Planning Templates

SIKKIM RURAL DRINKING WATER

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SIKKIM RURAL DRINKING WATER

Acronyms and Abbreviations

ASHA	Accredited Social Health Activist
BRGF	Backward Regions Grant Fund
CMAS	contract management advisory service
GPU	Gram Panchayat Unit
H_2S	hydrogen sulphide
IEC	Information, Education and Communication
m	meter
NGO	nongovernmental organization
NREGS	National Rural Employment Guarantee Scheme
NRHM	National Rural Health Mission
O&M	operation and maintenance
PI	Panchayat Inspector
RDA	Rural Development Assistant
RMDD	Rural Management and Development Department
SHG	self help group
SIRD	State Institute of Rural Development
VWSC	Village Water and Sanitation Committee
WSP	Water and Sanitation Program

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Template 1

Technical and Financial Survey for Spring Source Gravity Flow Schemes

The information should be filled by the Panchayat Inspector and Junior Engineer along with the VWSC and Barefoot Engineer and/or private fitter

Name/designation of surveyor(s):

Date of survey:

BASIC INFORMATION

1. Name of GPU	
2. Total current population in the GPU/number of households (include source of data)	
3. Number of wards in the GPU	
4. Names of wards in the GPU	

SCHEME INFORMATION

1. Name of ward being surveyed	
2. Population of the ward/number of households	
3. Name used to identify water supply scheme being surveyed	

Template 1 continued

SCHEME INFORMATION

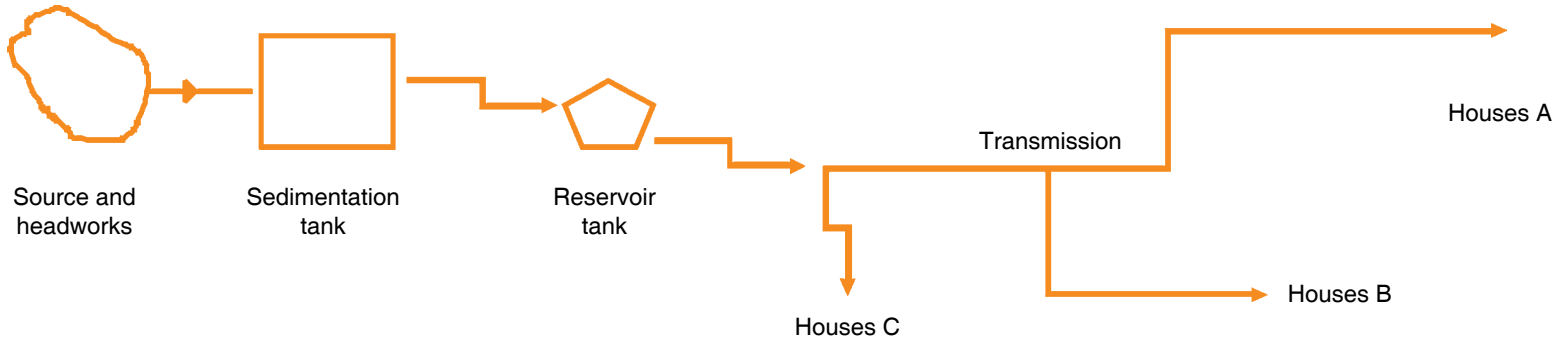
4. Description of the source (e.g., protected spring, stream, pond, etc.)	
5. Estimated production capacity of the source in cubic meters per day	
6. Describe any problems with source sustainability, e.g., during summer/ winter	
7. Source infrastructure condition of intake/ headworks	
8. Sedimentation tank capacity, age and condition	
9. Storage tank capacity, age and condition	
10. Distribution pipes size, length, type of pipe, age, condition	
11. Average number of supply interruptions per month, e.g., source blockage, major pipe breaks, etc.	
12. Number of connections (if possible also provide an estimate of how much water is used in cubic meters per month per connection)	1. Domestic 2. Schools 3. Health clinics 4. Commercial 5. Other
13. Average time to collect 20 liters of water (minutes or hours)	

Template 1 continued

SCHEME INFORMATION

14. Average hours of supply per day to domestic connections (identify problems)	
15. Pressure at connections (indicate if low, good, high)	
16. Mention any ongoing or proposed projects which are already with RMDD	
17. Key observations and problems identified during the survey	
18. Possible solutions identified during the survey	

Please prepare a diagram of the scheme that has been surveyed (see example below)



TEMPLATE 2

Water Source Plan (based on Government of India guidelines for Sikkim)

Name of the GPU, ward and scheme:

Water harvesting and groundwater recharge measures	Capacity	Cost
For example: • Rooftop harvesting • Diversion of perennial springs and streams into storage structures (tanks)		

TEMPLATE 3

Water Safety Plan (an example with typical risks and controls)

Name of the GPU, ward and scheme:

Name/designation of the surveyor(s):

Date of the survey:

Source

Risk	Control measure	Who?	Who monitors?	Action if control fails	
				What?	Who?
• Animal feces • Garbage • Livestock effluents	• Fencing • Public awareness, IEC boards • Effluent pathway should be relocated	• Contract laborers • Barefoot Engineer and/or private fitter, SHG, community labor • VWSC with support from NGOs and SHGs	• Panchayat Inspector with help from forest guard and Barefoot Engineer and/or private fitter • VWSC • Community	• Clean up and repair • Disinfect household water using electro-chlorinator • H_2S vial test	• Barefoot Engineer and/ or private fitter • ASHA (VWSC) • NGOs

Template 3 continued

Sedimentation Tank

Risk	Control measure	Who?	Who monitors?	Action if control fails	
				What?	Who?
• Animal feces • Garbage • Poor design • Tank damaged or leaking	• Install tank cover • Public awareness/ IEC sign boards • Clean tank • Regular check up on water flow and filter material	• Contractor • Junior Engineer • VWSC with support from NGOs	• Panchayat Inspector with Barefoot Engineer and/ or private fitter • VWSC • Community	• Clean up • Disinfect household water using electro-chlorinator • H_2S vial test • Repair cover • Repair sign boards • Repair tank	• Barefoot Engineer and/ or private fitter • Contractor • Junior Engineer • VWSC with support from NGOs

Storage Tank

Risk	Control measure	Who?	Who monitors?	Action if control fails	
				What?	Who?
• Animal feces • Garbage • Bathing and laundry • Tank damaged or leaking • Private pipelines connected at tank	• Install tank cover • Public awareness/ IEC sign boards • Clean tank • Regular check up on tank condition • Explore options to disconnect private connections	• Contractor • Junior Engineer • VWSC with support from NGOs • Barefoot Engineer/ private fitter	• Panchayat Inspector with help from Barefoot Engineer and/ or private fitter • VWSC • Community	• Clean up • Disinfect household water using electro-chlorinator • H_2S vial test • Repair cover • Repair sign boards • Repair tank	• Barefoot Engineer and/ or private fitter • Contractor • Junior Engineer • VWSC with support from NGOs

Template 3 continued

Distribution Pipeline

Risk	Control measure	Who?	Who monitors?	Action if control fails	
				What?	Who?
• Animal feces • Garbage • Effluents • Poorly laid pipelines in public footpaths or drains • Leaking pipes	• Public awareness/IEC • Regular check up on pipes	• Barefoot Engineer/ private fitter • Contractor • Junior Engineer • VWSC with support from NGOs	• Panchayat Inspector with help from Barefoot Engineer and/or private fitter • VWSC • Community	• Clean up • Disinfect household water using electro-chlorinator • H_2S vial test • Realignment of pipelines • Repair of leaking pipes	• ASHA (VWSC) • Barefoot Engineer and/ or private fitter • Contractor • Junior Engineer • VWSC with support from NGOs

Household Storage and Personal Hygiene

Risk	Control measure	Who?	Who monitors?	Action if control fails	
				What?	Who?
• Unclean storage container • Absence of lid on storage container • No ladle to remove water	• Public awareness/IEC • Point of use treatment	• ASHA (VWSC) • NGOs • Teachers • Health workers • Anganwadi workers	• VWSC • Sanitary Inspector	• Disinfect household water using electro-chlorinator • H_2S vial test	• ASHA (VWSC) • NGOs
• No hand washing with soap • Uncut nails	• Public awareness/IEC • Empower women's groups to advocate personal hygiene	• ASHA (VWSC) • NGOs • Teachers • Health workers • Anganwadi workers	• VWSC • Sanitary Inspector	• Disinfect household water using electro-chlorinator • H_2S vial test	• ASHA (VWSC) • NGOs

TEMPLATE 4

Operating Plan

The operating plan sets out the basic operating tasks as well as costs and income.

Table 1 defines the job specifications for the operator (whether community-based, public or private).

Table 1: Operating functions

Area of operations	Key operating functions	How often	Who can help
Spring and intake/ headworks	• O&M of intake/headworks • Monitoring source availability during dry season[1] • Monitoring source pollution • Implementing source protection plan • Planning for new source to meet future demand		Junior Engineer Field Facilitator Forest Guard
Sedimentation tank	• O&M of tank • Clean/flush filter media		Junior Engineer Field Facilitator
Storage tank	• O&M of tank • Clean tank • Water quality monitoring		Junior Engineer Field Facilitator ASHA
Distribution pipeline	• Valve inspection and exercising • Flow monitoring • Water main cleaning and flushing • Pipe location, leak detection and repair • Emergency repairs and other minor works • Expansion of pipe network		Junior Engineer Field Facilitator Community

[1] Also during the rainy season when landslides are a problem.

Template 4, Table 1 continued

Area of operations	Key operating functions	How often	Who can help
Water safety	• Water safety plan (see Template 3) • Monitoring water quality		Junior Engineer Field Facilitator ASHA Sanitary Inspector
Administration (to be carried out by VWSC for the Gram Panchayat)	• Procurement of materials and services • Stores • Book-keeping and reporting • Paying Barefoot Engineer and/or Private Fitter and monitoring performance • Supervising construction works • Applications for funding • Reporting monthly and annual accounts • Tariff setting and periodical revision		Junior Engineer Field Facilitator Rural Development Assistant District Water and Sanitation Mission (Block and District Development Officers)

The tables below set out the basic staff and maintenance costs, the income from water revenues, and the surplus or deficit for O&M.

Table 2: Staff costs

Staff	Unit	Salary/annum	Value
Operator, e.g., Barefoot Engineer, private fitter, etc.	Number	₹	
Contract labor	Number	₹	
Other	Number	₹	
Other	Number	₹	
Total staff costs	Number	₹	

Template 4 continued

Table 3: Maintenance costs

Maintenance item	Cost/annum	Value
Chemicals (salt for electro-chlorinator, bleaching powder)	₹	
Cleaning tanks, pipes, etc.	₹	
Leak repair	₹	
Connections, disconnections, reconnections	₹	
Spare parts, tools, e.g., valves, pipes, etc.	₹	
Stationary, ledgers for book-keeping	₹	
Billing and collection	₹	
Training	₹	
Public awareness/IEC	₹	
Other	₹	
Total maintenance costs	₹	

Template 4 continued

Table 4: Income from water revenues

Tariff and Budget	Unit	Value
Number of domestic connections	Number	
Number of nondomestic/commercial connections	Number	
Monthly tariff for domestic connections	₹ /month	
Monthly tariff for nondomestic/commercial connections	₹ /month	
Total amount billed per month	₹ /month	
Total amount collected per month	₹ /month	
Collection efficiency (= amount collected/amount billed)	%	
Estimated income from water revenues	₹ /year	

Table 5: Annual surplus/deficit

Income and expenses	₹ /annum	Value
Total staff costs		
Total maintenance costs		
Estimated income from water revenues		
Surplus/deficit		

TEMPLATE 5

Service Improvement Plan
(an example with typical remedies and benefits)

The Service Improvement Plan sets out measures that need to be implemented to improve services. The measures include some of which are just about better operational management and some which require investment. There are three levels of priority: immediate; this year; and after this year.

Code	Service improvement measure	Improvement need (the remedy)	Why? (the benefit)	Cost	Difficulties in implementation	Timing (the priority)
1.1	O&M capability	Terms of reference or basic service agreement for operator	Clarity on responsibilities of the operators and how they will be paid (including performance bonuses)	•	• How to prepare and manage a service agreement	Immediate
1.2	Contract management capability	• Training to VWSC • Use SIRD/ field facilitators • Establish new CMAS at district level	Improved capability to supervise operator performance	•	• Turnover of VWSC trained members • Identification and hiring of qualified members for the CMAS	This year

Template 5 continued

Code	Service improvement measure	Improvement need (the remedy)	Why? (the benefit)	Cost	Difficulties in implementation	Timing (the priority)
2.1	Household connections	• Remove cost barriers, e.g., provide subsidy for connection cost • Simplify application procedures	• Meet demand for connections • Income increased from new connections • Reduced wastage	•	• Establishing a mechanism for financing connection costs	This year
2.2	Pipe network (coverage)	• Increase distribution network coverage based on demand	• Ability to increase connections and meet demand • Increased income	•	• High cost of pipes • May need new source to meet new demand	This year
2.3	Pipe network (leakage)	• Leak detection and repair	• Water quality and public health • Increased service levels (pressure, reliability) • Improved willingness to pay	•	• Availability of technical skills for leak detection and repair • Establish technical support (SIRD or RMDD)	Immediate

Template 5 continued

Code	Service improvement measure	Improvement need (the remedy)	Why? (the benefit)	Cost	Difficulties in implementation	Timing (the priority)
2.4	Storage	• Upgrade existing tanks, or new tanks • Replace filter media	• Demand management • Increased service levels (reliability)	•	• Costs • Procuring a good contractor	This year
2.5	Source (upgrade) – refer to water source plan, Template 2	• Upgrade intake/ headworks • Implement source protection plan	• Water quality and public health • Production capacity	•	• Costs • Coordination with forestry department	Immediate
2.6	Source (augment) – refer to water source plan, Template 2	• Identify new source	• Production capacity	•	• Costs • Availability	Next year
2.7	Water safety – refer to Water Safety Plan, Template 3	• Baseline survey • Protocols for testing by district laboratory • Establish control measures • Ensure actions when controls fail	• Water quality and public health • Customer's willingness to pay for quality	•	• Implementing and monitoring control measures and remedial actions • Staffing and equipment of district laboratories	Immediate

Template 5 continued

Code	Service improvement measure	Improvement need (the remedy)	Why? (the benefit)	Cost	Difficulties in implementation	Timing (the priority)
2.8	Customer service	• Set up a customer complaints recording system • Set response times	• Improved services (speed of response, continuity of supply) • Increased willingness to pay	•	• Difficult to monitor	Immediate
3.1	Accounts and book-keeping	• Ledgers for operational and financial record-keeping	• Transparent planning and operational/ financial performance • Improved reporting and monitoring	•	• Set up District Water and Sanitation Mission and establish reporting protocols	Immediate
3.2	Quality of customer database and billing and collection arrangements	• Record of houses with a connection • Procedures for new connection application • Billing and collection mechanism • Record of nonpayment • Disconnection policy	• Increased income • Reduced wastage • Improved accounts and book-keeping	•	• Implementing new tariffs • Implementing disconnection policy	This year

TEMPLATE 6

Performance Indicators

Area of performance	Performance
Access and usage What percentage of households in the GPU use: (i) a handpump (ii) a community standpost (iii) a household connections? Are connections metered?	
Quantity and quality How much safe water is provided per person per day? Has the water been tested and found to be clean and safe to drink?	
Reliability How many hours per day is water provided? How many months/days in a year is there stoppage in water supply?	
Responsiveness of service providers Does the provider have a customer service counter or contact number? How quickly does the provider respond to user complaints?	
User's satisfaction Are users getting the services they need, want and can afford?	

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