



Promoting renewable energy in Tibet

by NARAYAN DHITAL

Introduction

Qomolangma National Nature Preserve (QNNP)

The QNNP was formally established in 1989 by the government of the Tibet Autonomous Region (TAR), with the technical support of The Mountain Institute (TMI)¹, and subsequently elevated in status by the Chinese national government to a national nature reserve. It encompasses 34,480 square kilometres in Xigatse prefecture and covers four southern counties of the prefecture bordering Nepal: Kyirong, Nyalam, Tingkey, and Dingri. This change in status provides support from county, prefecture, regional, and national level government budgets. Approximately 90,000 ethnic Tibetans live in the core and buffer zones of the nature reserve, which are remote and, until now, have been excluded from the mainstream development of Tibet.

Qomolangma Conservation Programme (QCP)

QCP is designed to enhance the capacity to conserve the Mount Everest ecosystem, improve the livelihoods of the people residing in and around the nature reserve, and conserve cultural heritages within the QNNP. The project aims

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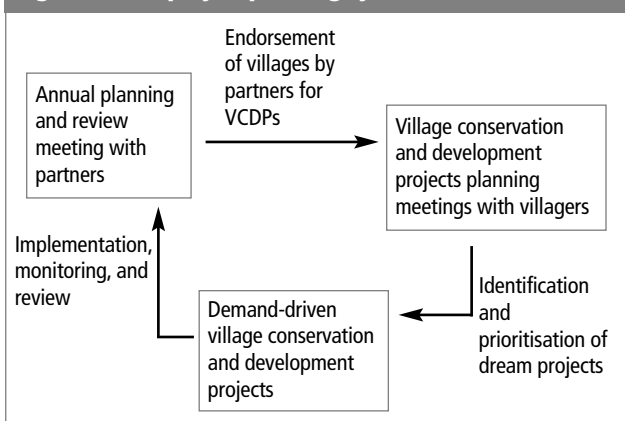
to conserve biodiversity of global and local significance in the reserve, and address the livelihood needs of all the counties QNNP encompasses. The project is funded by the Royal Netherlands Government and is carried out by TMI in collaboration with the QNNP management bureau (MB), together with QNNP MB branch offices (BO), and county governments. The headquarters of the project is in Xegar, Dingri County.

Village Conservation and Development Projects (VCDP)

Experience has shown that the success of any conservation initiative depends largely on the support of local communi-

¹ A Washington DC-based international non-profit organisation

Figure 1: QCP project planning cycle



ties. Local support can be attained only if livelihood improvement programmes complement conservation initiatives. Therefore, QCP supports village-level projects that are participatory, conservation friendly, and which improve the livelihoods of local people. These projects – village conservation and development projects (VCDPs) – are identified and selected by the local community on the basis of ecological, economic, and social soundness, and are linked to conservation. Renewable energy projects, which provide access to electricity, are a priority for QCP, as well as for local villagers.

Project planning approach

Figure 1 illustrates the QCP planning cycle. This begins with identifying villages with which QCP will work. QCP then spends time in the selected villages, identifying and planning priority projects with villagers. Detailed planning and implementation is carried out in partnership with a village committee, and projects are monitored and evaluated, and lessons fed into future projects.

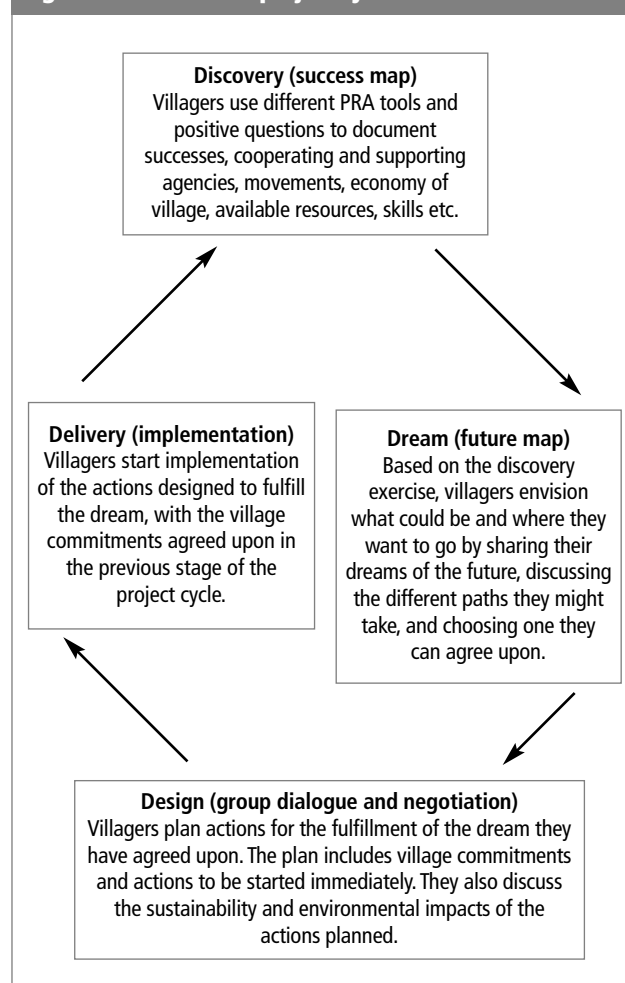
Identifying villages

As the first step of project planning, QCP organises a meeting with QNNP management, county governments within QCP, and the Tibet Forest Bureau. In this meeting, partners suggest villages to work with in the coming fiscal year. Sometimes, partners also suggest VCDPs to be carried out in the villages they propose, but QCP does not normally agree those projects right away.

VCDP planning

TMI has developed an innovative approach to grassroots village planning and mobilisation called Appreciative Planning and Action (APA). This approach has been tested and

Figure 2: 4D model of project cycle



piloted in Peru, Nepal, India (Sikkim), Tibet, and the USA. It empowers rural communities to take positive action for their own development. APA is a modified version of the Appreciative Inquiry (AI) approach. It seeks the root cause of success and identifies existing resources and skills. The whole process is a 4D model of the project cycle: Discovery, Dream, Design, and Delivery. Figure 2 describes the model.

After the meeting with partners to identify villages, QCP goes to the villages suggested and organises public consultation meetings (usually two to three days in length). Local people and leaders know about the planning meeting and venue beforehand. The basic condition of the meeting is that there is participation from each village household.

The meeting starts with introductions by facilitators and participants. Facilitators provide a brief introduction of QNP,

Box 1: 'Good things' in Chakchak Village, Dingri County

- River as a permanent source of water
- Well-established canal for irrigation
- Clean water for drinking
- East-sloping landscape
- A lot of labour force
- Fertile land for agriculture
- A lot of livestock
- A lot of stone
- School in village
- Firewood

Source: Chakchak VCDP report, 2004.

QCP, VCDP and the objectives of the meeting. Facilitators encourage the participants to express their views and ideas, and to take an active part in the discussions.

Facilitators then brief participants on the PRA tools to be adopted in the meeting. These include: resource mapping, seasonal calendars, mobility maps, Venn diagrams, and listing the things they are proud of in the village. Participants are divided into different groups and each group uses a tool. They then present their findings to the whole group, and other participants add their input. Facilitators make notes of the presentations, incorporating all the inputs. To ensure that the voices of women and marginalised people are included, facilitators visit each household during household surveys, and make notes of the issues raised, which are then discussed during the public meetings.

Discussions focus on the strengths of villages and villagers, and projects are planned based on those strengths. Box 1 shows a list of 'good things' in Chakchak Village, where a mini-hydro project was implemented.

After discussing the present situation, facilitators create an environment where participants envision the future. Facilitators remind the participants about the strengths they mentioned previously. Based on those strengths, participants express their dreams regarding village development over the next couple of years. Everybody is encouraged to take part actively to yield a list of dreams. Experience shows that women articulate their dream projects particularly well. Participants then discuss a common vision that could be realised by them for a better future. Based on the common vision, dream projects are chosen.

The projects are then analysed and prioritised using pairwise ranking tools (Table 1). Participants are also encouraged to look at the suitability of high-priority projects – their environmental impacts, benefits, and sustainability strategies – together with what the local community can

Table 1: Pairwise ranking table, Labug village, 2002

SN	Activities	1.Irrigation canal	2.Sheep corral	3.Hydro-power	4.Fencing cropland	Score
1	Irrigation Canal	X		3	1	1
2	Sheep corral		X	3	2	2
3	Hydropower			X	3	3
4	Fencing cropland				X	0
Score						

Source: Labug VCDP report, 2002.

contribute. Finally, participants prepare detailed project descriptions. A village representative committee is chosen to facilitate implementation of the projects and act as a point of contact.

The procedure described above is followed in each village in the QNP where VCDPs are implemented. The VCDP with the highest priority among villagers during the planning meetings is included in the work plan of the project for the following year. Project and nature reserve staff contact the representative committee to work out in detail the implementation of the project. Villagers make a contribution to the project as agreed in the planning meetings (usually local materials and labour). The project provides materials and equipment, as well as technical backstopping, and skilled manpower, if it is not available in the village. In this way, the project is implemented with the active participation of local people who are the real beneficiaries. Generally, local people contribute not less than 25% of the project cost in-kind. In the case of power projects, QCP also trains local people to operate and maintain the plant and distribution systems.

An example of a renewable energy project

Renewable energy projects are a particular priority for QCP. They have a direct role in improving the livelihoods of the rural population and improving health by promoting clean energy. The electricity they provide allows people to work later at night, and increases the efficiency of women who are engaged in the knitting and weaving business. There is also potential for establishing grinder and oil extractor machines, which reduce drudgery, save time, and provide business opportunities to the villagers.

The home study time of children also increases, and people are more aware of national and international events as they can watch television, and listen to the radio, as well as watching movies. The number of radio and television sets has significantly increased in one of the villages after the implementation of an energy project.

Photo: Tim Bodt



Labug Village

Labug village

Labug village is one of the most isolated villages in Pondrong Shang, Nyalam County, situated at 4700 metres above mean sea level, on the eastern shore of the Paikutsu or Lamtso-Simtso, Tibet's 13th largest natural lake. Due to its situation it has its own microclimate, which is warm and pleasant compared to the cold temperatures in other areas at similar altitudes.

The total population of Labug is 240 (121 male and 119 female), comprised of 32 households. Livelihood means and strategies are based on a mixed farming system: herding of livestock and some agricultural activities. With the exception of a few households, most people also depend on income from seasonal labour in the nearby townships of Nyalam and Zhangmu.

Micro-hydropower plant

In a planning meeting with partners in 2002, Labug village was proposed for a VCDP in 2003. After endorsement, a team from QCP and partner agencies visited the village for a planning meeting. A two-day meeting was organised in the village using the APA approach.

During the APA exercise, the hydropower project scored the highest of the dream projects (see Table 1). This project was then included in the QCP work plan. In early 2003, a team from QCP visited the project site for a feasibility study. This team produced its survey report, including the potential power output, capacity of the generator to be purchased, and head of the plant and flow of the water, together with estimates for all the work to be done to produce the power. Based on this report, responsibility was shared between the project and the villagers. The villagers

Voltage of the power produced



Photo: Narayan Dhital

transported raw materials (stone, sand, soil, etc) from the road head to the project site, collecting all necessary materials available in the village, and providing labour for this activity. The project provided supplies, skilled labour, and technical support. There was electricity in the village by the end of August 2003.

Costs and contributions

QCP supplied mini-hydroplant equipment (3 KWH), commissioned it, and trained people in its maintenance and operation. The project spent US\$7500 and the community contributed US\$2500 in-kind. Thus, the total estimated cost of the plant was US\$10,000.

Management of the plant and output

A project implementation committee was formed in the village after the completion of the feasibility study. This committee, headed by the village leader, is primarily responsible for the management of the power plant and output of the project. Three people, including the village leader, have been trained in the maintenance and operation of the power plant. A connection has been made between the county electricity bureau and the committee to solve any technical problems. Villagers have so far been able to maintain and operate the power plant themselves.

Each household uses two bulbs of 40 watts each for light. In addition, five bulbs of the same power are lit in the monastery, three in the school, and two in the community building. Villagers receive electricity free of charge, but in the project team's last monitoring visit villagers wanted to introduce a tariff system (0.5 Chinese Yuan² per bulb per

² 1US\$ = 8.265 Yuan

**Village leader
in happy
mood after
the coming of
electricity**



Photo: Narayan Dhital

month or 1 Yuan per household per month) to raise some funds for the maintenance of the plant.

Monitoring and evaluation of the project

The QCP project team monitored the project in 2004 and in 2005. A thorough inspection was made of all the components of the power plant. Villagers have been able to use the electricity continuously without major hindrances and have been able to solve smaller problems themselves. Because of severe cold this winter, they failed to stop the water from freezing and the increased volume of the frozen

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water tank caused some damage. This problem seems to be common with this kind of initiative at similar altitudes. Villagers expressed their satisfaction with the performance of the plant so far and mentioned that they are using their electricity for domestic uses. County government officials and QNP branch office officials also monitor the plant quite often.

A small conflict among villagers in the use of water during the last monitoring visit was observed. The power plant is multipurpose as it produces power, and water also goes directly to farmland for irrigation. But there is some farmland behind the power plant which cannot be irrigated if the water is used to produce electricity. The villagers were advised by the project team to irrigate the farmland behind the power plant during the day and below the power plant at night, and this was agreed.

Lessons learnt

A major lesson learnt from this project is that if villagers are involved in planning, and if their priority needs are addressed, projects are successful. Moreover, if villagers are given the responsibility for implementing the project they have chosen themselves, the quality of the work and output of the initiative seems to be better.

What makes this initiative special?

The plant at Labug has some features which make it quite unique:

- it is a renewable energy initiative which is in keeping with the environmental conservation codes of conduct that QCP promotes;
- it is a demand-driven product of a consultative process using APA;
- its operation and maintenance responsibility was handed over to the community as soon as the plant was complete and Labug was lit up;
- it is based on very simple technology and local people learnt easily to operate and maintain the plant;
- it was technically feasible due to the existence of a peren-

- nial source of water with the required volume of water;
- it is easily replicable wherever circumstances of water availability, slope, and temperature are similar;
 - thanks to this renewable energy initiative, every household that participated in the building of the plant continues to receive light (two 40 Watt bulbs each) in their homes.

Conclusions

The Labug power project is a successful project of the QCP and this success can be attributed to the project planning and implementation approach that QCP has been following. As this is a successful project, replication of such success is worthwhile in order to improve the livelihoods of people using locally available resources.

CONTACT DETAILS

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