The **World Bank World Development Indicators**⁹³ are compiled from official sources, although some adjustments are made in the balance of payments to account for the differences in the fiscal and calendar year. National data is gathered by the Bank's country management units⁹⁴. The World Bank has a myriad of different indicators which can be drilled down to country level for the period 1960 – 2011, allowing a very detailed snapshot of socio-economic factors in Ghana. Current and accurate global development data is available; it includes national, regional and global estimates, and is updated 4 times a year.

4.2 Appropriate M&E methodologies

The current M&E processes, embedded in the development framework across different levels of governance as outlined in Section 2, may provide appropriate methodologies for a national evaluative framework for climate change adaption. It should be noted that there is as yet no M&E system detailed in the forthcoming National Climate Change Policy, and as such this may provide a good opportunity for the integration of the TAMD Framework at the national level.

⁸⁹ A probability sampling is one in which every unit in the population has a chance (greater than zero) of being selected in the sample, and this probability can be accurately determined. The combination of these traits makes it possible to produce unbiased estimates of population totals, by weighting sampled units according to their probability of selection (from http://en.wikipedia.org/wiki/Sampling_%28statistics%29)

⁹⁰ 2003 Core Welfare Indicators Questionnaire (CWIQ) Survey, Ghana, National Summary, GSS (2003), page 1

⁹¹ See National Population Council of Ghana Council website <http://www.npc.gov.gh/page.php?page=46§ion=22&typ=1> – accessed 14/12/13

⁹² 2008 Ghana Millennium Development Goals Report, NDPC / UNDP (2010), page 2. See also References for full details of data analysed.

⁹³ See the World Bank site for searchable database 1000 national indicators, <http://data.worldbank.org/data-catalog/world-development-indicators>

⁹⁴ See Methodologies page, World Bank website, available at <http://data.worldbank.org/about/data-overview/methodologies>

5. Good Practice and Challenges

5.1 M&E Good Practice

Overall, the development framework is well thought out and comprehensive. The national institutional framework for M&E that was established under the Ghana Poverty Reduction Strategy (GPRS II), and been entrenched in the years since, presents a logical approach to M&E and places appropriate value on such activities. The establishment of the national database or information management system has been a positive step to help centralise the data and migrate it to a manageable online facility.

5.2 M&E Challenges

Despite much progress in M&E, a number of obstacles have yet to be overcome. In the overall M&E system within the development framework there is a strong emphasis on monitoring activities, but there are not the corresponding evaluation systems in place. There is considerably more scope for policy-makers to use the generated data for decision-making⁹⁵.

A key challenge that was identified in the GSGDA that has yet to be resolved is that of weak institutional capacity⁹⁶. The Government (led by the National Development Planning Commission) recently undertook a self-assessment to gauge its capacity to Manage for Development Results using the Capacity Scan methodology. A significant limitation of the current M&E system, as pointed by almost all sectors, was the lack of capacity for the M&E of public policies. The capacity to have an administration geared toward development results, as well as the integration of M&E systems for decision-making also scored fairly low⁹⁷.

The Capacity Scan was carried out across a number of sectors, and it was found that the majority of sectors have inadequate capacity to analyse statistical data for forecasting purposes, which limits Ghana's capacity to manage for development results⁹⁸. Additionally, in spite of its strong coordination mandate in the M&E system, it was found that the National Development Planning Commission scored an average of 1.7 on a 4 point scale⁹⁹. However, it should be noted that there is a high degree of competency amongst the senior staff¹⁰⁰. The Capacity Scan report highlighted that whilst Information is available within institutions, it is not processed into readily usable knowledge for decision-making processes.

From initial research, it would appear that there are a number of factors that may inhibit the integrity of socio-economic data in Ghana. These factors are affected by the conceptualisation of the

⁹⁵ Capacity Assessment for Effective Delivery of Development Results in Ghana - Managing for Development Results Capacity Scan, Government of Ghana (2012), page 23

⁹⁶ 10.3 M&E Challenges under GPRS I & II, Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 163

⁹⁷ Capacity Assessment for Effective Delivery of Development Results in Ghana - Managing for Development Results Capacity Scan, Government of Ghana (2012), page 8

⁹⁸ Ibid, pages 13 & 15 – Sectors included: Food & Agriculture, Health, Education, the GSS, Local Government & Rural Development, NDPC, Roads & Highways, Woman & Children, and Finance & Economic Planning

⁹⁹ Ibid, page 14

¹⁰⁰ Ibid, page 21

collection and analysis process, the questions asked, the quality and integrity of field assistants, the supervision, and the quality checks at the various stages of data collection, storage and processing¹⁰¹.

Different development agencies and research institutions gather data with different methods and time frames, which can make comparability problematic, and may lead to different outcomes in the data. The capacity and capability of those collecting the data will also need to be taken into account when assessing reliability. For indicative purposes, refer to the table below (Fig.3), which compares the results from a number of surveys for the 'Main Source of Drinking Water (National)'. The table highlights the possible difficulties of direct comparison. For example, the Census, Ghana Living Standards Survey, Core Welfare Indicator Questionnaire Survey, and Multiple Indicator Cluster Survey broadly frame access to water in terms of the percentage of the population / households that have access to a particular source. Yet, different conclusions are still arrived at. This is possibly due to the different timescales and base years used. The Millennium Development Goals Report and the World Bank Development Indicators look at 'access to improved water' and 'improved water source' respectively. Each of these terms is also defined slightly differently, which may further complicate comparison¹⁰². The year that is used as a baseline will also need to be taken into account, as this is another factor that can potentially skew figures. The timeliness of release of data after collection and collation will need to be scrutinised. This refers to not only the processing and release of data post collection, either by request or into the public domain through publishing, but also the regularity of data collection exercises. For example, the Ghana Living Standards Survey has been held irregularly: the third survey was held in 1991/92, the fourth in 1998/99, and the fifth in 2005/2006. Three of the four censuses post-independence censuses have also been irregular¹⁰³.

Fig 3. Illustration of the difficulties of compatibility across data sources

Survey	Main Source of Drinking Water (National)
Census 2010	49.5% Pipe Bourne
Ghana Living Standards Surveys 2005/06	41% Wells
Core Welfare Indicator Questionnaire Survey 2003	74.1% in the Dwelling, Outdoor Tap, Borehole, and Protected Well
Multiple Indicator Cluster Survey 2006	38% Pipe Bourne
MDG Report 4th Report 2010	83.8% Access to Improved Water Source
World Bank World Development Indicators	82% Improved Water Source ¹⁰⁴

¹⁰¹ Supra Note 29, page 5

¹⁰² Improved water source, rural (% of rural population with access) is defined on the World Bank website thus: 'Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 litres a person a day from a source within one kilometre of the dwelling'. Available at <http://data.worldbank.org/indicator/SH.H2O.SAFE.RU.ZS>. Whereas the MDG Report defines 'Access to improved water' as household is considered to have access to an improved water supply if it uses improved drinking water sources or delivery points including: piped water into dwelling, plot or yard; public tap/standpipe; tube well/borehole; protected dug well; protected spring; and rainwater collection. Unimproved drinking water sources include: unprotected dug well; unprotected spring; cart with small tank/drum; bottled water; tanker truck; and surface water (river, dam, lake, pond, stream, canal, irrigation channels). See Box 6, Definitions, 2008 Ghana Millennium Development Goals Report, NDPC / UNDP (2010), page 11

¹⁰³ Ibid, page 6

¹⁰⁴ This figure is for 2008 to offer a comparison with the conclusion drawn in the MDG Report. Please see Improved water source (% of population with access) page on World Bank website, available at <http://data.worldbank.org/indicator/SH.H2O.SAFE.ZS>

6. Conclusions with respect to TAMD Development

6.1 Climate Adaptation Interventions for Testing the TAMD Approach

The potential interventions detailed below have been selected based on i) their ongoing operation and long-term timeframe, and ii) the potential for assessing both Track 1 and Track 2 indicators to ensure that comprehensive evaluation can be conducted of their relative adaptation effectiveness.

As detailed above, adaptation interventions in Ghana have mainly been at the project level and have been principally donor initiated and led. Therefore, a dual approach towards the construction of a TAMD prototype is suggested. It is hypothesised that the TAMD Framework could constitute a useful method for assessing the adaptation co-benefits that have resulted from sectoral development instruments and their associated implementation plans. This will also provide a clear link with the national development planning process. Thus, based on national stakeholder consultations and primary research, an integrated sectoral approach is suggested, along with specific ongoing projects from amongst the following.

1) Food and Agriculture Sector Development Policy (FASDEP II) (2007) and Medium Term Agricultural Sector Investment Plan (METASIP) 2011-2015¹⁰⁵

The GSGDA positions the modernisation of agriculture as the fulcrum in social and economic development in Ghana¹⁰⁶. However, the Food and Agriculture Sector Development Policy (FASDEP II), does not explicitly identify climate change as a limitation to agricultural production and sustainability. It makes references to climate-related risks and climate variability¹⁰⁷, but no direct links to larger climate change processes. Despite this, there are likely to be adaptation co-benefits from the activities detailed under FASDEP II, and policy objectives will have a climate change dimension. The Medium Term Agricultural Sector Investment Plan (METASIP) does state that the implementation of all policies / strategies under FASDEP II should seriously consider climate change impacts, and, as such, appropriate adaptation (and mitigation) measures should be given serious consideration during the formulation and implementation of future sector policies¹⁰⁸. The METASIP also goes on to state that a comprehensive monitoring and evaluation plan has to be developed with the sector institutions to determine the level of mainstreaming¹⁰⁹.

Of the six policy objectives, numbers one, **Food Security and Emergency Preparedness** and five, **Sustainable Management of Land and Environment**, may provide the best opportunity for integration of the TAMD Framework. Both are closely linked with adaptation, and policy objective iv in particular explicitly advocates measures to stimulate, support and facilitate adaptation and widespread adoption of farming and land-use practices which, while in harmony with natural resource resilience, also underpin viable and sustainable production levels¹¹⁰.

¹⁰⁵ The suggestions below are detailed only for guidance at this stage, and the exact elements within FASDEP II and METASIP that will constitute part of the piloting phase will need to be refined in close collaboration with the stakeholders in Ghana.

¹⁰⁶ 1.0 Introduction and Strategic Direction, Executive Summary, Ghana Shared Growth and Development Agenda 2010-2013, NDPC, p xii

¹⁰⁷ For instance, see Section 2.3 Agricultural Sector Constraints, Food and Agriculture Sector Development Policy (FASDEP II), Ministry of Food and Agriculture (2007); *"Food production fluctuates from year to year due to frequent variations in the magnitude of rains during and between growing seasons. This recurrence of climatic stress destroys crops and livestock. Rainfall is a major determinant in the annual fluctuations of household and national food output."* Page 9

¹⁰⁸ Medium Term Agricultural Sector Investment Plan (METASIP) 2011-2015, page 72

¹⁰⁹ Ibid

¹¹⁰ Supra Note 173, Section 4.5 Sustainable Management of Land and Environment, page 31

Under METASIP development issues have been categorised into six key programmes. Each is aligned to the six FASDEP II strategic policy objectives and is further broken down into specific components with detailed outputs. The components can be described as strategic policy statements and the outputs as specific policy interventions designed to achieve these policy statements.

For example, under Programme 1: Food Security and Emergency Preparedness, Component 5 sets out broad objectives around early warning systems and emergency preparedness, which is latterly identified as a priority investment under the METASIP¹¹¹. This is then translated into action via the corresponding output 1.5.1: Numbers of food insecure (vulnerable) households reduced by 20% by 2015. This is to be achieved with the following activities;

- Identify vulnerable households in disaster-prone areas of the country,
- Construct vulnerability maps to support targeting of food security and emergency preparedness interventions,
- Support vulnerable households and communities to establish household and community systems that can respond to emergencies (with regards to food insecurity),
- Monitor crop, livestock and fish pests and diseases,
- Use weather forecasting to inform farmer decisions,
- Build capacity of National Food Buffer Stock Company to manage national strategic food reserves,
- Establish a National Seed Security stock for emergencies.

Programme 4, designed to promote sustainable management of land and the environment, includes a set of interventions to be implemented as priority investment to address the issue of weak institutional capacity for sustainable land management at all levels, as follows:

- Strengthen capacity of the Environment and Land Management Unit of the Ministry of Food and Agriculture to take the lead and responsibility for promoting and implementing SLM agenda,
- Establish technical position for environment and land management at the regional level within the Ministry of Food and Agriculture,
- Establish cross-sectoral SLM coordination mechanisms at all levels (governmental, DPs and civil society),
- Establish mechanisms for joint planning and implementation for SLM at district level,
- Enhance the capacities of private extension service providers in approaches to climate change adaptation and mitigation processes,
- Train staff at all levels on rudiments of integrated watershed management.
- Develop and pilot SLM based farmer-field-school curriculum,
- Integrate SLM principles into curriculum of Agriculture Colleges by 2012
- Train at least 12 land management specialists at post graduate level by 2015¹¹².

¹¹¹ Ibid, see Table 13: Priority Investment, page 62

¹¹² Ibid, Output 4.1.2: Institutional capacity at all levels within the food and agriculture sector built to support the promotion of SLM by 2015. See also Table 13: Priority Investments

2) Sustainable Land and Water Management (SLWM) 2010-2016

This project is closely aligned with the Policy Objective of ‘Sustainable Management of the Land and Environment’ and the corresponding outputs under FASDEP II and METASIP as detailed above¹¹³. As such, selection of this World Bank led intervention may also help offer a joined-up and holistic approach during the feasibility testing phase for the TAMD, i.e. a dual approach looking at sectoral government interventions, and interventions initiated by development partners.

The project has the twin objectives of (a) demonstrating improved sustainable land and water management practices aimed at reducing land degradation and enhancing maintenance of biodiversity in selected micro-watersheds; and (b) strengthening spatial planning for identification of linked watershed investments in the Northern Savannah region¹¹⁴. This is to be achieved through a combination of three Components:

- i. Provide integrated spatial planning tools (for mapping, analysis, monitoring and evaluation) to strengthen the capacity of SADA and relevant implementing agencies to guide and undertake decision-making for water and land-related investments across the Northern Savannah region. Spatial planning will take into account ecological units such as watersheds, and is expected to result in the identification of both large-scale water and flood management infrastructure investments, along with the community and individually based land and natural resource management programmes that should complement them.
- ii. Support community flood and land management at the micro-watershed level, including both management of agricultural land and ecological infrastructure. It will also be associated with parallel labour-intensive civil works investments in small-scale flood and water management infrastructure through a Social Opportunities Project. This Component will fund technical assistance, equipment, incremental operating costs, and incentives based on SLWM subproject agreements.
- iii. Support budgeting and planning, procurement and financial management, the costs of annual audits, annual and quarterly progress reports, and reception of supervision missions¹¹⁵. Project indicators include:
 - Area of land in selected micro-watersheds under new sustainable land and watershed management (SLWM) technologies (ha),
 - Management effectiveness according to Management Effectiveness Tracking Tool (METT) score in reserve and corridor sites (score, disaggregated),
 - Pre-feasibility studies conducted for new large-scale multipurpose water storage investments.

The EPA is will provide technical input and support Districts in the coordination of cross-sectoral activities under this component. At the national level, as secretariat to the National Sustainable Land Management Committee (NSLMC), the EPA is responsible for development of the SLWM, and defining the environmental services index and related incentive system. This is also done in collaboration with the Ministry of Food and Agriculture¹¹⁶. SADA is responsible for implementing Component 1 of the project, and as such this may provide a future entry point to integrating TAMD into the SADA Strategy & Work Plan 2010 -2030.

¹¹³ Sustainable Land and Water Management Project, Project Appraisal Document, World Bank (2010), page 31

¹¹⁴ Ibid, page 7

¹¹⁵ Ibid, page 12

¹¹⁶ Ibid, page 15

Whilst the SLWM Project is an intervention spanning the Northern Savanna eco-agricultural zone, it also links activities at different levels of governance and spatial scale. The EPA will be responsible for the selection of SLWM technologies for inclusion¹¹⁷, but the project also involves investments and activities at the community level¹¹⁸. It is posited that the lines of attribution and the links between decisions taken at the multiple levels may be evaluated effectively by the TAMD Framework.

3) National Water Policy 2007

The National Water Policy has direct links to the attainment of all the eight Millennium Development Goals¹¹⁹. The policy acknowledges that access to water and sanitation, increase in agricultural productivity, pollution control, integrated trans-boundary river basin management, and development of water infrastructure are decisive factors for poverty alleviation¹²⁰. It also recognises that Ghana's economy continues to revolve mainly around agriculture, and as such the Policy would help offer a joined up approach in the development of the TAMD Framework when looking concurrently at the interventions detailed above.

The policy identifies the three main thematic areas of Water Resource Management, Urban Water Supply, and Community Water and Sanitation. Under each of these are policy objectives and corresponding measures. As suggested above with regard to FASDEP II and METASIP it may be worth narrowing focus onto particular elements and the measures thereunder that have clear adaptation links. Under the first thematic area, Water Resource Management, Focus Area 6 is related to Climate Variability and Change¹²¹. The policy objectives are to: i) minimise the effects of climate variability and change, and ii) Institute measures to mitigate the effects of, and prevent damage caused by floods and droughts.

The specific measures provided for in the Policy that the TAMD Framework would seek to evaluate:

- Construct flood protection structures at appropriate locations,
- Apply appropriate technologies to provide the necessary information for detection and early warning systems for floods and drought,
- Establish and enforce appropriate buffer zones along river banks including measures to compensate for loss of lands,
- Ensure that land-use planning / building regulations are adequate and enforced in respect of waterways and flood-prone areas,
- Provide water conservation structures of adequate capacity after carrying out environmental assessments taking into account multiple uses and removing conflicts,
- Ensure rainwater-harvesting techniques are incorporated into the building code and enforced
- Ensure implementation of mitigation strategies in consultation with affected communities¹²².

It is posited that evaluating adaptation via the TAMD framework in broadly the same thematic areas, i.e. agriculture, sustainable land use and water management, through the measures detailed in the sectoral development policies and project level interventions will help not only offer a holistic

¹¹⁷ Resettlement Process Framework, Sustainable Land & Water Management Project, Ministry of Environment, Science, Technology, p iv

¹¹⁸ See Implementation Status & Results Documents, Reports No: ISR5155 / ISR6900, The World Bank (2011/12)

¹¹⁹ Proposal for Ghana, Adaptation Fund Board, Eight Meeting, 14 March 2012, page 9

¹²⁰ See Section 1.1.2 Development Issues – GPRS, MDGs, NEPAD, National Water Policy, Ministry of Water Resources, Works & Housing, p5

¹²¹ Ibid, page 20

¹²² Ibid, page 21

approach, but will also help identify antagonistic policy interplay. It should be noted, however, that further discussion with relevant stakeholders in Ghana, both within and outside of the government will be required, and the above interventions should be viewed as a recommendation only at this stage.

4) District Development Facility (DDF)

The DDF was initiated in 2009 and is set to run until 2014. The overall objective is to ensure efficient provision of basic community infrastructure and services delivery through judicious use of resources. At the moment, the Government and four development partners, CIDA, DANIDA, KfW and AfD, contribute to the fund¹²³. The facility aims to improve the local government financing mechanism, and build the capacity of Metropolitan, Municipal and District Assemblies (MMDAs) to manage their resources and better implement their mandate. Broadly speaking, the facility coordinates and harmonises government and donor initiatives targeting local government financing and capacity building, and grants districts additional financial resources.

Allocations are determined by performance after annual assessment through the Functional and Organisation Assessment Tool. The allocation formula is a flexible and open-ended revenue sharing formula, and performance is measured based on administrative, organisational and financial management quality indicators. The Facility aims to allow districts to finance their investment and maintenance projects in economic, social and environmental sectors¹²⁴.

A Manual sets out details for DDF expenditure. As a guiding principle, any expenditure from the DDF Investment Grant should as far as possible benefit the communities in the district directly, indicating that expenditure is development orientated¹²⁵. Part of the annual DDF allocation may be used for maintenance of community and social infrastructure, into which adaptation measures will clearly fall. There is also a provision that funds can be used for dwellings, non-residential buildings and other structures which allows discretion for adaptation activities¹²⁶. Crucially, there is a capacity-building component that allows expenses for training. A Government Environment and Social Impact Assessment procedure is carried out by the EPA to ensure that the project is environmentally and socially sound¹²⁷.

The local planning systems are well established in Ghana. The National Development Planning Commission has already developed planning guidelines for integrating climate change and disaster risk reduction into national development policies and planning, and there is a dedicated section on integrating these issues into the district development planning process¹²⁸. This outlines the various stages of MMDA planning, describing how climate change can be incorporated in the MMDAs plans from constructing a district profile right through to monitoring and evaluation¹²⁹. Performance of the MMDAs can already be legitimately assessed based on observance of these guidelines, and thus adaptation Performance.

¹²³ Operational Manual for the Implementation and Administration of the District Development Fund, Version 1.3, October 2012, Ministry of Local Government and Rural Development (2012), page 1

¹²⁴ See District Development facility page on Agence Française de Développement website – available at <http://www.afd.fr/lang/en/home/pays/afrique/geo-afr/ghana/projets-ghana/projet-de-dotation-des-collectivites-locales>

¹²⁵ Supra Note 194, page 8

¹²⁶ Ibid, pages 8-9

¹²⁷ Ibid, page 10

¹²⁸ Supra Note 49, Section 3.1.2, page 34

¹²⁹ Ibid

As part of its mandate, the National Development Planning Commission has translated climate change issues into planning guidelines, which are then reflected in the plans at the MMDA level. Going forward, the NCCPF is about to be approved and published. Under the policy, the National Development Planning Commission will be required to formulate proposals for the development of multi-year rolling plans, taking into consideration the resource potential and comparative advantage of each district¹³⁰. Thus, climate change adaptation measures will be cascaded down from the National Development Planning Commission, and integrated into MMDA planning.

The TAMD Framework could foreseeably complement the Functional and Organisation Assessment Tool, which is principally designed to assess performance of the MMDAs for potential DDF fund allocation. As the tool is currently used there is only one performance measure on climate change, accounting for 1 point out of a possible total of 100¹³¹. The TAMD framework could sit alongside this tool, and help to evaluate the impact of decisions taken on additional DFF allocation, and then examine the lines of attribution at each subsequent level of governance in the DFF framework¹³². Monitoring, reporting and evaluation requirements set out in the Manual¹³³. The TAMD Framework could help assess the degree to which the DDF funds are actually helping to reduce climate vulnerability at the local level i.e. directly linking fiscal decision-making with adaptation effectiveness, as opposed to an exclusive focus on possible development outputs.

6.2 Key Elements in Improvement of Climate Risk Management

Analysis in the following section is based on the World Resources Institute's (WRI) National Adaptive Capacity (NAC) framework¹³⁴, a tool which enables a systematic assessment of institutional strengths and weaknesses that may influence the success of adaptation activities, and highlights how changes in these functions may be evaluated. Ultimately the NAC framework can be used to conduct an assessment of adaptive capacity, which in turn can support the development of indicators and targets for tracking national adaptation progress and then be used in the TAMD framework. This analysis will also aid identification of capacity gaps that can be filled through investment and action¹³⁵.

1) Assessment

Adaptation will require iterative studies and investigations over time, including assessments of climate change impacts, vulnerability, risks, coping strategies, and adaptation practices. Such assessments can be an initial step towards identifying activities and options to help overcome adaptation challenges¹³⁶.

It would appear that there is ample information available in Ghana on the impacts of climate change and vulnerability. For example Chapter 2 "National Circumstances" in the second national communication to the United Nation Framework Convention for Climate Change offers a

¹³⁰ See Section 3.1, Institutions – Roles and Responsibilities, Ghana National Climate Change Policy (DRAFT), Ministry of Environment, Science & Technology, no page given

¹³¹ Functional & Organisational Assessment Tool, 5th Cycle (for 2013), Ministry of Local Government and Rural Development, p4 & xvii

¹³² Ibid – see Section 5, Institutional Arrangement for DDF Management for roles and responsibilities for each body.

¹³³ Supra Note 194 – see Section 6, Monitoring, Reporting and Evaluating, page 21

¹³⁴ See Dixit, A., et al, Ready or Not: Assessing Institutional Aspects of National Capacity for Climate Change Adaptation, World Resources Institute (2012). for a table of the institutional functions for adaptation from which this Section is adapted.

¹³⁵ Ibid, page 11

¹³⁶ Ibid, page 20

comprehensive account of the national context, development priorities and objectives that serve as the basis for addressing issues relating to climate change. The second chapter of the NCCAS “Situational Analysis” also provides a good level of detail. In addition to this there have been a number of other studies, and the GSS is responsible for the production of detailed and reliable socio-economic data via the various household surveys. From initial appraisal, it can be concluded that the various national climate change vulnerability assessments can adequately inform the development of adaptation activities, and that assessment capacity would appear relatively strong. However, ongoing assessment will be required and this should be considered in the NCCAS under the M&E Plan.

2) Prioritisation

Prioritisation entails ascribing a higher degree of importance to particular issues, geographical areas, sectors or particularly vulnerable populations¹³⁷. It would appear that Ghana is already taking positive strides in this respect. In the NCCAS, Section 3.6.1 details criteria for the selection and prioritisation of the urgent adaptation interventions that were developed during stakeholder consultation workshops. Section 3.6.2 states that a series of sectoral studies were carried out which led to the proposal of a number sectoral adaptation options, which were then subsequently whittled down by a team of sectoral experts, and subjected to qualitative and quantitative analysis to streamline the options. Also, the audit of activities for adaptation and managing climate risk management, in Sections 1.3 and 1.4 above, indicates that North Ghana is seen as a priority on account of increased climate vulnerability which is based on vulnerability and risk assessments¹³⁸.

However, as noted above in Section 1.4, adaptation activities have mainly taken place at a project level. This illustrates that funding is at a project level rather than through the national budget, with the exception of the Natural Resources and Environmental Governance Programme, where the funding is channelled through the budget via Ministry of Finance and Economic Planning¹³⁹. A possible change for future assessment could be the development of methods for including climate adaptation considerations in the development of national budgets or in the prioritisation of annual activities¹⁴⁰.

3) Coordination

Coordination of activities helps avoid duplication or omissions and can create economies of scale in responding to challenges. Coordination may be horizontal (e.g., between the different ministries such as MEST and the Ministry of Finance and Economic Planning), vertical (e.g., among national, global, and subnational actors), or among stakeholders (e.g., between government and development partners)¹⁴¹. Horizontal and vertical coordination in Ghana has posed challenges to adaptation responses. To a certain degree this can be credited to the current lack of a coherent central legislative framework for adaptation responses. Many of the initiatives have been relatively small-scale, and there is room for improvement in the coordination across sectors, ministries and regions¹⁴². Coordination of efforts becomes even more important as Ghana moves from the planning and analysis stage to increased implementation of programmes for low carbon growth and

¹³⁷ Ibid, page 22

¹³⁸ For example see 2.5 Socio-economic Structure and Climate Change, Ghana’s Second National Communication to the UNFCCC, 2011, Ministry of Environment, Science and Technology, Environmental Protection Unit, page 37

¹³⁹ Cameron C., Climate Change Financing and Aid Effectiveness, Ghana Case Study (2011), OECD/Agulhas, page 26

¹⁴⁰ Supra Note 174, page 24

¹⁴¹ Ibid, page 25

¹⁴² Supra Note 26, page 9

adaptation. The Natural Resources and Environmental Governance Programme sector budget support programme provides a good example of coordination and governance¹⁴³.

This issue has been acknowledged by the Government and the NCCPF is seeking to remedy it. “Governance and Coordination” has been detailed as one of the seven supporting pillars of the framework, and central to its success. It states that clear mandates and roles are required for different stakeholders, including the policy oversight role of the MEST, the coordination of climate finance role of the Ministry of Finance and Economic Planning, and measures to support small farmers and safeguard food security by the MoAH. It states the need to harmonise current approaches and initiatives on climate change¹⁴⁴. With respect to development partners, there is little evidence of a common forum where all donors meet with government on addressing climate change, or of a common donor framework for coordinating assistance¹⁴⁵. Again, the NCCPF may offer an opportunity to improve coordination, with MEST taking the coordinating lead.

4) Information Management

There are adequate institutional arrangements in place for the collection of information, and the M&E framework originally established under GPRS II ostensibly appears relatively well developed. There is also capacity within the GSS and the National Development Planning Commission to gather and compile relevant socio-economic information in climate sensitive sectors and for indicators of climate vulnerability. However, as discussed in Section 2.4 above, further effort is required to augment this capacity. There is also still the need for a shift from project-based approaches to a more sustainable programmatic approach to information management for adaptation. There have been efforts in this regard, for example the establishment of a central information portal, but it is not presently clear the degree to which systematic analysis, review and dissemination of climate-related information is taking place to ensure a coordinated adaptation response. There is evidence of gaps in awareness of the mechanisms of climate change amongst the public¹⁴⁶. The NCCPF may provide the impetus for a programme to raise awareness of issues and debate adaptation responses.

5) Climate Risk Reduction

The National Disaster Management Organisation is the key institution for disaster risk reduction in Ghana, and has the legal mandate for climate risk management activities across projects, in collaboration with the EPA. It would appear that both of these institutions are aware of the requirements to manage climate risks, and have, via the various projects detailed under Section 1.3, begun in earnest to undertake implementation of activities. Nevertheless, there are still hurdles to overcome. There has been a focus on strengthening overall national capacity and the capacity of National Disaster Management Organisation in the activities to date¹⁴⁷ which will be a key constraint to effective climate risk management. Implementation of projects is often contingent on external funding and as well, there is the risk of overlap and duplication in activities.

The recent Plan of Action (2011-2015) for Disaster Risk Reduction and Climate Change Adaptation seeks to offer a coordinated national framework led by National Disaster Management Organisation.

¹⁴³ Ibid, page 24

¹⁴⁴ Ghana Goes for Green Growth – National Engagement on Climate Change, Discussion Document, Government of Ghana (2010), p 13-14

¹⁴⁵ Supra Note 24, page 29

¹⁴⁶ Acquah, H., Public Awareness and Quality of Knowledge Regarding Climate Change in Ghana: A Logistical Regression Approach, Journal of Sustainable Development in Africa, Vol. 13, No. 3 (2011), page 156. See also Neville, L. & Mohammad, A., Ghana Talks Climate – The Public Understanding of Climate Change, BBC World Service Trust (2010), page 23

¹⁴⁷ Supra Note 26, page 7

This appears to be an encouraging step and may offer scope to develop an effective approach to climate risk management. However, as implementation is in its infancy it will be some time before an accurate evaluation of its efficacy can be made. The SADA Strategy and Work Plan (2010-2030) offers an opportunity to streamline activities in the Northern region, and promote greater coordination among disaster preparedness and response organisations operating in the North¹⁴⁸.

6.3 Socio-Economic Data for Assessing How Climate Adaptation Contributes to Development

The SADA Strategy is based on the premise that economic growth is the most effective means of addressing socio-economic inequality and poverty, and changes in rainfall patterns¹⁴⁹. The proposed interventions will need carefully established baselines and appropriate indicators to measure the adaptation and development outcomes. Indeed, the strategy itself acknowledges that establishment of a credible baseline prior to the start-up of the initiative is essential¹⁵⁰. The NCCAS also acknowledges the requirement to establish strategy baselines so that the selected indicators can be monitored. However, both documents are silent on where such information may be sourced.

The national M&E institutional architecture currently in place to monitor development, as described in Section 2, operates across all levels of government. It is, in spite of the perceived lack of capacity in some areas¹⁵¹, well entrenched and best positioned to provide information to enable the evaluation of the socio-economic development resulting from interventions. This is particularly true of the Annual Progress Report produced by the National Development Planning Commission, which regularly measures progress against the overall development framework, and is already utilised in development dialogue¹⁵². The report not only includes development indicators that can be used as proxies for vulnerability¹⁵³, but also specific indicators relating to the climate risk in Ghana; taken together these indicators may help paint an accurate picture of vulnerability in Ghana.

The most recent report may provide adequate information for establishing credible baselines. Particular focus areas, and their associated indicators, include¹⁵⁴:

- Improvement of agricultural productivity,
- Increase in agricultural competitiveness and enhanced integration into domestic and international markets,
- Reduction in production risks and distribution risks and bottlenecks in agriculture and industry,
- Promotion of selected crop development,
- Promotion of livestock and poultry development,
- Promotion of fisheries development,
- Improved institutional coordination within the agriculture sector,
- Mineral exploration and exploitation,
- Biodiversity,
- The maintenance and enhancement of protected areas,

¹⁴⁸ SADA Strategy and Work Plan 2010 – 2030 (Main Document), page 61

¹⁴⁹ Ibid, page 23

¹⁵⁰ Ibid, page 109

¹⁵¹ Supra Note 115

¹⁵² Ghana Shared Growth and Development Agenda (2010-2013), Policy Framework, Vol. 1, Government of Ghana, page 118

¹⁵³ Anderson, S. TAMD: A framework for assessing climate adaptation and development effects, IIED Briefing (2012), page 4

¹⁵⁴ See Chapter 4 Accelerated Agricultural Modernisation and Sustainable Natural Resource Management, The Implementation of the Ghana Shared Growth and Development Agenda (GSGDA) 2010-2013, 2010 Annual Progress Report, NDPC, page 112

- Restoration of degraded forests and land management,
- Marine ecosystems and coastal management,
- Sustainable use of wetlands and integrated water resources management,
- Waste and pollution,
- Community participation in the management of the natural resources,
- Mitigation of natural disasters and reduction of risks and vulnerability.

The Annual Progress Report recognises climate change as an area crucial to development, and there are a number of indicators specifically to measure changes in adaptation and mitigation. The indicators selected to monitor progress towards the attainment of the objectives include:

- Number of sectoral policies with environmental priorities integrated based, on the Strategic Environmental Assessment,
- Percentage of district plans with environmental priorities integrated based on SEA,
- Percentage of sectors with climate change mitigation and adaptable strategy priorities integrated,
- Number of industries using methods to assess carbon stocks using REDD concepts based on research.

Adaptation will take place against a shifting climatic and environmental baseline, and whilst this fluid baseline presents a challenge for evaluation, the Progress Report is produced yearly so may help overcome such a problem given its frequency and the fact that metrics can be normalised.

6.4 The Way Forward: A Draft TAMD Prototype

The steps to be taken as a way forward for prototype feasibility testing are outlined below under different timeframes.

Prototype Steps for February – March 2013

TAMD Steps	Potential Application in Prototype Testing
Evaluation context	<p>Further clarify and develop the evaluation frameworks for i) SADA Strategy & Work Plan 2010-2030, and ii) NCCAS, with a view to ultimately gauging the success of the interventions in the sphere of development and adaptation.</p> <p>The timing of the TAMD feasibility test is favourable as the SADA Strategy is just being rolled out, and is still to be refined. Therefore this may present the opportunity to formulate and integrate an evaluative tool to monitor and evaluate the interventions that may support adaptation to climate change.</p> <p>The NCCAS has been drafted as a central adaptation strategy, but is yet to be implemented. Integrating the TAMD framework into the NCCAS provides a possible entry point into the overarching climate change policy framework. The M&E element of the Strategy still requires further consideration and articulation, and TAMD may be considered as an aspirant evaluation tool for possible integration</p>
Theory of Change	<p>i) Identify key stakeholders involved in the drafting and ongoing refinement of SADA Strategy and NCCAS. Particularly those working on the M&E aspects of each of the interventions. Work in close collaboration with relevant personnel in MEST, EPA, NDPC and SADA.</p> <p>ii) Determine the viability of integrating a bespoke evaluation tool into each of the frameworks.</p> <p>iii) Collaboratively define parameters and schedule for baseline studies for each intervention.</p>

	<p>iv) Collaboratively establish credible baselines and determine possible Track 1 and Track 2 indicators using available socio-economic data derived principally from Annual Progress Reports.</p> <p>v) Tailor and refine framework.</p> <p>vi) Feasibility testing and roll-out of bespoke framework for each designated candidate intervention.</p> <p>vii) Ongoing monitoring and evolution of TAMD framework where necessary.</p>
Relevant Scales (global, national, regional, local)	<p>i) SADA Strategy & Work Plan 2010-2030: Regional scale - Northern Savannah as referred to in the Strategy consists of the Sudan and Guinea Savannah and excludes the derived (transitional) Coastal Savannah. The political space by the Northern Savannah includes the Upper West, Upper East, Northern, administrative regions, as well as northern parts of the Volta and Brong-Ahafo regions.</p> <p>ii) NCCAS: National scale – Ghana wide.</p>
Baselines and Type of Indicators Identified	Further investigation and assessment of quality and scope of available baseline data to establish the baseline for measurement and possible information gaps prior to feasibility testing. Time frame for baseline also determined at this stage. Analytical capacity building may also be considered at this stage.

Prototype Steps for April – June 2013

Locate Outputs, Outcomes and Impacts	Following on from the baseline studies and in collaboration with relevant stakeholders, define Track 1 and Track 2 outputs, outcomes and impacts for both SADA Strategy and the NCCAS.
Identify the type of Indicators	As a concurrent step with the one above, identify the most appropriate types of indicators that should be utilised for each intervention. This will be a mix of indicators that can be used to gauge climate vulnerability and risk before defining the exact metrics that are used. Agreement will be reached at this stage on the scale and size of the sampling for both the SADA Strategy and the NCCAS for application of Tracks 1 & 2 of the TAMD Framework.
Define the Indicators	This will be translation of high level indicators identified in the previous step, so as to define exact indicators that will be used for evaluation. It will also be desirable to construct analysis plan to measure indicators at defined time intervals e.g. before, during and after.

Prototype Steps from June 2013 Onwards

Ongoing Data Gathering	Determine the ongoing data requirements within the context of both the SADA Strategy and the NCCAS, and how these requirements can complement current M&S systems and processes.
Analysis of Track 1 and Track 2 Indicators	<p>i) Revisit original analysis plan to ensure that is still suitable.</p> <p>ii) Measure indicators at defined time intervals.</p> <p>iii) Update and evolve where necessary.</p> <p>iv) Compare with original theory of change.</p>
Disseminate Lessons	Design appropriate dissemination plan for results of TAMD prototype feasibility testing.

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Project materials

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