

... **Collymore, Little and Spence
Joint Venture**

Consultancy for Strengthening the Integration of Disaster Risk Management and
Climate Change Considerations in the Agricultural Sector

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**Assessment of Mainstreaming of Disaster
Risk Management (DRM) and Climate
Change Adaptation (CCA) Considerations in
Agriculture Sector – Draft Audit Instrument**

October 2016

Assessment of Mainstreaming of Disaster Risk Management (DRM) and Climate Change Adaptation (CCA) Considerations in Agriculture Sector

Standardized Audit Instrument

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GLOSSARY OF KEY TERMS

Alternative Financing Methods and Sources: Alternative financing methods and sources may include any of to leasing facilities, government grants, including matching grants; social impact or resilience bonds (payment for results achieved), catastrophic Insurance facility, development banks and aid organizations, foundations that may have a direct interest in some aspect of resilience, other government agencies that may have a direct interest in some aspect of resilience, development fees, public-private partnerships and taxes and surcharges.

Comprehensive Post Event Recovery Plans: These provide details related to interim arrangements managing activities and processes related to recovery from hazard impacts irrespective of magnitude. It is an ex ante activity associated with preparedness planning and establishes the framework for prioritizing and supporting the recovery process. The plan will provide guidance for sector support arrangements to payment of benefits, tax relief, credit and loan facilities, inputs and equipment support which may be required to re-ignite the sector.

Critical Administration Functions: Critical administration functions include those that directly affect agriculture and related activities. Examples are the payment of food-stamps or unemployment benefit, reporting of damage and losses to the sector after the disaster, social safety net programmes for the poor and agricultural extension services.

Critical assets: Agricultural equipment, facilities, infrastructure or computer systems/data that are vital to the routine functioning of the sector and in times of crisis. Whilst identification of critical assets is required it is equally important to establish the links among them and the associated sequential or consequential failures that may result from the breakages in these links. The result is called a “failure chain” which is a set of linked failures spanning critical assets in multiple infrastructure systems in the sector.

Ecosystem Services: The direct and indirect contributions of ecosystems to human well-being. These services support directly or indirectly the survival and quality of human life by **provisioning services** such as food, fresh water, wood, fiber, genetic resources and medicines; **regulating** processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control; **providing a habitat** for migratory species and to maintain the viability of gene-pools; and **providing** spiritual enrichment, intellectual development, recreation and aesthetic values.

Exposure: may be thought of as who or what (people, land, ecosystems, crops, livestock, fisheries, forestry, assets, infrastructure, economic activity) is potentially in harm’s way as a result of a hazard.

Farmer/agribusiness Output at Risk Measured in Financial Terms: This assessment includes loses to farmer/ agribusiness being forced to relocate elsewhere, even if only temporarily, due to loss of lands or facilities, loss of markets, loss of or loss of workforce through inability to reach their place of work. Loss is for six months or longer.

Grassroots Organizations: Entities established by the people in given districts as the basis for political or economic empowerment. They utilize collective action from the local level to effect change at the local, regional, national, or international level. Grassroots movements are associated with bottom-up, rather than top-down decision making, and are sometimes considered more natural or spontaneous than more traditional power structures. They may include those established specifically for disaster resilience management (e.g agricultural community emergency response organizations) and those serving some other purpose but willing and able to play a disaster resilience role (e.g churches, business round tables, youth organizations, food kitchens, neighbourhood watch, day centers and so on). Grassroots organizations are usually willing and able to contribute to disaster resilience plans for their area based on the input of their members.

Hazards: Potentially damaging events, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation (UNISDR 2004). Caribbean countries are faced with specific hazards such as storm, hurricane, drought, earthquake, flood, fire, biological, etc. Hazards may be identified from probability distributions, specifically conducted for the purpose of assessing disaster resilience and to inform planning and implementation of DRM and CCA measures.



Impact of Land Zoning on Agriculture Land at Risk: This assessment is intended to focus on arable agricultural land suitable for production. Loss is for at least six months.

Population Displaced: A measure of the number of persons who are physically or socially disconnected, from their communities or livelihoods as a consequence of farm, including farm structures being destroyed or rendered uninhabitable, or the area in which it is located being rendered impassable. This assessment also covers informal backyard gardens.

Physical Contributions: Refer to the inventory of plant and equipment, people, premises and accommodation, supplies, data, computer systems, available to the agricultural sector. These may be provided by the Ministry of Agriculture and supplemented by other government agencies or from private sector organizations and civil society.

Risk: This is the probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environmentally damaged) resulting from interactions between natural or human induced hazards and vulnerable conditions” (ISDR). Additionally, risk is also affected by a persons or community’s capacity to cope.

Risks vs Vulnerability: Risk deals with the probability of occurrence of and consequence of hazards while vulnerability deals with the elements (physical, social/political, economic, and cultural) which can affect this probability by either increasing or decreasing it.

Scenario analysis: Scenarios are comprehensive pictures of the total impact of the hazards across all agricultural communities and all aspects of the sector. Scenario analysis presents an approach to address event probability uncertainties and analyse probability distribution of an event and construct scenarios. In this context: “most probable” would be at the midpoint of the probability range of hazards that need to be addressed and “most severe” would be from the top 10% of the probability range.

Single Point of Coordination: May be a person, or a group or committee (with subgroups or committees as appropriate). It will coordinate the relevant activities of DRM and CCA integration within the agriculture sector.

Sustainable Farm Building Design Solutions: These are interventions that can improve the functional and structural performance of facilities of the farm. These may include soak-a-ways and porous pavement used to deal with storm-water runoff and replenish ground water; green roofs to help cool buildings and reduce storm run-off and trees and greenery to reduce heat effects or stabilize hillsides.

Systems of Engagement: Term given to mobile device/social media and e-mail-based systems to pass information to farmers/fisher-folks and also to capture information from them. They are usually paired with “systems of record” which are back-office and enterprise systems (such as the emergency management system).

Update process: Involves a thorough, orderly, and systematic approach to the periodic updates of hazard, exposure and vulnerability estimates driven by expected changes in land use, population and economic activity patterns as the sector grows. It is a key requirement of the disaster risk management by ensuring frequent and complete updates of scenarios. Updates address issues such as hazard patterns, agri-businesses, sector infrastructure and facilities, including critical assets and failure chains, critical computer systems and data and ecosystems services.

Vulnerability: Conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community of the impact of hazards (UNISDR 2004)



SECTION 1: GOVERNANCE

Institutional and technical capacities for climate change adaptation (CCA) and disaster risk management (DRM) in Planning and Policy Frameworks and Coordination Mechanisms at all levels of the Agriculture Sector

Objective: To assess the institutional mechanisms within MOA for coordinating climate change and disaster risk management activities related to the agricultural sector and the efficiency and effectiveness of the coordination process with other agencies.

Purpose: To ensure clear vision, plans, competence and coordination within the agriculture sector and across other relevant sectors are in place, that foster collaboration among institutions in the implementation of disaster risk management and climate change adaptation measures

Data Required: Organization charts; lists of organizations, MOU and role description of each; names of key individuals involved; meeting minutes and actions of the organization concerned; a list of information and data available to reach each stakeholders; training curricula; courses conducted and training records for those trained; and survey and market research data on effectiveness.

SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
1.0 GOVERNANCE				
1. 1 National Integrated Framework for DRM and CCA	1.1.1 Co-ordination of all relevant pre-event planning and preparation, event response and post-event activities, with clarity of roles and responsibilities across all relevant organizations	Presence of the organizational chart documenting the structure and role definitions at each relevant agency to achieve a single point of coordination. Structure agreed and preferably signed off by all participants via MOU or similar instruments	5 – Single point of coordination exists with agreed roles and responsibilities	
			4 - Single point exists, but with some minor exceptions	
			3 – Single point exists in principle, but with some major omissions, or lack of agreement on some major areas.	
			2 – Initial steps taken to create a single point of coordination	
			1 – No single point exists, but plans exist to create one	
			0 – No single point exists and no plans to create one	
	1.1.2 Participation and collaboration of all relevant organizations in the structure(s) defined	Level of participation and collaboration achieved	5 – Effective participation and collaboration of all relevant agencies, private and public, in pre-event, event response and post event activities	
			4 – Effective participation and collaboration, but with some minor exceptions	
			3 – Participation and collaboration exist, but with significant gaps in participation or failing to resolve some overlap, duplications, etc.	



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			<p>2 – Some participation and collaboration, perhaps between pairs of agencies, but not universal. Subject receiving significant attention, however.</p> <p>1 – Intent exists to improve participation and collaboration, but so far no impact</p> <p>0 – Level of participation and collaboration is poor and no intent to improve it</p>	
	1.1.3 Co-option of physical contributions by both public and private sectors	Identification of physical contributions for each major organization (plant and equipment, premises and accommodation, supply, data, computer, etc)	<p>5 – All key contributions fully defined for pre-event, event and post-event, underwritten by MOUs</p> <p>4 – Most key contributions defined – some minor gaps in the coverage. MOUs may not exist</p> <p>3 – Some contributions formally defined, but the full leverage of private sector yet to be achieved</p> <p>2 – One or two contributions defined for specific areas – perhaps via informal agreements</p> <p>1 – Plans being developed to seek contributions</p> <p>0 – No private sector contribution defined</p>	
1.2 Alignment of Agricultural Development Planning to National DRM and CCA Frameworks	1.2.1 Extent to which any agricultural sector proposal in government is also evaluated for disaster resilience benefits or impairments at the national level	Existence of proposal appraisal and approval processes where disaster resilience benefits, or impairment of agriculture sector initiatives are identified and factored into national DRM and CCA development agenda.	<p>5 – Explicit appraisal and approval processes exist through the application of disaster resilience cost/benefit analyses of all agricultural proposals in all relevant functional areas to determine alignment to national agenda</p> <p>4 – Explicit or semi-explicit appraisal and approval processes exist through the application of disaster resilience cost/benefit analyses in most cases and in most functional areas</p> <p>3 – No formal proposal appraisal and approval processes exist for disaster resilience cost/benefit analyses. However, disaster resilience benefits of most proposals are generally understood to be helpful to a national DRM/CCA efforts, in most functional areas</p> <p>2 – No formal proposal appraisal and approval processes exist for disaster resilience cost/benefit analyses. However, some crude form of disaster resilience cost/benefit analyses are conducted in functional areas where it is obvious that the agricultural proposals would impair national disaster</p>	



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			<p>resilience</p> <p>1 – No formal proposal appraisal and approval processes exist for disaster resilience cost/benefit analyses of agricultural proposals. Some crude process of evaluation applied occasionally in ad hoc manner after the interventions have started</p> <p>0 – No formal proposal appraisal and approval processes exist nor applied for disaster resilience cost/benefit analyses of agricultural proposals</p>	
1.3 Internal mechanism for information exchange, collaboration and cooperation with national focal points for CCA and DRM	1.3.1 Extent to which data on Agriculture Sector's resilience position is shared with all stakeholders (including the general public) involved with the sector's resilience	Availability of a single integrated set of resilience data for stakeholders, including collaborators,, farmers, fisherfolks, community organizations and the general public.	<p>5 – Single integrated set of information on DRM and CCA available and fully shared with other organizations</p> <p>4 – Some minor gaps, or the information is in more than one place – but it is shared and it is at least linked to enable navigation</p> <p>3 – Some more significant gaps, for example on readiness; other organizations may have to search around to create a complete picture for themselves</p> <p>2 – Some significant information on readiness and risk is withheld from other organizations or is missing and/or badly fragmented across multiple websites</p> <p>1 – Information provision to other organizations on readiness and risk is rudimentary at best. Not possible for those organizations to derive specific conclusions for themselves</p> <p>0 – No information</p>	
1.4 Institutional Capacity for DRM and CCA for the Integration and Management of DRM and CCA issues in Agriculture.	1.4.1 Availability of skills and experience related to DRM and CCA in agriculture - risk assessment and evaluation, adaptation and reduction tools, preparedness and recovery planning	Known availability of key skills, experience and knowledge within or outside the Ministry of Agriculture, for agriculture sector risk assessment and evaluation, adaptation and reduction tools, preparedness and recovery planning.	<p>5 – Skills inventory carried out in last year and all key skills and experience are available in the required quantities for all organizations relevant to agriculture sector disaster resilience.</p> <p>4 – Inventory carried out- shows minor gaps in quantity or skill type in some organizations</p> <p>3 – Inventory carried out, but each organization has at least one skill or experience type in short supply</p> <p>2 – Inventory may not have complete coverage, but known widespread lack of multiple skill or experience types in many organizations</p> <p>1 – Rudimentary and partial inventory. Skill sets across the</p>	



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			sector generally very low and limited. 0 – No inventory	
	1.4.2 Mechanisms for strengthening capacity of units and departments to undertake MOA mandates in DRM and CCA	Existence of a programme for assessing the knowledge and skill sets for the MOA to pursue a DRM and CCA mandates and to ensure that there is a system for addressing gaps	5 – Programme for assessing the knowledge and skill sets for the MOA to pursue a DRM and CCA mandates and to ensure that there is a system for addressing gaps exists, is proven to the most adequate and thorough, and accepted by all relevant agencies 4 - Programme for assessing the knowledge and skill sets for the MOA to pursue a DRM and CCA mandates and to ensure that there is a system for addressing gaps exists, but with some minor deficiencies in content and coverage 3 – Programme for assessing the knowledge and skill sets for the MOA to pursue a DRM and CCA mandates and to ensure that there is a system for addressing gaps exists, but with at least 1 major omission in terms of content and thoroughness, or related agencies buy-in is limited 2 – Programme for assessing the knowledge and skill sets for the MOA to pursue a DRM and CCA mandates and to ensure that there is a system for addressing gaps exists, but has some major flaws to the point where overall value is limited or it has become significantly obsolete 1 – Programme for assessing the knowledge and skill sets for the MOA to pursue a DRM and CCA mandates and to ensure that there is a system for addressing gaps is rudimentary at best 0 - No Programme exists	
	1.4.3 Guidelines for integrating DRM and CCA into agriculture sector value chain programmes at all levels	Existence of guidelines for the identification and adoption of best practices for DRM and CCA integration into the sector	5 – Guidelines for best practices identification and adoption for DRM and CCA integration into the sector exist, is proven to the most adequate and thorough, and are accepted by all relevant agencies 4 - Guidelines for best practices identification and adoption of DRM and CCA integration into the sector exist, but with some minor flaws in content and coverage 3 – Guidelines for best practices identification and adoption for DRM and CCA integration into the sector exist, but with at least 1 major omission in terms of content and	



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			<p>thoroughness, or related agencies buy-in is limited</p> <p>2 – Guidelines for best practices identification and adoption for DRM and CCA integration into the sector exist, but has some major flaws to the point where overall value is limited or it has become significantly obsolete</p> <p>1 – Guidelines for best practices identification and adoption for DRM and CCA integration into the sector are rudimentary at best</p> <p>0 - No Guidelines exist</p>	
	1.4.4 Efforts taken to learn from what other sectors and countries do to enhance the integration of DRM and CCA measures in the sector. increase resilience	Learning activities executed with other sectors and other countries	<p>5 – Regular exchanges with other sectors and countries, specifically to share, understand and capture resilience best practices, issues, responses. Supplemented by regular peer-to-peer contacts with practitioners in other organizations.</p> <p>4 – Regular exchanges but may be in the context of other meetings with sharing of best practices as a side-effect. Outcomes are captured and some impact may be identified on how the sector prepares for disasters</p> <p>3 – Reliance only on networking by individual practitioners in the organization with their peers in other organizations. These can be frequent, and there will be some attempt to capture and implement learning.</p> <p>2 – Occasional exchanges of a more one-off or ad hoc nature. Impact on/benefit of the sector is diffuse and harder to identify</p> <p>1 – Even networking is limited and learning potential is therefore also limited</p> <p>0 – No attempt to learn from others</p>	
	1.4.5 Research on DRM and CCA structured	Existence of a programme for linking research on DRM and CCA to crops, livestock and fisheries extension, land use and forestry	<p>5 – Programme for linking research on DRM and CCA to crops, livestock and fisheries extension, land use and forestry exists, is proven to be most adequate and thorough, and are accepted by all relevant agencies</p> <p>4 - Programme for linking research on DRM and CCA to crops, livestock and fisheries extension, land use and forestry exist, but with some minor flaws in content and coverage</p> <p>3 – Programme for linking research on DRM and CCA to crops, livestock and fisheries extension, land use and forestry</p>	



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			<p>exists, but with at least 1 major omission in terms of content and thoroughness, or related agencies buy-in is limited</p> <p>2 – Programme for linking research on DRM and CCA to crops, livestock and fisheries extension, land use and forestry exists, but has some major flaws to the point where overall value is limited or it has become significantly obsolete</p> <p>1 – Programme for linking research on DRM and CCA to crops, livestock and fisheries extension, land use and forestry is rudimentary at best</p> <p>0 - No Programme exists</p>	
	1.4.6 Enhanced legislative framework to support DRM and CCA in agriculture	Existence of enhanced agriculture related legislative framework to support DRM and CCA in Agriculture	<p>5 – Updated agriculture related legislative framework to support DRM and CCA in Agriculture in place and fully operational</p> <p>4 - Updated agriculture related legislative framework to support DRM and CCA in Agriculture in place and fully operational, but with some minor deficiencies in content and coverage</p> <p>3 – UpdatedEnhanced agriculture related legislative framework to support DRM and CCA in Agriculture in place, but with major omission in terms of content and thoroughness, or related agencies buy-in is limited</p> <p>2 – Updated agriculture related legislative framework to support DRM and CCA in Agriculture in place, but has some major deficiencies to the point where overall value is limited</p> <p>1 – Agriculture related legislative framework to support DRM and CCA in place, but is currently outdated</p> <p>0 - No agriculture related legislative framework to support DRM and CCA in Agriculture exists</p>	



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	1.4.7 Exposure of the public to education and awareness materials /messaging	Coordinated public relations and education campaign exists, with structured messaging, channels and delivery	<p>5 –Systematic, structured campaign exists using at least 6 of the bracketed media (print, school and college teaching material, TV, radio, Web, mobile posters), via farmers organizations and community mobilization and schools outreach</p> <p>4 – Campaign uses at least 5 of the media/channels above, including 1 of community mobilization and schools outreach</p> <p>3 – Campaign uses at least 4 of the media/channels above; also weighted to least informative such as radio and poster ads</p> <p>2 – Campaign uses 3 of the media/channels above; also weighted to least informative such as radio and poster ads.</p> <p>1 – Ad hoc – no structured education and awareness campaign as such</p> <p>0 – No education work.</p>	
	1.4.8 Validation of effectiveness of education	Knowledge of hazards, vulnerability, risks and of key response and preparation steps is widespread throughout the sector based on a stratified random sample of registered farmers, fisherfolks, agro-processors, input suppliers and marketers of outputs	<p>5 – Knowledge of hazards, vulnerability and risks, and applicable response and preparation, appears to be generally known by >90% of the farming, fishing, agro-industrial and agri- commercial communities</p> <p>4 – Knowledge of hazards, vulnerability and risks, and applicable response and preparation, appears to be generally known by 75-89% of the sector stakeholders</p> <p>3 – Knowledge of hazards, vulnerability and risks, and applicable response and preparation, appears to be generally known by 50-74%of the sector stakeholders</p> <p>2 – Knowledge of hazards, vulnerability and risks, and applicable response and preparation, appears to be generally known by 25-49%of the sector stakeholders</p> <p>1 – Knowledge of hazards, vulnerability and risks, and</p>	



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			<p>applicable response and preparation, appears to be generally known by 10-24% of the sector stakeholders</p> <p>0 – Knowledge of hazards, vulnerability and risks, and applicable response and preparation, appears to be generally known by <10% of the sector stakeholders</p>	
	1.4.9 Availability, take-up of training in CCA and DRM considerations related to agriculture	Training offered and available to the entire agriculture sector population, including farmers, fisherfolks, agro-processors, input suppliers and marketers of outputs	<p>5 – Full updated training curriculum is available for all, derived from known or anticipated needs</p> <p>4 – Full updated training curriculum is available but not fully known about</p> <p>3 – Training curriculum available, but has some gaps and may not be fully deployed across the agriculture sector</p> <p>2 – Ad hoc training classes address some issues for some area of the agriculture sector</p> <p>1 – Material is known to be dated or inaccurate and not in the process of being updated</p> <p>0 – No training</p>	



SECTION 2: RISK ASSESSMENT AND MONITORING

Assessing and monitoring risks (current and future) and vulnerabilities, and enhance early warning systems for proactive climate risk management and adaptation to climate change

Objective: To improve disaster risk management, including climate, risks and vulnerability assessment tools and methods, hazard information products and early warning systems and to apply these measures to the needs of farmers and other agricultural stakeholders.

Purpose: To ensure that policies and practices for DRM and CCA in all its dimensions (vulnerability, capacity, exposure of persons and assets and hazards characteristics) within agriculture are based on the use of best available methodologies and that such knowledge can be leveraged for the purpose of pre-disaster risk assessment, prevention and mitigation and for the development and implementation of appropriate preparedness and effective response for to disasters.

Data Required: Documentation of hazards, exposures and vulnerabilities; identification of critical agricultural assets and dependencies between these.

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2.0 Assessing and monitoring risks and vulnerabilities, and enhance early warning systems				
2.1 Risk Assessment	2.1.1 Knowledge of the most prevalent hazards (perils) that the sector faces and their likelihood (the likelihood of impact)	Existence of recent, expert reviewed estimates of the probability of occurrence of known hazards	5 – Comprehensive estimates exist, were updated in the last 5 years and reviewed by a 3 rd party. “	
			4 – Estimates exist, but have minor shortcomings in terms of when updated, level of review, or level of acceptance	
			3 – Estimates exist, but with more significant shortcomings in terms of when updated, level of review or acceptance	
			2 – Some estimates exist but are not comprehensive; or are comprehensive but more than 5 years old; or are not reviewed by a 3 rd party.	
			1 – Only a generalized notion of hazards exist, with no attempt systematically to identify probability of occurrence	
			0 – No estimates of probability of known hazards exist	
	2.1.2 Knowledge of exposure and vulnerability	Existence of timely updated scenarios(current and future) setting out sector-wide exposure and vulnerability from each	5 – Comprehensive scenarios exist sector-wide, for the “most severe: and “most probable” incidence of each hazard, based on timely updates and reviews of a 3 rd party.	
			4 – Scenarios have minor shortcomings in terms of coverage, when updated, level of thoroughness of review	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
		hazard level, and include estimates of losses based on empirical data, where available, or experts reviewed estimates of probable impact.	3 – Scenarios have significant shortcomings in terms of coverage, when updated, level of review thoroughness	
			2 – Partial scenarios exist but are not comprehensive or complete; and/or are outdated; and/or are not reviewed by a 3 rd party.	
			1 – Only a generalized notion of exposure and vulnerability, with no attempt systematically to identify impacts	
			0 – No risk assessment	
	2.1.3 Process ensuring frequent and complete updates of scenarios	Existence of a process agreed between all relevant agencies to update hazard estimates and exposure and vulnerability assessments and asset inventory on a timely basis.	5 – Update processes exist, are proven to work at required frequency and thoroughness, and are accepted by all relevant agencies	
			4 – Processes exist with some minor flaws in coverage, date slippage or less important agencies being bought in	
			3 – Processes exist, but with at least 1 major omission in terms of frequency, thoroughness or agency buy-in. Risk identification may be compromised in some areas, accordingly	
			2 – Processes exist, but have major shortcomings in the frequency of updates and the buy-in of agencies to the point where overall value is impaired and original risk assessments are becoming significantly obsolete	
			1 – Processes are in elementary stages of formulation and therefore are rudimentary at best	
			0 – No processes exist to ensure frequent and complete updates of scenarios	
	2.1.4 Establishing the inventory of critical assets and the linkages between them	All critical agricultural related assets within and outside the sector are identified and their relationships established.. This is utilized to frame ADRM plans and prioritized and also to Build Back Better (BBB)	5 – Critical agriculture and agriculture related assets are identified, documented and systematically linked into applicable failure chains. The sector has a well documented recovery and rehabilitation strategy that prioritizes BBB actions	
			4 – Critical assets and failure chains are generally identified with some minor gaps and omissions. A recovery and rehabilitation strategy exists, but it is not properly documented	
3 – Critical assets and failure chains identified but prioritized BBB actions are not properly defined or documented in a recovery and rehabilitation strategy				
2 – Critical assets are identified but failure chains are not. Initial consideration has been given to prioritizing BBB actions.				



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		actions.	<p>1 –Initial work has been started to identify critical assets but significant gaps exist.. No recovery and rehabilitation strategy has been defined to guide prioritization of BBB actions.</p> <p>0 –Critical assets and failure systems are not identified</p>	
	2.1.5 National standards (and tool/ methodology) for structural vulnerability assessment (VA)	Application at the agriculture sector level of national standards (and tool/ methodology) for structural vulnerability assessment (VA)	<p>5 – Comprehensive national standards (tool/methodology) for structural vulnerability assessment (VA) exist and applied fully at the sector level</p> <p>4 – National standards (and tool/ methodology) for structural vulnerability assessment (VA) exist and applied at the sector level, but with some minor omissions of content or detail, perhaps eg. because an update is due.</p> <p>3 – National standards (and tool/ methodology) for structural vulnerability assessment (VA) exist, but with more significant omissions or known inaccuracies for application to agriculture</p> <p>2 – National standards (and tool/ methodology) for structural vulnerability assessment (VA) are partial in coverage and are currently of little relevance to the agriculture sector</p> <p>1 – National standards (and tool/ methodology) for structural vulnerability assessment (VA) are old, incomplete and known to be unsound for application to the agriculture sector</p> <p>0 – No standards exist</p>	
	2.1.6 Hazards maps	Presence and use of hazard maps for planning and decision making.	<p>5 – Fully comprehensive, detailed and up to date hazard maps exist for the entire sector, covering perils, assets and farming population at risk, and are known to be accurate. These are fully used and consistently updated or upgraded.</p> <p>4 – Hazard maps exist for the entire sector, but with some minor omissions of content or detail, perhaps because an update is due. These are fully used.</p> <p>3 – Hazard maps exist, but with more significant omissions or known inaccuracies. Utilized , but more is needed.</p> <p>2 – Hazard maps are partial in coverage and fragmented: - exposure and vulnerability data for key assets or farming areas in particular may be entirely lacking.Limited utility for planning and decision making</p> <p>1 – Hazard maps are old, incomplete and known to be unsound as a basis for decision making. Not utilized for planning or decision making</p> <p>0 – No maps</p>	



SECTION 3: FINANCIAL CAPACITY

Assessing the Financial Capacity for the Identification, Development and Implementation of Disaster Risk Management and Climate Change Adaptation activities in the Agriculture Sector

- Objective:** To assess the adequacy of allocation of the necessary and sufficient resources, including finance and logistics, as appropriate, for the development and implementation of DRM and CCA strategies, policies, plans, laws and regulations at the agriculture and related sector levels.
- Purpose:** To ensure clear understanding of the economic impact of disasters on the agriculture sector and that financial resources and measures must be identified, developed and implemented to save lives, prevent and reduce agricultural damage and losses and ensure effective recovery and rehabilitation.
- Data Required:** Budgets and capital plan documentation; public and private sector agriculture DRM and CCA initiatives; documentation of any incentives or financing schemes (for example for slope management on agricultural lands) with disaster resilience impact; and risk transfer mechanisms within the agriculture sector, such as insurance coverage.

SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
3.0 Assessing the Financial Capacity for the Development and Implementation of Disaster Risk Management and Climate Change Adaptation activities in the Agriculture Sector				
3.1 Financial Plan and Budget for Resilience	3.1.1 Adequacy of financial planning for prioritized actions necessary for disaster resilience	Presence of financial plan(s) with a reasoned set of priorities, based on disaster resilience impact achieved and keyed to “most severe” and “most probable” scenarios in the sector Priorities for disaster resilience investment are clear and are outlined into planning cycle that integrates spending by all key stakeholders	5 – Comprehensive long term financial plan exists, and is based on a coherent sector-wide set of priorities that covers all identified needs, is argued coherently and assembled into a coherent set of 5 year plans.	
			4 – Only a single 5 year financial plan exists, which is based on a set of priorities and plans, but with minor omissions and inconsistencies.	
			3 – Financial plan exists, may or may not be longer than 5 years and may have some gaps and inconsistencies.	
			2 – Multiple financial plans from different agencies exist, that are poorly coordinated and it is unclear whether they are consistent or will together deliver the required disaster resilience	
			1 – Financial plans from various agencies exist, but with substantial gaps	
			0 – No prioritization of spending, if any, is haphazard. No plan	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
3.2 Contingency Funds	3.2.1 Contingency fund for post disaster recovery (may be referred to as a “rainy – day fund”).	Existence of fund(s) capable of dealing with estimated impacts from “most severe” scenario in the sector Degree of protection of contingency fund (s) from being taken away to be used for other purposes	5 – Contingency fund exists to address impacts from “most probable” scenario, is 100% adequate and utilized for intended purpose.	
			4 – Fund exists, is 75-99% adequate and utilized for intended purpose.	
			3 – Fund exists, is 50-74% adequate, but may be liable to funds being diverted for other purposes	
			2 – Fund exists, is 25-49% adequate, but may be liable to funds being diverted for other purposes	
			1 – Funds exist, is only 0-24% adequate, and routinely diverted for other purposes	
			0 – No fund	
3.3 Incentives and Financing (Credit) for Agribusinesses, Farmers, Fisherfolks, Agro-processors and related Support Organizations	3.3.1 Assistance with achieving disaster resilience in the agriculture sector	Existence of incentives and affordable financing (credit) to help farmers, fisher-folks and agro-processors and related support organizations to deal with preparedness and recovery based on “most severe” scenario	5 – Incentives/financing exist to address all known issues, for all segments of the agriculture sector	
			4 – Incentives/financing exist to address most of the segments of the agriculture sector population, with minor gaps in coverage issues	
			3 – Incentives/financing exist to address most of the segments of the agriculture sector population, but gaps in issue coverage exist.	
			2 – Incentives exist for some issues, but coverage gaps exist for some segments of the agriculture sector population	
			1 – Significant weakness in coverage of the sector, coverage of issues or in level of adequacy	
			0 – No incentives	
3.4. Agricultural Insurance and other risk transfer mechanisms /instruments	3.3.2 Use of agricultural insurance and other risk transfer instruments	Existence of agricultural insurance and other risk transfer mechanisms/instruments	5 – 75-100% of likely agriculture sector losses from “most severe” scenario are covered sector-wide by insurance and other risk transfer mechanisms/instruments	
			4 – 75-100% of likely losses from “most probable” scenario are covered sector-wide by insurance and other risk transfer mechanisms/instruments	
			3 – 50-75% of likely losses from “most probable” scenario are covered sector-wide by insurance and other risk transfer mechanisms/instruments	
			2 – 25-50% of likely losses from “most probable” scenario are covered sector-wide by insurance and other risk transfer mechanisms/instruments	
			1 – 0-25% of likely losses from “most probable” scenario are covered sector-wide by insurance and other risk transfer mechanisms/instruments	
			0 – No coverage	
3.5 General mobilization of	3.4.1 Pursuit of all possible methods of	Where the sector has outstanding resilience	5 – Sector has a systematic inventory of financing methods and all potential sources of funds for different resilience expenditures, and a strategy for using them in ways that complements its own resources	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
Financing for Agriculture CCA and DRM expenditures	financing and funding, as required	expenditure needs – the extent to which it has pursued all possible financing strategies and funding sources	4 –Sector knows of many funding methods but use is not systematic or part of an overall strategy	
			3 – Sector has a good range of funding sources and financing methods but use is adhoc – some opportunities may be missed or sometimes external funds duplicate internal activity.	
			2 – Sector knows of some funding sources and alternative financing strategies, uses these occasionally, but some needed expenditures are not made even if funds are available	
			1 – Sector just begun to explore alternative financing methods and funding sources	
			0 – No exploration of financing methods and funding sources	



SECTION 4: RISK REDUCTION

Reducing hazards, including climate related risks and underlying vulnerabilities in crop, livestock, fishery, and forestry sub-sectors.

Objective: To implement and disseminate a range of best practices for increasing resilience against impacts of climate change and other natural hazards.

Purpose: To facilitate long term adaptation processes and related technology development and transfer for enhancing the agriculture sector resilience to disaster and climate change, especially in the most vulnerable sub-sectors and communities.

Data Required: Land use, population, income levels and economic activity by sub-sectors; guidelines for farming in hazard prone areas; relevant farm building codes and their application; a portfolio of crops and livestock species and of integrated production systems more resistant to climate related risks; and a list of post harvest technologies and practices to proactively manage climate related risks.

SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
4.0 Reducing hazards, including climate related risks and underlying vulnerabilities in crop, livestock, fishery, and forestry sub-sectors				
4.1 Land use – effectiveness of land zoning in preventing exposure and losses in the crops, livestock, fisheries and forestry sub-sectors	4.1.1 Impact of land zoning on agriculture land at risk	% Agricultural land at risk based on the extent to which land zoning is applied	5 – No loss of agricultural lands expected from “least probable” (most severe) scenario based on % agricultural land at risk	
			4 – No loss of agricultural lands expected from “most probable” scenario based on % agricultural land at risk	
			3 – <3.0% loss of agricultural lands expected from “most probable” scenario based on % agricultural land at risk	
			2 – 3.0- 5.9% loss of agricultural lands expected from “most probable” scenario based on % agricultural land at risk	
			1 –6.0-8,9% loss of agricultural lands expected from “most probable” scenario based on % agricultural land at risk	
			0 – >9,0% loss of agricultural lands expected from “most probable” scenario based on % agricultural land at risk	
	4.1.2 Impact of land zoning on agribusiness economic activities at risk, including output and employment	% of employment at risk based on the extent to which land zoning is applied	5 – No loss of employment expected from “most severe” scenario based on economic activities and related employment at risk	
			4 – No loss of employment expected from “most probable” scenario based on economic activities and related employment at risk	
			3 – <10% loss of employment expected from “most probable” scenario based on economic activities and related employment at risk	
			2 – 10-20% loss of employment expected from “most probable” scenario based on economic activities and related employment at risk	
			1 – 21-30% loss of employment expected from “most probable” scenario based on economic activities and related employment at risk.	
			0 – >30% loss of employment expected from “most probable” scenario	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			based on economic activities and related employment at risk.	
		% of farmers and other agribusinesses output at risk based on the extent to which land zoning is applied	<p>5 – No loss of farmers/fishermen and other agribusinesses output expected from “least probable” (most severe) scenario based on economic activities and related production output at risk</p> <p>4 – No loss of farmers/fishermen and other agribusinesses output expected from “most probable” scenario based on economic activities and related production output at risk</p> <p>3 – <15% loss of farmers/fishermen and other agribusinesses output from “most probable” scenario based on economic activities and related production output at risk</p> <p>2 – 15-29% loss of farmers/fishermen and other agribusinesses output from “most probable” scenario</p> <p>1 – 30-44% loss of farmers/fishermens and other agribusinesses output from “most probable” scenario based on economic activities and related production output at risk</p> <p>0 – >45% loss of farmers/fishermen and other agribusinesses output from “most probable” scenario based on economic activities and related production output at risk</p>	
	4.1.3 Impact of land zoning on potential agricultural population at risk of displacement	% Farming and fishing population at risk of displacement based on the extent to which land zoning is applied	<p>5 – No displacement of farming and fishing population expected from “least probable” (most severe) scenario based on population at risk</p> <p>4 – No displacement of farming and fishing population expected from “most probable” scenario based on population at risk</p> <p>3 – <5% displacement of the farming and fishing population expected from “most probable” scenario based on population at risk</p> <p>2 – 5-10% displacement of the farming and fishing population expected from “most probable” scenario based on population at risk</p> <p>1 – 11-15% displacement of the farming and fishing population expected from “most probable” scenario based on population at risk</p> <p>0 – >15% displacement of the farming and fishing population expected from “most probable” scenario based on population at risk</p>	
4.2 Building codes, standards and designs for farm buildings to enhance the resilience of farm	4.2.1 Existence of farm building codes designed to address risk to physical farm structures	Existence of applicable codes for all building structures and assets	<p>5 – Codes exist that, if applied, will ensure zero damage to building structures and assets from “least probable/most severe” scenario</p> <p>4 – Codes exist that, if applied, will ensure zero damage to building structures and assets from “most probable” scenario</p> <p>3 – Codes exist that, if applied, will ensure <5% damage to all building structures and assets from the “most probable” scenario</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE	
structures			2 – Codes exist that, if applied, will result in between 5-10% damage to all building structures and assets from the “most probable” scenario		
			1 – Codes exist that, if applied, will result in between 10-20% damage to all building structures and assets from the “most probable” scenario		
			0 – Codes exist that, if applied, will result in >20% damage to all physical structures and assets in the “most probable” scenario		
	4.2.2 Application of farm building codes	Implementation of farm building codes for relevant structures		5 – Codes are 100% implemented on applicable structures	
				4 – Codes are 85-99% implemented on applicable structures	
				3 - Codes are 70-84% implemented on applicable structures	
				2 - Codes are 55-69% implemented on applicable structures	
				1 - Codes are 40-54% implemented on applicable structures	
	0 – Codes are <40% implemented on applicable structures				
	4.2.3 Updates of building codes to confirm to the latest standards and building practices and with peril faced	Conformity of statutory codes with the latest standards in farm building practice and with peril faced		5 – Codes are/ will be reviewed for suitability for “most severe” scenario and updated every 5 years or less. They embody the latest standards in farm building practice	
				4 – Codes are or will be reviewed for suitability for “most probable” scenario every 10 years. May not embody the very latest standards in farm building practice	
				3 – Codes are or will be reviewed for suitability for “most probable” scenario every 10 years. They probably do not embody the very latest standards in farm building practice	
				2 – Codes are or will be reviewed for suitability for “most probable” scenario every 15 years. They own to be obsolete in significant respects	
				1 – Codes exist, but are not reviewed at all, and there are no plans for this. They are wholly obsolete	
				0 – No codes	
4.2.4 Sustainable farm building design solutions and standards	Use of innovative sustainable farm building design solutions and standardsto improve resilience		5 – Systematic use of innovative innovative sustainable building design solutions and standards for over 80% of all new farm buildings or retrofit, enforced by codes. Assumed to be the norm.		
			4 – Between 60-79% of farm structures are using innovative sustainable farm building design solutions and standards, with some missed opportunities. Proposals to use design solutions are likely to be favourably received, but not mandated		
			3 –Between 40-59% of farm structures are using innovative sustainablebuilding design solutions and standards – either in some areas, or concentrating on one or two solutions. Their use is not assured, but the		



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			<p>argument for using them can be made depending on each case</p> <p>2 – Between 20- 39% of farm structures are using innovative sustainable building design solutions and standards,, but interest is expanding</p> <p>1 – Little use of and little interest in innovative sustainable farm building design solutions and standardsto improve resilience, with between 0-0-19% of farm structures are using t</p> <p>0 – No use of nor interest in innovative sustainable farm building design solutions and standardsto improve resilience</p>	
4.3 Development and transfer of technologies that integrate CCA and DRM considerations to reduce climate related risks and underlying vulnerabilities	4.3.1 Integrated production systems and economic diversification to build resilience of agriculture communities to climate change impacts	Use of integrated production systems and economic diversification to build resilience of agriculture communities to climate change impacts	5 – Systematic adoption and use of new models of integrated production systems in the agroecological zones. Over 80% of farmers and fisher-folks in vulnerable communities have improved access to agricultural services and are using integrated production systems	
			4 – Widespread adoption and use of new models of integrated production systems in the agroecological zones, but some missed opportunities. Between 60-79% of farmers and fisher-folks in vulnerable communities have improved access to agricultural services and are using integrated production systems	
			3 – Fair level of adoption and use of new models of integrated production systems in agrotheecological zones, concentrating on one or two solutions. Their use is not assured, but the argument for using them can be made depending on each case. Between 40-59% of farmers and fisher-folks in vulnerable communities have improved access to agricultural services and are using integrated production systems	
			2 –Scattered adoption and use of new models of integrated production systems in the agroecological zones, but interest is expanding. Between20-39% of farmers and fisher-folks in vulnerable communities have improved access to agricultural services and are using integrated production systems	
			1 – Little use and little interest in new models of integrated production systems. Between 0-19% of farmers and fisher-folks in vulnerable communities have improved access to agricultural services and are using integrated production systems	
			0 – No use and no interest in new models of integrated production systems in the agroecological zones.	
			4.3.2 Promotion of	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
	best practices related to seed management systems and technologies to proactively manage climate change	improved seed storage technologies to proactively manage climate related risks	<p>technologies , such as improved seed storage systems and technologies and strengthened seed bank facilities to manage risks</p> <p>4 – Widespread use of new models of seed management systems and technologies to manage risks, but with some missed opportunities. Between 60-79% of farming/fishing communities applying new models of seed management systems and technologies</p> <p>3 – Fair level of use of new models of seed management systems and technologies to manage risks, concentrating on one or two solutions. Between 40- 59% of farming/fishing communities applying new models of seed management systems and technologies Their use is not assured, but the argument for using them can be made depending on each case.</p> <p>2 – Scattered use of new models of seed management systems and technologies to manage risks, but interest is expanding. Between 20-39% of farming/fishing communities applying new models of seed management systems and technologies</p> <p>1 – Little use of and little interest in new models of seed management systems and technologies to manage risks Between 0-19% of farming/fishing communities applying new models of seed management systems and technologies</p> <p>0 – No use of and nor interest in new models of seed management systems and technologies to manage risks</p>	
	4.3.3 Promotion of post harvest best practices to proactively manage climate change	Use of post harvest practices, such as improved food storage technologies and value addition to proactively manage climate related risks	<p>5 – Systematic use of post harvest practices, such as improved food storage technologies and value addition to manage risks</p> <p>4 – Widespread use of post harvest practices to manage risks, but with some missed opportunities. Between 60-79% of farming/fishing communities applying improved food storage technologies and value addition</p> <p>3 – Fair level of use of new models of post harvest practices to manage risks, concentrating on one or two solutions. Between 40-59% of farming/fishing communities applying improved food storage technologies and value addition. Their use is not assured, but the argument for using them can be made depending on each case.</p> <p>2 – Scattered use of post harvest practices to manage risks, but interest is expanding. Between 20-39% of farming/fishing communities applying improved food storage technologies and value addition</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			<p>1 – Little use and little interest in post harvest practices to manage risks. Between 0-19% of farming/fishing communities applying improved food storage technologies and value addition</p> <p>0 – No use and no interest of post harvest practices to manage risks.</p>	
	4.3.4 Reducing landslide and erosion control through the promotion of innovative, indigenous and improved land management practices	Use of innovative, indigenous and improved land management practices in landslide treatment, erosion control and conservation of soil nutrients	<p>5 – Systematic use of innovative, indigenous and improved land management practices in landslide treatment, erosion control and conservation of soil nutrients to manage climate related risks. Over 80% of farmers in vulnerable communities are applying innovative, indigenous and improved land management practices</p> <p>4 – Widespread use of innovative, indigenous and improved land management practices in landslide treatment, erosion control and conservation of soil nutrients, but with some missed opportunities. Between 60-79% of farmers in vulnerable communities are applying innovative, indigenous and improved land management practices</p> <p>3 – Fair level of use of innovative, indigenous and improved land management practices, limited to one or two areas or concentrating on one or two solutions. Their use is not assured, but the argument for using them can be made depending on each case. Between 40-59% of farmers in vulnerable communities are applying innovative, indigenous and improved land management practices</p> <p>2 – Scattered use of innovative, indigenous and improved land management practices but interest is expanding. Between 20-39% of farmers in vulnerable communities are applying innovative, indigenous and improved land management practices</p> <p>1 – Little use and little interest in innovative, indigenous and improved land management practices. Between 0-19% of farmers in vulnerable communities are applying innovative, indigenous and improved land management practices</p> <p>0 – No use and no interest in innovative, indigenous and improved land management practices.</p>	
	4.3.5 Discourage settlements in flood prone areas and promote investments	Use of guidelines on settlements in hazard prone areas and promotion of investments	<p>5 – Systematic use of guidelines on settlements in hazard prone areas and promotion of investments to reduce flood risks in over 80% of vulnerable communities.</p> <p>4 – Widespread use of the guidelines on settlements in hazard prone areas and promotion of investments to reduce flood risks, covering between 60-</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
	to reduce flood risks	to reduce flood risks	<p>79% of vulnerable communities. However,there are some missed opportunities</p> <p>3 – Fair level of use of the guidelines on settlements in hazard prone areas and promotion of investments to reduce flood risks, covering between 40-59% of vulnerable communities. The use of guidelines and promotion of investment, limited to one or two areas or concentrating on one or two solutions. Their use is not assured but the argument for using them can be made depending on each case.</p> <p>2 – Scattered use of the guidelines on settlements in hazard prone areas and promotion of investments to reduce flood risks, covering between 20-39% of vulnerable communities , but interest is expanding</p> <p>1 – Little use and little interest in the use of the guidelines on settlements in hazard prone areas and promotion of investments to reduce flood risks, covering between 0-19% of vulnerable communities</p> <p>0 – No use and no interest in the guidelines on settlements in hazard prone areas and promotion of investments to reduce flood risks</p>	
	4.4.6 Promote terrace management in hills to reduce the risk of landslides and Slope Agricultural Land Technology (SALT)	Use of improved models of Slope Agriculture Land Technology (SALT)	<p>5 – Systematic use of improved models of SALT on over 80% of vulnerable agricultural lands</p> <p>4 – Widespread use of improved model of SALT on between 60-79% of vulnerable agricultural lands, but with some missed opportunities</p> <p>3 – Fair level of use of improved models of SALT, covering between 40-59% of agricultural lands, limited to one or two areas or concentrating on one or two solutions. Their use is not assured, but the argument for using them can be made depending on each case.</p> <p>2 – Scattered use of improved models of SALT, covering between 20-39% of agricultural lands, but interest is expanding</p> <p>1 – Little use and little interest in the use of improved models of SALT, covering between 0-19% of vulnerable agricultural lands.</p> <p>0 – No use and no interest in improved models of SALT</p>	
	4.3.7 Application of soil management practices	Use of sustainable soil management practices, including the use and promotion of organic farming	<p>5 – Systematic use of sustainable soil management practices among over 80% of relevant and targeted sector population</p> <p>4 – Widespread use of sustainable soil management practices,covering between 60-79% of relevant and targeted sector population, but with some missed opportunities</p> <p>3 – Fair level of use of sustainable soil management practices, covering between 40-59% of relevant targeted population, in one or two areas or</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			<p>concentrating on one or two solutions. Their use is not assured, but the argument for using them can be made depending on each case.</p> <p>2 – Scattered use of sustainable soil management practices, covering between 20-39% of relevant targeted population, but interest is expanding</p> <p>1 – Little use and little interest in the use of soil management practices, covering between 0-19% of relevant targeted population.</p> <p>0 – No use and no interest in sustainable soil management practices</p>	
	4.3.8 Application of sustainable water management and conservation practices on farmer fields, including new and improved water harvesting and storage techniques, increased water productivity and enhanced drought management	Use of on-farm water conservation and management practices, including new and improved water harvesting and storage techniques, increased water productivity and enhanced drought management	<p>5 – Systematic introduction and use of on-farm water conservation and management practices on over 80% of agricultural holdings.</p> <p>4 – Widespread introduction and use of on-farm water conservation and management practices, covering between 60-79% of agricultural holdings, but with some missed opportunities</p> <p>3 – Fair level of introduction and use of on-farm water conservation and management practices, covering between 40-59% of agricultural holding, limited to one or two areas or concentrating on one or two solutions. Their use is not assured, but the argument for using them can be made depending on each case.</p>	
			<p>2 – Scattered introduction and use of on-farm water conservation and management practices, covering between 20-39% of agricultural holdings, but interest is expanding</p> <p>1 – Little introduction and use and little interest in on-farm water conservation and management practices, , covering between 0-19% of agricultural holdings</p> <p>0 – No introduction and use and no interest in on-farm water conservation and management practices</p>	
	4.3.9 Application of improved animal/livestock sustainable management systems,	Use of improved animal /livestock sustainable management systems, including fodder and forage cultivation and	<p>5 – Systematic introduction and use of improved animal/livestock sustainable management systems on over 80% of livestock holdings</p> <p>4 – Widespread introduction and use of improved animal/ livestock sustainable management systems, covering between 60-79% of livestock holdings, but with some missed opportunities</p> <p>3 – Fair level of introduction and use of improved animal/livestock</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
	including the management of animal manure for biogas production	management and the management of animal manure for biogas production	<p>sustainable management systems, covering between 40-59% of livestock holdings, either limited to one or two areas or concentrating on one or two solutions. Their use is not assured, but the argument for using them can be made depending on each case.</p> <p>2 – Scattered introduction and use of improved animal / livestock sustainable management systems, covering between 20-39% of livestock holdings, but interest is expanding</p> <p>1 – Little introduction and use and little interest in improved animal/livestock sustainable management systems, covering between 0-19% of livestock holdings</p> <p>0 – No introduction and use and no interest in improved animal/livestock sustainable management systems</p>	
	4.3.10 Application of improved animal/livestock sustainable genetic material conservation systems to manage risk of loss of quality breeding stockn	Use of Frozen Semen System to preserve high quality genetic material	<p>5 – Systematic introduction of frozen semen facility to ensure the preservation of over 80% of high quality animal genetic breeding material animals as a means of managing the risks associated with the loss in the aftermath of an event</p> <p>4 – Widespread introduction of frozen semen facility to ensure the preservation of between 60-79% of high quality animal genetic breeding material as a means of managing the risks associated with the loss in the aftermath of an event</p> <p>3 –Frozen semen facility in place to ensure the preservation of between 40-59% of high quality animal genetic breeding material as a means of managing the risks associated with the loss in the aftermath of an event</p> <p>2 –Frozen semen facility in place to ensure the preservation of between 20-39% of high quality animal genetic breeding material as a means of managing the risks associated with the loss in the aftermath of an event</p> <p>1 – Frozen semen facility in place to ensure the preservation of between 0-19% of high quality animal genetic breeding material as a means of managing the risks associated with the loss in the aftermath of an event</p> <p>0 – No frozen semen facility that can be used to preserve high quality animal genetic breeding material as a means of managing the risks associated with the loss in the aftermath of an event</p>	



SECTION 5: MONITORING AND PROTECTION

Identifying, monitoring and protecting critical ecosystem services that confer a disaster resilience benefit to the agriculture sector, including but not limited to water retention or water infiltration; forestation (including agroforest); floodplains; mangrove and other coastal vegetation

- Objective:** To safeguard natural buffers to enhance the protective functions offered to the agricultural sector by natural ecosystems.
- Purpose:** To recognize the value and benefits of the agriculture sector from ecosystem services for disaster risk prevention, and therefore protection and/or enhancement should be a part of the DRM and CCA strategies for the sector..
- Data Required:** Land use and zoning documentation, plus data on the extent and health of relevant ecosystems as measured by applicable indicators.

SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
5.0 Identifying, monitoring and protecting critical ecosystem services that confer a disaster resilience benefit to the agriculture sector				
5.1 Ecosystem services	5.1.1 Awareness of the role that ecosystem services can may play in the sector’s disaster resilience	Ecosystem services are specifically identified, and managed as critical assets	5 – Critical ecosystem services identified and monitored annually on a defined set of key ecosystem health performance indicators	
			4 – Critical ecosystem services identified and monitored annually, but less systematic use of reliable ecosystem health performance indicators	
			3 – Critical ecosystem services identified, but the monitoring is ad hoc with no real attempt to track the health of the ecosystem over time.	
			2 – Some key ecosystem services omitted from the monitoring process altogether	
			1 – Identification and monitoring of ecosystem services are formative at best, or is seriously deficient	
			0 – No identification nor monitoring of critical ecosystem services	
	5.1.2 Ecosystem health	Change in health, extent or benefit of each ecosystem service in the last 5 years defined at six levels	5 – Improved health and performance across the board for critical ecosystem services	
			4 – At least neutral status across the board, with some improvements in some cases	
			3 – Neutral status on average – some improvements offset by some declines	
			2 – Generalized decline in ecosystem service status	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			1 – Generalized severe degradation in status known or suspected	
	5.1.3 Impact of land use policies on ecosystem services	Utility of land use policies in support of ecosystem services sustainable management	0 – Potentially fatal damage to some or many key eco-system services	
			5 – Land use policies are strongly supportive of critical ecosystem services and are fully enforced	
			4 – Land use policies are strongly supportive of critical ecosystem services and are generally enforced	
			3 – Land use policies are broadly supportive but are not fully enforced	
			2 – Land use policies (or lack thereof) may lead or have led to damage to one or more critical ecosystem services	
			1 – Land use policies (or lack thereof) inflict generalized degradation of ecosystem services	
	0 – Land use policies (or lack thereof) may lead or have led to complete destruction of critical ecosystem services			



SECTION 6: SOCIETAL AND CULTURAL CAPACITIES

Enhancing Societal and cultural capacities for the Identification, Development and Implementation of Disaster Risk Management and Climate Change Adaptation activities in the Agriculture Sector

- Objective:** To foster social “connectedness” and a culture of mutual support among people at the local level in order to promote community action plans for DRM and CCA in agriculture.
- Purpose:** To mobilize and develop community actions, with the involvement of local stakeholders and to integrate with technological options proposed as part of food security programmes and DRM and CCA plans for the sector
- Data Required:** Profile of all relevant Grassroots organizations (Farmers Organizations, NGOs and CBOs); details of how the sector works with disadvantaged groups – for example those in areas of high poverty. Anecdotal evidence of historical community actions related to hazard impacts.

SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
6.0 Enhancing Societal and cultural capacities for Disaster Risk Management and Climate Change Adaptation activities in the Agriculture Sector				
6.1 Grassroots organizations (Farmers Organizations, NGOs and CBOs)	6.1.1 Engagement of grass roots organization specifically established for disaster resilience within the sector or those serving other purpose but willing and able to play a disaster resilience role.	Presence of at least one non-government body for pre and post event response for each farming/fishing community in the sector	5 – Farmers/Fishers Organizations and supportive NGOs addressing the full spectrum of DRM and CCA issues exist(s) for every farming/fishing community. Irrespective of demographics.	
			4 – >75% of farming/fishing communities engaged	
			3 –Between 50-74%of farming/fishing communities engaged	
			2 – Between 25-49% of farming/fishing communities engaged	
			1 – Plans to engage communitiesexist, but only between 0-24% of the fishing/farming communities engaged in one or two initial cases	
			0 – No engagement of grass roots organizations	
	6.1.2 Effectiveness of grass roots networkparticipation in disaster resilience	Grass roots organizations meeting frequency and attendance	5 – For >80% of farming/fishing communities, one meeting per month, all personnel roles staffed and the required formal role-holder numbers in regular attendance	
			4 – For 60-79% of farming/fishing communities, one meeting per quarter – all roles staffed and the required role-holder numbers in	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
	management within the sector		<p>attendance. No meetings in the rest</p> <p>3 – For 40-57% of farming/fishing communities, semi-annual meetings, but with some gaps in roles and less than the required number of roles-holders in attendance. No meetings in the rest</p> <p>2 – For 20-39% of farming/fishing communities, annual meetings, but with significant gaps in roles and less than the required formal roles-holders in attendance. No meetings in the rest</p> <p>1 – Ad hoc meetings in between 0-19% of farming/fishing communities of a few “enthusiasts”.</p> <p>0 – No meetings in farming/fishing communities</p>	
	6.1.3 Social connectedness and neighbourhood cohesion	Likelihood that farmers/fisher-folks will be contacted immediately after an event, and regularly thereafter to confirm safety, issues, needs, etc.	<p>5 – Sufficient responders/volunteers are available from farmers/fishers’ organizations to give “reasonable confidence” that 100% of farmers/fishers will be contacted within 12 hours of an event</p> <p>4 – Between 80-99% farmers/fishers will be contacted within 12 hours of an event</p> <p>3 – Between 60-79% of farmers/fishers will be contacted within 12 hours of an event</p> <p>2 – Between 40-59% or less of farmers/fishers will be contacted within 12 hours of an event</p> <p>1 – Between 20-39% of farmers/fishers will be contacted within 12 hours of an event</p> <p>0 – No volunteers, so less than 20% or less of farmers/fishers will be contacted within 12 hours of an event</p>	
	6.1.4 Engagement of vulnerable segments of the agricultural sector	Evidence of disaster resilience planning with or for the relevant farming communities and sub-sectors covering the span of vulnerable populations. Confirmation from those communities and sub-sectors of effective engagement (i.e. situations	<p>5 – All groups regularly engaged in disaster resilience planning issues and they or their representatives confirm as such</p> <p>4 – Only major groups (measured by membership % of those defined as vulnerable in the agriculture sector as a whole) are engaged in disaster resilience planning, with some minor gaps in issues covered</p> <p>3 – Major groups are engaged in disaster resilience planning, with major gaps in issues covered or effective engagement</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
		where participation of community members in public awareness, education and training is increasing)	2 – Multiple major gaps in coverage or effective engagement 1 – Generalized failure to engage vulnerable segments of the agriculture sector 0 – No vulnerable groups specifically identified for engagement in disaster resilience planning	
6.2 Sector employers	6.2.1 Extent to which Sector employers (public sector, private sector, civil society) act as a channel with employees	Proportion of relevant ministries and department as well as agri-business employers pass DRM and CCA communications to employees, and allow limited time off for resilience volunteer activities	5 – Over 75% of relevant sector employers take part in communicating with their workforce about resilience issue 4 – 55-74% of relevant sector employers take part in communicating with their workforce about resilience issues 3 – 35-54% of relevant sector employers take part in communicating with their workforce about resilience issues 2 – 15-34% of relevant sector employers take part in communicating with their workforce about resilience issues 1 – 0-14% of relevant sector employers take part in communicating with their workforce about resilience issues 0 – 0% of relevant sector employers take part in communicating with their workforce about resilience issues	
	6.2.2 Extent to which Sector employers (public sector, private sector, civil society) provide time-off to employees to engage in disaster resilience issues	Proportion of relevant ministries and department as well as agri-business employers and civil society allow time off for resilience volunteer activities	5 – Over 75% of relevant sector employers allow time-off to employees to take part in disaster resilience issues and activities 4 – 55-74% of relevant sector employers allow time-off to employees to take part in disaster resilience issues and activities 3 – 35-54% of relevant sector employers allow time-off to employees to take part in disaster resilience issues and activities 2 – 15-34% of relevant sector employers allow time-off to employees to take part in disaster resilience issues and activities 1 – Between 0-14% of relevant sector employers allow time-off to employees to take part in disaster resilience issues and 0 – 0% of relevant sector employers allow time-off to employees to take part in disaster resilience issues and activities	
	6.2.3 Business continuity planning	Proportion of agri-business with a solid business continuity plan	5 - All agriculture and agriculture related employers have tested business continuity plan based on a planning assumptions validated by the sector 4 – Between 75-99% of agriculture and agriculture related entities have	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			<p>business continuity plan based on planning assumptions validated by the sector</p> <p>3 – Between 50-74% of agriculture and agriculture related entities have business continuity plan based on planning assumptions validated by the sector</p> <p>2 –Between 25-49% of agriculture and agriculture related entities have business continuity plan based on planning assumptions validated by the sector</p> <p>1 – Between 6-24% of agriculture and agriculture related entities have some form of business continuity plan based on planning assumptions validated by the sector</p> <p>0 – Less than 5% of agriculture and agriculture related entities have business continuity plans or business continuity frameworks based on planning assumptions validated by the sector</p>	
<p>6.3 “Systems of Engagement”</p>	<p>6.3.1 Use of mobile, e-mail and non-technology based systems of engagement to enable farmers, fisher-folks and agricultural officers to receive and give updates before and after a disaster</p>	<p>Use of mobile, social computer-enabled, and non-technology based systems of engagement</p>	<p>5 – All information before, during and after an event is available on mobile devices; this is supported by alerts on social media and non-technology based systems; this is also used to enable an inbound “farmer/fisher population to government” flow allowing public sourcing of data on events and issues.</p> <p>4 - Extensive use is made of the various systems of engagement, with a few minor omissions</p> <p>3 – A fair level of use is made of the various systems of engagement, but there are large gaps in the information available by these means and the in-bound flow works only via direct communication rather than mining of data generally</p> <p>2 - A fair level of use is made of the various systems of engagement, but there are larger gaps in the information available by these means, but with no inbound flow</p> <p>1 - Only rudimentary use of systems of engagement – perhaps only via non-technology based systems or via mobile access to the existing website which may not have been optimized for smart-phones etc – but interest in expanding this</p> <p>0 - No use of systems of engagement</p>	



SECTION 7: INFRASTRUCTURE CAPACITY

Assessing Agriculture Sector and Sector Dependent Infrastructure Capacity to Cope with Disasters the Sector might Experience

Objective: To enhance the disaster resilience capacity and adequacy of the agriculture sector and related infrastructure to ensure business continuity after an event.

Purpose: To facilitate the implementation of long-term sustainable DRM and CCA measures related to infrastructure as part of preparedness, response and rehabilitation interventions.

Data Required: Disaster relief plans for each major infrastructure system and data on the execution of the plans; location of, and relationship between, critical assets and the agricultural communities they serve.

ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
7.1.1 Adequacy of protective infrastructure such as levees and flood barriers, flood basins, storm drains, etc.	Protective infrastructure exists or is in the process of construction – capabilities known to match calculated/estimated highest magnitude hazards.	5 - Protective infrastructure fully in place and designed to deal with “most severe” scenario with minimal economic or human impact	
		4 – Protective infrastructure has some deficiencies relative to “most severe” scenario, but designed to deal with “most probable” scenario	
		3 – Protective infrastructure would allow minimal damage/impact from “most probable” scenario, and potentially catastrophic damage from “most severe” scenario	
		2 – Protective infrastructure would mitigate only some damage/impact of “most probable” scenario	
		1 – Protective infrastructure would allow potentially catastrophic damage from “most probable” scenario	
		0 – No protection infrastructure in place	
7.1.2 Effectiveness of maintenance of infrastructure	Processes exist to maintain protective infrastructure and ensure integrity and operability of critical agriculture assets	5 – Audited annual inspection process and remediation of issues found	
		4 – Audited inspections but remediation of minor items annually may be delayed by lack of funding	
		3 – Audited inspections every 2 years or more; remediation may be delayed by funding issues	
		2 – Non-audited inspections every 2 years or more – backlog of remediation issues	
		1 – Haphazard inspections in response to incidents or reports from the public. Significant known backlog of maintenance issues such that effectiveness of infrastructure may be impaired	
		0 – No regular inspections and backlog/maintenance status is unknown	
7.2.1 Adequacy food supply	Adequacy of food	5 – Food supply chain infrastructure fully in place and designed to deal with “most	



ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
chain infrastructure and related services	supply chain to ensure the country is food and nutrition security post disaster	severe” scenario with minimal food security or humanitarian impact 4 – Food supply chain infrastructure has some deficiencies relative to “most severe” scenario, but designed to deal with “most probable” scenario 3 – Food supply chain infrastructure would mitigate most of “most likely” scenario, but some impacts would be felt; deficiencies relative to “most severe” are more serious 2 – Food supply chain infrastructure would allow significant damage, impact from “most possible”, and potentially catastrophic damage from the “most severe” 1 – Food supply chain infrastructure would mitigate some impacts, but would still allow potentially catastrophic damage from “most probable” scenario 0 – No protection for the food supply chain in place	
7.3.1 Assurance of continuity of all critical administrative functions	Estimated # of days of disruption to critical administrative services under “most probable” and “most severe” scenarios given the availability of redundant facilities, support staff, etc.	5 – No disruption to services even under “most severe” scenario 4 – – No disruption to services under “most probable” scenario 3 – 3 –Minor disruptions (few hours or less) under “most probable” scenario 2 – 2 – Some significant disruptions for up to 48 hours or less under “most probable” scenario 1 – Significant disruptions for 48 hours – 5 days under “most probable” scenario 0 – Generalized failure of services The assessment of disruption is intended to for > 5 days apply at the agriculture community level, for example with closure of or damage to agriculture extension offices	

SECTION 8: DRM AND CCA PREPAREDNESS, RESPONSE AND RECOVERY MEASURES

Capacities and Procedures for Effective Disaster Preparedness, Response and Rehabilitation and the Integration of Climate Change Adaptation into Response, Recovery and Rehabilitation Initiatives

Objective: To monitor and evaluate the national and local capacities for disaster preparedness, response and rehabilitation and ensure that DRM and CCA actions are considered in all relevant interventions.

Purpose: To facilitate long-term sustainable DRM and CCA measures as part of preparedness, response and rehabilitation interventions.

Data Required: Early warning system for food security; emergency management plans and procedures; documents of first responder – staffing and equipment – capabilities; record of drills and practices; identification of systems where interoperability with other agencies is critical and of the standards adopted; records of evaluation, learning points and improvements enacted.

SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
8.0 Capacities and Procedures for Effective Disaster Preparedness, Response and Rehabilitation				
PREPAREDNESS				
8.1 Early Warning System	8.1.1 Existence of early warning system for agriculture production and food and nutrition security	Length and reliability of warning – enabling practical action to be taken	5 - Warnings exist for all hazards known to be relevant to the sector, and will allow time for reaction (as far as technology permits). Warnings are seen as reliable and specific to the sector	
			4 - Warnings exist, but warning time maybe less than technology currently permits. Warnings are seen as reliable and specific	
			3 – Warnings exist for some hazards, especially earthquakes; but important warnings are excluded and warning time may be less than technology permits	
			2 – Warning time is less than technology permits and there may also be some false positives: reliability of warnings may therefore be perceived as questionable	
			1 - Warnings seen as ad hoc and unreliable. Likely to be ignored	
			0 - No warnings exist	
		Reach of warning – % of farming/ fishing population receiving it?	5 - 100% of farming/fishing population reached	
			4 - 90-99% of farming/ fishing population reached	
			3 – 80-89% of farming/ fishing population reached	
			2 – 70-79% of farming/ fishing population reached	
			1 - 60-69% of farming/ fishing population reached	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			0 - <60% reached (or no warnings)	
RESPONSE				
8.2 Event Response Planning	8.2.1 Existence of emergency response plans that integrate professional responders at the public sector, private sector and civil society	Existence of plans formulated to address “most probable” and “most severe” scenarios, shared and signed off by all relevant actors in the sector	5 - Complete emergency response plans that integrates professional responders at all levels exist, keyed to scenarios. They have been tested in real emergencies	
			4 - Complete emergency response plans exist as above, but may not have been fully tested	
			3 – Emergency response plans exist, but are not keyed to scenarios	
			2 – Emergency response plans exist, they are known to be incomplete or otherwise deficient and not keyed to scenarios	
			1 - Emergency response plans exist, but are known to have major shortcomings in specific areas such as evacuation of threatened agriculture population and incorporation of contribution from farmers.fishers organizations	
			0 - No emergency response plans exist	
8.3 Equipment needs and supply availability	8.3.1 Definition of equipment needs and supply availability	Equipment needs and supply availability are defined for “most probable” and “most severe” scenarios	5 – Equipment needs and supply availability defined, keyed to scenarios, and take into account the role of volunteers/operators	
			4 – Equipment needs and supply availability defined independently of latest scenarios, and take into consideration the role of volunteers,operators	
			3 – Some equipment needs and supply availability defined, but with some gaps for specific role of volunteers/operators or for specific areas of the sector	
			2 – Equipment needs and supply availability definition has more serious shortcomingsrole of volunteers/operators, specific areas of the sectors and supply availability	
			1 – Equipment needs and supply availability definition is essentially nominal or guesswork	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
8.4 Food, staple goods and fuel supply	8.4.1 Likely ability to continue to feed the population –Food gap	Food gap - # of days that the agriculture sector can feed all segments of the population likely to be affected minus # of days' disruption estimated under those scenarios	0 - No equipment needs and supply availability defined (or no plan)	
			5 - Positive outcome – days of emergency food available exceeds estimated days disruption to regular supply	
			4 - Even – days of food available equals estimated days' disruption to regular supply	
			3 – Negative outcome – estimated food gap is 1-24 hours	
			2 – Negative outcome – estimated food gap is 25-48 hours	
			1 - Negative outcome – estimated food gap is 49-72 hours	
			0 - Negative outcome – estimated food gap is more than 72 hours	
	8.4.2 Ability to meet likely needs for staple goods – Staples gap	Staple gap - % shortfall in supply within 24 hours relative to demand	5 - Positive outcome – supply of staples available within 12 hours exceeds estimated demand	
			4 - Even – supply equals estimated demand	
			3 – Negative outcome – supply of five or more critical staples less than estimated demand (staples gap).by 1-5%	
			2 – Negative outcome – estimated staples gap is 6-10%	
			1 - Negative outcome – estimated staples gap is 11-15%	
	8.4.3 Likely availability of fuel – Fuel gap	Fuel gap - # of days that the sector can meet fuel requirements, minus # of days' disruption to regular supply	5 - Positive outcome – days of fuel available exceeds estimated days disruption to supply	
			4 - Even – days of fuel available equals estimated days disruption to supply	
			3 – Negative outcome – estimated disruption exceeds days of fuel available (fuel gap) by 1-24 hours	
2 – Negative outcome – estimated fuel gap is 25-48 hours				
1 - Negative outcome – estimated fuel gap is 49-72 hours				
8.5 Interoperability and compatibility of first response systems and procedures	8.5.1 Ability of the sector's first respondents to cooperate at all levels with other sectors, other levels of government and private sector/civil society with respect	Ability to cooperate at all levels with other sectors, other levels of government and the private sector/civil society	5 - Proven interoperability and compatability of all key first response systems and procedures	
			4 - Interoperability and compability in theory of all key first response systems and procedures, but yet to be tested in practice	
			3 – Existence of some minor incompatibilities in key first response systems and procedures based on tests, but are being addressed	
			2 – Existence of major incompatibilities in key first response systems and procedures based on tests, but plan exists to address them	
			1 – Existence of major incompatibilities in key first response systems and	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
	to critical systems and procedures		procedures based on tests, but no plan exists to address them 0 - Interoperability and compatability in key first response systems and procedures based on tests never assessed	
	8.5.2 Existence of emergency operations center within the agriculture sector, or if national in scope providing critical support to the sector	Existence of emergency operations center with participation from all agencies, standard operating procedures specifically designed to deal with “most probable” and “most severe” scenarios affecting the sector	5 - Emergency operations center exists with hardened communications and camera-enabled visibility(GPS) of the entire sector, and with SOPs designed and proven to deal with “most severe” scenario; all relevant agencies participate. If national in mandate, provides the necessary and sufficient support to the sector 4 - Emergency operations center exists with hardened communications and camera-enabled visibility of the entire sector, and with SOPs designed and proven to deal with “most probable” scenario; all relevant agencies participate 3 – Emergency operations center exists with SOPs designed for “most probable” scenario (but may not be proven), most agencies participating but incomplete camera visibility or communications 2 – Emergency operations center exists, but SOPs unproven, participation incomplete and poor camera visibility. 1 - Emergency operations center designated, but with significant generalized shortcomings 0 - No emergency operations center providing support to the sector	
8.6 “Exercising of plans and procedures	8.6.1 Simulations involving both the public and private sector and civil society	Exercise program established and implemented.	5 - Exercise programme exists, covers all priority hazards and is fully implemented. 4 – Exercise program exists, covers all priority hazards but is not fully implemented. 3 – Exercise programme exists does not cover all hazards but is fully implemented 2 – Exercise programme available but does cover all of the agreed priority hazards and is not fully implemented 1 - Ad hoc exercises undertaken 0 - No exercises (or no plans)	
	8.6.2 Effectiveness of exercise program	Level of effectiveness of exercise program	5 - Evaluations reveal that all participants are familiar with and can undertake their roles in existing plans and procedures for priority hazards. 4 – Evaluations reveal that 75- 99% of participants are familiar with and can undertake their roles in existing plans and procedures for priority hazards. 3 – Evaluations reveal that 51-74 % of participants are familiar with and can undertake their roles in existing plans and procedures for priority hazards	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			2 – Evaluations reveal that 26-50 % of participants are familiar with and can undertake their roles in existing plans and procedures for priority hazards. 1 – Evaluations of Exercise Program reveal that less than 25 % of participants are familiar with and can undertake their roles in existing plans and procedures for priority hazards. 0 - No exercise program or ad hoc simulations	
RECOVERY				
8.7 Post event recovery planning – pre-event	8.7.1 Planning for sector recovery after hazard impact	Existence of comprehensive agriculture recovery plan	5 – Sector Recovery Plan exists, covers all priority hazards, includes all elements agreed for recovery planning and is disseminated to all stakeholders.	
			4 - Sector Recovery Plan exists, covers all of the priority hazards and all of the agreed elements for recovery planning and is not disseminated to all stakeholders.	
			3 – Sector Recovery Plan exists, covers all of the priority hazards, does not include all elements agreed for recovery planning and is disseminated to all stakeholders	
			2 – Sector Recovery Plan exists, covers all of the priority hazards but does not include all of the elements agreed for recovery planning and is disseminated to some stakeholders	
			1 – Sector recovery Plan exists but does not cover all of the priority hazards, does not include all the elements agreed for recovery planning and is not disseminated to stakeholders	
			0 - No sector recovery plan exists	
			0 - No sector recovery plan exists	
	8.7.2 Arrangements for expost financing of recovery of the sector	Existence of arrangements exist for recovery financing	5 - Plan exists, includes provisions for relief, assistance for equipment and stock replacement and repair, emergency assistance loans, recovery credit facilities and technical assistance for enhancing resilience	
			4 – Plan exists, includes provisions for relief, assistance for equipment and stock replacement and repair, emergency assistance loans and recovery credit facilities	
			3 – Plan exists, includes provisions for relief, assistance for equipment and stock replacement and repair and emergency assistance loans	
			2 – Plan exists, includes provisions for relief and assistance for equipment and stock repair and replacement	
			1 – Plan exists only for financing relief	
			0 - No plan exists for financing recovery of the sector	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
	8.7.3 Standardization of content/format of information and data collection on hazard impacts	Existence of a standardized content/format for the collection of information and data on hazard impacts	<p>5 - Fully standardized system (content and format) exists for the collection of information and data on hazard impacts after “most probable” and “most severe” scenarios</p> <p>4 - Fully standardized system (content and format) exists for the collection of information and data on hazard impacts after “most probable” scenario</p> <p>3 – Fully standardized system (content and format) exists for post “most probable” event, but with some minor shortfalls in adequacy of baseline data</p> <p>2 – Fully standardized system (content and format) exists for post “most probable” event, but with more significant shortfalls in adequacy of baseline data</p> <p>1 - Standardized system (content and format) exists for post “most probable” event but with generalized inadequacy in sub-sectoral coverage and adequacy of baseline data</p> <p>0 - No standardized system (content and format) exists</p>	
	8.7.4 Adequacy of capacities to integrate CCA, DRM and sustainable natural resources management into response and rehabilitation projects	The response, recovery and rehabilitation projects implemented with a long term perspective rather than ad hoc emergency support	<p>5 – All response, recovery and rehabilitation projects used as entry points to initiate better disaster reduction (short-term) and climate change (long-term), applying the principle of building back better.</p> <p>4 – 75-90 % of response, recovery and rehabilitation projects used as entry points to initiate better disaster reduction (short-term) and climate change (long-term), with the principle of building back better applied in them</p> <p>3 – 50-74% of response, recovery and rehabilitation projects used as entry points to initiate better disaster reduction (short-term) and climate change (long-term), with the principle of building back better applied in them.</p> <p>2 – 26-49 % of response, recovery and rehabilitation projects used as an entry points to initiate better disaster reduction (short-term) and climate change (long-term), with the principle of building back better applied in</p>	



SUBJECT /ISSUE FOR MEASURE	ITEMS MEASURED	INDICATIVE MEASUREMENT	INDICATIVE MEASUREMENT SCALE	SCORE
			<p>them.</p> <p>1 – Less than 25 % of response, recovery and rehabilitation projects used as entry points to initiate better disaster reduction (short-term) and climate change (long-term), with the principle of building back better applied in them.</p> <p>0 - Non use of response, recovery and rehabilitation projects as entry points to initiate better disaster reduction (short-term) and climate change (long-term)</p>	
	8.7.5 Lessons learning and sharing	Existence of plans for capturing and sharing lessons identified and learnt.	<p>5 – A plan exists for lessons identification and sharing, is disseminated to all and an action plan develop to address gaps.</p> <p>4 – Plan exists for lessons identification and is disseminated to all stakeholders.</p> <p>3 – Plan exists for lessons identification and sharing exists but it is disseminated to most of the stakeholders.</p> <p>2 – Arrangements exist for post event lessons learning and identification but are limited to after action reporting and are applied at the organization level only.</p> <p>1 – Arrangements in place for event lessons identification and sharing but are not formalized</p> <p>0 - No plans exist for post event lessons identification and sharing</p>	

- End of Audit Instrument -

