Title of project:

Rotary Dangisharana Drinking Water Project, **Dang, Nepal**

Section A-Host and International Sponsors information

Host Sponsor: Bharatpur	International Sponsor:
Primary Contact : Suresh Bdr. Sen Thakuri President 2019-20 District : 3292 Club : Bharatpur	Primary Contact : District : Club :

B. **Summary :**

Location:	Dangisharana, Dang Ward No-1, 2 and 4
Project staff:	Overseer……
Contact persons:	Project Coordinator: MPHF Rtn. Dr. Rebanta Kumar Bhattarai
Target population:	Approx 1,000 population (250 Households)
Duration:	1 year
Total Project cost :	USD 1,09,252 (Equivalent to NRS, 1,24,54,700)

C. **Introduction**:

Nepal is a landlocked nation with the current population of over 30 million people having GDP per capita of US$470, is one of the developing nation in the world. With a staggering 42 percent of the population living below the poverty line and only 27 percent with improved access to sanitation, there are quite a number of issues facing Nepal. Some of these significant challenges are related to water pollution and water scarcity.

Water is one of the basic human necessities but a large proportion of the Nepalese population is devoid of access to safe and adequate drinking water. According to the Department of Water Supply and Sewerage in Nepal, even though an estimated 80% of the total population has access to drinking water, it is not safe. Those belonging to poor and

excluded groups in rural areas have limited to no access. Many in remote areas have to rely on small brooks running from the mountains and spend hours traveling to get water. Still the drinking water available is not always safe as supplied water is often polluted. One of the reasons for this is due to the fact that the surface and ground water in the Kathmandu Valley is deteriorating by natural and anthropogenic contaminations. The surface water is polluted by industry and domestic waste along with discharge of untreated sewage from tightly packed residential neighborhoods. It is without a doubt that the domestic sewage system is deemed one of the top sources of water pollution that seeps into rivers and lakes, which are the primary sources of drinking water. The capital city of Kathmandu is estimated to produce 150 tons of waste daily and almost half of this is dumped into rivers and 80 percent of the wastewater is generated by households. In addition, due to the increasing population and establishments, surface water sources alone has become inadequate to service everyone.

In some of the rural regions of Nepal communities still rely on getting their drinking water from tube wells. Recently, one of the major concerns in these regions, especially in the region of Terai, is groundwater contamination from arsenic. The Terai Region contains sedimentary layers of sand, gravel deposits interlocked with flood plains carried by rivers and is extremely vulnerable to arsenic contamination.

As only 27 percent of the population has access to basic sanitation, those without access rely on local surface water sources like rivers for bathing and washing clothes. At the same time, the establishments of water treatment facilities throughout the urban and rural regions are limited. As a result, Nepal faces a high number of water-borne diseases such as diarrhea, dysentery, typhoid, gastroenteritis and cholera. Starting with the dry season in the month of March to the end of the rainy season in September, one is extremely vulnerable to waterborne illnesses. Coupled with the unhygienic environmental situation, the risk of food and water contamination is increased. Children under the age of five are the most affected with an estimated 44,000 children dying every year in Nepal from waterborne diseases. Presently, socio-economics indicators for the country reveal it to be among the least well off countries in South Asia and the world. The population is predominantly rural.

The demand for water is increasing significantly in Nepal and access to safe and adequate drinking water is crucial. The public lacks awareness and education on proper sanitation issues and domestic and industrial wastewater treatment plants need to be widespread. Nepal struggles to overcome this obstacle and needs solutions to eradicate this so that its citizens can live healthier lives.

Service above self the basic motto of Rotary International and all the Rotarians are voluntarily serving the society for their crises. Safe drinking water is one of focus area of Rotary International were all Rotarians are putting their best support the water management in the needy community. So Rotarian of Rotary club of Bharatpur wants support the Dangisharana water community, Dang, Nepal.

D. **Problem statement**

Clean, safe drinking water is scarce. Today, nearly 1 billion people in the developing world don't have access to it. Yet, we take it for granted, we waste it, and we even pay too much to drink it from little plastic bottles.

Water is the foundation of life. And still today, all around the world, far too many people spend their entire day searching for it. Similar situation of peoples of Dangishram also. Especially girls and women have to travel long distance for collection of water.

In places like sub-Saharan Africa, time lost gathering water and suffering from water-borne diseases is limiting people's true potential, especially women and girls, exactly the same situation for peoples for rural area. Education is lost to sickness. Economic development is lost while people merely try to survive. But it doesn't have to be like this. Its needless suffering.

As per government estimates, as of now, 85% of the total population has access to basic water supply services and 62% has access to basic sanitation facilities (access to toilets). Nepal has already achieved the Millennium Development Goal (MDG) targets for water supply (73%) and is making progress to the MDG target for sanitation. However, there are a lot of challenges for sustaining these achievements and making water services and sanitation facilities available to the remaining portion of the population or currently unreached people.

E. **Project description**

Goals	**Objectively verifiable indicators**	**Source of verification**	**Risk and hypotheses**
Contribute to improved drinking water supply in Dangisharana village, Dang			
Specific goals: 1. Rural	1.1 Human and	S.OV.1.Beneficia	

household (200) of Dangisharana VDC of Dang have equitable community access to safe water, improved sanitation and hygiene 2. Strengthen the ability of communities to develop, fund, and maintain sustainable water and sanitation systems 3. Support programs that enhance communities' awareness of the benefits of safe water, improved sanitation, and hygiene 4. Support program for people related to water and sanitation	livestock population have access to safe drinking water during dry season. 1.2 Beneficiary household maintain livelihood activities during dry season.	ry lists validated by village development committee administrations. S.O.V.2. 15 fully functional water infrastructures. S.O.V.3. Reports from Village Development Committee.	
Outcome 1: Increased easy access to safe potable water for community through the construction deep boring, reservoir tank and pipeline and water point distribution. Outcome 2. Reduced incidence of water borne diseases through	OVI.2.1. Water harvesting infrastructures constructed and fully operational. OVI.2.2. Water committees trained on water management and infrastructure maintenance.	S.O.V.2.1 Infrastructure assessment report S.O.V.2.1 photo reports S.O.V.2.1 location map S.O.V.2.1 Beneficiary lists validated by Dangisharana	• The security situation in the implementation areas remain stable • The local authorities participate actively in activity

increasing access to safe drinking water and community awareness on hygiene and sanitation. Outcome 3. Safe water supply system, sanitation and hygiene by backward and conflick victims (60 percent are scheduled cast) for community empowerment.	OVI. 2.3. More than 200 households have access to safe water for long period.	VDC. S.O.V.2.2 Water committee lists S.O.V.2.2 Water harvesting infrastructures fully operational distribution input vouchers.	preparation and M&E • The selected communities participate actively in all agreed activities • There will be capable local contractors available to carry out infrastructure development. • Construction material is available locally.

The objective of the Project is to support the Dangisharana VDC, Ward no 1, 2, & 4 communities in their safe drinking water problem. This project is designed to support the construction of initial infrastructure that will provide safe drinking water for the current population of approx. More than 200 household (1,000 people) will cater the rapid expanding population growth upto 3,000 people in another 10 years. The project system is designed based on criteria of the Standard DWSS Design Guidelines unless specific site conditions demand otherwise. Design guidelines is adopted for design period, type of system, consumption rate, pressure requirements, etc.

F. Operational plan:

Project Types: Rotary water, sanitation, and hygiene projects

Major component of projects are

i) Deep Boring:

Deep Boring will be used as the source of pure drinking water. Approx 90 meters boring will be done in one places, we will try second boring point if first one fails and the second point will be used for sources. From the deep bore well approx. 6 inch water output will be achieved which is the required quantity.

ii) Storage Tank (Reservoir)

Construction of 100 cubic meter RCC storage water tank will be constructed in the system. However the actual capacity of the reservoir on the basis of average daily demand for the design year has been calculated to be 200 cu. m., so accordingly the RCC tank will be constructed on the top of a small hill near the foothill of Dangisharana VDC. The reservoir tank on top of hill without elevation has enabled the natural gravity down flow of water supply to the consuming water pipelines.

iii) Supply of 125 mm and 250 mm Pipes

The supply of HDEP Pipes the work will be done in order to supply water from deep bore well to RCC reservoir tank and from water supply from RCC reservoir tank to the pipe lines.

iv) Electrical and panel works

Supply and installation electrical Panel and pumping work was done in order to run the pumping out of the safe potable water and all these works will be partially done by Dangisharana Suppliers, Nepal Electricity authority and community itself.

v) Guard room and office

vi) Fencing and Gate

vii) System Appurtenances

Necessary appurtenances such as air valve chamber Pump house and pipe valve boxes will be provided along the pipelines for proper functioning of the system and regulating flow. Pipe valve chambers are provided for ease of operation and maintenance, and to reduce the initial cost of construction.

viii) Community Education & Awareness Program

Appropriate training will be conducted to the WUSC members on pre-construction training, quality control and local & non local materials procurement training, water safety plan training, hygiene education and behavior change communication, maintenance and operational training to the user's community.

ix) Water, Sanitation and Hygiene:

A safe and adequate water supply is the top priority of the target area. This was excessively discussed during the community assessment. Health problems related to the absence of

water, the time spent to fetch water, the workload on women, the absence of water for cattle, and so on were points of the discussion. All participants agreed on the severity of the water problems in the targeted area. They reached a consensus that the problem of water is the highest priority for them.

The people in the target area are seriously suffering from the absence of safe water. As a result, water borne diseases are among the major causes of illness in the Dangisharana. According to health office data, the top ten diseases recorded all related to food and water contamination and accounts for more than 30% of diseases. Diseases related to personal hygiene accounts 30%. The community members also mentioned diarrhea diseases, giardia, intestinal parasites and amoeba as water related diseases.

Children at school also share the same problem. Because of the warm climate of the area the daily water demand is very high. A large number of students drop out of school every year with cases related to scarcity of water.

x) Operation & Maintenance Costs

The operation and maintenance cost include unseen expanses, remuneration of VMW (Village maintenance worker personnel) and the maintenance cost. The remuneration of VMW is decided by the WUSC and maintenance cost shall be covered by the income from regular water tariff collection by connection of water meter or decided by WUSC and managed by local government too.

xi) Water Tariff

The system is designed with the provision of Private connection, Water tariff on regular collection on water meter connection. This system is appropriate for the sustainable operation and maintenance of the system. It must be adequate and sufficient to pay the operation and maintenance cost, to pay salaries of staff, pay for repairs and replacement of parts and build reserve fund to finance improvements in the system. The decision on the rate of water tariff is left to the WUSC.

xii) Project inauguration and handing over.

The project will be formally started banner unveiling program done by 2019/20 District Governor Kiran Lal Shrestha, similarly the project will be completed and handed over to the community with the grand inauguration ceremony organized with RID 3292 DG as chief guest and special guest on end of project at the project site Dangisharana, Dang. The Inauguration will be participated by Rotarians, Spouse from National and International Partner club and many local dignitaries for grand ceremony.

G. **Project management**:

I. Budget

Item	Construction of water infrastructure	Quantity	Cost/unit	Total
1.1	Consultant (feasibility study, preparing the specification of the construction material and technical illustration; preparing the construction plan; assessing the water supply system and continuous follow up of the construction progress).			
1.2	Designing of water project			
1.3	Construction of deep boring			
	Boaring 6’ digging, and 1200 meter HDDPP pipe, upto Reserve tank fitting			2000000
1.4	Reserve tanki foundation preparation			20000
1.5	Construction of R.T.			
	100 cu.mt. Reserve tank (RCC) construction	1	1430000	
	5”/6 HDDPP Pipe	2000 meter	1041	2282000
	4”/6 HDDPP Pipe	900 meter	699	
	3”/6 HDDPP Pipe	1400 meter	472	
	75”/6 HDDPP Pipe	500 meter	327	
	63”/6 HDDPP Pipe	1000 meter	233	
1.6	Office and Security Gurad residence 700 sq. ft.)			2100000
1.7	Fencing and Gate			400000
1.8	Digging and filling (labor contribution by local community)			
1.9	Fitting of valve, fillage, pipe fitting, labor, nipple, GI pipe fitting.			500000
	Office rent for field office	12 month		
1.4	Office supplies and equipment for the office at the project office in the field (for the project related recruited employees, the following items will be purchased; office furniture, 1 laptop, I desktop computer, 1 printer, 1 scanner			

	and I ups electric power stabilizer.			
1.5	Training to VMW	2 person	lump sum	
1.6	Inception workshop Participatory monitoring Public hearing	3		
1.7	Visibility and public relation: the donor logo (Rotary) will be put using a metal board by the water points. Information on project donor, number of beneficiaries, types of interventions to be carried will be publicized to the community of the project area.		Lump sum	
1.8	Water engineer	3 visit		
1.9	Site supervisor (Minimum qualification Overseer)	12 month		
2.0	Local social mobilizer	12 month	10	
2.1	Accountant/cashier	12 month	10	

S.No.	Activities	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov
1	Hiring a water engineer												
2	Feasibility study-preparation of design/layout of the water supply system in targeted communities.												
3	Compile list (specification) of building material and technical maps												
4	Procure and deliver building material/contracting contractors												
5	Mobilize community for unpaid labor contribution and create water committees in villages												
6	Construction of reservoirs (collection system, pipe and ….												
7	Installation of the water pipes and connecting with the constructed water points/water tapes												
8	Check of the construction for cracks, leaks and blockage												
9	Installation of the pump and the power sources for the boreholes												
10	Handover the water points												
11	Conduct monitoring at every phase of the construction process												
12	Preparation of reports												
13	Sign MOU with local government before project activities begin												
14	Coordinate community mobilization activities with government officials												
15	Hand over ceremony												
	Activities related to water management and hygiene												
19	Orientation program for community water management committee members for quality drinking water system												
20	Conducting training for VMW												
21	M&E												
22	Periodical reports												
23	Finance audit												
24	Preparing of final report												
25	Project monitoring by Rotary club of Bharatpur												

H. Monitoring and evaluation:

Monitoring will be done as systematic and continuous assessment of the progress of the Dangisharana water project activities over time. The objective of monitoring shall be to:

 Verify the progress of Dangisharana water project program activities (whether activities have been implemented as planned),

 Ensure accountability, both technical and financial,

 Detect problems and/or constraints in order to provide feed-back

Evaluation will attempt to determine as systematically as possible the relevance, efficiency, effectiveness and the impact of activities, in the light of the Dangisharana water project objectives and intended outcome. An assessment of the value of the intervention using systematically collected and analyzed data shall be made during program evaluation. While monitoring is a continuous process, evaluation will be conducted intermittently. The mid-term evaluation is intended to inform the program of progress made and areas where strategic changes have to be made so as to meet program objectives. On the other hand, the evaluation at the end of the program shall inform and document the extent to which the program expected results have been attained, as well as informing future similar programs on best strategies to adopt, lessons learnt, best practices, among others.

Conclusion

The Dangisharana drinking water project will be implemented thorough participation of user community in well-organized and very active participation. They will run their own office and a democratically elected executive body. This group will have an experience in maintaining the current pipeline system of water source for more than 10 years. The user community will institute a system of paying monthly charges for consumed water; the amount collected will be used for maintenance and improvement of this water system, hygiene and sanitation. RC Bharatpur will monitor and evaluate the operation of the system half yearly and will provide proper technical support to implement the project activities according to proposal.