



IAEA/UNDP/GEF Nubian Sandstone Aquifer System Medium Sized Project

Project Implementation Plan

Nov. 9, 2006

Introduction

The Inception Meeting for the IAEA/UNDP/GEF Nubian Sandstone Aquifer System (NSAS) project was held from July 16- 20, 2006 in Tripoli, Libya. The main result of the Inception Meeting was reaching a common agreement and understanding on project implementation as reflected in the main output of the meeting: the Nubian Project Implementation Plan (PIP.) This Nubian PIP will serve as the basis for project implementation during the course of the project. The Executing Agency, project management and 4 NSAS countries will be able to use the PIP as the basis for initiating the implementation of the respective activities in the 5 project components. The time line and specific activities included are indicative and may be modified due to implementation issues that arise during the course of the project, provided the outcomes and general timeframe of the project are maintained.

The PIP was developed based on the IAEA/UNDP/GEF Nubian Sandstone Aquifer Medium Sized Proposal that was endorsed by the NSAS countries and approved by the GEF in June 2005 and on the UNDP Project Document that has been signed during 2006. Each component of the project was discussed in the frame of the Inception Meeting and agreed upon, on a consensus basis, by the respective meeting participants.

The GEF, via its Implementing Agency, UNDP has provided a grant of 1,000,000 USD to support designated project activities as outlined in the MSP. The Executing Agency, the IAEA, has committed 618,000 USD to support technical/scientific activities primarily to support the SADA/SAP process (outlined in Components 1.2 and 2.2 respectively.) UNESCO, as a cooperating Agency, has committed 50,000 USD as additional support for implementing Component 3 related to institutional and legal mechanisms for the Nubian Sandstone Aquifer System. The 4 NSAS countries, have confirmed a large co-funding amount in the sum of 6,283,100 USD. This is expected to be used to facilitate national participation, expertise as well as national level activities such as data collection, synthesis, data input as well as some of the meetings, equipment etc. needed in the overall frame of project related activities.

The Project Steering Committee that was established in the Inception Meeting will provide guidance during project implementation. The functioning of the PSC is detailed in the PSC TOR in Annex 1 to this PIP. Revisions to project implementation, within the boundaries of the stated outcomes, can be discussed in the frame of PSC meetings as needed. It was agreed in the frame of the Inception Meeting, that the TOR for the National Project Coordinators (NPC) would also be attached to the NPCs (see Annex 2 to this PIP.) The project manager/ chief technical advisor will support the work of the PSC and work directly with the respective NPCs.

Based on the initial results of this medium-sized project, demonstrated country commitment and availability of GEF funding, a follow-up project could be prepared to support finalization of key strategic activities as well as to facilitate SAP implementation. The inter-linkage between other GEF Focal areas, particularly climate change adaptation, as well as biodiversity and land degradation, will be important factors.

Component 1: Preparation of Shared Aquifer Diagnostic Analysis (SADA) Issuing Gaps In Capacity and Data
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Expected Outcome

The outcome of this component will be agreement reached on a SADA and a better understanding of the priority issues, threats and root causes of the NSAS.

1.1 SADA Preparation - Specific Outputs:

1.1.1 NSAS SADA/SAP Training

1.1.2 National SADA reports

1.1.3 Regional NSAS SADA Report

Output	Activity	Inputs	Roles and Responsibilities	Time frame
1.1.1 NSAS SADA/SAP Training				
	i. Plan and prepare for the SADA/ SAP (Strategic Action Programme) Training	Guidance for preparation to be provided by IAEA (Nov./Dec. 2006)	IAEA sets date and organizes training, countries prepare based on guidance provided by IAEA and trainers	Oct.- Dec. 2006
	ii. Conduct the Training Course	UNDP/GEF official Trainer/ expert	IAEA organizes training, expert delivers	Jan./Feb. 2007
1.1.2 National SADA Reports				
	i. Establishment of National SADA Teams	Terms of Reference for the National SADA Teams Oct. 2006	IAEA/project manager/ based on inputs from the countries, NPCs and Regional SADA team	Drafts preliminary Jan. 2007 Final March. 2007
	ii. Conduct a Stakeholder Analysis	Guidance to be provided, Oct 2006	IAEA and then NPCs	Nov./ Dec. 2006
	iii. Carry out National Assessments	Terms of Reference, report Outline	IAEA/PM, NPCs, countries	March- July. 2007

Output	Activity	Inputs	Roles and Responsibilities	Time frame
		January 2007		
	iv. Hold consultations with key stakeholders to assure appropriate input into the SADA report		NPCs and NSAS countries	On-going during assessment process
	v. Prepare Draft respective national SADA reports	Experts	NPCs and respective SADA teams	Aug.-Sept. 2007
	vi. Conduct National SADA meetings with relevant stakeholders to review SADA and initial consideration of Nubian Vision	IAEA/PM provides guidance on National Meetings(July/Aug 2007),	Organized by NPCs, backstopped by IAEA/PM,	Oct. 2007* Organized on different dates to assure PM participation
	vii. Finalize National SADA reports	National SADA teams	NPCs & National SADA teams	Nov. 2007
1.1.3 Regional SADA Report				
	i. Drafting of the Regional SADA report	Expert (s) Guidance, outline available July 2007	IAEA, NPCs and SADA team	Dec. 2007
	ii. Regional SADA meeting	Facilitator, expert (s),	IAEA/PM, PSC, NPCs	Feb. 2008
	iii. Finalize regional SADA report	Expert (s),	NPCs and SADA team, IAEA/PM, PSC	March 2008

Approach

Based on guidance provided, NSAS countries would begin preparations for SADA/SAP implementation. Methodological guidance from the UNDP/GEF TDA (SADA)/SAP Course will also be used and adapted to the SADA process via the training that should be provided involving the National Coordinators and other key SADA/SAP team members. The national project coordinators will lead national teams to develop national SADA reports on identified and agreed threats and related issues. The project will support the compilation and adoption of national SADA reports through wide stakeholder (NGOs, experts, interest groups, academics etc.) meetings in each country. National inter-ministerial committees should be involved to build consensus on important steps during the process and should review the respective national SADA reports. Based on the 4 national SADA reports, the regional SADA team would work to develop a draft regional SADA report. A regional meeting would be held to assure the appropriate integration of national SADA reports into one NSAS SADA report.

The regional SADA team lead by an independent expert will finalise the joint regional SADA report, which would depict the outcome of the SADA process as well as serve as the main input for the formulation of the SAP. The requisite time frame for the SADA is estimated to be 16 months with the SADA being initiated as early as possible in the project but allowing time to incorporate new technical information and analysis obtained in Component 1.2.

The SADA is planned as an iterative process where feedback from national and regional levels is incorporated to result in a comprehensive document. As a comprehensive assessment of the aquifer resources it will look beyond water issues at linkages with agricultural policies, the conservation and

management of biodiversity resources, sustainable land management practices, water demand and adaptation to climate change. In achieving that assessment, the national and regional SADA teams will engage with a wide range of stakeholders and professions to ensure that cross-cutting matters related to the management of water resources are highlighted and addressed.

	Project Outputs and Activities	2006						2007												
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
1	Component : Preparation of Shared Aquifer Diagnostic Analysis and Addressing Gaps in Capacity and Data																			
1.1.	SADA Preparation																			
1.1.1	NSAS SADA/SAP Training																			
	i. Plan and prepare for the SADA/ SAP (Strategic Action Programme) Training																			
	ii. Conduct the Training Course																			
1.1.2	National SADA Reports																			
	i. Establishment of National SADA Teams under the guidance of the NPC and the Regional SADA team																			
	ii. Conduct a Stakeholder Analysis																			
	iii. Carry out National Assessments																			
	iv. Hold consultations with key stakeholders to assure appropriate input into the SADA report																			
	v. Prepare Draft respective national SADA reports																			
	vi. Conduct National SADA meetings with relevant stakeholders to review SADA and initial consideration of Nubian Vision																			
	vii. Finalize National SADA reports																			
1.1.3	Regional SADA Report																			
	i. Drafting of the Regional SADA report																			
	ii. Regional SADA meeting																			
	iii. Finalize regional SADA report																			

	Project Outputs and Activities	2008												2009					
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1	Component : Preparation of Shared Aquifer Diagnostic Analysis and Addressing Gaps in Capacity and Data																		
1.1.	SADA Preparation		■	■															
1.1.1	NSAS SADA/SAP Training																		
	i. Plan and prepare for the SADA/ SAP (Strategic Action Programme) Training																		
	ii. Conduct the Training Course																		
1.1.2	National SADA Reports																		
	i. Establishment of National SADA Teams under the guidance of the NPC and the Regional SADA team																		
	ii. Conduct a Stakeholder Analysis																		
	iii. Carry out National Assessments																		
	iv. Hold consultations with key stakeholders to assure appropriate input into the SADA report																		
	v. Prepare Draft respective national SADA reports																		
	vi. Conduct National SADA meetings with relevant stakeholders to review SADA and initial consideration of Nubian Vision																		
	vii. Finalize National SADA reports																		
1.1.3	Regional SADA Report		■	■															
	i. Drafting of the Regional SADA report																		
	ii. Regional SADA meeting		■																
	iii. Finalize regional SADA report			■															

1.2 Addressing Gaps in Capacity- Specific Outputs

1.2.1 NSAS Model enhanced, NARIS

1.2.2 Nubian Baseline Report and updates

1.2.3 Regional Chemical and Isotope Database based on isotope data collected

1.2.4 Enhanced Capacities

Output	Activity	Inputs	Roles and Responsibilities	Time frame
1.2.1 Peer review report and workshop report				
	i. Peer review of the NSAS model; Peer review of NARIS Database	Expert TORs to be circulated	IAEA, NPCs	Oct. 2006- Mar. 2007
	ii. Hold a meeting with NSAS modelling experts to consider enhancement for the NSAS model and their applicability, use and practicality for regional aquifer management	Expert (s)	IAEA, NPCs, NSAS countries	Dec. 2006- Mar. 2007
1.2.2 Nubian Baseline Report and updates				
	i. Compilation and interpretation of existing hydrological and isotopic data ii. Compilation of historical data about the aquifer system iii. Data review and interpretation of existing information iv. Identification of data gaps in relation to priority needs for NSAS management, flow model, spatial sub-basins and aquifer coverage	Expert (s)	IAEA, NPCs, NSAS countries	(data updated in NSAS Baseline Mtg. May 2006) Then on-going in project based on new data collected
	v. Entering new data in present or adjusted database (e.g. NARIS)		NPCs, NSAS countries	On-going in project as new info is available
	vi. Preparation and support to considering specific actions for the Strategic Action Programme (SAP) to address data gaps	Guidance Oct. 2007	IAEA, NPCs, NSAS countries	Jan. 2008
	vii. Filling other data gaps viii. Compilation and updating		IAEA, NPCs, NSAS countries	Baseline Meeting (May 2006) on-going

Output	Activity	Inputs	Roles and Responsibilities	Time frame
	<p>of already existing data about the aquifer system,</p> <p>ix. Data review and interpretation of existing information,</p> <p>x. Entering of new data into existing databases (NARIS,)</p> <p>xi. Integration of new data into existing conceptual and mathematical model of the NSAS system</p>			in project as new data is available
1.2.3 Regional Chemical and Isotope Database				
	<p>i. Application of isotope techniques to address specific issues (e.g. natural recharge and discharge relations, inter-aquifer connection, aquifer contamination, and groundwater flow paths and travel time,)</p> <ul style="list-style-type: none"> • Identification of new sampling points, • Establishment of a network for data collection, • Undertaking quality assurance of existing data, • Compilation of all existing data, • Continuous measurement of flows, precipitation and piezometric levels at selected stations, • Collection of precipitation, surface water and groundwater for isotope analyses, • Evaluation of groundwater age, • Delineation of the recharge and possible discharge zones, • Evaluation of the effects caused by pumping, • Definition of aquifer 	Support, experts, equipment	IAEA, NPCs, NSAS countries	(data updated in NSAS Baseline Mtg. May 2006) Then on-going in project based on new data collected- 1 st sampling period Aug-Dec. 2006, 2 nd Sampling Programme Jan.-June 2007, on-going according to sampling programmes agreed thereafter

Output	Activity	Inputs	Roles and Responsibilities	Time frame
	<p>flow dynamics in the shared aquifer system,</p> <ul style="list-style-type: none"> Recalibration of the groundwater flow model after the update of the database. 			
	<p>ii. Introduce isotope hydrology in the monitoring programme at a regional level</p> <ul style="list-style-type: none"> Installation of a isotope hydrology into the regional monitoring network as appropriate Collection of precipitation, surface water and groundwater for isotope analyses at a region-wide level. 		IAEA, NPCs, NSAS countries	based on new data collected- 1 st sampling period Aug-Dec. 2006, 2 nd Sampling Programme Jan. 2007 – June 2007 and on-going according to sampling programmes agreed
	<p>iii. Collect data and apply isotope techniques to understand related issues (evaporation rates, climatic changes and land and water interactions</p> <ul style="list-style-type: none"> Collection of isotope and chemical data to monitor micro climate changes in the region, Collection of data from natural lakes to evaluate estimates of evaporation, Continuous sampling of groundwater and surface water data to estimate inflows and outflows (aquifer water exchange) and improve water budget, Collection of isotope data for estimating the impact of irrigation return. 			Jan. 2007 and then on-going as agreed in sampling plans
1.2.4 Enhanced Capacities				
	<p>i. Training courses, fellowships etc. in Isotope Hydrology and groundwater assessment and</p>		IAEA, NSAS countries and partners	Oct. 2006 and on-going as agreed in the

Output	Activity	Inputs	Roles and Responsibilities	Time frame
	management as well as group training in data interpretation and evaluation			project

	Project Outputs and Activities	2006						2007											
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1.2	Addressing Gaps in Capacity- Specific Outputs																		
1.2.1	Peer review report and workshop report																		
	i. Peer review of the NSAS model; Peer review of NARIS Database																		
	ii. Hold a meeting with NSAS modelling experts to consider enhancement for the NSAS model and their applicability, use and practicality for regional aquifer management																		
1.2.2	Nubian Baseline Report and updates																		
	i. Compilation and interpretation of existing hydrological and isotopic data																		
	ii. Compilation of historical data about the aquifer system																		
	iii. Data review and interpretation of existing information																		
	iv. Identification of data gaps in relation to priority needs for NSAS management, flow model, spatial sub-basins and aquifer coverage																		
	v. Entering new data in present or adjusted database (e.g. NARIS)																		
	vi. Preparation and support to considering specific actions for the Strategic Action Programme (SAP) to address data gaps																		
	vii. Filling other data gaps																		

	Project Outputs and Activities	2008												2009					
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
1.2	Addressing Gaps in Capacity- Specific Outputs																		
1.2.1	Peer review report and workshop report																		
	i. Peer review of the NSAS model; Peer review of NARIS Database																		
	ii. Hold a meeting with NSAS modelling experts to consider enhancement for the NSAS model and their applicability, use and practicality for regional aquifer management																		
1.2.2	Nubian Baseline Report and updates																		
	i. Compilation and interpretation of existing hydrological and isotopic data																		
	ii. Compilation of historical data about the aquifer system																		
	iii. Data review and interpretation of existing information																		
	iv. Identification of data gaps in relation to priority needs for NSAS management, flow model, spatial sub-basins and aquifer coverage																		
	v. Entering new data in present or adjusted database (e.g. NARIS)																		
	vi. Preparation and support to considering specific actions for the Strategic Action Programme (SAP) to address data gaps																		
	vii. Filling other data gaps																		

Approach

The agreed approach is to: (a) identify and address missing data in the entire Aquifer needed for an overview and better understanding of the NSAS, considering the current expansion of new observation wells that are being drilled in the aquifer area, and (b) provide priority capacity building to bring all aquifer countries to a common level of capacity needed for the NSAS MSP. This component will address efforts to increase the basic knowledge especially in Chad and Sudan. This will involve training, field work (including preparatory work for drilling,) the compilation of existing and new data as well as additional activities as listed in Component 2 (section 2.2). The capacity build-up will be implemented to complement the activities in the already ongoing IAEA RAF/8/036 project on NSAS System.

It is important that efforts are maximized in a joint effort to bring about mutual benefits and reduce costs at the aquifer wide level. One example is by locating new observation wells close to national borders and to address gaps towards an even regional distribution. The gaps are mainly in the southern parts of the aquifer where current development activities are sparser. The countries under the guidance and coordination of the Joint Authority will define different data gaps related to geographical coverage, topographical leveling, and the continuity of the time series. They will then balance these identified gaps against agreed criteria and identified needs as well as existing and planned actions for drilling/establishing of observation wells, isotope studies and updating of both data bases and the aquifer model. A regional expert will review the identified country data gaps and reconcile and summarize the data gaps for the NSAS. The capacity gaps are mainly in Chad and Sudan and these will be addressed through training in isotope hydrogeology and groundwater monitoring methodology. It is envisaged that the capacity building will build on regional exchange and involvement in the NSAS countries making use of existing training facilities and centres in the region.

The Executing Agency, the IAEA, will work closely with the 4 NSAS countries as well as, when appropriate, (e.g. CEDARE in relation to the NARIS database) as appropriate. This sub-component is highly dependent on each NSAS country following through on agreed upon sampling campaigns in a timely manner. The project can help provide support via overall scientific guidance, planning needed sampling, organizing analysis and supporting interpretation, yet the success of this sub-component is highly dependent on each NSAS country following through on commitments to undertake sampling campaigns in the given timeframe. This is essential in order to receive new data/ information to fill the critical gaps in knowledge. Furthermore, the NSAS countries are expected to be proactive in data collection and the inputting of data into respective Nubian databases as part of their national co-funding commitments to the overall project.

Component 2: Preparation of a Strategic Action Programme (SAP)

Expected Outcome: The outcome of this component will be an established process, timeframe and primary input for reaching an agreed programme of action to tackle the issues raised in the SADA.

2.1 SAP Preparation - Specific Outputs:

2.1.1 NSAS SADA/ SAP Bridging Document with NSAS Vision Statement (EcoQs) and Options Report

2.1.2 National SAP reports

2.1.3 Regional NSAS SAP Report

Output	Activity	Inputs	Roles and Responsibilities	Time frame
2.1.1 NSAS Countries' Vision Statement + NSAS SAP Options Report				
	<ul style="list-style-type: none"> i. Planning the bridging of the SADA and SAP including remaining steps of the SAP (appointing the national & regional SAP teams) ii. Developing Long-term Eco QOs (including Nubian Vision Statement) iii. Brainstorming ways to attain the EcoQOs (regional workshop) 	Experts - revised plan for SAP development, Draft EcoQs, draft recommendations (Jan. 2008)	NPCs, IAEA/PM and key stakeholders to be determined	Feb. 2008
2.1.2 Preparing National SAP Reports				
	<ul style="list-style-type: none"> i. Examination of alternatives (feasibility studies) ii. Developing targets iii. Set Measurable indicators iv. Developing short-term and priority actions 	Experts Guidelines (Feb. 2008)	NPCs, IAEA PM/ CTA,	March - Aug. 2008

Output	Activity	Inputs	Roles and Responsibilities	Time frame
	v. Agreement on the Institutional framework (national and regional) vi. Drafting the National Action Programmes vii. (NAPs) viii. National SAP meetings			
2.1.3 Preparing the Regional SAP report (regional)				
	i. Drafting the regional Strategic Action Programme (SAP) ii. Holding the regional SAP meeting iii. Finalizing the SAP iv. Planning a Ministerial Conference	Experts Guidelines (Feb. 2008)	NPCs, PM,	March - Aug. 2008

Approach

The SAP process should be initiated by the national technical task teams, who would draw upon the SADA findings. The SAP process would work to formulate a common “Aquifer Vision” for the NSAS and would identify the ecological and socioeconomic objectives for the management of the NSAS. The process addressed by national and regional SAP formulation teams will have to involve key participation from the top decision-making and technical levels in the respective aquifer countries. The SAP formulation includes initial development of and agreement on objectives and targets along with monitoring and evaluation indicators (process, stress reduction, environmental status) and should be built on the feasibility study of the options for action and their social and financial soundness. A key element of the SAP process is the defining of both national and regional institutional framework(s) and policies and then mobilizing the participation and the commitment for cooperation amongst the stakeholders at the different levels. All countries have established long-term water sector strategic plans. For example, in Egypt, a long-term water strategy report already exists up to 2025 and in Libya the existing National Strategic Committee would be involved in the SAP process. The SAP will be focused on the regional process under the auspices of the Joint Authority.

2.2. Capacity- Building for SAP Development – Specific Outputs

2.2.1 Capacity-building enhanced

2.2.1 Training				
	<p>i. Training provided in relevant groundwater monitoring and assessment techniques including:</p> <ul style="list-style-type: none"> - ground water field methods & sampling techniques - isotope hydrology - modelling existing data - GIS and remote sensing. - F ex. & interpretation on geophysical methods -Locating and preparing for the development of deep observation wells with piezometers in the Chad Section of the NSAS 	Exchanges, Fellowships, training courses	IAEA/PM, NPCs, NSAS countries and partners	Jan. 2007 and then continuing as planned and appropriate

Approach

Capacity building relevant to the development of the SAP, focused on Chad and Sudan, will be carried out based on activities initiated in component 1.2. Capacity-building activities will be adapted according to the results of the SADA so as to help in developing both the SAP and for preparing for possible follow-up actions emerging from the SAP. Thematic inter-linkages can also be emphasized including climate change adaptation etc.

	Project Outputs and Activities	2006						2007												
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
2	Component : Preparation of Strategic Action Programme (SAP)																			
2.1	SAP Preparation - Specific Outputs:																			
2.1.1	NSAS Countries Vision Statement + NSAS SAP Options Report																			
	• Planning the bridging of the SADA and SAP including remaining steps of the SAP (appointing the national & regional SAP teams)																			
	• Developing Long-term Eco QOs (including Nubian Vision Statement)																			
	• Brainstorming ways to attain the EcoQOs (regional workshop)																			
2.1.2	Preparing National SAP Reports																			
	• Examination of alternatives (feasibility studies)																			
	• Developing targets																			
	• Set Measurable indicators																			
	• Developing short-term and priority actions																			
	• Agreement on the Institutional framework (national and regional)																			
	• Drafting the National Action Programmes																			
	• (NAPs) National SAP meetings																			
2.1.3	Preparing the Regional SAP report (regional)																			
	• Drafting the regional Strategic Action Programme (SAP)																			
	• Holding the regional SAP meeting																			
	• Finalizing the SAP																			
	• Planning a Ministerial Conference																			
2.2	Capacity Building for SAP Development (with a focus on Chad and Sudan)																			
2.2.1	Training																			

	Project Outputs and Activities	2008												2009					
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
2	Component : Preparation of Strategic Action Programme (SAP)																		
2.1	SAP Preparation - Specific Outputs:																		
2.1.1	NSAS Countries Vision Statement + NSAS SAP Options Report																		
	• Planning the bridging of the SADA and SAP including remaining steps of the SAP (appointing the national & regional SAP teams)																		
	• Developing Long-term Eco QOs (including Nubian Vision Statement)																		
	• Brainstorming ways to attain the EcoQOs (regional workshop)																		
2.1.2	Preparing National SAP Reports																		
	• Examination of alternatives (feasibility studies)																		
	• Developing targets																		
	• Set Measurable indicators																		
	• Developing short-term and priority actions																		
	• Agreement on the Institutional framework (national and regional)																		
	• Drafting the National Action Programmes																		
	• (NAPs) National SAP meetings																		
2.1.3	Preparing the Regional SAP report (regional)																		
	• Drafting the regional Strategic Action Programme (SAP)																		
	• Holding the regional SAP meeting																		
	• Finalizing the SAP																		
	• Planning a Ministerial Conference																		
2.2	Capacity Building for SAP Development (with a focus on Chad and Sudan)																		
2.2.1	Training																		

Component 3: Establishment/enhancement of Framework for developing the Legal and Institutional Mechanism/ Convention for the NSAS
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The outcome of this component will be a draft agreement on framework for NSAS *management*.

3.1 Framework for developing the Legal and Institutional Mechanism for the NSAS- Specific Outputs:

3.1.1 NSAS Joint Authority Meeting Report (s)

3.1.2 NSAS Legal and Institutional Planning Report

3.1.3 National Assessment Report

3.1.4 Review report on other existing legal and institutional mechanisms relevant to NSAS management framework

3.1.5 Report on the regional NSAS legal and institutional mechanism options for enhancement

3.1.6 Draft of Institutional Legal and Institutional Framework (enhancements) as agreed upon by NSAS countries

Output	Activity	Inputs	Roles and Responsibilities	Time frame
3.1.1 Joint Authority Meeting Report (s)				
	i. Review issues related to the Joint Authority in the frame of the NSAS Medium-sized project	- Financial and administrative support, - Decision on dates and location	Joint Authority NSAS (JA) plans meeting, supported by IAEA	Sept. – Nov. 2006, as appropriate thereafter
3.1.2 Legal and Institutional Component Planning Meeting Report				
	i. Conduct a meeting to review this component (3) and specify in more detail next steps for enhancement based on involvement and informing of relevant decision-makers and experts	Meeting prospectus, necessary documentation	IAEA/PM, UNDP/GEF UNESCO, Joint Authority sponsoring 4 countries	Jan./ March 2007

Output	Activity	Inputs	Roles and Responsibilities	Time frame
3.1.3 National assessment report				
	i. Conduct national review of the existing legal & institutional framework / mechanism	Expert, National legal expert (as part of the SADA team), guidance provided by UNESCO, March 2007	Countries involve legal advisor with experience in water laws linked to SADA group team, IAEA/PM, UNESCO, NPCs and NSAS countries, JA	Draft Report, June 2007* could be included as part of the national SADA assessment, Final Report, Dec. 2007
3.1.4 Review report on other existing legal and instit. Mechanisms relevant to NSAS management				
	i. Review report on other existing legal and instit. Mechanisms considering relevant bilateral, multilateral agreements, instit. & legal mechanisms, intl developments relevant to the NSAS management	Draft report for review	UNESCO , NPCs, NSAS countries (JA)	June 2008
3.1.5 Report on the regional legal institutional mechanism options for enhancement				
	i. Conduct national workshops, ii. Conduct Regional workshop to review options	Background documents provided before the workshops	- The national ministry of foreign affairs, Joint Authority, the national coordinators for each countries and UNESCO,	Aug. 2008

Output	Activity	Inputs	Roles and Responsibilities	Time frame
			IAEA/PM, UNDP/GEF.	
3.1.6 Draft of Institutional Legal and Institutional Framework (enhancements) as agreed upon by NSAS countries			-	
	<p>i. Drafting of the required texts for options retained, concerning the arrangement for four-country consultation for the management of the NSAS,</p> <p>ii. Convening of a national legal workshop in each country for discussion of proposals,</p> <p>iii. Convening of inter-governmental negotiation sessions of empowered representatives of the NSAS countries,</p> <p>iv. Drafting of a legal framework & agreement on process and content for a legal mechanism. It is important that this process involves the national Ministries of Foreign Affairs as important stakeholders as they are usually the lead ministry on international and regional conventions and ratifications.</p>	Expert input, draft texts	Appropriate national experts, NPCs, JA, regional experts, UNESCO, IAEA PM/CTA, UNDP etc.	To be determined once implementation of this component begins

Approach*

The development of a joint regional NSAS framework is focused on reconciliation and harmonization of national legal and institutional policies towards a legal aquifer mechanism/ convention and a regional institution. The process comprises the review of the national legal, institutional and socio-economic and environmental development policies and programmes followed by the drafting of an Aquifer legal framework leading to a formal mechanism or Convention as the prelude to signature and ratification. In view of the limited legal provisions as codified in international groundwater law, the development of a regional legal agreement for the joint management, use and protection of this common property forms a legal challenge for review and application of international water law and other legal principles for substantial legal development. Furthermore, close attention must be paid to

current efforts to fill in the gap at the international level concerning groundwater law. In this context, the project will be instrumental in laying the practical and concrete experiences in terms of groundwater-related international laws and regulations. As a consequence, it is important to secure a high level of commitment from the respective governments and the involvement of the national ministries of foreign affairs as well as allow sufficient time and resources for this process. It will also be imperative to mobilize the support of an independent and internationally recognized institution with a high level of integrity, with a long record of international basin agreements and active participation in the development of codified international groundwater law¹. In this regard, it is important that lessons be drawn and information be exchanged from other parallel GEF Aquifer projects including the Guarani, Iullemeden and North Sahara aquifers using established networks and information management mechanisms under IW-LEARN together with IGRAC and WHYMAP.

** The approach and thus outputs, activities, inputs etc. mayl be revised based on joint planning in the initial stage of this project component (see Output 3.1.2 Legal and Institutional Component Planning Meeting Report.)*

¹ With reference to UNESCO-ISARM, currently providing technical and legal advice to the UN-ILC Special Rapporteur responsible for the formulation of a Convention on International Groundwater Convention.

	Project Outputs and Activities	2006						2007												
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
3	Component: Framework for developing the Legal and Institutional Mechanism for the NSAS																			
3.1.1	Joint Authority Meeting Report (s)																			
	Review issues related to the Joint Authority in the frame of the NSAS Medium-sized project																			
3.1.2	Legal and Institutional Component Planning Meeting Report																			
	Meeting to review component (3) and specify in more detail next steps for enhancement and based on involvement and informing of relevant decision-makers and experts																			
3.1.3	National assessment report																			
	National review for the existing legal & institutional framework / mechanism																			
	- draft report (add timing!)																			
	- final report																			
3.1.4	Review report on other existing legal and instit. Mechanisms relevant to NSAS management																			
	Review report on other existing legal and instit. Mechanisms considering relevant bilateral, multilateral agreements, instit. & legal mechanisms, intl developments relevant to the NSAS management																			
3.1.5	Report on the regional legal institutional mechanism options for enhancement																			
	National workshops, Regional workshop																			
3.1.6	Draft of Institutional Legal and Institutional Framework (enhancements) as agreed upon by NSAS countries																			
	i. Drafting of the required texts for options retained, concerning the arrangement for four-country consultation for the management of the NSAS,																			
	ii. Convening of a national legal workshop in each country for discussion of proposals,																			
	iii. Convening of inter-governmental negotiation sessions of empowered representatives of the NSAS countries,																			

i. Drafting of the required texts for options retained, concerning the arrangement for four-country consultation for the management of the NSAS,																			
ii. Convening of a national legal workshop in each country for discussion of proposals,																			
iii. Convening of inter-governmental negotiation sessions of empowered representatives of the NSAS countries,																			
iv. Drafting of a legal framework & agreement on process and content for a legal mechanism. It is important that this process involves the national Ministries of Foreign Affairs as important stakeholders as they are usually the lead ministry on international and regional conventions and ratifications.																			

Component 4: Project Management

Expected Outcome

The outcome of this component will be strengthened regional / national coordination mechanism for integrated management and rational use of the NSAS system.

Specific Outputs

4.1.1 Project Steering Committee

4.1.2 Project Manager/ Chief Technical Advisor (CTA)

4.1.3 Project Inter-Ministerial Committee

4.1.4 National Project Coordinators

Output	Activity	Inputs	Roles and Responsibilities	Time frame
4.1.1 Project Steering Committee	-	-		
	<ul style="list-style-type: none"> i. Establish PSC ii. Hold annual (or bi-annual meetings as appropriate and review project documentation in progress and provide guidance 	<p>each country shall nominate 2-3 persons, (Joint Authority represented by at least one Board member per country, plus the Exec. Manager) IAEA/PM, UNDP-GEF, UNESCO representatives, and other organizations as agreed by PSC (TOR)</p>	<p>IAEA Project manager/CTA to organize the meetings</p>	<p>Constituted by Jan 2007. In operation through the period of the project.</p>
4.1.2 Project Manager/ CTA				
	<ul style="list-style-type: none"> i. Manage project implementation in cooperation with IA (UNDP), EA (IAEA), PSC and NPCs. 	<p>IAEA should publish the job announcement and finalize the recruitment process.</p>	<p>IAEA, NPCs</p>	<p>Recruited as soon as possible (Jan. 2007) and - through the period of the project</p>

Output	Activity	Inputs	Roles and Responsibilities	Time frame
4.1.3 National Inter-Ministerial Committees				
	-i. Establish Inter-ministerial committees ii. Hold meetings as appropriate in each NSAS country iii. Provide feed back and guidance on the development / implementation of SADA/SAP	- IAEA PM/CTA provides guidelines, NPCs organize at national level	National project coordinators, IAEA/PM	- Formed Dec. 2006- March 2007. - In operation through the period of the project, meeting in the respective countries as agreed
4.1.4 National Project Coordinators				
	i. Confirmation of National Project Coordinators ii. Consultations as needed concerning project implementation iii. Coordination of national activities as required and link to regional level	NPC job description provided by IAEA/PM in Sept. 2006 4 Countries to confirm respective NPCs by Oct. 2006 based on Terms of Reference	NPCs responsible for national coordination of all national activities related to the project and input into regional processes in cooperation with IAEA/PM	Sept/Oct. 2006

Approach

Activities under this component would address management issues necessary to support project implementation and hence would support the other components above as well as the four main objectives. The project management arrangements include the Project Manager/ Chief Technical Advisor (CTA) supported by the Executing Agency IAEA and its administrative staff as well as international expertise, including qualified consultants as needed. The PM/ CTA would be responsible for coordinating project activities on the ground (in the Aquifer region) and for reporting to the Project Steering Committee (PSC) (see Annex 1) which would provide overall guidance to the project.

National Project Coordinators (NPCs) will be responsible for the facilitating of all project related activities at the national level. This will also include national Inter-ministerial Committees (IMCs) to ensure appropriate cross-sectoral integration at the respective national levels.

Close linkages will be maintained with GEF support mechanisms such as the GEF IW LEARN in order to benefit from “Lessons Learned” in other GEF International Water (IW) projects, as well as to assure appropriate linkages to other GEF Focal Areas e.g. Climate Change, Biodiversity, Land Degradation etc. which may also be needed for preparing the follow-up full-sized project for potential

GEF support. Particular attention will be given to addressing issues related to climate change adaptation and water resources management.

	Project Outputs and Activities	2006						2007											
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
4	Component: Project Management																		
4.1.1	Project Steering Committee																		
	- Establish PSC																		
	- Hold annual (or bi-annual meetings as appropriate																		
	- review project documentation in progress and provide guidance																		
4.1.2	Project Manager																		
	- Manage day-to-day activities.																		
4.1.3	Inter-Ministerial Committee																		
	- Establish Inter-minsterial committees																		
	- hold meetings as appropriate in each NSAS country																		
	- Feed back and guidance on the development / implementation of SADA/SAP																		
4.1.4	National Project Coordinators																		
	Confirmation of National Project Coordinators																		
	-Consultations as needed concerning project implementation																		
	-Coordination of national activities as required and link to regional level																		

	Project Outputs and Activities	2008												2009					
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
4	Component: Project Management																		
4.1.1	Project Steering Committee																		
	- Establish PSC																		
	- Hold annual (or bi-annual meetings as appropriate																		
	- review project documentation in progress and provide guidance																		
4.1.2	Project Manager																		
	- Manage day-to-day activities.																		
4.1.3	Inter-Ministerial Committee																		
	- Establish Inter-minsterial committees																		
	- hold meetings as appropriate in each NSAS country																		
	- Feed back and guidance on the development / implementation of SADA/SAP																		
4.1.4	National Project Coordinators																		
	Confirmation of National Project Coordinators																		
	-Consultations as needed concerning project implementation																		
	-Coordination of national activities as required and link to regional level																		

Component 5: Project Monitoring & Evaluation

The outcome of this component will be an agreed monitoring and evaluation plan and subsequently completed evaluation of project progress and results based on project objectives and performance indicators.

M& E of project implementation

5.1.1 Progress Reports to UNDP/GEF, IAEA, PSC and NSAS JA

5.1.2 Annual Reports to UNDP/ GEF (APR/ PIR)

5.1.3 Final Independent Project Evaluation

5.1.4 Preparations for follow-up project (proposal for full UNDP/GEF project)

M&E of status of the NSAS based on GEF IW

5.1.5 Considerations on M&E indicators on status of the NSAS

Output	Activity	Inputs	Roles and Responsibilities	Time frame
M&E of project implementation	-			
	i. set project implement. indicators - regular progress reporting - establishment of regular updating of project execution plans and project budgets ii. Annual reporting to GEF iii. Arrangement of one independent final project evaluation exercise -iv. Prepare follow-up project	- each country shall assist in compiling indicators with guidance from IAEA/PM - all countries agree on regional indicators	NPCs, PSC, IAEA {PM, UNDP/GEF	- Indicators available by April 2007 - Quarterly and annual reporting through the period of the project.
5.1.1 Progress Reports to UNDP/GEF, IAEA, PSC and NSAS JA				
	i. prepare and submit reports at agreed times	Format and content guidance for expected reporting (UNDP/GEF),	IAEA/PM and NPCs	At agreed times in project

Output	Activity	Inputs	Roles and Responsibilities	Time frame
		Provide Reports in advance of meetings		
5.1.2 Annual Reports to UNDP/ GEF (APR/ PIR)				
	i. prepare and submit reports at agreed times	Draft Reports in agreed format and submitted in advance of meetings	IAEA PM/ CTA and NPCs	At agreed times in project
5.1.3 Final Independent Project Evaluation				
	i. Support the conducting of an independent evaluation	Expert services for independent evaluation	IAEA PM/CTA, UNDP, NPCs, NSAS Countries	Dec. 2008-Feb. 2009
5.1.4 Preparations for follow-up project (proposal for full UNDP/GEF project)				
	i. Interact with UNDP/GEF and GEFSec concerning time frame and process for preparing and submitting a proposal for a GEF full-sized project ii. Prepare follow-up proposal and submit to GEF via UNDP	Expert services	UNDP/GEF, IAEA PM/CTA, NPCs	Aug. 2008-Dec. 2008
5.2.1 Considerations on M&E indicators on status of the NSAS				
	i. Begin development of	Draft	- IAEA/PM,	Jan. 2008-

Output	Activity	Inputs	Roles and Responsibilities	Time frame
	project impact indicators based on GEF IW guidelines as appropriate	indicators based on SADA/SAP results	UNDP/GEF, NPCs and PSC	Jan. 2009

Approach

Efforts will be made to follow all respective UNDP/GEF and IAEA reporting requirements to assure effective project implementation. Furthermore, GEF process, stress reduction and environmental indicators will be developed in the frame of the SADA/SAP process as per GEF IW M & E guidelines. During the SADA/SAP processes, special attention will be given to the collection of data in a format that may serve as a baseline for the selected indicators – especially in the follow-up project. Based on the monitoring and evaluation of results and in consideration of the results of the SADA/SAP process and institutional/legal framework developments, a full sized GEF IW project will be developed during the course of the MSP to assure appropriate continuation and SADA/SAP implementation.

	Project Outputs and Activities	2006						2007											
		7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
5	Component: Project Monitoring and Evaluation																		
	M&E of project implementation																		
	- set project implement. indicators																		
	- regular progress reporting																		
	- establishment of regular updating of project execution plans and project budgets																		
	- Annual reporting to GEF																		
	- Arrangement of one independent final project evaluation exercise																		
	- Prepare follow-up project																		
5.1.1	Progress Reports to UNDP/GEF, IAEA, PSC and NSAS JA																		
	i. prepare and submit reports at agreed times																		
5.1.2	Annual Reports to UNDP/ GEF (APR/ PIR)																		
	i. prepare and submit reports at agreed times																		
5.1.3	Final Independent Project Evaluation																		
	Support the conducting of and independent evaluation																		
5.1.4	Preparations for follow-up project (proposal for full UNDP/GEF project)																		
	Prepare follow-up proposal																		
5.1.5	Considerations on M&E indicators on status of the NSAS																		
	- begin development of project impact indicators based on GEF IW guidelines as appropriate																		

	Project Outputs and Activities	2008												2009					
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
5	Component: Project Monitoring and Evaluation																		
	M&E of project implementation																		
	- set project implement. indicators																		
	- regular progress reporting																		
	- establishment of regular updating of project execution plans and project budgets																		
	- Annual reporting to GEF																		
	- Arrangement of one independent final project evaluation exercise																		
	- Prepare follow-up project																		
5.1.1	Progress Reports to UNDP/GEF, IAEA, PSC and NSAS JA																		
	i. prepare and submit reports at agreed times																		
5.1.2	Annual Reports to UNDP/ GEF (APR/ PIR)																		
	i. prepare and submit reports at agreed times																		
5.1.3	Final Independent Project Evaluation																		
	Support the conducting of and independent evaluation																		
5.1.4	Preparations for follow-up project (proposal for full UNDP/GEF project)																		
	Prepare follow-up proposal																		
5.1.5	Considerations on M&E indicators on status of the NSAS																		
	- begin development of project impact indicators based on GEF IW guidelines as appropriate																		

Project Steering Committee (PSC)- Terms of Reference

**Project Steering Committee (PSC)
for the
IAEA/UNDP/GEF Nubian Sandstone Aquifer System (NSAS) Project**

Terms of Reference

Introduction

The primary objective of the NSAS Project Steering Committee (PSC) is to provide programmatic and strategic guidance to the NSAS Medium Sized Project (MSP.) The PSC can also serve as an umbrella to other related NSAS project activities as agreed upon by the NSAS countries. The NSAS PSC will meet at least once per year and will make decisions on a consensus principle.

Membership

Initial PSC membership, based on agreement during the project Inception Meeting, will include:

- at least 2 country representatives per NSAS country along with the National Project Coordinator (NPC) and a National representative the Nubian Joint Authority (JA.)
- Executive Secretary of the NSAS JA.
- UNDP, as project Implementing Agency,
- IAEA, as project Executing Agency,
- UNESCO, as cooperating Organization,
- the Project Manager/ Chief Technical Advisor (CTA)
- Additional invited members depending on agenda – these members will not have a voting right

Responsibilities

- Provide overall policy advice and guidance as needed during project implementation;
- Review, on a regular basis, project progress;
- Discuss, and advise on project workplans;
- Provide guidance to the Project Manager/ (CTA) on implementation issues at both national and regional levels;
- Give guidance and provide inputs for developing follow-up activities;
- Advance the implementation of the project by supporting high-level political buy in.

Meetings

PSC meetings will be held at least once a year and should be planned at appropriate times in project implementation. Where possible, PSC meetings should be held in conjunction with other significant project meetings. The NSAS Project Manager/ CTA is responsible for organizing PSC meetings, providing appropriate documentation in advance (at least two weeks) as well as for completing PSC meeting reports.

In addition, other stakeholders might be invited to attend PSC meetings on implementation related issues.

National Project Coordinators (NPCs)- Terms of Reference

**National Project Coordinators (NPC)
for the
IAEA/UNDP/GEF Nubian Sandstone Aquifer System (NSAS) Project**

Terms of Reference

Introduction

The National Project Coordinator (NPC) is the principle national point of contact regarding project implementation issues. The NSAS Project Manager/ CTA as well as other involved institutions will work directly with the respective NPCs on project implementation related issues. Each country is responsible of officially nominating a NPC and should officially notify the project Executing Agency (IAEA) and Project Manager (PM) of any changes. The NCP's efforts are considered as part of the respective countries' co-funding to the project and efforts should be made to document this input.

Responsibilities

The NPC are responsible for the following tasks within their respective countries:

- Act as the central point of contact concerning all project implementation issues;
- Develop and coordinate meetings of the national Inter-ministerial Committees;
- Oversee the conducting a national stakeholder analysis and organize appropriate stakeholder involvement at appropriate points in the project;
- Determine and notify project staff, of appropriate national participation in NSAS project activities within necessary timeframe;
- Assist in the identification of appropriate national experts based on TORs provided by NSAS project staff;
- Involve appropriate and necessary government and non-government institutions and experts in respective project activities to assure appropriate national representation and ownership of results;
- Organize national meetings, based on guidance from NSAS project staff, as per the agreed upon time frame;
- Ensure the conducting of scientific investigations e.g. sampling, analysis etc. as agreed in NSAS project workplans;
- Facilitate national participation and ownership in NSAS project activities.
- Provide feedback to NSAS project management on national perspectives, needs and views on project implementation.

Annex 3 to PIP

Project M & E Framework

**GEF International Waters Results Template –for Foundational/Capacity Building Projects-
IAEA/ UNDP/ GEF Nubian Sandstone Aquifer System (NSAS) project**

PROCESS OUTCOMES AND INDICATORS

Process OUTCOMES			Process INDICATORS	Risks
Project	Rating	Catalytic	Project	
Established process for assessing, analyzing and agreeing upon the priority transboundary issues, threats and their root causes in the NSAS via a joint Shared Aquifer Diagnostic Analysis (SADA)			Sada development process agreed	- potential lack of commitment to assess potential transboundary issues (Low risk, to be mitigated by step by step process with political commitment at each stage) - potential lack of sufficient information (Medium risk- to be mitigated by strong efforts made to collect additional information iteratively)
Agreement reached on a SADA and a better understanding of the priority issues, threats and root causes of the NSAS			First NSAS SADA report completed and accepted by 4 countries and relevant stakeholders	- potential difficulties in reaching consensus (Medium Risk, to be mitigated by a focus on improving understanding of the NSAS system as a basis for decision-making)
Stakeholder involvement in transboundary waterbody priority setting and strategic planning			Stakeholder analysis completed at the national and regional levels respectively	-potential for insufficient stakeholder involvement (Low Risk- mitigated by emphasizing appropriate stakeholder involvement from the beginning of project implementation)
Effective national Inter-ministry Coordination			4 NSAS countries have inter-ministerial committees formed that meet on a regular basis as agreed	-potential of lack of commitment to work across sectors (Low risk, to be mitigated by previous inter-sectoral cooperation and the existence of cross-sectoral coordination already before project implementation)
Improvement of technical tools (models, monitoring etc.) for			Tools exist that provide an improved understanding of the	- potential lack of sufficient baseline information (Medium risk,

assessing the NSAS			NSAS system	to be mitigated by strong focus on technical work throughout course of the project via IAEA co-funded activities
Enhanced capacities for assessing and managing the NSAS			Training completed and being utilized in the NSAS management	- potential for inappropriate candidates being selected for training (Low Risk, to be mitigated by clear selection process)
Agreement on a shared Vision for the NSAS			Agreed NSAS Shared Vision statement	- potential that no agreement can be reached (Low risk, to be mitigated by continuous efforts from the beginning of the project to identify joint benefits)
Joint acceptance of the agreed process and vision of NSAS SAP			Agreed process with time frame and milestones , and significant progress towards developing a joint SAP	- potential difficulties in agreeing on the scope and framework of the SAP (Medium Risk- to be mitigated by efforts beginning with the SADA to incorporate views of all appropriate stakeholders and assess opportunities and costs)
Agreed approach for reviewing institutional and legal mechanism for the NSAS			Agreed process with time frame and milestones	- potential difficulty in agreeing on the approach (Low risk, to be mitigated by holding a special workshop to plan this component in more detail acceptable to all appropriate stakeholders)
Agreement on appropriate institutional and legal mechanism for joint NSAS management			Framework document 4 NSAS countries and relevant stakeholders	- potential difficulty in reaching agreement on next steps for enhancement (Low risk, to be mitigated by good planning, and an open and transparent process)
Enhanced capacity of the NSAS Joint Authority to be involved in NSAS management			Training completed and NSAS JA structures functioning	- potential difficulty of taking the appropriate strengthening measures (Low risk, to be mitigated by a consistent, constant effort to build institutional capacities for joint management)

STRESS REDUCTION OUTCOMES AND INDICATORS

Stress Reduction OUTCOMES			Stress Reduction INDICATORS (report vs. baseline if possible)
Project	Rating	Catalytic	Project
Not applicable to this Medium-Sized Project			

ENVIRONMENTAL/WATER RESOURCES STATUS OUTCOMES AND INDICATORS

Environmental/Water Resources (& Socioeconomic) Status OUTCOMES			Environmental/Water Resources (& Socioeconomic) Status INDICATORS
Project	Rating	Catalytic	Project
Not applicable to this Medium-Sized project			

Ratings:

Highly Satisfactory	HS	The outcome is likely to be achieved or exceeded, efficiently with no significant shortcomings
Satisfactory	S	The outcome is likely to be achieved, efficiently with only minor shortcomings
Moderately Satisfactory	MS	The outcome is likely to be achieved, efficiently with moderate shortcomings.
Moderately Unsatisfactory	MU	The outcome has moderate shortcomings that limit or jeopardize its achievement, but resolution is likely.
Unsatisfactory	U	The outcome has significant shortcomings that limit or jeopardize its achievement, and resolution is uncertain.
Highly Unsatisfactory	HU	The outcome has major shortcomings that limit or jeopardize its achievement, and resolution is unlikely.