Republic of Sudan
Higher Council for Decentralized Governance

REPUBLIC OF SUDAN

STUDY ON DETAILED PLAN FOR PROJECT FOR HUMAN RESOURCES DEVELOPMENT FOR DARFUR PHASE-II

FINAL REPORT: APPENDIX-2

SECTOR PLAN: WATER & ENVIRONMENTAL SANITATION

July 2014

Japan International Cooperation Agency
System Science Consultants Inc.
Earth System Science Co. Ltd.

Currency

Currency	As June 2014	Sudan Pound (SDG)
Exchange Rate ***	As June 2014	USD 1 = JPY 101.68
		USD 1 = SDG 5.669
		JPY 1 = SDG 0.055754
		SDG 1 = JPY 17.936

*** JICA exchange rate

Abbreviation

AfDB	African Development Bank
C/P	Counter Part
DDPD	Doha Document for Peace in Darfur
DDR	Demobilization, Disarmament and Reintegration
DPA	Darfur Peace Agreement
DRA	Darfur Regional Authority
DWSU	Drinking Water and Sanitation Unit
DWST	Drinking Water and Sanitation Unit Training Centre
HCDG	Higher Council for Decentralised Governance
HP	Hand Pump
IDP	Internally Displaced Persons
IOM	International Migration Organization
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
M/M	Minute of Meeting
NGO	Non-governmental Organization
NSDDRC	North Sudan DDR Commission
OJT	On the Job Training
ONEE	National Office for Electricity and Portable Water
PDM	Project Design Matrix
PDCA	Plan-Do-Check-Act
PMC	（State）Project Management Committee
PO	Plan of Operations
PWCT	Public Water Corporation Training Centre
SM	Sector Meeting
SMAP	Project on Human Resources Development in Darfur
SMoF	State Ministry of Finance
SMoH	State Ministry of Health
SWC	State Water Corporation
TOT	Training of Trainers
UNAMID	United Nations-African Union Mission in Darfur
UNDP	United Nation Development Programme
UNEP	United Nation Environment Programme

UNFPA	United Nation population Fund
UNICEF	United Nations Children's Fund
UNHCR	United Nations High Commissioner for Refugees
UNIDO	United Nations Industrial Development Organization
UNOCHA	United Nations Office for Coordination of Humanitarian Affairs
UNOPS	United Nations Office for Project Services
WASH	Water and Sanitation and Hygiene
WES	Water and Environmental Sanitation
WHO	World Health Organisation
WY	Water Yard

Definition of Term

Water Yard (WY)	Well with submersible pumps. Facility include the control house(generator, Control pane), public water tap, and fence etc.
Hand Pump (HP)	Well with hand pump.
Hafir	Reservoir designed for storing rain water carried by streams and used for domestic water supply and for agricultural purposes in rural areas
Rural Water Supply	Area with administrated by rural water department of SWC. Mainly, water supplied by public water taps.
Urban Water Supply	Area with administrated by urban water department of SWC. Mainly, water supplied by house connection.
Safe Water Access	The rate of population who can access to the improved water supply facilities within 500m.

SMAP Sector Plan Component 2 : Water and Environmental Sanitation

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ATTACHED DOCUMENTS

1. List of JCC Members
2. Project team Members
3. List of procured equipment
4. Draft Items of Socio-economic Survey (Component 2)
5. Member of Socio-economic Survey
6. Member of Baseline Survey
7. Selection Flow of Target Community
8. Short List of Pilot Communities
9. Draft PDM of Component 2

1. Overview of the Component 2

Component 2 aims to improve water access ratio of community people through the pilot project (rehabilitation of existing water yards, expansion of the distribution pipes, construction of new water yards), and improve the organization ability of SWCs through OJT at same time. Although construction of the water supply facilities is basically implemented by the private sectors, the project aim to provide more effective and efficient services through development of supervising and designing capacity of SWCs

The pilot project is planned to cover 57(fifty seven) of communities (water yards) in three states. Beneficiaries are estimated to approximately 160,000(one hundred sixty thousand) by the end of the project. The pilot project of SMAP-2 has a feature that makes consideration of conflict prevention based on the needs of communities. The target community will be decided by agreement among SWCs, locality offices, and inhabitants based on selection criteria. And also improvement of environmental sanitation related to the water supply will be enhanced in collaboration with SMoH in SMAP-2. Planned activities are sanitary education to community and the proposal of sanitary water yard design. Dividing the water supply point between humans and livestock is particularly important for sanitation. And also it has serious effect meaning for eliminating friction between inhabitants and nomads.

As for capacity development for SWC Staff, in addition to the training at DWST (Drinking Water and Sanitation Unit training Center), the project will support training at SWCs in order to expand the training to staff of Locality offices. Lessons learned of the pilot project will be regularly shared with stakeholders at the project technical committees. And the project will develop a guideline related to water yard construction and rehabilitation.

2. Background

(1) Background

According to “Sanitation and Hygiene Sector Strategic Plan（2011-2016）”, the safe water access in the Darfur region is extremely poor in comparison with the other 15 states in Sudan, and the amount of water consumption per day is 13.0 (litter/person/day) in South Darfur State, 12.1 (litter/person/day) in North Darfur State, 8.6 (litter/person/day) in West Darfur State. It is approximately half the national average of 24.1(litter/person/day). Particularly in rural areas, the amount is reported 6.5 to 12.2 (litter/person/day), and it is larger than deviation from state target amount of 20 to 30 (litter/person/day). In addition, safe water access rate in rural areas of the Darfur region is approximately only 40 % (national average is 56.8%).

The main improved water resources in the Darfur region are groundwater, and there exist about 5,800 of wells. 85 % of the total number of wells is hand pumps and the remaining 15% are water yard. However the water yard is currently most important water source, because the volume of approximately 80 % of improved water is supplied by water yards. One of the reasons of the huge number of hand pumps in Darfur region is affected by activities of development partner’s which are supporting IDPs (Internally Displaced Person). In case of

West Darfur State, there are many IDP Camps, approximately 50 % of the improved water is supplied by hand pumps.
Lack of operation and maintenance is an urgent issue for both water yards and hand pumps. Wells which were constructed by donors and NGOs are mainly hand pumps under the framework of emergency humanitarian relief. Therefore, the operation and maintenance by community people has not been systematized. In addition, the burden of cost for maintenance and operation of water supply facility is difficult for many communities due to poverty. In case of the IDP's camp, a water tariff is not charged.
Lack of capacity of SWCs for operation and maintenance of water supply facilities is also an urgent issue. And due to the lack of budget, water tariff revenue, technical knowledge of staff, data of water supply facility and monitoring of water supply, operation and maintenance of water supply facilities has not been properly implemented.
In SMAP SMAP-1, the project conducted rehabilitation (mainly cleaning of boreholes by using the air lifting method and installation of new submersible pumps) of 49 important water yards as a pilot project for recovering the water supply amount. In addition, the project has conducted the technical training and provided the necessary equipment for the pilot project. As a result, technical capacity of the SWC staff was improved. However, some part of technical skills such as borehole camera and supervision of the activity still have not enough. And also the problems which are mentioned above are an issue remaining to be improved.
In the Darfur region, row over water use has been one of the factors of conflict. Water supply service contributes to mitigation of the conflict, but on the other hand it causes trouble over water use as well. For the development of the water supply and establishment of water use regulation, sufficient considerations required depend on the regional situations. Moreover, in Darfur region, human and livestock use a same water point, and drainage treatment has not been conducted in many water yards. It is also a problem from the viewpoint of environmental sanitation.

(2) Relevance

1) Relevance to Sudanese development needs

Darfur region is located at arid or semi-arid area (short rainy period and low rainy intensity) and is vulnerable against drought. Thus, the water supply is depended on groundwater sources which is not affected by short-term precipitation. However, the improved water access ratio is not satisfactory, and it is reported as 59.8% in North Darfur state, 44.5% in South Darfur State and 69.4% in West Darfur State. A large gap is observed in usage of water is 9 to13 (litter/day/person) in the region in comparison with 24 (litter/day/person) of the national average. Friction over scarce water resource is one of the trigger of conflict between nomads and settled community people. Safe water supply is vital both for the healthy life and conflict prevention. For its importance, many donor agencies are constructing the water supply facilities. However, priority is often given to the emergency aspect, and less effort is made for maintenance. Development of technical skills for O&M is a priority issue for the Darfur people and SWCs.

2) Relevance to Sudanese development plan and strategy

In Interim Poverty Reduction Strategic Paper (2012), other than installation of small scale water plant and rehabilitation of water facility in rural area, another emphasis is put on the improvement of water supply/sanitation. Sanitation education in collaboration with MoE and MoH and activities to increase awareness of the people are considered as important measures to achieve the purpose.

In Darfur Development Strategy (2013), improved access to water and sanitation is set as its objective. DDS aims to improve access to safe water both in rural area (existing and return area) and urban area (existing and new area), as well as sufficient amount for livestock. It also place importance on the provision of appropriate sanitary facility. As indicators, followings are recognised such as coverage and access to water services, improved monitoring and evaluation of safe water usage, improved water infrastructure and delivery system and development institutional capacity development plan.

The SMAP-2 approach that target the rural water supply in Darfur matches to the above mentioned water and sanitation policies.

(3) Lessons Learn from SMAP-1

Lessons learned from SMAP-1 are as follows;

<Selection of the target communities>

In SMAP-1, despite 49 water yards has been rehabilitated in total in three states, the criteria of selection was not clear because the selection had been done by each SWC. Therefore, the verification of validity, equity, and the accountability were difficult. In SMAP-2, based on the proper select criteria, the target site should be selected by an agreement with stakeholders

<Preliminary survey (Baseline Survey)>

In SMAP-1, pilot project had been implemented without baseline survey. Thus, the benefit for community such as increasing of the water supply amount was not clear.

In SMAP-2, baseline survey has to be conducted in order to clear the project output.

As for the preliminary survey of pilot project, socio-economic survey of target communities and baseline survey of water supply are planned in SMAP-2

<Implementation>

A) Technical Issues

In SMAP SMAP-1, technical issue such as miss operation of the borehole camera remained. In SMAP-2, the project clarifies the person in charge and the tasks required to pilot projects, and the appropriate training should be implemented for the solution of remaining issues.

B) Reporting

Although pilot project reports have been prepared in SMAP-1, the contents covered only basic information of water yards. In SMAP-2, the report format has to be modified that added

contents such as the water served population, the number of household, the current water supply amount, the water tariff, the actual collected water tariff, and the condition before the rehabilitation (leakage, trouble of machines, sanitation, and water quality).

<Evaluation>

In SMAP-1, the evaluation of the pilot project was mainly conducted by JICA experts. In SMAP-2, evaluation has to be implemented by each SWC, federal government, and state ministry of finance in the moment of sector meeting and SMPC (State Project Management Committee)

<Management>

The lack of the capacity related to project management is a common issue in three Darfur states, and it was not sufficiently developed in SMAP-1. Capacity development of the management is a most important issue.

Lessons and learned from SMAP-1 are as follows;

A) Preparation of the Monthly Report

Although the monthly reports have been submitted by each SWC from November, 2012, it has not been shared with the SMoF which is in charge of the project management.

In SMAP-2, aiming at the capacity development of the project management and the information sharing, submission of monthly reports have to be submitted to the SMoF, and have to be shared with stakeholders.

B) Regular Meeting with the SMoF and other Components

In SMAP-1, regular meeting with the SMoF and other Components has not been conducted. For the information sharing of activities, securement of the project budgets and the establishment of the consistent project management system, holding the regular meeting are required in SMAP-2.

C) Pilot Project Planning

In SMAP-1, due to the budgets shortage and the security deterioration, pilot project has been delayed in three Darfur states. In consideration of the situation of the Darfur region, the pilot project plan has to be developed flexibly.

Revision of the plan in the moment of the STPC, and the development of an annual project plan are required as countermeasure.

3. Planning Framework

Component 2 implements activities in consideration of 1) Provision of water supply services meeting the needs of community people, 2) Efficient service provision, 3) Equal service provision, 4) Accountable service provision, based on public service fundamentals. In addition to the above 4 items, “5) Consideration to Conflict Prevention” are basic concept of component 2.

1) Provision of water supply services meeting the needs of community people

For pilot project implementation, the project considers meeting the needs of community people as a first priority, and plans activities which emphasize results based on interviews with community people.

2) Efficient service provision

In limited project budget, the project has to consider cost efficiency in order to achieve the maximum outcome.

3) Equal service provision

The project presents proper criteria to stakeholders, and selects pilot sites based on mutual understanding between the project, community and other stakeholders.

4) Accountable service provision

The project shares the activity plan among stakeholders including community people through stakeholder workshop. It is expected to verify the validity of the pilot project by outsiders.

5) Consideration of the Conflict Prevention

The project improves the water supply situation of socially vulnerable areas affected by the conflict. Avoiding areas with the potentiality of conflict over water resources is desirable as much as possible. In case the project cans not avoid such areas, it must determine the pilot site carefully under discussion a mutual understanding among stakeholders.

This project is implemented in situation with the Japanese do not often go to the site due to security reasons. Therefore, project operation with full utilization of local resources in Sudan is required. Moreover, in consideration of the security situation, flexibility of project planning is required as well.

4. Basic information of Water and Environmental sanitation Sector

(1) Project Title

The Project for Strengthening Peace through the Improvement of Public Services in Three Darfur States, Phase-II

Sector Sub Title

United Water Project for Peaceful Darfur

(2) Project Period

Jan, 2015 to Dec, 2018 (48 Months)

(3) Target States

North Darfur State, South Darfur State, West Darfur State

(4) Beneficiary

1) Direct Beneficiaries

The total number of beneficiary is estimated to 162,297.
Breakdown of the number is as follows;

Table-4.1 : Breakdown of Direct Beneficiaries

Component 2	Beneficiary	Number	Benefit
Component : Water and Environmental sanitation	Community's People	162,000	Population water served by the improved water supply facilities
	Government Staff (Mainly SWC Staff)	297	Number of trainee
Total		162,297	

2) Indirect Beneficiaries

Population of 3 Darfur states who receive improved public services (Water and Environmental sanitation) approximate 7.25 million

Breakdown of population is as follows;
North Darfur: 2,688,220
West Darfur: 1,201,539
South Darfur: 3,367,831

(5) Implementing Agency

Implementing agency of Component 2 is State Water Corporation (SWC) of each state.

Table-4.2 : Implementation Agency of Component 2

State	Organization / Department	Representatives
North Darfur	SWC/Project Planning & Implementation Department, Rural Water Corporation	Director General (DG)
South Darfur	SWC/Project Planning & Implementation Department, Rural Water Corporation	Director General (DG)
West Darfur	SWC/Project Planning & Implementation Department, Rural Water Corporation	Director General (DG)

5. Purpose

(1) Super Goal (Common indicators among four components)

Strengthening peace and stability of three Darfur states through improvement of quality of life

of people in three Darfur States

(2) Overall Goal

Public well-being is enhanced in three Darfur States
(*Well-being is defined as conditions where public happiness, public trust and public services are fulfilled for the people.)
【Indicators】

- [Common indicators among four components] Public happiness is increased
- [Common indicators among four components] Public trust on the government is promoted
- [Common indicators among four components] Satisfaction on public services is increased
- Coverage of improved water supply is increased to 70% of the population in rural area of three Darfur states by 2020 (estimate from national target)

(3) Project Purpose

Water supply services considering public needs are inclusively provided in pilot projects area and Institutional capacity of State Water Cooperation (SWCs) in provision of rural water supply services is strengthened

【Indicators】

- [Common indicators among four components] Selection process of the pilot areas become inclusive (include the most conflict-affected people community, etc. into target groups with consideration for coexistence)
- [Common indicators among four components] Recognition of implementing agencies on public needs is improved (Contacts with community is increased, attitude of implementing agencies to community people become responsive from neglective, etc.)
- [Common indicators among four components] Capacity (to make the services efficient, transparent and peace promotion) of service providers perceived by stakeholders is improved
- Public satisfaction on water supply service is increased in pilot areas
- Access time to improved water is decreased oo% in pilot areas
- Improved water consumption (litters/capita/day) is increased oo% in pilot areas
- Pilot projects are implemented as planned

6. Expected Outputs

In Component 2, institutional capacity of SWC in three areas of 1) planning, 2) knowledge and skills, and 3) operation is expected to be strengthened through pilot projects.

① Planning and coordination skills necessary to conduct pilot projects (rural water supply services) in consideration of public needs and inclusiveness are improved

【Indicators】

- All pilot projects are planned by each SWC

② Skills and knowledge of SWCs on the management of pilot projects with awareness for public needs and inclusiveness are improved

【Indicators】

- More than oo of SWCs staff receive training at DWST
- More than oo of SWCs staff receive training at SWCs
- Skills, knowledge and awareness to public service in SWCs staff are improved
- All pilot projects are supervised by each SWC

③ Operational procedure of pilot projects (rural water supply services) in SWCs is improved for public needs and inclusiveness

【Indicators】

- Water yards of pilot areas managed by revised database
- Water yard database is updated oo times per year
- Well rehabilitation manual (good practice guide) are developed
- More than oo site(s) of Pilot Project site(s) are properly monitored and evaluate

7. Activity

Output-①

1-1. SWCs implement socio-economy survey of target communities

Based on the submitted short list by SWCs, each SWC conducts a socio-economic survey of target communities. The main information to be collected is population, public facilities and basic data of water supply facilities. For the implementation, the project enters into an agreement with IOM or other related organizations, and conducts the training for SWC staff too.

1-2. SWCs implement baseline survey of target water yards

Based on the submitted short list by SWCs, each SWC conducts a baseline survey of target water yards. To select specific target water yards, SWCs collect the information such as population with water served, specification of water yards, amount of the water supply, sanitation of water supply. In addition, the project installs flow meters at target water yards to clarify the water supply amount before the pilot project's implementation. As well as s social-economic survey, a baseline survey is one of the training for SWC's staff.

Main items to be collected in the baseline survey are as follows;

A) Population and households of target communities.
B) Situation of water supply (problems, needs from consumers)
C) Water tariff revenues
D) Water supply amount per day (including the installation of flow meters)
E) Specification of water supply facilities (Depth of the borehole, pumping volume, situation of the submersible pumps and generators, existence or nonexistence of fence, etc.)
F) Condition of facilities (damage, necessity of maintenance and change)
G) Situation of operation and maintenance
H) Fuel consumption of generators
I) Utilization of livestock
J) Situation of the environmental sanitation.

1-3. SWCs coordinate and convene stakeholder workshop to select priority

For the equity and the accountability of provision of public service, the project conducts the stakeholder workshops involving the target community people. In stakeholder workshops, project reconfirms the needs of the beneficiary for the selection of target communities

1-4. SWCs establish a cooperative framework with State Ministries of Health and related organizations in order to conduct sanitary training for communities

In SMAP-2, aiming at mitigation of risks related to water, project plans to conducts the sanitary education for community people in target areas. As for implementation, component 2 will collaborate with Health Sector (Component 1), utilizing the advantage that the project is

composed in multi sectors.

1-5. SWCs together with communities develop the pilot project plan considering with public needs and equity

For the effectiveness of the pilot project, the project develops a pilot project plan in consideration of the community people's needs.

Output-②

2-1. Confirming the training needs of SWC staff

Trainings planed in SMAP-2 focus the capacity development for the pilot project implementation. Therefore, firstly project confirms the suitable SWC's staff of each activity, and makes clear the weakness. As for the confirmation of training needs, it will be updated annually.

2-2. Developing the training program

Based on the training needs and pilot project plan, the project develops a training program, and it will be conducted in the workshop in Khartoum annually. As for the development of training program, the project will collaborate with DWST.

2-3. Implementing the technical training for SWC staff

Aiming at the capacity development of technical skills for SWC's staff, project conducts trainings (mainly at DWST). In consideration of effectiveness, the project focuses on trainee which is assigned as project team members (around three staff from each state will be nominated).

2-4. SWCs implement technical training for locality staff

Aiming at bottom-up capacity on water supply of whole state, the project expands the training target to SWC's locality staff and technicians. Training is mainly on the job training at pilot project sites and theoretical training at SWC.

2-5. Implementing management training for SWC's supervisors

The project conducts project management training which targets supervisor of SWCs such as Director General, Director of Rural Water Corporation. The main contents are planned to project management and Monitoring/Evaluation, and there will be held at DWST or by the outsourcing.

2-6. SWCs rehabilitates water yards using the airlifting method

The project rehabilitates water yards utilizing technical skills and the knowledge which are learned in SMAP-1. In addition, the project conducts base/end line surveys and modification

of report formats, and pays attention to project monitoring and the supervision for the improvement of efficiency.
Number of rehabilitation and the implementation flowchart are as follows;

<Number of Water Yard Rehabilitation>
North Darfur State : 16
West Darfur State : 16
South Darfur State : 16

Activity	Period	Related Activity
1. Modification of report	(Jan to Feb, 2015)	
↓		・Baseline Survey
2. Development of rehabilitation Plan	(May to Jun , 2015)	・Workshop, Well Rehabilitation Training
↓		
3. Preparation, submission and approval of Project budgets	(May to Jun, 2015)	・Workshop
↓		
4. Reconfirmation of the existing equipment	(May to Jun, 2015)	・Equipment Management Training
↓		
5. Meeting to explain to community people	(Sep, 2015)	・Stakeholder Workshop
↓		・Technical Training
6. Implementation	(Sep, 2015 to Dec, 2017)	
↓		・Project Monitoring
7. Preparation of reports	(Sep, 2015 to Dec, 2017)	・Reporting Training
↓		
8. Preparation of final report	(Feb, 2018)	・Project Evaluation
		・Endline Survey

Figure-7.1 Implementation flowchart (Well Rehabilitation)

2-7. SWCs supervise the new water yard construction (SWC implements the field survey and supervision of construction)

To learn the process of new water yard construction, project implements activities related to new water yard construction such as project planning, selection of drilling points by geophysical exploration, survey, design, supervision, reporting acceding to the plan.

Construction itself is implemented by private sectors.
Number of construction sites and implementation flowchart are as follows;

<Number of Water Yard Construction>
North Darfur State : 1
West Darfur State : 1
South Darfur State : 1

Activity	Period	Related Activity
1. Development of the Plan	(Feb, 2016)	・Socio-economic survey ・Baseline Survey ・Workshop ・Water Yard Construction Training
2. Selection of the target communities	(Feb, 2016)	・Stakeholder Workshop
3. Preparation, submission and approval of Project budgets	(Feb, 2016)	
4. Satellite image processing	(Mar, 2016)	・Technical Training
5. Field survey	(Mar, 2016)	・Stakeholder Workshop
6. Geophysical exploration Training	(Mar to Apr, 2016)	・Coordination with related organizations (Kassala SWC etc.) ・Project Monitoring
7. Selection of drilling Points	(Apr, 2016)	・Reporting Training
8. Meeting to explain to community people	(Apr, 2016)	
9. Preparation of supervising plan	(Apr, 2016)	・Workshop ・Technical Training
10. Survey and design	(May, 2016)	
11. Selection of contractors	(May,2016)	・Preparation of Tender Documents ・Tender ・Contract
12. Drilling	(Jul to Aug, 2016)	
13. Construction of water yard	(Aug to Nov, 2016)	・Project Monitoring
14. Supervision	(Aug to Nov, 2016)	・Supervision Training ・Endline Survey, Evaluation
15. Preparation of the report	(Nov, 2016)	・Reporting Training ・事業評価

Figure-7.2 Implementation flowchart (New Water Yard Construction)

2-8. SWCs supervise construction work of distribution pipe expansion（SWC implement the field survey and supervision of construction)

The target of distribution pipe expansions is water yards that were pumping volume recovered in SMAP-1. To learn the process of distribution pipe expansion, project implements activities such as project planning, survey, design, supervision, reporting acceding to the plan. Construction itself is implemented by private sectors.　As for design, the project considers 1) pipe connection to medical facility and educational facility, 2) division of the public water tap between nomad and permanent residents.
Number of constructions and the implementation flowchart are as follows;

<Number of Distribution Pipe Expansion>
North Darfur State : 8 km (4km×2sites)
West Darfur State : 8 km (4km×2sites)
South Darfur State : 8 km (4km×2sites)

Activity	Period	Related Activity
		・Socio-Economic Survey ・Baseline Survey ・Equipment provision
1. Preparation of plan	(Feb, 2017)	・Workshop
2. Preparation, submission and approval of Project budgets	(Mar, 2017)	
3. Meeting to explain to community people	(Mar, 2017)	・Stakeholder Workshop
4. Reconfirmation of the existing equipment	(Apr, 2017)	・Equipment Management
5. Survey and design	(Apr, 2014)	・Technical Training
6. Selection of contractors	(May, 2017)	・Preparation of tender document ・Tender ・Selection, Contract
7. Preparation of construction Plan	(May, 2017)	・Reporting training
8. Implementation	(Jul to Nov ,2017)	・Project monitoring
9. Supervision	(Jul to Nov ,2017)	・Supervising Training ・Pipe network management training
10. Preparation of reports	(Nov ,2017)	・Reporting Training ・Endline survey and evaluation

Figure-7.3 Implementation flowchart (Expansion of Distribution Pipe)

2-9. SWCs conduct environmental sanitation and O&M training related to water supply facility for community people

The project conducts training related to a environmental sanitation, operation and maintenance of water supply facilities in cooperation with the WES sector. The main purpose of training is that target communities are able to keep the facility clean, change the spare parts such as fuel filters of generator, and fix the minor troubles of the facilities.

2-10. SWCs monitor and evaluate the training

In the Sector Technical Committee which is held every three months, the project verifies progress and effectiveness of training, and prepares reports in cooperation with DWST at the end of each physical year.

Output-③

3-1. SWCs monitor and evaluate pilot project

In the Sector Technical Committee which is held every three months, it monitors and evaluates the pilot project in cooperation with DWSU and other related organizations. The progress and evaluation of the pilot project will be shared with stakeholders at the last Sector Technical Committee of each physical year.

3-2. SWCs implement endline survey of the pilot project in cooperation with related organization

In order to make clear the benefit of the pilot project, the project conducts an endline survey. The endline survey is conducted by each SWC in cooperation with outsourced organizations.

3-3. SWCs improve the data management system of pilot water yards

Each SWC has a database of the water yard, which was developed by the WASH program, and is managed by the WES sector. However, existing database does not cover necessary data for maintenance and rehabilitation. Furthermore, monitoring is conducted only by water yards which are managed by the WES sector irregularly. In SMAP-2, the project develops and proposes a database format covering necessary data for maintenance, and shares it with related organizations.

3-4. SWCs develop the well rehabilitation manual (good practice guide)

The project compiles the lessons learned from the pilot project at the Sector Technical Committee, and develops a guideline (good practice packet) related to rehabilitation and construction of the water yard.

8. Training

(1) Purpose

The purpose of training for SWC staff is capacity development to implement it properly according to the plan. In SMAP-1, training was mainly focused on the development of technical skills. On the other hand, capacity development of planning and management was insufficient. Thus, SWCs were not able to properly manage the pilot project according to the plan.

Although the pilot project is limited to the water yard rehabilitation, the water yard construction and the expansion of distribution pipes, learning the process from project planning to evaluation will affect other routine activities of SWC

(2) Training Flow

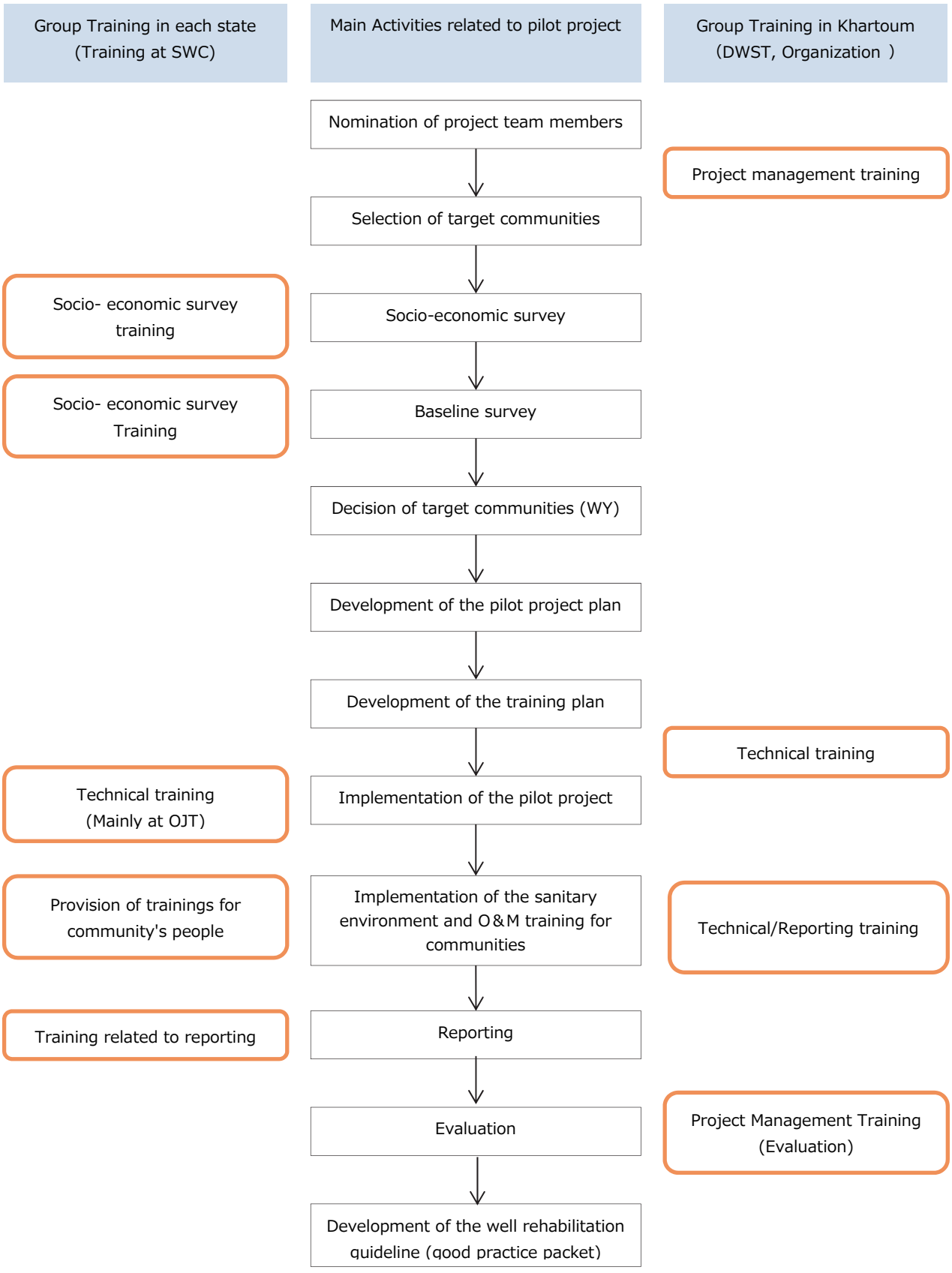


Figure-8.1 : Training Flow

(3) Training Type

In SMAP-2, three types of training course are planned.
The outline of each training courses is as follows;

1) Group Training in Khartoum

As well as SMAP-1, training at DWST is planned, and the training targets are mainly staff in charge of each pilot project. In addition, project management training for supervisors is planned by other organizations such as Khartoum University

2) Group Training in each State

In SMAP-1, training was mainly conducted at DWST in Khartoum. In SMAP-2, training at each SWC is planned. Although this training is mainly OJT, training for computer utilization, reporting, data management are planned at the training facility in each SWC aiming at bottom- up training for the whole staff of SWC.

3) Study Tour

In SMAP-1, the project conducted training in Morocco to learn development of the water supply. Morocco has good experience improving the water supply ratio to around 90% in 2010 from 14% in the beginning of the 1990's. Although the environment between Morocco and Sudan is different, both countries have common problems such as existence of arid areas and area affected by conflict. Furthermore, both countries use a common language (Arabic) and communication is easy. Therefore, a study tour in Morocco is planned also in SMAP-2 as well.

(4) Contents

A. Target

Training targets are mainly project team members. However, SWC staff that will cooperate in the activity of the pilot project are included as well.

B. Schedulearnd Program

【Group Training in Khartoum】

Title	Period	Target	Number of trainee	Training Organizations
Project Management 1	Feb, 2015	Supervisor of each SW（DG、Director of Rural Water Corporation）	3 to 5 persons each state	DWST, JICA, Other organizations
	Contents :	Development of the pilot project plan, Project management, Evaluation and Monitoring		
	Remarks :			
Well Rehabilitation	May, 2015	Project team member	5 persons each state	DWST

	Contents :	Development of the well rehabilitation plan, Technical training for well rehabilitation		
	Remarks :			
Supervision	Aug, 2015	Project team member	5 persons each state	DWST
	Contents :	Supervision of expansion of distribution pipes and water yard construction		
	Remarks :			
Geophysical exploration 1	Oct, 2015	Project team member	3 to 4 persons each state	SWC, DWST, JICA、Kassala SWC etc.
	Contents :	Satellite image processing, Field survey, OJT		
	Remarks :	Aiming at selection of drilling points		
Water Yard Construction	Feb,2016	Project team member	3 to 5 persons each state	SWC, DWST, JICA
	Contents :	Development of the water yard construction plan, Field survey, Supervision, Reporting		
	Remarks :			
GIS1	Jan, 2016	Project team member	3 to 4 persons each state	DWST
	Contents :	Mapping by GIS (water supply facilities, Distribution pipes, Target area)		
	Remarks :			
Pipe Network Management	Feb, 2017	Project team member	3 to 4 persons each state	DWST
	Contents :	Design, Field survey, Prevention of water leakage, Maintenance of pipes		
	Remarks :			
GIS2	Fe, 2017	Project team member	3 to 4 persons each state	DWST, SWC
	Contents :	Mapping of distribution pipes by GIS		
	Remarks :			
Project Management 2	Feb, 2018	Supervisor of each SW （DG 、Director of Rural Water Corporation ）	3 persons each state	DWST, JICA, Other organizations
	Contents :	Evaluation of pilot project		
	Remarks :			
PC/Reporting2	Aug, 2018	Project team member	3 to persons each state	DWST、JICA
	Contents :	Preparation of project final report		
	Remarks :			

【Group Training in State】

Title	Period	Target	Number of trainee	Training Organizations
Baseline Survey	Feb, 2015	Project team member	8 persons each state	SWC, DWST, JICA
	Contents :	Method of baseline survey, Installation of flow meter, Data analysis, Reporting		
	Remarks :	Training is conducted as OJT coordinated by each SWC		
Sanitation Management	Aug, 2015	Project team member、WES, Staff of Locality Office, Operator	8 persons each state	DWST, JICA, WES, SMoH, Other organizations
	Contents :	Environmental sanitation of the water supply facility		
	Remarks :	Training is implemented in collaboration with SMoH and WES		
Equipment Management 1	Oct, 2015	Staff in charge of equipment management in SWCs, Project team member	8 persons each state	DWST
	Contents :	Improvement of existing database, Regular inventory of equipment		
	Remarks :			
Socio-Economic Survey	Jan, 2016	Project team member 、WESS sector staff	8 persons each state	SWC, DWST
	Contents :	Method of Socio-Economic survey of communities, OJT		
	Remarks :			
Geophysical exploration 2	Aug, 2016	Project team member	8 persons each state	SWC, DWST, JICA, Kassala SWC
	Contents :	2D electrical exploration at target areas(OJT), Selection of drilling points		
	Remarks :	Dispatching the L/C and lecture to SWCs		
PC/Reporting 1	Mar, 2016	Project team member	8 persons each state	SWC, JICA
	Contents :	Basic computer skills, reporting		
	Remarks :			
GIS3	Nov, 2017	Project team member	5 persons each state	SWC、DWST、JICA、
	Contents :	Mapping the target area		
	Remarks :			
Equipment Management 2	Jul, 2018	Staff in charge of equipment management in SWCs, Project team member	8 persons each state	DWST、SWC
	Contents :	Improvement of existing database, Regular inventory of equipment		
	Remarks :			

【Study Tour】

Title	Period	Target	Number of trainee	Training Organizations
Study Tour in Morocco	Apr,2015 (9 days)	Project Team Member	2 persons each state Total 6	ONEE、JICA
	Contents :	Water supply in rural and arid areas, System of human resources development, Community base operation and maintenance, Water tariff management		
	Remarks :	Collaboration with “Human Resource Project for Water Phase 2”		

(5) Schedule

Training schedule is as follows;

<1 year (2015)>

Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Training in Khartoum (DWST, Other Organization)		Project Management 1					Well Rehabilitation	Supervision		Geophysical exploration 1		
Training in State(SWC) ***Mainly OJT (Dispatch a DWST Staff or National Staff)**		Baseline Survey						Sanitation Management		Equipment Management 1		
Study Tour				Study Tour in Morocco								

<2nd year (2016)>

Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Training in Khartoum (DWST, Other Organization)		Water Yard Construction GIS1										
Training in State(SWC) ***Mainly OJT (Dispatch a DWST Staff or National Staff)**		Socio-Economic Survey	Geophysical exploration 2					PC/Reporting 1				
Study Tour												

<3rd Year (2017)>

Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Training in Khartoum (DWST, Other Organization)		Pipe Network Management GIS2									PC/Reporting	
Training in State(SWC) ***Mainly OJT (Dispatch a DWST Staff or National Staff)**											GIS 3	
Study Tour												

<4th year (2018)>

Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Training in Khartoum (DWST, Other Organization)		Project Management 2						PC/Reporting2				
Training in State(SWC) ***Mainly OJT (Dispatch a DWST Staff or National Staff)**							Equipment Management 2					
Study Tour												

(6) Evaluation

The effect of training conducted in this project is regularly monitored and evaluated in order to verify its significance. Several monitoring items related to the improvement of management and institutional capacity will be selected to measure before and after the training.
Various evaluation methods including the questionnaire for training participants and interviews with co-workers will be considered and determined though discussion among stakeholders.

9. Implementation Structure and Roles

(1) Overall Management by SMAP Project Office

SMAP Project Office located in HCDG (Khartoum) manages 9 pilot projects, training of staff of implementing agencies, various workshops for system improvement, and regular meetings.

(2) Responsible personnel of SMAP

As the project of Sudanese government, responsible personnel of SMAP are as follows:

- Project Director : HCDG General Rapporteur
- Project General Manager : Secretary General of North, South, and West Darfur States
- Project Manager: Director General of North, South, and West Darfur State Ministry of Finance

(3) Committee

Joint Coordinating Committee, State Project Management Committee, and Sector Technical Committee are established in SMAP for overall project management, state-level management, and technical management。

1) JCC/Joint Coordinating Committee

Joint Coordinating Committee (JCC), composition of members listed in Table X below, will meet at least once every six (6) months or whenever the necessity arises during the Project.

Table-9.1 : Outline of JCC

Chairperson	General Rapporteur, HCDG
Members	Core members are representatives of implementing agencies of SMAP 2. In addition, Line Ministries of Federal Government will participate as observers (refer Table below).
Secretariat	HCDG
Function	a) To monitor the overall progress and achievements of the Project b) To review measures taken by JICA on i. Dispatch of Japanese experts

	ii. Acceptance of counterpart personnel in Japan or third country for training iii. Utilization and administration of machinery and equipment procured by the Project c) To make recommendations to the Government of Republic of Sudan on: i. Budgetary matters ii. Recruitment and appointment of counterpart personnel iii. Selection and effective utilization of machinery and equipment d) To make decisions and recommendations relevant to the overall strategy and management of the Project.
Meetings	At least once in every six months

2) SPMC/State Project Management Committee

State Project Management Committee (SPMC) has the function of overseeing the project activities in Component 1, 2, 3 and 4 within the State. Therefore, three SPMC will be set up in North, South and West Darfur respectively. SPMC will be composed of 6 members who will be representative of organisations implementing the Pilot projects and members will meet at least once in every three (3) months or whenever the necessity arises during the Project. As for the Component 2, Director General of SWCs is assigned as member.

Table-9.2 : Outline of SPMC

Committees	1) North Darfur State Project Management Committee (ND-SPMC) 2) South Darfur State Project Management Committee (ND-SPMC) 3) West Darfur State Project Management Committee (ND-SPMC)
Chairperson	Director General (DG), State Ministry of Finance
Members	Representative of; 1) State Ministries of Finance 2) State Ministries of Health 3) State Water Cooperation 4) State Ministries of Education 5) State Employment and Entrepreneurship Promotion Committees 6) Secretary General Office (Secretary) 7) Others appointed by Chairperson
Function	• To review the progress of the Project in each state • To exchange opinion on major issues that arise during the implementation of the Project, and take steps necessary to resolve issues • To approve annual project budget (local component) • To promote Publicity regarding to the SMAP

	• To report the results of the discussion to Project Director and General Manager
Meetings	Quarterly meeting will be held at State Ministry of Finance

3) Sector Technical Committee（STC/Sector Technical Committee）

STC consists of components (Health, Water supply, Employment). Water and Environmental sanitation Sector Technical Committee are composed by representatives of SWCs and DWSU. The members mainly monitor and evaluate the pilot project on a technical level, and will share the information and technical knowledge learned from the activity among stakeholders.

Table-9.3 : Outline of Water and Environmental sanitation Sector Technical Committee

Chair Person	Annually nominated from members
Member	1. Representative of DWSU 2. Representatives of three Darfur States (3 States × 3persons＝9 persons) 3. Director General of SWC（DG) 4. Director of Project Implementation and Planning Department (Directorate) 5. Director of Rural Water Corporation (Directorate) 6. Project Team Leader 7. Other Stakeholders（Development Partners, Representatives of Communities, etc.)
Function	• Monitoring of the progress of the sector plan, Review controversial issues and proposal of countermeasures. • Annual activity planning and cost estimation of project budgets • Sharing the good practices and lessons learned from the project among stakeholders, learning new technical knowledge
Period and venue	Quarterly meeting will be held in Khartoum (DWSU)

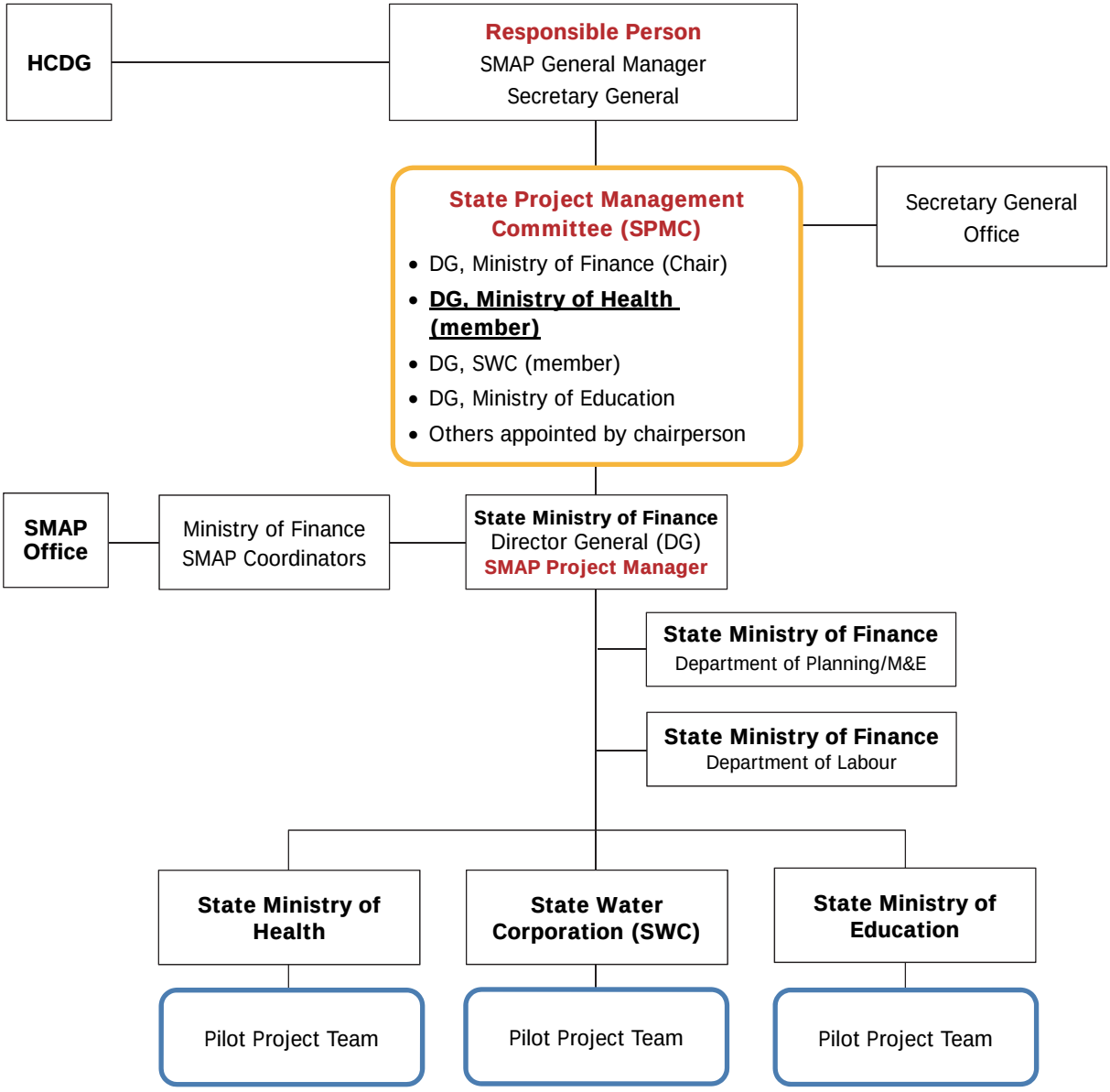


Figure-9.1 : Implementation structure at state level

4) SWC Project Team

For the implementation of Component 2, SWCs nominate suitable members from their staff, and establish project team. In addition, SWCs establish specific project teams for each pilot project, which will involve the staff of locality office and operators of water supply facilities.

1) Project Director

The project director of each state is Director General of SWC. The roles of the project director are the management of Component 2, securement of budgets, monitoring and evaluation of the project.

<Project Director>
The North Darfur State ; Mr. Nasreldeen Mahmoud Mohammed, Director General SWC
South Darfur State ; Mr. Idris Dabakah Adam, Director General SWC
West Darfur State ; Mr. Mahmoud Abddalalah Bashir Jamma, Director General SWC

2) Project Manager (Pilot Project)

Project Manager of each state is the director of the Project Planning and Implementation Department of SWC. Roles of Project Manager are development of the pilot project plan, monitoring, evaluation, coordination between the project and other organizations, and the reporting. However, regarding the West Darfur SWC, due to the fact that roles of Project Planning and Implementation Department are not clear, the director of the Rural Water Directorate is tentatively assigned as project manager of the plot project.

<Project Manager (Management of Pilot Project)>
North Darfur State; Mr. Mohammed Mohamadain, Director of Project Implementation & Planning Department
South Darfur State ; Mr. Al-Rasheed AbdelWahab, Director of Project Implementation & Planning Department
West Darfur State ; Mr. Hammad Abdullah Mohammed, Director of Rural Water Directorate

3) Pilot Project Team

The representative of the pilot project team is the director of Rural Water Corporation (Directorate). Rural Water Corporation is a main implementation organization of pilot project on the site, and roles of Director of Rural Water Corporation are development of the pilot project plan, monitoring, evaluation, coordination of project team members and SWC locality offices. The representative on the pilot project sites is a project team leader of each SWC.

<Project Manager（Pilot Project Implementation）>
North Darfur State ; Mr. Mustafa Idriss Mohammed, Director of Rural Water Directorate
South Darfur State ; Mr. Eldooma Adam Osman, Director of Rural Water Directorate
West Darfur State ; Mr. Hammad Abdullah Mohammed, Director of Rural Water Corporation

5) Roles of Stakeholders

1) HCDG

The roles of HCDG are monitoring of the project, and propose countermeasures for the delay of the time schedule, revision of the plan and unachieved outputs. The monitoring by HCDG includes inspection of regular reports from each State, holding regular meetings such as JCC, and site inspection.

2) State Ministry of Finance (SMoF)

As representative organization of each state, SMoF shall manage, monitor, and evaluate the project of Component 2. In addition, the dividend of state budgets to SWC, inspection of monthly reports from SWC and preparation of quarterly reports are roles of each SMoF as well.

3) DWSU

DWSU shall propose technical advice for the project planning, project progress, and evaluation of the project outputs. If necessary, the DWSU will monitor pilot projects on site.

4) DWST

DWST is the main training organization at Khartoum.
DWST shall participate in the workshop in Khartoum, and support the development of the training plan of each state. Furthermore, DWST shall support the training implementation at each state.

5) SWC Locality Office

SWC locality office shall support field works of pilot projects, and shall submit the data of water supply facilities to project, coordinate community people in training for community.
In case locality office dispatches staff to state capital as a trainee, the locality office will bear the related costs.

6) Community

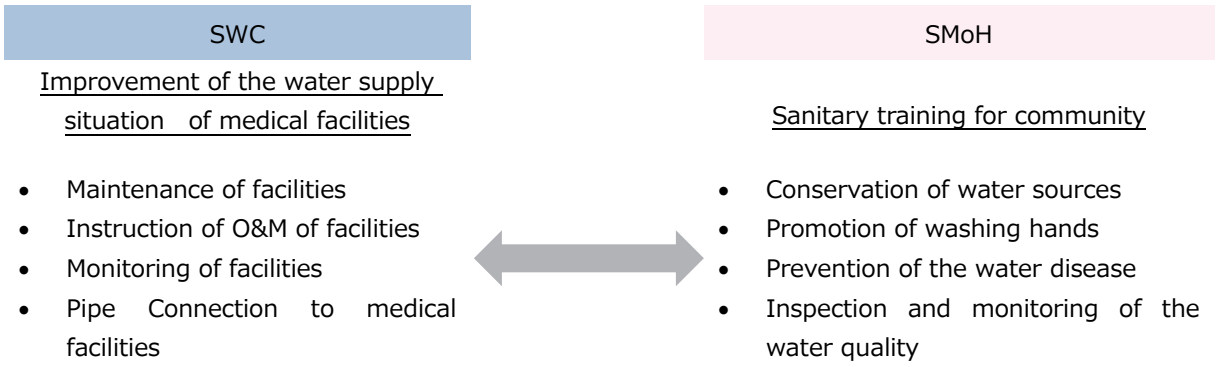
Although community is a beneficiary of this project, the community must support the development of project planning through submission of needs for the water supply. Furthermore, support of field work of SWC, minor operation and maintenance of water supply facilities, conservation of the water source are required roles of the community.

6) Collaboration with other organizations

1) State ministry of Health (SMoH)

In SMAP-2, sanitary education for the community is planned. Sanitary education will be conducted in cooperation with SMoH. On the other hand, SWC considers service provisions such as maintenance of water supply, facilities and pipe connections to medical facilities in the

framework of the pilot project.
The draft collaboration plan with SMoH is as follows;



2) Humanitarian Aid Commission（HAC）

SMOH will share information with HAC for the implementation of the pilot project to ensure consistency with government policy. Extreme caution will be paid to the assistance to IDP camps and returnee communities. SPMC, Project General Manager (State Secretary General), and HCDG will provide assistance for coordination with HAC if necessary.

3) Darfur Regional Authority（DRA）

DRA checks the progress of the project at the quarterly committee meetings as JCC members. In addition, information related to DRA activities will be shared to consider possible collaboration and avoid duplication of similar activities.

4) Other Development Partners

- WES/UNICEF

WES has been established supported by UNICEF in 1976, and has around 1,000 staff in Sudan. Basically, although WES is one of the departments of the DWSU and each SWC, the relationship between UNICF is strong even now. The main task of each WES in the Darfur region is coordination of development partners and the implementation of their activities in Darfur regions. In consideration of WES's experience related to O&M and sanitation, there is a plan to collaborate with WES for implementation of the baseline survey and activities related to sanitation management.

- IOM

IOM has many staff and experiences of various surveys such as socio-economic survey in the Darfur region, and can be considered as a cooperative organization for impact survey. IOM also can be considered as a potent sub-contractor for activities that instruct pilot project operations to SWC staff.

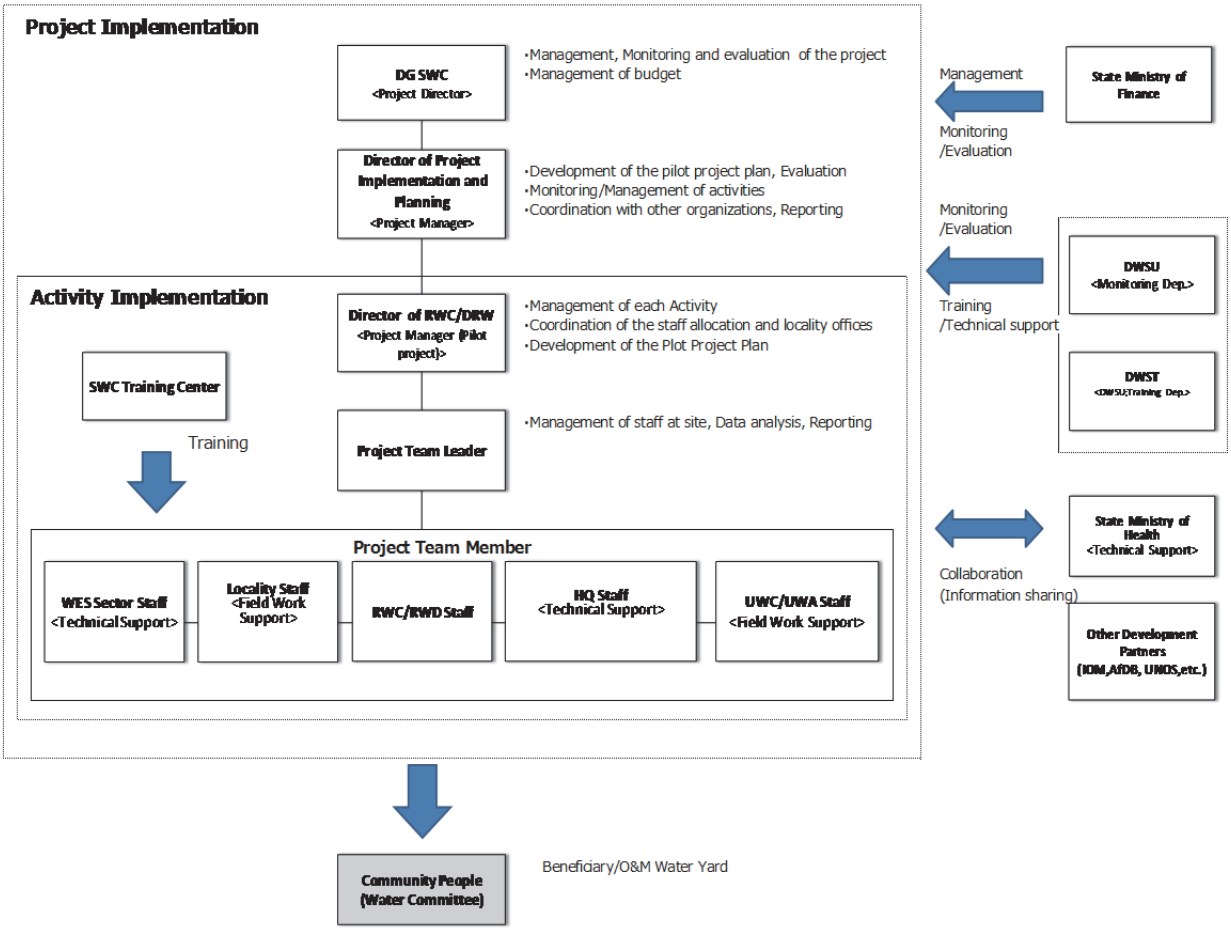


Figure-9.4 : Implementation System of Component 2

10. Monitoring and Evaluation

Monitoring and evaluation (M&E) will be conducted according to the M&E plan, to be developed in Phase-2. Khartoum-based JICA team and states-based C/Ps will cooperatively implement pilot activities and thus M&E is indispensable, more than conventional project.

(1) Objectives of M&E

Objectives of M&E of SMAP2 are as follows

- To verify if the public services are appropriately and steadily implemented according to the pilot activity plan (from the view point of effectiveness, efficiency, equity, accountability and consideration to the conflict prevention)
- To seek for cost efficient service provision through M&E on the public expenditure
- To fulfil accountability of pilot activities (public services)
- To enhance communication with the community people through M&E, and to promote service provision that meets the needs of the community.
- To minimize delay of operation process and aggravation of problems so as to achieve the outputs of the pilot activities.

- To sort out the lessons learned and recommendations recognized through M&E, with the intention of utilising the data as basis for development of guidelines and state development strategy

(2) M&E Approaches

- Monthly Report

Pilot activity management team leader of the C/P will prepare monthly report, by sorting out information (such as activity record) provided by the pilot activity implementation team. Monthly report will be the most fundamental tool to understand the progress of the pilot activities. Team leader will submit the monthly report to the SMoF and SMAP office (JICA team and HCDG), and then the SMAP office shall share with the relevant organisations.

- Team Meeting

Pilot activity management team of the C/P will hold monthly meeting inviting the team members and other stakeholders when appropriate, to share the progress of the activities. Monthly report explained in the above section will be used as meeting handouts, which could be updated where necessary. Team leader is requested to make effort for better daily communication among the members including pilot activity implementation team, not limited to the meetings set officially.

- Quarterly Monitoring & Evaluation Sheet

M&E team of the SMoF will make quarterly report, based on the monthly reports submitted by the implementing agencies and discussion record of SPMC and JCC. Quarterly report is to figure out the status of the evaluation indicators, and to suggest for improvement. Implementing agencies (SWC) should receive feedback from the SMoF-M&E team.

- JCC, SPMC and STC

As mentioned in the previous section, periodical meetings will monitor, analyse and evaluate the data collected by the C/P

- Site Visit

SMAP Office will visit Darfur states quarterly, and monitor the progress and achievements of pilot activities through observation and discussion with the C/P, project team, and community people. SMoF should also participate in such study.

- Evaluation Study

When the data is not available from the pilot activity records, C/P will conduct simple surveys such as interview to stakeholders.

- Annual Evaluation Study

Prior to the annual activity/budget planning, achievement status of pilot activities will be studied (June-July every year). The study will be conducted based on the evaluation indicators, using various survey methods such as questionnaire survey, focus group discussion, 360 degree survey with questionnaire. Evaluation should be conducted by third party (SMAP2 JICA team will outsource a study team) and C/P shall cooperate to the survey.

Table-10.1 : Indicators and Means of Verification of Component 2

Overall Goal	Indicators	Means of Verification
Public well-being is enhanced in three Darfur States	[Common indicators among four components] Public happiness is increased	Questionnaire survey/ focus group discussion
	[Common indicators among four components] Public trust on the government is promote	Questionnaire survey/ focus group discussion
	[Common indicators among four components] Satisfaction on public services is increased	Questionnaire survey/ focus group discussion
	Coverage of improved water supply is increased to 70% of the population in rural area of three Darfur states by 2020 (estimate from national target)	Records/statistics of SWCs
Project Purpose	Indicators	Means of Verification
Water supply services considering public needs are inclusively provided in pilot projects area and Institutional capacity of State Water Cooperation (SWCs) in provision of rural water supply services is strengthened	[Common indicators among four components] Selection process of the pilot areas become inclusive (include the most conflict-affected peoplearnd community, etc. into target groups with consideration for coexistence	360 degree survey with questionnaire Most Significant Change method
	[Common indicators among four components] Recognition of implementing agencies on public needs is improved (Contacts with community is increased, attitude of implementing agencies to community people become responsive from neglective, etc.)	360 degree survey with questionnaire Most Significant Change method
	[Common indicators among four components] Capacity (to make the services efficient, transparent and peace promotion) of service providers perceived by stakeholders is improved	360 degree survey with questionnaire Most Significant Change method
	Public satisfaction on water supply	Baseline survey, endline survey

	service is increased in pilot areas	
	Access time to improved water is decreased oo% in pilot areas	Baseline survey, endline survey
	Improved water consumption (litters/capita/day) is increased oo% in pilot areas	Baseline survey, endline survey
	Pilot projects are implemented as planned	SWCs records
Outputs	Indicators	Means of Verification
Water supply services considering public needs are inclusively provided in pilot projects area	All pilot projects are planned by each SWC	Pilot project plan
Institutional capacity of State Water Cooperation (SWCs) in provision of rural water supply services is strengthened	More than oo of SWCs staff receive training at DWST	Training record of SWCs
	More than oo of SWCs staff receive training at SWCs	Training record of SWCs
	Skills, knowledge and awareness to public service in SWCs staff are improved	Questionnaire survey/ Training evaluation report
	All pilot projects are supervised by each SWC	Monthly report, quarterly report Discussion in STC
Operational procedure of pilot projects (rural water supply services) in SWCs is improved for public needs and inclusiveness	Water yards of pilot areas managed by revised database	Water yard database of SWCs
	Water yard database is updated oo times per year	Water yard database of SWCs
	Well rehabilitation manual (good practice guide) are developed	Revised guideline
	More than oo site(s) of Pilot Project site(s) are properly monitored and evaluated	Monthly report, quarterly report Discussion in STC

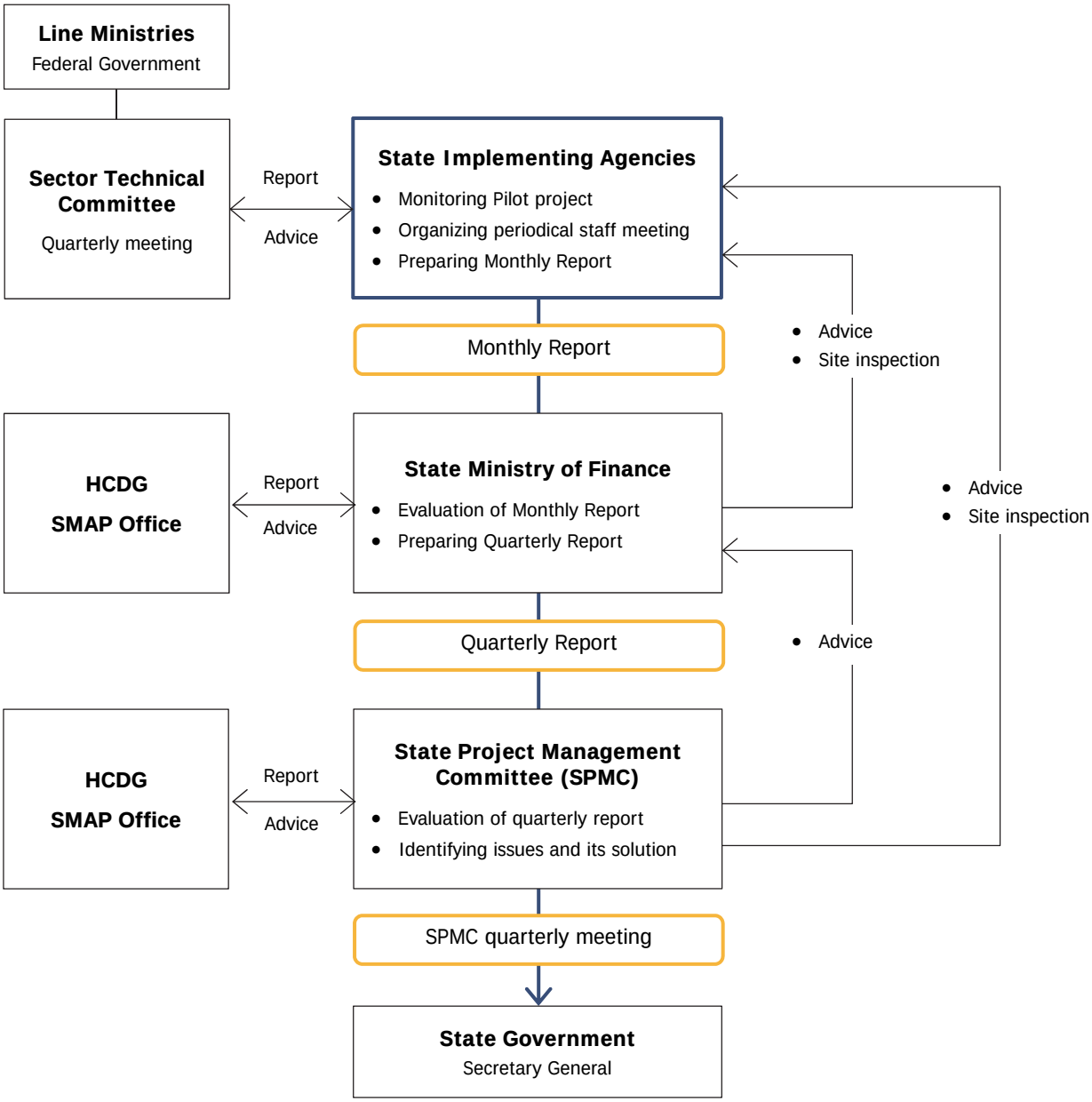


Figure-10.1 : Structure of the Pilot Project Monitoring and Evaluation

11. Procurement

(1) Basic Concept for Procurement of Equipment

For the equipment planning of the project, it is necessary to consider that the maintenance system of the implementing agency is insufficient, staff's technology is not high, the power failure and suspension of the water supply happen frequently, and further consumables and spare parts supply is not easy in the object regions. Because of the above mentioned reasons, equipment selection for the project will be made based on the following basic concept

- To limit basic equipment for the pilot project execution and related training
- To be considered the stock of existing equipment procured by SMAP-1 and actual operation & maintenance condition for not overlapping with the equipment granted by SMAP-1.
- To be basic equipment with simple specifications not needing a special operation technology and highly developed knowledge.
- Provision of consumables and spare parts, and equipment repair shall be possible domestically with reasonable price and procedure. Equipment shall be procured through local agencies in Khartoum in consideration of after-sales service.
- Equipment specification shall be decided considering severe natural environment (high temperature, dryness and dust storm) and electric power & water supply condition of Darfur area

(2) Procurement Method

Basically, the JICA project team executes the procurement of equipment in accordance with the procurement guideline of JICA.
Many kind of equipment will be procured in SMAP-2, and the supplier shall differ depending to equipment classifications, so that it is needed to procure equipment dividing several tender lots. Moreover, there is a possibility that the content of the pilot project changes because Darfur area has problem of disputes. Therefore, it is high risk to procure all equipment in single fiscal year. In the pilot project, the evaluation and review of activities plan and budget request for the next fiscal year of the state government will be made on August-September every year. It is assumed that the procurement of equipment is executed separately by every fiscal year according to this annual plan. As for the outline, the content of the table below is considered though supplier's selection method is different depending on the expected amount

Table 11-1: Calcification of equipment procurement and supplier's selection methods

fiscal year	Procurement lot	Contents	supplier's selection methods
1st year	Office equipment	Computer and office furniture, etc. being used during project period.	Designated estimate competition. Estimated amount is less than 10 million yen.
	Water supply project equipment (Water supply)	Equipment used in the pilot project on fiscal year 2015 & 2016. Equipment for base line survey & well rehabilitation.	Designated or general competitive tender. Estimated amount is more than 10 million yen.
	Water supply project equipment (construction / maintenance)	Surveying equipment etc. used through the project period will be procured at 1st year	Designated estimate competition. Estimated amount is less than 10 million yen.
2nd year	Water supply project equipment (Water supply)	Equipment used in the pilot project on fiscal year 2017. (well rehabilitation)	Designated or general competitive tender. Estimated amount is more than 10 million yen.
	Health project equipment	Equipment for some of the health unit/centre (target facilities on 2018)	Designated estimate competition. Estimated amount is less than 10 million yen.
	Vocational training project equipment	2018 female training equipment & start-up kit for technical school.	Designated estimate competition. Estimated amount is less than 10 million yen.

Table 11-2: Implementation procedure of Equipment Procurement

Procedure	Contents
① Pre-estimates collection	Collect pre-quotation of costs for equipment purchases, transportation & insurance for the tender (Project implementation). 2 weeks are expected.
② Project cost estimation（by lot)	Estimate project cost (procurement cost of equipment) by lot. 1 week is expected.
③ Decision of tender method	Depending on project cost by each lot, tender method (Designated estimate competition, designated or general competitive tender) is decided. If it is needed early procurement for base line survey equipment, to make it another lot shall be examined.
④ Tender document preparation	Prepare tender documents, technical specifications & contract document etc. conforming to the tender method. 2 weeks are expected.
⑤ Acquisition of tax exemption document	Tax exemption document will be obtained through JICA Sudan office. It takes 1 week to obtain the document usually, but sometimes needs 2 weeks or 1 month so that attention is required. Validity period of the document is only 1 month, therefore reapplication will be needed in case of the expiration.
⑥ Tender announcement	Tender announcement for each lot will be made. In case of designated estimate competition, the period from the announcement to tender is possible only 3 days in the shortest. However, about two weeks are required in the case that requires to compare and to confirm the specifications as there are two or more reference brands and a lot of questions are forecasted. In case of tender, usually 1 month is needed.
⑦ Tender	Tender will be executed for each lot. After tenders, the tender evaluation is promptly done. Attendance for the tender is requested to JICA Sudan office if necessary.
⑧ Contract (Equipment order)	After reporting of the tender evaluation result to JICA Sudan office, the supplier contract is promptly concluded.
⑨ manufacturing & procurement	After the supplier contract, a necessary period of manufacturing & procurement for lot 2 well rehabilitation equipment (submersible pump, generator, etc.) is expected about 2-3 months. In case of other equipment, It will be less than 1 month. When equipment is delivered in Khartoum, a delivery inspection including the trial run is executed if necessary.
⑩ Transportation	After delivery of equipment to the DWSU workshop warehouse by the supplier, the equipment is transported to the SWC warehouse in three target states by the transporter. Transportation will be made by air considering security. Transportation period is expected about 1 week.
⑪ Acceptance inspection & handing over	After equipment arrives at the SWC warehouse in each state, acceptance inspection is promptly executed by the person in charge of SWC for the condition and quantity. The acceptance inspection is done according to the inspection manual and checklist. When there is a problem in the equipment condition and quantity, correspondence by insurance is requested to the transporter.

(3) Role of SWC for Equipment Management and Maintenance

After completion of the handover the equipment, each SWC has to manage and maintain procured equipment.
Roles of SWC are as following;

- Assignment of the equipment manager
- Preparation the equipment storage
- Management system by the inventory and the database
- Regular inventory work
- Operation records for the heavy equipment
- Regular maintenance for vehicles
- Secure the budget of the operation to vehicles and generators (driver and operator salary)
- Procurement for Consumables (copy toner, tires for vehicles, filters)
- Repair work to the machine trouble, and secure the budget.

12. Cost Estimation and Sharing Expenses

Note: The following cost estimation is tentatively proposed by consultants, and not officially approved by JICA.

(1) Cost estimation

The expenses for Component 2 (Pilot Project, training, manual development etc.) will be USD 2,361,205, including USD 2,215,418 for Pilot Projects which accounts for 94% of the Component 2 total expenses. Pilot project of Component 2 is water yard rehabilitation, water yard construction and expansion of distribution pipe. Among the pilot project, the cost of water yard construction is highest, and its cost estimated to about USD 606,910.

(2) Sharing Expenses

Expenses for Pilot projects will be shared both by JICA and the Sudanese government (State Government). The portion which the State Government will bear increases from 10% in the first year, to 15% in the 2nd year, 20% in the 3rd year, and 25% in the fourth year.

Table-12.1 : Sharing Expenses by JICA and the State Government

Institutions	Items to be shared
JICA	• Travel expenses for JICA experts, Expenses spent in Japan • Administration cost • Expenses for C/P training • Expenses for information system improvement, development of guideline and manuals
State Government/SMOH	• A part of Pilot Project expenses（The rate of sharing is set at 10% in the 1st year and increases by 5% every year to be 25% in the 4th year.）
Others （Federal Government ）	• Subsidies for training conducted in the government training center

Table-12.2 : Annual expenses for Component 2 and expenses sharing by the State Government

Unit : US$

	PY-1	PY-2	PY-3	PY-4	Total*
Pilot Project	571,974	1,032,803	551,597	59,044	2,215,418
Training	68,079	23,339	33,639	16,147	141,204
Development of Guidelines etc.	0	0	0	4,583	4,583
Total (A)	640,053	1,056,142	585,236	79,774	2,361,205
"Amount of Activity Cost Shared by JICA (B)"	583,164	900,226	474,725	65,236	2,023,351
Amount of Activity Cost Shared by 3 State Governments (C)	56,889	155,916	110,511	14,538	337,854
Ratio (C/A)	9%	15%	19%	18%	

13. Assumption and Risk Management

13-1. Assumption

(1) Precondition to Implement the Project

- Security of project sites (including Khartoum) is not extremely worsened. (State Governments can implement activities)

(2) Assumption to Achieve Overall Goal

- Each state makes use of lessons learned and recommendation of pilot projects
- Each state makes use of the operational framework and its relevant documents developed or amended through project activities

- Pilot project, the operational framework and its relevant documents are consistent with federal and state policies
- Contents of pilot projects, the operation framework and its relevant documents are approved by State Governments
- Resources of State Governments or other development partners (budget/ equipment/ human resources, etc.) are continuously provided.

(3) Assumption to Achieve Project Purpose

- Experiences from project activities are accumulated as organizational knowledge.
- Narrative management about project activities is conducted. (Even though personnel transfer is occurred, experience is transferred appropriately)

(4) Assumption to Achieve Project Outputs

- The Federal government does not change its development policy.
- Drastic organizational reform and personnel transfer do not occur.
- The state economy is not worsened by conflict
- The restriction on the movement of staff of implementing agency does not occur because of the deterioration of security.

13-2. Risk Management

In some parts of the target area of SMAP, armed conflict has been continuing and the security situation is very fluid. In this situation, the dispatch of Japanese experts to the project area is restricted and project is basically managed with remote communication. Thus, early detection of problems and prompt action to solve them is a key point of the successful project management. Otherwise, the problem could be more serious and prolonged. In practice, it is essential to assume predictable risks and decide countermeasures as well as to share the information and the decision with people concerned including counterparts.

As of 2014, the expected risks and countermeasures are listed in the next pages. However, such risk management is needed to be update during the project implementation.

Table 13-1: Risks and Countermeasures in SMAP

<Risks on Achievement of Overall Goal, Other Impacts and Ripple Effects (Common Issues among All Components)>

Categories	Risks	Responses
Human Resources	After the completion of the Project, the activities supported by the Project are at a standstill because of the personnel transfer, etc.	A. During the project period, the situation of personnel transfers in implementing organization is monitored. As a result of monitoring, the exit strategies and action plans in the next years after the project are developed, considering the human resources in the organization at the end of the project.
Organizational Structure	After the end of the Project, the activities supported by the Project are at a standstill because of the organizational transform or changes of implementing agencies.	A. During the project period, the situation of organizational transformation is monitored. As a result of monitoring, the exit strategies and action plans in the next years after the project are developed, considering the organizational structure after the end of the project.
Financing	After the end of the Project, the activities supported by the Project are at a standstill because of a shortage of financial resources including the change of budget allocation by the change of policy priority area.	A. During the four year project period, portion of Sudanese local component on total expenses for pilot projects is increased gradually. B. The possibility of collaboration with other development partners is sought. C. Exit strategies are developed by the end of the Project in order to alleviate the negative influence of change of budget allocation by the policy change
Deterioration of security/ stability of political situation	Well–being (availability of public services, happiness of people living in Darfur, etc.) is reduced by deterioration of security and instability of political situation	Impossible to response
Negative impacts	Negative impacts on the natural environment are occurred.	A. It is examined in SMPC and JCC whether any concern is arisen or not. If confirmed, countermeasures are discussed in SMPC and JCC.
	Negative impacts on the social environment (land acquisition/ displacement of inhabitant) are occurred.	A. It is examined in SMPC and JCC whether any concern is arisen or not. If confirmed, countermeasures are discussed in SMPC and JCC.
	Negative impacts on well-being of people living in Darfur including the process of peace building and conflict	A. It is examined in SMPC and JCC whether any concern is arisen or not. If confirmed, countermeasures are discussed in SMPC and

	prevention are occurred	JCC.
Others	In spite of the fact that overall goal is achieved, the causal relationship between the Project purpose and overall goal is not clarified.	A. During the project period, achievement, outcome, direct and indirect impacts are proactively documented and visualized.

<Risks on Achievement of Project Purposes (Common Issues among All Components)>

Categories	Risks	Responses
Peace Building & Conflict Prevention	Some groups of inhabitants complain of the project activities such as "the activities are not inclusive", "the activities do not take the peoples' needs into consideration", "the service is provided only to a certain group", etc.	A. It is examined in SPMC and JCC whether any complaints are reported among people in Darfur. If confirmed, appropriate measures such as change, amendment, or cancellation of activities are considered after the reason behind such complaint and dissatisfaction among inhabitants is analysed.
Change of Development Priority	Capacity development is excluded from development policy priorities.	Least likely to occur
	Federal or state governments establish a different definition of "capacity of the government" from the one defined by the Project in federal or state development plan or strategies.	A. During the project period, the definition of "capacity" in federal or state development plan and strategies are monitored.
	Other development partner conducts a similar project and it causes confusion of the definition of "capacity of the government"	A. During the project period, the movement of other development partners is monitored with monthly report, SMPC and JCC. If necessary, consultation with other partners is conducted for the definition of "the capacity of the government" through the state governments.
Non-achievements of Project Purpose (Refer to the below for the issues of target of indicators)	Because planned outputs are not generated, the project purpose is not achieved. (Implementation failure)	*For risks in outputs, refer to the next page.
	In spite of the fact that planned outputs are generated, the project purpose is not achieved. (Theory failure)	A. Logic of PDM is re-examined. If necessary, the change or addition of the activities and inputs is made.
Target of Indicators for the Project Purposes	Before the end of project, it becomes clear that the achievement of project purpose is difficult. (It is recognized that target of indicators of project purpose is beyond the achievable level.)	A. The adequacy of indicators and their targets is re-examined. If indicators or their targets are found inadequate, they are amended.

		B. In the case that there is influence of unexpected factors on non-attainment of the project purposes, change of targets and addition of inputs and activities are discussed.
	Before the end of the project, the project purpose is achieved. (It is recognized that the target of indicators of the project purpose is too low.")	A. The adequacy of indicators and their targets is re-examined. If indicators or their targets are found inadequate, they are amended. B. In the case that there is influence of unexpected factors on achievement of the project purposes, change of targets and addition of inputs and activities are discussed.
Others	In spite of the fact that all outputs and project purpose are achieved, the causal relationship is not clarified.	

<Risks on Achievement of Outputs (Common Issues among All Components)>

Categories	Risks	Reponses
Deterioration of security and instable political situation	Activities or function of implementing agencies are stopped or declined due to the deterioration of security in state capital. (Deterioration of pre-condition of project implementation)	A. JCC is organized in three months if problems are identified, and countermeasures are discussed. The activities in state where the problems are happened can be cancelled with approval from JICA. B. Activities can be limited to the training of staff of implementing agencies, if necessary.
	Pilot projects are cancelled or delayed due to the deterioration of security in pilot sites.	A. SMPC is organized in three months after problems are recognized and it is discussed whether activities in certain sites are cancelled or not. If possible, alternative sites are selected in order to achieve planned outputs.
	Visiting state capital by Japanese experts becomes impossible due to the deterioration of security in the state capital. It becomes impossible for Japanese experts to directly provide guidance and training to implementing organizations.	A. Plan is developed based on the assumption that Japanese experts do not go to the State capital since the beginning. B. A field office is placed in the state capital and full-time staff is appointed for activity management. In addition, the capacity of the full-time staff is strengthened in order to substitute the role of Japanese experts.
	Visiting state capital by Japanese experts is limited due to the social dislocations after the presidential election in 2015 such as demonstration, etc.	A. If activities are delayed, plan of operation is amended as soon as possible and is shared with STC, SPMC, etc. B. Management skills and knowledge of local staff are trained so that

		they can manage activities in State
Occurrence of natural disaster such as draught, flood, etc.	Activities are cancelled or delayed due to the limited access to pilot sites or due to the change in the prioritization on the emergency relief beyond project activities.	A. SMPC is organized in three months if problems are identified, and it is discussed whether activities in certain sites should be cancelled or not. If possible, alternative sites are selected in order to achieve planned outputs.
	Activities are influenced by irregular rainy seasons. (Access to some pilot sites may be impossible in rainy season.)	A. The influence of rainy season on the activity is taken into consideration at the planning stage. (However, as for accessible pilot sites, plan includes activities that will be implemented during rainy seasons.(water sector)) B. The beginning and ending of rainy season are grasped and plan of operation is amended promptly, if necessary.
Theft of vehicle and equipment	Activities are stopped because of the theft of equipment and vehicles necessary for the activities.	
Communication	The lack of timely reporting and underreporting from implementing agencies to SMAP Project office due to the remote communication results in worsening the identified problem or delaying further in the project activity.	A. Developing monthly reports is ensured. The format of monthly reports is designed to be simple enough to easily fill out with essential information.
	Remote communication limits opportunities/ frequency of contact among States, and between implementing organizations and SMAP Project office. As a result, understandings and consensus on the project scope can be diversified or fragmented, and then, a part of project activities can be delayed.	A. Project scope is confirmed repeatedly in SMPC and JCC. B. Project plan, rules, and other document related to the project scope are documented and shared among implementing agencies.
	Communication between SMAP Project office and state implementing organization becomes excessively dependent on management staffs/ executive staff. As a result, the information is not flowed to the practical members. It makes the activities delayed and/or ineffective.	A. The periodical meeting in state implementing organization is conducted thoroughly. In each state capital, SMAP Field Coordinator is allocated to support the implementation of periodical meeting.
	Activities are delayed because of the gap between project activities and federal government policy in terms of implementation methods and contents.	A. Participation of Federal organizations in quarterly SPMC is ensured. Or, during the period of SPMC, the opportunity of the consultation with federal organizations is provided in order to secure the information sharing
Organizational structure	Activities are stopped or delayed due to the administrational reform, organizational change, personnel transfer of implementing organizations, etc.	A. Information about organizational change and personnel transfer is collected through monthly report for early detection. In a case that the transfer of a core member of activities occurs, the

		orientation for a new comer is provided by SMAP Project office as soon as possible.
	Activities are delayed because of lack of coordination among relevant organizations (e.g. Waiting for approval, etc.) In particular, it might take more time for coordination in IDP camps.	A. Activities are adjusted based on the discussion not only with implementing agencies concerned, but also with different discussion channels such as SPMC, etc.
	In a case that implementation of a part of pilot project activities is outsourced to UN agencies, NGO, etc., activities or its effects are delayed or reduced due to the insufficient performance of outsourced organization.	A. The problem is solved at the early stage through the discussion between SMAP Project Office and the outsourced organization B. Plan of operation is amended if delayed.
Procurement of local contractor	The activities are delayed and its effects are reduced because of the shortage of skilled local contractors. (e.g. Construction of boreholes)	A. The inspection on procured equipment is conducted every year. In addition, training on procurement is provided in order to prevent problems.
Maintenance of procured equipment	The activities are stopped or delayed because the repair of equipment and procurement of spare parts are not practiced timely with appropriate costs (e.g. the camera/ transceiver for borehole, etc.).	A. Equipment that can be locally maintained is selected. B. SMAP Project supports the repair.
	Implementing organizations are not capable of fully utilizing procured equipment due to the lack of sufficient skills.	A. At the time of delivery, the training on the equipment use and maintenance is provided.
	The non-use of equipment lowers the effect because unnecessary equipment, or equipment with different specification, or damaged equipment due to the inappropriate inspection is procured.	A. Equipment that can be locally maintained is selected. B. SMAP Project supports the repair.
Financial issues	Activities are delayed due to the delay in disbursing the budget.	A. The State Ministries of Finance are consulted for the early projection of disbursement timing.. B. SMAP Project Office lends the expenses temporarily.
	Activities are delayed and/or incomplete due to the shortage of budget of implementing organizations. (Facility or equipment)	A. The amount shared by implementing organizations is decided first, considering such possibility that the State Ministries of Finance cannot prepare a certain amount of local expenses all at once.
	Effects of training and efficiency of activities are reduced by low motivation of staff of implementing organizations that is induced by the delay of salary payment or the stop of salary increase.	A. Change of operation plan

<Risks and possible countermeasures in Component 2 (Water and Environmental sanitation)>

Category	Risk	Countermeasure
Supervision	Delay of the pilot project due to the lack of the capacity of the contractor	A. Aggrandizing the criteria for selection of the contractors B. To be on the safe side, setting the construction period
Utilization of procured equipment	Delay of the pilot project due to the lack of capacity for the equipment utilization.	A. Avoiding the procurement of unproven equipment B. Request to training the DWST for the equipment utilization. In SMAP -1, DWST supported this matter.
Malfunction of procured Equipment	Delay of the pilot project due to malfunction of procured equipment such as the air compressor and the borehole camera.	A. Development of the manual for the repair B. Implementation of the regular maintenance C. Securement of budgets for the maintenance D. Developing a pilot project plan that does not require the relevant equipment
Deteriorating security Destabilization of the political condition	Stop the pilot project due to the deteriorating security in target areas	A. Changing the target areas B. Modification of the pilot project plan (schedule)
	Stop the pilot project due to the trouble among communities related to the pilot project	A. Changing the target areas B. Meeting to explain to community people
	Stop the pilot project due to destabilization of the political condition	A. Collecting the information of the political condition B. Modification of the pilot project plan (schedule) C. Revision of the number of the pilot project
Natural disaster Poor weather conditions.	Delay of the pilot project due to the heavy rain and the extension of the rain season	A. Changing the target areas B. Modification of the pilot project plan (schedule)

14. Work Plan and Deliverables

(1) Work Plan

The Project activities in Component 1 will be implemented for the period of four years (Each project year starts in January and ends in December). The work schedule is as follows;

Work Plan

Project Period; Jan, 2015 to Dec, 2018		2015												2016												2017												2018											
Outputs	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.1 SWCs implement socio-economy survey of target communities																																														
	1.2 SWCs implement baseline survey of target water yards																																															
	1.3 SWCs coordinate and convene stakeholder workshop to select priority																																														
	1.4 SWCs coordinate State Ministries of Health and related organization in order to conduct sanitary training for communities																																														
	1.5 SWCs together with communities develop the pilot project plan considering with public needs and inclusiveness																																														
2	2.1 Confirming the training needs of SWC staff																																														
	2.2 Developing the training program																																														
	2.3 Implementing the technical training for SWC staff																																														
	2.4 SWCs implement technical training for locality staff																																														
	2.5 Implementing the management training for SWC's supervisors																																														
	2.6 SWCs rehabilitate water yards using the airlifting method																																														
	2.7 SWCs supervise the new water yard (model water yard) construction																																														
	2.8 SWCs supervise construction work of distribution pipe expansion																																														
	2.9 SWCs conduct sanitary environment and O&M training related to water																																														
	2.10 SWCs monitor and evaluate the training																																														
3	3.1 SWCs monitor and evaluate the pilot project																																														
	3.2 SWCs implement end-line survey of pilot project in cooperation with related organization																																														
	3.3 SWCs improve the data management system of pilot water yards																																														
	3.4 SWCs develop the well rehabilitation manual (good practice guide)																																														
Training Schedule	Training in Khartoum (DWST, Other Organization)			Project Management 1				Well Rehabilitation	Supervision		Geophysical exploration 1				Water Yard Construction GIS1												Pipe Network Management GIS2									PC/報告書作成			Project Management 2								PC/Reporting2		
	Training in State(SWC) ●Mainly OJT (Dispatch a DWST Staff or National Staff)		Baseline Survey						Sanitation Management		Equipment Management 1				Socio-Economic Survey			Geophysical exploration 2					PC/Reporting 1									GIS 3								Equipment Management 2									
	Study Tour				Study Tour in Morocco																																												
STMC	Water & Environmental Sanitation																																														
Assignment of Experts ■ Sudan ■ Japan	Water Supply Facility/Pilot Project Monitoring1																																														
	Data Management/Pilot Project Monitoring2																																														
	Geophysical exploration/Supervision																																														
Procurement	Equipment for the Baseline Survey																																														
	Equipment for Training(PC,Office Equipment) Equipment for Well Rehabilitations 1(Submersible Pumps, Generator)																																														
	Equipment for Well Rehabilitations 2 (Submersible Pumps, Generator)																																														

(2) Deliverables

The schedule of final outputs and others made during the implementation period will be as follows;

Table-14.1 : Deliverables and Timing

Deliverables	Timing	Responsible person
Pilot Project Plan	1st year	Project Director of each SWC
Training Program (Plan)	1st year	Project Director of each SWC, Representative of DWST
Training Record	Within ten (10)days after training	DWST, Director of State Training Center
Well Rehabilitation Plan	1st year	Project Director of each SWC
Well Rehabilitation Reports	Within two (2) weeks after rehabilitation	Project Director of each SWC
Water Yard Construction Plan	2nd year	Project Director of each SWC
Water Yard Construction Report	2nd year	Project Director of each SWC
Pipe Expansion Plan	3rd year	Project Director of each SWC
Pipe Expansion Report	3rd yea	Project Director of each SWC
Pilot Project Final Report	4th year	Project Director of each SWC
Well Rehabilitation Guideline （Good Practice Packet）	4th year	Each SWC、DWSU、JICA

15. Sustainability

(1) Policy

The sustainability of the Project can be considered as high at the policy level as the public services provided in SMAP-2 and the capacity building of government staff are highly related to the priority issues in the significant strategy of each sector (Health, water, and employment).

(2) Organization Structure of Implementing Agency

Not only the HCDG at federal level but also the Secretary General of three Darfur states, SMOH, SWC, SMoE, and SMoF play a crucial role in this project. It is highly unlikely that these institutions get dissolved, considering the fact that they are the fundamental administrative organizations both at federal and state levels. Also, the drastic change within the responsible organization that provides universal public services through Pilot projects is unlikely to occur. Therefore, the organization structure of the implementation agency is expected to be sustained even after the Project, ensuring the utilization of the strengthened skills and knowledge.

(3) Knowledge and Skills

Based on the lessons learned from the Phase 1, SMAP2 conducts the training in parallel with Pilot Projects and the monitoring of training to make sure the necessary skills are effectively acquired. The areas of skills focused in SMAP-2, namely planning, implementation, monitoring and evaluation, are highly versatile. In other words, these skills can be utilized in the improvement of various public services after the Project. In addition, development of guideline and manuals by compiling the knowledge and lessons learned from the Pilot projects is expected to ensure the continuity of knowledge and skills as organizational knowledge even if the transfer or resignation of the staff occurs.

(4) Finance

The Sudanese Federal Government is currently administrating the ultra-austerity budget. This has resulted in a huge decrease in the Development budget and the local allocation whereas Darfur states largely depends on the local allocation from the Federal Government and the financial assistance from the aid agencies (80-90%). As the improvement of this situation is beyond the scope of this Project, the provision of public services using the state budget might not be financially possible. However, in response to this issue of financial sustainability, SMAP-2 focuses on the strengthening of budgeting and accounting capacity of the implementing agency so that the cost-effective services can be provided. In addition, the project evaluation and public finance management of SMoF is also included in the training so that the necessary expenses can be allocated to the important service despite the limited state budget. In this manner, it is expected that the implementing agencies can secure a certain amount of budget to effectively provide services after the end of the Project.
Furthermore, it is necessary to consider the collaboration with other development partners, considering the continuity of service provision using the financial resources of other donors in order to maximize the effect of the Project. As some of the Pilot Project activities are in common with those planned by other development partners and Darfur Development Strategy. Therefore, such coordination that considers the continuity between the Pilot Projects and the projects of other development partners is important.

Appendices

1. List of JCC Members
2. Project team Members
3. List of procured equipment
4. Draft Items of socio-economic survey (Component 2)
5. Member of socio-economic survey
6. Member of baseline Survey
7. Selection flow of target community
8. Shortlist of pilot communities
9. Draft PDM of Component 2

1. List of JCC Members

Joint Coordination Committee Composition (Tentative)

a) Chair person
   General Rapporteur, HCDG

b) Members
   Representative of Higher Council for Decentralized Governance
   Representative of State Ministries of Finance
   Representative of State Ministries of Health
   Representatives of State Water Cooperation
   Representative of State Ministries of Education
   Representative of State Employment and Entrepreneurship Promotion Committees
   Representatives of JICA Sudan Office
   Japanese experts for the project

c) Observers
   Representative of Federal Ministry of Finance and National Economy
   Representative of Federal Ministry of Health
   Representative of Drinking Water and Sanitation Unit
   Representative of Federal Ministry of General Education
   Representative of National Council for Technical and Technological Education
   Representative of Supreme Council for Vocational Training and Apprenticeship
   Representative of Darfur Regional Authority
   Representative of Embassy of Japan
   Representatives of Other Development Partners
   Others appointed by the Chairman

d) Japan Desk/ Secretariat of the Committee
   Higher Council for Decentralized Governance will assign appropriate number of staffs as Secretariat of the Committee. The Secretariat will coordinate matters pertaining to the administration of the Committee.

2. Project team Members

<North Darfur SWC>

No	Name	Position	Position in SMAP
1	Mr. Nasreldeen Mahmoud Mohammed	Director General	Project Director
2	Mr. Mohammed Mohamadain Salih	Director of Project Implementation Department	Project Manager
3	Mr. Mustafa Idriss Mohammed	Director of RWD	Project Manager
4	Mr. Ibrahim Kherallah	Eng. of RWD	Project Team Leader
5	Mr. Rabih Abdel Rahim Kharif	Geologist	Project Team Member
6	Mr. AL Rashid Hamid Mohammed	Geologist	Project Team Member
7	Mr. Assil Yusuf Adam	Mechanical Engineer	Project Team Member
8	Mr. Husain Adam Mohammed	Mechanical Engineer	Project Team Member
9	Mr. Altayb Mahmoud	Driver	Project Team Member
10	Ms. Teyseir Ahmed Abdurrahman	Data Base	Project Team Member
11	Mr. Hassan Ibrahem	Electrical Eng.	Project Team Member
12	Mr. Mohamed Abdallah	Geologist	Project Team Member
13	Mr. Mojtaba Abdallah	Network Eng.	Project Team Member
14	Mr. Arafat Ismail Mohamed	Network Eng.	Project Team Member
15	Mr. Morsal Shomo	Driver	Forklift Operate
16	Mr. Mohamed Abdallah	Driver	Backloads Driver
17	Mr. Abdelrahman Suliman	Driver	Driver
18	Mr. Salah Ibrahim	Equipment manger	-
19	Locality Staff	-	

<South Darfur SWC>

No	Name	Position	Position in SMAP
1	Mr. Idris Dabakah Adam	Director General	Project Director
2	Mr. Al-Rasheed AbdelWahab	Director of Project Implementation Department	Project Manager
3	Mr. Hassan Adam Mohammed	Eng. , Headquarters	Project Team Leader
4	Mr. Aldoom Adam Mohammed	Implementation Manger	Project Team Member
5	Mr. Fath El Rahman Mustafa Ali	Water Resource Eng., UWD	Project Team Member
6	Mr. Mahgoub Ahamed Abd allaha	Installation Eng., WES Project	Project Team Member
7	Mr. Yusuf Mohammed Ahamed	Installation Eng., UWD	Project Team Member
8	Mr. Abdallhameed Idris Goma	Water supply Eng. , Rural	Project Team Member
9	Mr. Hassan Adam Abow	Electricity Eng. , Rural	Project Team Member
10	Mr. Ibrahim Essa Yagoub Ahmed	Ground water Resource, WES Project	Project Team Member
11	Mr. Mohammed Adam Ishaaq	Mechanical Eng. , Rural	Project Team Member
12	Mr. Abdallaal Saleh Ahamed	Ground water Resource, UWD	Project Team Member
13	Mr. Adam Ibrahim Osman Tayrab	Hydro geologist, Headquarters	Project Team Member
14	Mr. Anwar Hassan Abdullah	Well Drill Eng., Headquarters	Project Team Member
15	Mr. Eshag Mohammed Adam	Ground Water Resource, Headquarters	Project Team Member
16	Mr. Shaker Abdalla Zakrea	Geologist , Headquarters	Project Team Member
17	Mr. Omer Ibrahim Adam	Geologist, WES Project	Project Team Member
18	Mr. Nayla Elhadi Abdallrahman	Lab manager, WES Project	Project Team Member
19	Mr. Ozaz Ali Mohammed	Lab Assistant, WES Project	Project Team Member
20	Mr. Yusuf Mansoor Eldoma abaker	Data management and monitoring, Headquarters	Project Team Member
21	Mr. Assma Mohammed abdallah	Data management Ass, WES Project	Project Team Member
22	Mr. Adam Mohammed Yusuf	Administration manager , Headquarters	Project Team Member
23	Mr. Mahmud Mohammed Abdulla	Financial manager , Headquarters	Project Team Member
24	Mr. Esmat Abdalla Saeed Mohammed	Water resource, WES Project	Project Team Member
25	Mr. Ali Hassan Salim Hassan	Assistant Supply Management , Headquarters	Project Team Member
26	Mr. Adnan Mahammed Hassein	-	Project Team Member
27	Mr. Nazol hassein Gabrail	-	Project Team Member
28	Mr. Mahgoub Ahamed Abdallaha	-	Project Team Member
29	Mr. Omer hassin Babow	Driver, Headquarters	Project Team Driver
30	Mr. Bashier Adam Essa	Driver , Headquarters	Project Team Driver
31	Mr. Hassan Ibrahim Gebreel	Driver, Headquarters	Project Team Driver
32	Mr. Boshara Ahamed Mohammed	Driver, UWD	Project Team Driver
33	Locality Staff	-	Project Team Driver

<West Darfur SWC>

No	Name	Position	Position in SMAP
1	Mr. Mahmoud Abddalalah Bashir Jamma	Director General	Project Director
2	Mr. Hammad Abdullah Mohammed	Director of RWC	Project Manager
3	Mr. Mohamed Hassan	Eng. of RWD	Project Team Leader
4	Mr. Hassan Abdallah Yousif	Drilling Engineer	Project Team Member
5	Mr. Rodwan Ali Hassan	Hydro geologist	Project Team Member
6	Mr. Abdalsamad Abdalla Hussein	Hydro geologist/WES	Project Team Member
7	Mr. Aamer Mohammed Abdullh	Hydro geologist/WES	Project Team Member
8	Mr. Salih Hussein Abbaker Salih	Chemist (Laboratory)	Project Team Member
9	Ms. Salma Abdalla Mohammed	Chemist (Laboratory)	Project Team Member
10	Mr. Ahmed Khatir Yahia Ibrahim	Installation Engineer	Project Team Member
11	Mr. Mohammed Faroug Adam	Drilling Engineer/Rural	Project Team Member
12	Mr. Mohammed Abdallah Osman	Drilling Engineer	Project Team Member
13	Mr. Adam Hassan Adam	Ground Water Resources Engineer	Project Team Member
14	Mr. Ahmed Adam Mohammed	Sanitation and Hygine	Project Team Member
15	Mr. Alhadei Abdalla Adam	Sanitation and Hygine	Project Team Member
16	Mr. Abd algader Ahmed Abd algader	Data Managemnet	Project Team Member
17	Mr. Nuseiba Abdelrazic Mohammed	Data Managemnet	Project Team Member
18	Mr. Muawiya Ishaaq	Installation Eng/ Urban	Project Team Member
19	Mr. Mohammed Zakrea	Drilling Engineer / WES Project	Project Team Member
20	Mr. Abdalhamid Salih	Driver/ Urban	Project Team Member
21	Mr. Omer Abbaker	Driver/ Rural	Project Team Member
22	Mr. Musa Essa Yagoub	Tecnicinan / Rural	Project Team Member
23	Mr. Zakrea Abdallah	Tecnicinan / Urban	Project Team Member
24	Mr. Abdamalik Mohammed Salih	Financial manager , Headquarters	Project Team Member
25	Mr. Abdalkraim Adam Dafalla	Civil Engineer/ Headquarters	Project Team Member
26	Mr. Ahmed Hammed Mohammed	Store Keeper/Headquarters	Project Team Member
27	Locality Staff	-	Project Team Member

3. List of procured equipment

No.	Equipment Name	Q'ty			
		ND	WD	SD	Total
Equipment for Staff Training					
1	Desktop Computer	10	10	10	30
2	Laptop Computer	5	5	5	15
3	UPS	7	7	7	21
4	Stabilizer	5	5	5	15
5	Photocopy Machine Color	1	1	1	3
6	Projector	1	1	1	3
7	Microphone & Speaker	1	1	1	3
Equipment for Base Line Survey					
8	GPS	3	3	3	9
9	Water Level Indicator	3	3	3	9
10	Water meter	34	33	35	102
11	Digital Camera	3	3	3	9
Equipment for Rehabilitation of Water Yard					
12-1	Submersible Pump	8	8	8	24
12-2	Control Panel	8	8	8	24
12-3	Riser Pipe 2" 3m	240	128	320	688
12-4	Diesel Generator	8	8	8	24
13-1	Nylon Sling 1m (4t)	4	4	4	12
13-2	Nylon Sling 2m (4t)	4	4	4	12
13-3	Nylon Sling 5m (3t)	4	4	4	12
13-4	Shackle (20mm)	10	10	10	30
13-5	Shackle (8mm)	10	10	10	30
Equipment for Construction Supervision & Maintenance					
14	Auto level	1	1	1	3
15	Transit (Theodolite)	1	1	1	3
16	Water Leak Detector	1	1	1	3
17	Electric Cutting Machine	1	1	1	3
18	Electric Disc Grinder	1	1	1	3
19	Diesel Power Welder	1	1	1	3
20	Gas Welding Tool Set	1	1	1	3

4. Draft Items of Socio-economic Survey (Component 2)

General information		ID
		Date of Survey (dd/mm/yyyy)
		Locality
		Municipality(Village)
		Existing water supply facility (Type and Number; HP, WY, Hf, Hand dug well etc.)
		Population
		Population (water served by WY)
		Water price for people (SDG/Month, SDG/Barrel, SDG/Jelly can)
		Water price for livestock (SDG/Camel・Cattle・Sheep,etc.)
Information of WY	Basic information	Name of WY
		Coordinate of water yard (latitude, longitude WGS84)
		Construction (yyyy)
		Funded by (Sudan Go., UNICEF(WES), WHO, Islamic Bank, Chinese Go., etc.)
		Rehabilitation and renovation (yyyy)
		Number of water user per day (Source; Operation record or listening from Operator)
		Type of water user (Resident, Nomad(livestock), IDP, etc.)
		Water supply amount per day(m3)
		Type of water supply (Public Tap, Public Tap/ House connection, House connection)
		Total condition of facility (Malfunctioning, Partially damaged, All facility are functioning)
		If WY has some problem, please mention it
	O&M	Operated by (SWC Locality Office, Community, Private, etc.)
		Operation hour per day
		Relationship between community and SWC Locality Office (Communicate everyday , a week, a month, Irregular, None)
		Communication means (face-to-face, mobile, other)
		Operation hour per day
		Number of staff for operation and maintenance
		Small maintenance by (SWC locality office, Community, other)
		Water tariff collected by (SWC locality office, Community, other)
	Sanitary Environment	Drainage (Existing, In past, None)
		Livestock (within 30m from BH) (None, Bit, Many, Too many)
		Solid Water (within 30m from BH) (None, Bit, Many, Too many)
		Excreta (within 30m from BH) (None, Bit, Many, Too many)
		Public Tap Management (Very good, good, bit bad, bad very bad)
		Distance from Latrine/Open Defecation(m)
Other		Expectation to SWC for water supply service (Rehabilitation, Construction of new public tap, Extending the operation hour, Regular maintenance, etc.)
		What can you do for WY keeping good condition (Cleaning of the area, Small maintenance of facility, etc.)
		How long does it take to WY(min)
		How many times to go to WY per day
		Who does usually go to water yard? (Boys, Girls, Female, Man)
		How do you think about water fee (Too expensive, Expensive, Proper price, Cheep, Too cheep)
		How long do you wait at WY to get water(min)?
		Do you have sense of participation for O&M ? (Positive, Possible, None)

WY; Water yard, HP; Hand pump, Hf; Hafir, O&M; Operation and Maintenance

5. Member of Socio-economic Survey

<North Darfur SWC>

No.	Name	Position	Work			
			Planning	Survey	Analyze and Compile the Data	Reporting
1	Mr. Salah Ibrahim	Equipment manger	●	●	●	●
2	Mr. Mojtaba Abdallah	Network Eng.	O	●	●	O
3	Mr. Mohamed Abdallah	Geologist	O	●	●	O
4	Mr. Mustafa Idriss Mohammed	Director of RWD	●	O	O	●

<South Darfur SWC>

No.	Name	Position	Work			
			Planning	Survey	Analyze and Compile the Data	Reporting
1	Mr. Idris Dabakah Adam	Director General	●	O	O	O
2	Mr. Al-Rasheed AbdelWahab	Director of Project Implementation Departme	●	O	O	O
3	Mr. Hassan Adam Mohammed	Eng. , Headquarters	●	O	●	●
4	Mr. Hassan Adam Mohammed	Eng. , Headquarters	O	O	●	●
5	Mr. Ozaz Ali Mohammed	Lab Assistant, WES Project	O	●	●	●
6	Mr. Yusuf Mohammed Ahamed	Installation Eng., UWD	O	●	●	●
7	Mr. Assma Mohammed abdallah	Data management Ass, WES Project	O	●	●	●

<West Darfur SWC>

No	Name	Position	Work			
			Planning	Survey	Analyze and Compile	Reporting
1	Mr. Mahmoud Abddalalah Bashir Ja	Director General	●	○	○	○
2	Mr. Hammad Abdullah Mohammed	Director of RWC	●	○	○	○
3	Mr. Mohamed Hassan	Eng. of RWD	●	○	●	●
4	Mr. Ahmed Adam Mohammed	Sanitation and Hygine	○	●	○	○
5	Mr. Alhadei Abdalla Adam	Sanitation and Hygine	○	●	○	○
6	Mr. Salih Hussein Abbaker Salih	Chemist (Laboratory)	○	●	●	●
7	Ms. Salma Abdalla Mohammed	Chemist (Laboratory)	○	●	○	○

6. Member of Baseline Survey

<North Darfur SWC>

No.	Name	Position	Work			
			Planning	Survey	Analyze and Compile the Data	Reporting
1	Mr. Arafat Ismail Mohamed	Network Eng.	●	●	●	●
2	Mr. Mojtaba Abdallah	Network Eng.	●	●	O	O
3	Ms. Teyseir Ahmed Abdurrahman	Data Base	●	●	●	●

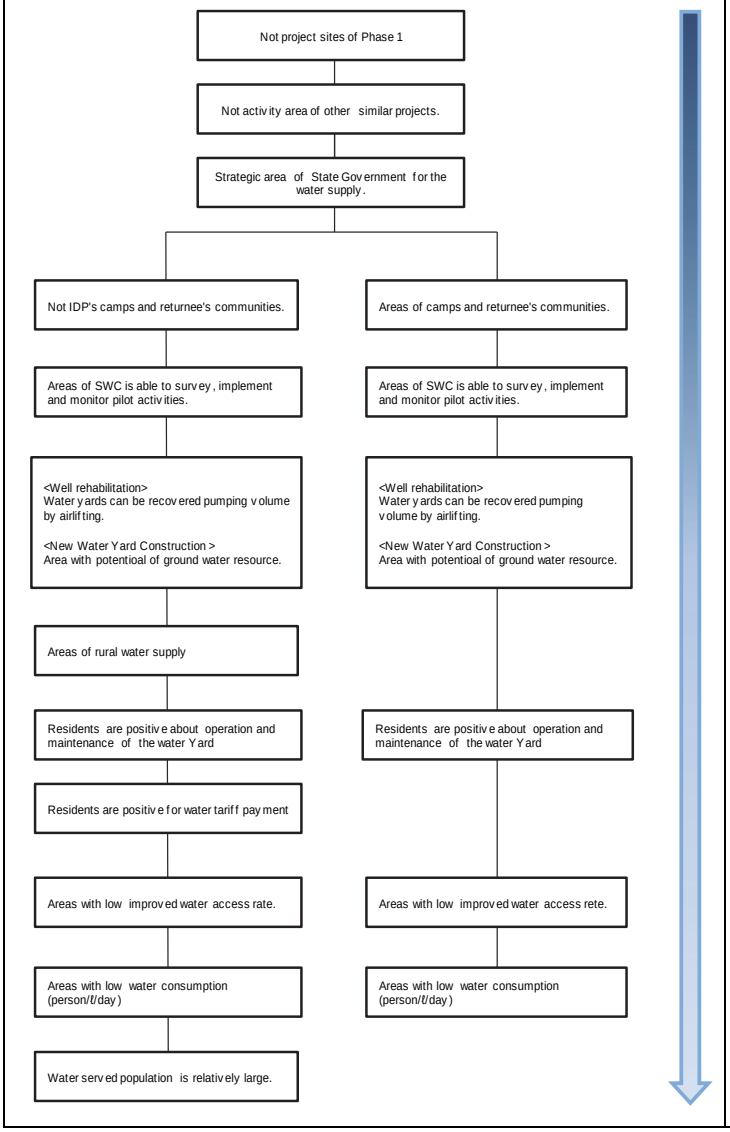
<South Darfur SWC>

No.	Name	Position	Work			
			Planning	Survey	Analyze and Compile the Data	Reporting
1	Mr. Idris Dabakah Adam	Director General	●	O	O	O
2	Mr. Al-Rasheed AbdelWahab	Director of Project Implementation Departme	●	O	O	O
3	Mr. Fath El Rahman Mustafa Ali	Water Resource Eng., UWD	●	O	O	O
4	Mr. Nayla Elhadi Abdallrahman	Lab manager, WES Project	O	●	●	●
5	Mr. Ozaz Ali Mohammed	Lab Assistant, WES Project	O	●	●	●
6	Mr. Yusuf Mohammed Ahamed	Installation Eng., UWD	O	●	●	●
7	Mr. Assma Mohammed abdallah	Data management Ass, WES Project	O	●	●	●

<West Darfur SWC>

No.	Name	Position	Work				
			Planning	On the Job Training	Implmention	Installation of flowmeter	Compile and analyze the
1	Mr. Mahmoud Abddalalah Bashir Ja	Director General	●	o	o	o	o
2	Mr. Abd algader Ahmed Abd algader	Data Managemnet	o	●	o	o	●
3	Mr. Nuseiba Abdelrazic Mohammed	Data Managemnet	●	●	o	o	●
4	Mr. Muawiya Ishaaq	Installation Eng/ Urban	●	o	●	●	o
5	Mr. Mohammed Zakrea	Drilling Engineer / WES Project	o	o	●	●	o

7. Selection Flow of Target Community

Criteria for Project Activity Sites	Point aimed at;	Data Resources
	**Avoidance of activities deplication** **Consensus of development program of states** **Contribution to peace-buildings** **• Security** **Improvement of success rate of well rehabilitations** **Contribution to low water supply area** **Sustainability of operation and maintenance** **Impact of pilot activity** **Improvement of pilot activity's impact and revenue of SWC by water**	**• Interview with other development partners** **• State Strategic Plan** **• State Government** **• DRA** **• Darfur Profiles** **• State Government** **• Existing Water Database** **• SWC** **• SWC(Preparation Phase)** **• Socio-economical Survey (Phase2)** **• Baseline Survey(Phase2)** **• SWC(Preparation Phase)** **• Socio-economical Survey (Phase2)** **• Baseline Survey(Phase2)** **• State Government**

8. Short List of Pilot Communities

(1) North Darfur State

<Well Rehabilitation>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Organization of O&M 1;SWCHQ, 2;SWC Locality 3;Community 4;Private, 5;None	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Total Condition of Facility 1;NotFunctioning 2;Functioning (Partially Damaged) 3;All facilities are functioning	Water Distribution 1; Public Tap 2; House connection 3;Both	Construction /Year	Depth (m)	Power Supply 1;Gen. 2;NEC 3;NEC/Gen. 4;Solar 5;Other	Pumping Volume (m3/hr)
1	1	Umsaona (a)	Altiwasha	umsaona	67,000	12,560	2	2	2	1	1989	280	1	10
2	1	Eyalamin	Altiwasha	Eyalamin	67,000	5,700	2	2	2	1	1989	202	1	12
3	1	Dlilbabker	Leayit	Dilbabker	70,000	4,500	2	2	2	1	1990	212	1	14
4	1	Algamus	Leayit	Algamus	70,000	4,750	2	2	2	1	2005	187	1	13
5	1	Dlildukhri	Leayit	Dlildukhri	70,000	4,200	2	2	2	1	1989	212	1	12
6	1	Shagsumyt	Umkadada	Shagsumyt	93,392	3,200	2	1	2	1	1989	157	1	10
7	1	Alkarada	umkadada	Alkarada	93,392	4,750	2	1	2	1	1990	152	1	14
8	1	Alarais	Umkadada	Umsata	93,392	3,450	2	1	2	1	1989	208	1	14
9	1	Lwabit	Alfasher	Lwabit	504,080	2,100	2	2	2	1	2002	158	1	14
10	1	Donky shata	Alfasher	shata	504,080	1,850	2	2	2	1	1995	152	1	12
11	1	tofay	Malit	Tofay	135,831	2,580	2	1	2	1	1989	151	1	10
12	1	Abujira	Malit	Abujira	135,831	2,350	2	2	2	1	1998	160	1	12
13	1	Marega	Malha	Marega	165,548	2,850	2	2	2	1	1979	150	1	13
14	1	Oshar	Malha	Oshar	165,548	2,150	2	2	2	1	1989	155	1	10
15	1	Umhijlij	Alkuma	Umhijlij	69,198	8,750	2	1	2	1	1996	150	1	14
16	1	Alawna	Darslam	Aawna	35,230	3,850	2	2	2	1	1991	168	1	12
17	1	Umkhibasha	Darslam	Umkhibasha	35,230	2,855	2	2	2	1	1989	150	1	14
18	1	Edlbada	Kalimendo	Edlbada	36,343	3,250	2	2	2	1	1989	167	1	14
19	1	Sanicraw	Kaimendo	Sanicraw	36,343	5,321	2	2	2	1	1990	160	1	13
20	1	Umhruf	Leayit	Umhurf	70,000	2,356	2	2	2	1	1989	189	1	12

<Water Yard Construction>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Geology 1;Wadi Depot. 2;Basement 3;Nubian 4;Other	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Estimated success rate of Drilling 1;Very Low (<20%) 2;Low(20-40%) 3;Medium (40-60%) 4;High(60-80%) 5;Very High(80%<)	Estimated Depth for Drilling(m)	Estimated Main Water user 1;Permanent residents 2;Nomad 3;Live Stock 5; Share with others	Existing Facility 1;WY 2;HP 4;Hafir 5;None	Number of Facilities
1	1	.Umhimat	Umkadada	.Umhimad	93,392	2,250	3	1	3	160	1.2.3	5	none
2	1	Armel	MALED	Armel	135,831	8,350	1	1	3	165	1.2.3	4	none
3	1	Umkitra	Umkadada	Umkitra	93,392	3,500	3	1	4	180	1.2.3	5	none
4	1	Umkakut	Altiwasha	Umkakut	67,000	1,200	2	2	2	120	1.2.3	1	none

<Expansion of Distribution Pipes>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Organization of O&M 1;SWCHQ, 2;SWC Locality 3;Community 4;Private, 5;None	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Total Condition of Facility 1;NotFunctioning 2;Functioning (Partially Damaged) 3;All facilities are functioning	Water Distribution 1; Public Tap 2; House connection 3;Both	Estimated distance to be extended in total (km)	Estimated water points to be constructed	Power Supply 1;Gen. 2;NEC 3;NEC/Gen. 4;Solar 5;Other	Diameter of distribution pipe to be extended(inch)
1	1	Alkuma.	Alkuma	.Alkuma	69,198	11,230	2	1	3	2		8	1	3
2	1	Jaber	Altiwasha	Jaber	67,000	12,560	2	2	3	1	5.0	5	1	3
3	1	Umkadada	Umkadada	Umkadada	93,392	15,260	2	1	2	3	4.0	4	1	3
4	1	Altiwasha	Altiwasha	Altiwasha	67,000	13,250	1	2	2	2	9.7	6	1	3

(2) South Darfur State

<Well Rehabilitation>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Organization of O&M 1;SWCHQ, 2;SWC Locality 3;Community 4;Private, 5;None	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Total Condition of Facility 1;NotFunctioning 2;Functioning (Partially Damaged) 3;All facilities are functioning	Water Distribution 1; Public Tap 2; House connection 3;Both	Construction /Year	Depth (m)	Power Supply 1;Gen. 2;NEC 3;NEC/Gen. 4;Solar 5;Other	Pumping Volume (m3/hr)
1	Rural	Tuggah	Alsalam	Abu Salala	7,850	874	2	2	3	1	2003	104	1	7
2	Rural	Towal Tolus	Alsalam	Al-Safiyia	17,552	3,868	2	3	1	1	1972		1	0
3	Rural/ IDPs	Katela (B)	Katela	Katela	60,255	18,323	2	3	2	1	1991		1	20
4	Returnee	Hraza	Katela	Hraza	24,068	7,703	2	3	2	1	1971		1	20
5	Rural/ IDPs	Um Berraida	Katela	Khor shamam	27,453	2,388	2	3	3	1	1971		1	15
6	Rural	Um-jamena	Demso	Demso	31,246	825	2	2	1	1	1988		1	0
7	Rural	Tolus	Tulus	Tolus	53,848	5,492	2	2	3	1	2003		1	30
8	Rural	Ras Alphail	Demso	Demso	31,246	1,405	2	2	2	1	1984		1	14
9	Rural	Al Garad	Demso	Al Garad	11,681	3,629	2	2	3	1	2007		1	30
10	Rural	Al-tomatt	Demso	Al-tomatt	24,309	8,580	2	2	3	1	2007		1	15
11	Rural	Haraza Al- abass	Rehaid Alberdi	Sarire	14,006	1,742	2	2	1	1	1971		1	0
12	Rural	Alsonta Al-gadeema	Alsonta	Alsonta	25,012	4,281	2	3	2	1	1969		1	30
13	Rural	Hinigah	Buram	Buram	25,809	2,262	2	3	3	1	1970		1	20
14	Urban/ IDPs	Geraida West	Geraida	Geraida	36,674	2,250	2	2	3	1	1988		1	45
15	Returnee	Al-gowra	Alsonta	Al-gowra	25,012	7,675	2	3	2	1	1973		1	7
16	Rural/ Returnee	Eydan	Geraida	Geraida	36,674	7,030	2	3	2	1	1970		1	20
17	Rural	Um Gader	Um Dafuog	Um Gader	10,835	2,461	2	3	3	1	1954		1	12
18	Urban	Um Dafuog	Um Dafuog	Um Dafuog	17,544	6,399	2	3	3	1	2005		1	7
19	Rural	AL-syroop	Alradom	Wad Hagam	57,392	1,013	2	3	3	1	1973		1	12
20	Rural	Baggagh	Alradom	Wad Hajam	57,392	3,500	2	3	3	1	1969		1	10

<Water Yard Construction>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Geology 1;Wadi Depot. 2;Basement 3;Nubian 4;Other	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Estimated success rate of Drilling 1;Very Low (<20%) 2;Low(20-40%) 3;Medium (40-60%) 4;High(60-80%) 5;Very High(80%<)	Estimated Depth for Drilling(m)	Estimated Main Water user 1;Permanent residents 2;Nomad 3;Live Stock 5; Share with others	Existing Facility 1;WY 2;HP 4;Hafir 5;None	Number of Facilities
1	Rural	Labin	Tolus	Tolus	53,848	1,700	3	2	4	300 - 280	5	5	0
2	Rural	Mondowa	Um Dafoug	Um Geder	10,835	1,556	3	3	3	180 - 160	5	5	0
3	Rural	Bobaya Alsalam	Katiela	Um Takaina	89,704	2,450	3	2	4	240 - 220	5	5	0
4	Rural / Returnee	Wad Hajam	Alradoum	Wad Hajam	57,392	15,988	3	3	3	240	5	1	2

<Expansion of Distribution Pipes>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Organization of O&M 1;SWCHQ, 2;SWC Locality 3;Community 4;Private, 5;None	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Total Condition of Facility 1;NotFunctioning 2;Functioning (Partially Damaged) 3;All facilities are functioning	Water Distribution 1; Public Tap 2; House connection 3;Both	Estimated distance to be extended in total (km)	Estimated water points to be constructed	Power Supply 1;Gen. 2;NEC 3;NEC/Gen. 4;Solar 5;Other	Diameter of distribution pipe to be extended(inch)
1	Rural	Um Takaina	Kateila	Um Takaina	89,704	25,441	2	2	3	1	12	10	1	4 inch & 2 Inch
2	Returnee	Joughana	Geraida	Joughana	36,674	12,929	2	3	3	1	8	6	1	4 inch & 2 Inch
3	Rural	Towal	Rehaid Elberdi	Towal	64,699	12,044	2	1	3	1	10	8	1	4 inch & 2 Inch
4	Returnee	Wad Hajam	Geraida	Wad Hajam	57,392	15,988	2	3	3	1	12	10	1	4 inch & 2 Inch

(3) West Darfur State

<Well Rehabilitation>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Organization of O&M 1;SWCHQ, 2;SWC Locality 3;Community 4;Private, 5;None	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Total Condition of Facility 1;NotFunctioning 2;Functioning (Partially Damaged) 3;All facilities are functioning	Water Distribution 1; Public Tap 2; House connection 3;Both	Construction /Year	Depth (m)	Power Supply 1;Gen. 2;NEC 3;NEC/Gen. 4;Solar 5;Other	Pumping Volume (m3/hr)
1	Rural/ Nomad	Masteri	Beida	Masteri	21,455	5,000	3	1	2	1	2003	45	1	14
2	Rural/ Nomad	Kondobe	Siriba	Kondobe	20,256	4,000	3	1	2	1	2009	45	1	12
3	Rural/ Nomad	Asonga	Geneina	Asonga	15,555	6,456	2,3	1	2	1	2006	50	1	20
4	Rural	Tandulti	Geneina	Tandulti	46,278	7,000	2,3	1	2	1	2002	48	1	14
5	Rural	Siriba	Siriba	Siriba	33,518	12,000	3	2	2	3	2006	45	1	20
6	Rural	Seleia	Seleia	Seleia	85,332	2,000	2	2	3	1	2005	30	1	7
7	Rural	Kulbus	Kulbus	Kulbus	112,340	3,000	2	2	2	1	2003	40	1	15
8	Rural/ Nomad	Markouba	Kulbus	Kulbus	12,000	6,000	2	3	3	1	1997	30	1	8
9	IDPs/ Urban	Kerenke	Kerenke	Kerenke	99,703	10,000	2,3	1	2	3	1967	40	1	17
10	Rural	Azerinei	Kerenke	Azerinei	23,748	5,000	3	1	3	1	2003	40	4	23
11	IDPs	Mornei	Kerenke	Mornei	83,000	9,000	1(WES)	1	3	1	1998	25	1	25
12	Rural/IDPs	Um Tagouk	Kerenke	Um Tagouk	8,089	5,000	3	2	3	1	2007	45	4	20
13	Rural/ Nomad	Galala	Kerenke	Um Tagouk	6,000	6,000	3	2	1	1	1999	48	1	10
14	Urban	For Barange	For Barange	For Barange	70,245	15,000	2	1	3	3	2005	48	1	30
15	Urban	Habilah	Habilah	Habilah	41,286	4,000	2	1	3	3	2005	45	1	18
16	Urban	Beida	Beida	Beida	25,919	7,000	1,3	2	3	3	2006	45	1	15
17	Nomad	ALmazrub	Kerenke	Azerinei	10,520	12,000	1,3	1	3	1	2001	48	1	13
18	Nomad	Zeina	Kerenke	Azerinei	8,455	10,000	1,3	2	3	1	2002	50	1	10
19	Rural	Fajara	Kerenke	Um Tagouk	12,450	15,000	1,3	3	3	1	2001	66	1	15
20	Returnee	Habilah Kanari	Geneina	Geneina	3,500	3,500	1	1	1	1	2008	48	1	8

<Water Yard Construction>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Geology 1;Wadi Depot. 2;Basement 3;Nubian 4;Other	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Estimated success rate of Drilling 1;Very Low (<20%) 2;Low(20-40%) 3;Medium (40-60%) 4;High(60-80%) 5;Very High(80%<)	Estimated Depth for Drilling(m)	Estimated Main Water user 1;Permanent residents 2;Nomad 3;Live Stock 5; Share with others	Existing Facility 1;WY 2;HP 4;Hafir 5;None	Number of Facilities
1	Nomad	Mstreha	Kerenek	Um Tagouk	8,089	5,000	2,4(Alluvial)	3	4	50	2	2 HP	2
2	Rural/Nomad	Abu Ramail	Kerenk	Kerenk	4,000	6,000	2,4(Alluvial Deposit)	1	3	48	1,2	2WY/22HP	4
3	Rural	Gellu	Geneina	Tandulti	6,000	7,000	4(Alluvial Deposits)	1	3	45	1	5 HP/2WY	7
4	IDPs/Rural	Kango Haraza	Beida	Kango Haraza	7,608	8,000	4(Alluvial Deposits)	2	5	40	5	6HP/3WY	9
5	IDPs/Rural	Gobaiy	Habilah	Gobaiy	20,514	15,600	2,3	3	3	45	5	15HP/ 2DW	17

<Expansion of Distribution Pipes>

No	Category 1;Rural 2;Urban 3;IDPs 4;Returnee	Name of WY	Locality	Village (Municipality)	Population	Population (Water Served)	Organization of O&M 1;SWCHQ, 2;SWC Locality 3;Community 4;Private, 5;None	Security 1.Very good 2.Good 3.Accessible 4.Bad 5.Very bad	Total Condition of Facility 1;NotFunctioning 2;Functioning (Partially Damaged) 3;All facilities are functioning	Water Distribution 1; Public Tap 2; House connection 3;Both	Estimated distance to be extended in total (km)	Estimated water points to be constructed	Power Supply 1;Gen. 2;NEC 3;NEC/Gen. 4;Solar 5;Other	Diameter of distribution pipe to be extended(inch)
1	Rural	Well No(1	Siriba	Siriba	87,293	3,000	3	2	3	1	5	4	1	2/3(inch)
2	Rural	Wade seleia	Seleia	Seleia	85,332	4,000	1,3	2	1	1	5	5	1	2/3(inch)
3	Rural	Well No(3)	Kerenke	Kerenke	30,002	5,000	2,3	1	3	1	8	7	1	2/3(inch)
4	Rural	Abu Dahiy	Habilah	Habilah	5,000	10,000	3	3	3	1	5	5	1	2/3(inch)

9. Draft PDM of Component 2

Narrative Summary	Indicators	Verification Measures	Important Assumption
Super Goal Strengthening peace and stability of three Darfur states through improvement of quality of life of people in three Darfur States			
Overall Goal Public well-being is enhanced in three Darfur States (*Well-being is defined as conditions where public happiness, public trust and public services are fulfilled for the people.)	**(Common indicators among four components)** o-1 Public happiness is increased o-2 Public trust on the government is promoted o-3 Satisfaction on public services is increased **(Component-specific indicators)** pmo-1 information of public services open to public is increased	 Questionnaire survey/ focus group discussion Questionnaire survey/ focus group discussion Questionnaire survey/ focus group discussion Record of SMoFs and implementing agencies	
Project Purpose Institutional capacity of project management (monitoring and evaluation, and project financing) of State Ministries of Finance (SMoFs) and implementing agencies of pilot projects is strengthened	**(Common indicators among four components)** p-1. Selection process of the pilot areas become inclusive (include the most conflict-affected people and community, etc. into target groups with consideration for coexistence) p-2. Recognition of implementing agencies on public needs is improved (Contacts with community is increased, attitude of implementing agencies to community people become responsive from neglective, etc.) p-3. Capacity (to make the services efficient, transparent and peace promotion) of service providers perceived by stakeholders is improved **(Specific indicators)** pmp-1 More than oo% of submitted monthly reports are accurate (data for indicators are provided without misunderstandings nor missing) pmp-2 More than oo% of submitted quarterly reports are accurate (judgment on relevance, progress, effectiveness of the pilot projects are provided without misconception, recommendation from SMoFs to implementing agencies become relevant or practical for pilot projects) pmp-3 SMoFs conduct monitoring and evaluation on more than three projects pmp-4 Proportions of total operational cost for the pilot activities burden by SMoFs	 360 degree survey with questionnaire Most Significant Change method 360 degree survey with questionnaire Most Significant Change method 360 degree survey with questionnaire Most Significant Change method" Monthly reports submitted by implementing agencies Quarterly monitoring and evaluation sheets filled by SMoFs Monitoring and evaluation record of SMoFs Project accounts	
Output 1 Planning and coordination skills necessary to conduct monitoring and evaluation on the pilot projects (including project financing) in consideration of public needs and inclusiveness	pmop-1.1 Monitoring and evaluation plan is developed pmop-1.2 Monitoring and evaluation plan includes the activities and/or tools to monitor public needs and inclusiveness	Monitoring and evaluation plan Monitoring and evaluation plan	
Output 2 Skills and knowledge of SMoFs and implementing agencies of pilot projects on monitoring and evaluation, and project financing with awareness for public needs and inclusiveness are improved	pomp-2.1 More than oo staff of SMoFs and implementing agencies receive the training on monitoring and evaluation and project financing pmop-2.2 More than oo% of monthly reports are submitted to SMoFs from implementing agencies pomp-2.3 Skills, knowledge and awareness of SMoFs and implementing agencies are improved pmop-2.4 More than oo% of quarterly monitoring and evaluation sheet are feed backed to implementing agencies from SMoFs	Training record Training record Training record Monthly reports submitted by implementing agencies	
Output 3 Operational procedure of monitoring and evaluation on pilot projects (including project financing) is improved for public needs and inclusiveness	pmop-3.1 Manual of monitoring and evaluation is developed pmop-3.2 Manuals includes the content of public needs and inclusiveness	Manual of monitoring and evaluation Manual of monitoring and evaluation	
Activities (Activities for output 1) 1.1 State Project Management Committee is formed. 1.2 Monitoring and evaluation plan is developed by the committee. (Activities for output 2) 2.1 Training programs on monitoring and evaluation and on project financing are developed by JICA expert 2.2 Trainings on monitoring and evaluation, and project financing are provided for SMoFs and implementing agencies of pilot project on monitoring and evaluation, and project financing 2.3 SMoFs conducts monitoring on the pilot activities through monthly report from implementing agencies. 2.4 SMoFs conducts site visits on pilot activities. 2.5 SMoFs conducts evaluation survey. (Activities for output 3) 3.1 Monitoring and evaluation activities of SMoFs and implementing agencies of pilot projects is reviewed 3.2 Draft manual of monitoring and evaluation, is developed by SMoFs and implementing agencies of pilot project 3.3 Manual of monitoring and evaluation is reviewed by stakeholders 3.4 Manual of monitoring and evaluation is finalized	Input 【Japan side】 1. Japanese experts 2. Sudanese experts 3. Equipment 4. Training in Japan/ Training in third country 5. Operation cost	【Sudan side】 1. Allocation of counter parts 2. Land and facilities for project activities 3. Operation cost of monitoring and evaluation activities on pilot activities 4. Salaries, allowance for state staff	(pre-condition)