



## Step-wise approach to rural schemes

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THE GURKHA WELFARE Scheme (GWS) is the executive arm in Nepal, of the Gurkha Welfare Trust (GWT), a British based charity which attends to the wider welfare needs of retired Nepalese soldiers of the British armed forces, and their families. Throughout the country there are 23 GWS Area Welfare Centres (AWC), manned by Area Welfare Officers (AWO), who may be approached by over 200,000 ex-Gurkha servicemen and their dependants. Nearly all of these retired soldiers in Nepal originate in the Himalayan foothills. GWS currently expends £2.4M per year largely through the AWC network. Assistance to the ex-servicemen includes the provision of welfare pensions to those who had been made redundant (this is the core activity), the provision of medical facilities, school building, hardship grants, footbridges, etc. Funds for the GWS come from the two charities the Gurkha Welfare Trust (GWT UK), Gurkha Welfare Appeal (GWA Canada), from the Kadoorie Agricultural Aid Organisation (KAAA) which is a Hong Kong based family charitable Trust, and from the British government Overseas Development Administration (ODA); all serving Gurkhas contribute one days pay per year to the GWT UK. Under the auspices of GWS, the Rural Water Supplies Project (RWSP) is supporting the development of water supply schemes in the villages of retired servicemen. Since 1976, RWSP has successfully realised 273 schemes, supported by KAAA, GWA (Canada) and ODA.

In the past RWSP effectively constructed a scheme rather as if undertaking a military operation. This befitted the experience and training of the project staff which comprise largely of ex-army personnel from the Queens Gurkha Engineers. Schemes were surveyed and designed by visiting expatriate engineers from the British Army Corps of Royal Engineers or from the UK organisation RedR. Materials were procured and supplied by the project and scheme building was as directed by technical staff. Villagers contribution focused on the digging of pipe trenches. The hill communities of Nepal have considerable respect for their Gurkha servicemen and villagers invariably undertook construction as they were told to. Schemes were thus provided to the communities through a donor orientated, top-down approach to scheme implementation. The long life of schemes was jeopardised as the recipient communities did not necessarily regard the scheme as their own.

In 1995 there began a second 5 year phase funded by ODA for GWS RWSP to produce a further 100 schemes. Following evaluation of phase I, ODA indicated that a

“Step-Wise Approach” should be adopted for scheme development in the new phase. ODA engaged Binnie and Partners as support consultancy to GWS RWSP in order to oversee adoption of the new approach. In Phase II the role of the community is much enhanced both in terms of the planning and management of scheme development and also in the physical contribution of materials and labour.

This paper describes the implementation steps and outlines procedures, as summarised in the attached table. Over a normal two year project cycle, these steps involve the benefitting community in planning, survey, design, fund raising, material procurement and transportation, construction, subsequent scheme operation, maintenance and evaluation. Actual scheme construction takes place in normally four of the 23 AWCs per year with 5 schemes being built in each area.

Before the project cycle starts step 1 is triggered by an application being made at the AWC for a scheme in the home community of an ex-serviceman sponsor. The AWO explains project implementation philosophy to the sponsor who returns home to his community with a Project Information Leaflet. All potential schemes are visited by project staff and a Water Needs Assessment Survey is made to determine the relative need of the applicant community. Of all the applications in that area of the AWC, five or six schemes will be prioritised for selection. A technical appraisal and feasibility evaluation is made with the community which is also prompted to begin measurement of source yields and maintain hydrological records. The key project staff member on this visit is the surveillance and monitoring inspector (SMI) who consciously takes care not to improperly raise expectations of any villagers. Actual selection of needy schemes is made by the RWSP management team.

In year 1, potential schemes are prepared for implementation. In step 2 social feasibility is determined. During a second visit, social profiling and physical mapping is undertaken with the general body of the village by hygiene and sanitation promoters (HSPs). Following confirmation that a felt need is perceived, ie that people are truly committed to scheme development, the preparation phase begins.

At step 3, a further visit is made by HSPs for the formation of a representative Water and Sanitation Management Committee (WSMC) and to establish the WSMCs role. The wider public health aspects are now introduced for the improvement in the project area of hygiene awareness and physical sanitation facilities. At the end of this

visit, a formal Letter of Intent is signed by both parties (GWS-RWSP and the WSMC) to mark that they are both willing to undertake their respective obligations.

In step 4 training and initial design is undertaken. The AWO trains the WSMC treasurer in standard bookkeeping techniques. Community health workers (CHW) from each of the schemes attend a participatory course in order to develop skills in "sanitation education and water" (SEW). On a follow up visit to the community, the HSP assists the CHW during initial community activities to help them develop confidence. The WSMC and the community, with guidance from the HSP plans and prepares a pre-design of the scheme by identifying desired tapstand locations, choice of tapstand design, potential pipe routes and sites for tanks.

Detailed survey and design is undertaken during step 5. A technical adviser, (TA), from a newly formed design team, makes the next visit which is to undertake topographic survey and confirm the technical facets of the proposed scheme. The detailed and cost optimised design is processed by the design team in project headquarters using computer aided hydraulic design techniques.

The most senior project staff, one of the four project managers (PM), assumes responsibility for the scheme in step 6. This is normally early in year 2 of the project cycle. Following approval of the scheme, the PM visits the village for discussions with the WSMC concerning the final design. Following WSMC agreement to the design, the planning and timetabling of the inputs for physical construction takes place. The central creed of GWS RWSP assistance is that RWSP provide exogenous inputs such as technical skills and manufactured items such as pipe and cement, whereas the community secures locally available resources such as sand, stone and labour including local portering of materials. At the conclusion of his visit the community confirms their approval and commitment to the scheme by signing, with the PM, a Memorandum of Understanding which defines and delineates the respective responsibilities of both GWS RWSP and community.

Step 7 is for the procurement to site of all the materials required for actual construction. The WSMC arrange the stockpiling of local materials. Two visits are made to attend meetings in a central location with representatives from the five WSMC of the schemes to be constructed in that one area. This group forms the procurement committee (PC) who on their first meeting call tenders from suppliers. On the second visit bids are evaluated and orders placed. Materials are subsequently delivered to roadhead where they are received by the members of PC who manage and oversee onward carriage; invoices are sent to the project headquarters for payment.

In step 8 the scheme is constructed. A project supervisor (PS) takes up temporary residence in the village for some 3 months as required to bring a scheme into commission. RWSP utilises a known cadre of skilled masons for the building of structures. Pipelaying is undertaken by the local people under the guidance of the PS who will at the

same time train community maintenance workers (CMW) who will subsequently assume responsibility for the proper operation and maintenance (O&M) of the scheme under the WSMC. The PM makes monitoring and support visit(s) and attends scheme commissioning with the original TA designer.

In step 9, after the scheme has been in use for some two months, the HSP and SMI will again visit the community to conduct a workshop on O&M. This visit also serves as a useful follow-up to the development of the improved public health of the village. A further monitoring visit is made by project staff, 6 months after commissioning. In step 10 the impact and performance of the overall water and sanitation scheme is evaluated with input from the community.

These above steps are geared to ensure full commitment and participation in scheme development by the benefitting communities. Through such involvement, community self determination and responsibility for the scheme is encouraged which in turn maximises scheme sustainability. The RWSP staff are now adopting this new approach and embracing the enhanced skills required.

The GWS RWSP, as a matter of policy, is sensitive to gender issues. Throughout all the above steps the project actively yet responsibly promotes the empowerment and active involvement of women in all matters from decision making on the WSMC to tapstand maintenance.

In this phase the project is introducing certain technical innovations. For example RWSP is piloting the use of polyethylene (Pe) tanks in rural schemes. At an approximate cost of 5 UK pence per litre, Pe tanks are found to be less costly than masonry for storage capacities up to at least 10,000 litres. Pe tanks are light to transport and quickly installed. In order to address doubts of robustness, the Pe tanks are encased in situ with reinforced cement render which also serves as insulation from the sun.

Another example is that where both transmission mains flow (in the dry season) and head is sufficient, the hydraulic design of the scheme can be made such that there is capacity to run a micro-hydro turbine for the generation of electricity, normally 0.5 to 2 kVA, costing around £1,000 to £1,500. There are other specialist organisations in Nepal which assist communities to install the small electric generation and distribution network. This includes advice on local fund raising and access to the bank loans and matching government subsidy for this valuable development. GWS RWSP will facilitate contacts between the community WSMC and the organisations concerned.

From mid 1996 GWS will pilot the payment of service pensions from AWCs. In an effort to "reach the unreached", GWS proposes to ask all ex-servicemen to complete a simple questionnaire about the conditions of existing access to water supply. In the future therefore the RWSP may possibly be more pro-active to identify potential schemes for implementation.

**Table 1. The scheme implementation steps  
Nepal — Gurkha welfare scheme RWSP**

The following steps and visits are followed over a two year project cycle for scheme development.  
(Text in italics indicates activities outside community)

**Step 1: INITIATION/FEASIBILITY**

*Area Welfare Officer (AWO) receives Request from Community/Sponsor, discusses project philosophy and gives "Project Information Leaflet" (PIT).*

- VISIT 1 AWO visits village with Surveillance and Monitoring Inspector (SMI) and
- undertakes: "Water Needs Assessment Survey" (if necessary)
  - establishes: participatory "Springflow Measurement Monitoring"
  - completes: "Initial Inspection and Feasibility Report"

*Project management team selects needy communities for attention.*

**Step 2: SOCIAL PROFILING**

*Community submits "Formal Application" through AWO to Project Director*

- VISIT 2 Community with Hygiene and Social Promoters (HSP) undertakes:
- community mapping, profiling and identifies "felt need" for scheme

**Step 3: PREPARATION PHASE/WSMC DEVELOPMENT**

- VISIT 3 formation of "Water and Sanitation Management Committee" (WSMC)
- WSMC develops Roles, Responsibility and Community Action Plan
  - WSMC selects Hygiene Workers (CHW) and Maintenance Workers (CMW)
  - WSMC and GWS sign "Letter of Intent" (Lot)

**Step 4: TRAINING AND PRE-DESIGN**

*Project trains CHWs and AWO trains WSMC treasurer*

- VISIT 4 planning and predesign of scheme by WSMC with HSPs
- HSP supports WSMC and CHW in "Sanitation Education Water" (SEW)
  - WSMC promotes scheme and establishes fund raising

**Step 5: DETAILED SURVEY AND DESIGN**

*Project design team completes detailed design with quantity and cost estimates*

- VISIT 5 Detailed survey by Technical Advisors (TA) together with community

**Step 6: APPROVAL/MoU**

*Scheme submitted for approval by PD Inform government authorities of approved scheme*

- VISIT 6 Project Manager (PM) and TA present design for "WSMC Approval" and
- discuss/agree with community the Design and Construction Programme
  - "Memorandum of Understanding" (MoU) is signed as formal agreement

**Step 7: PROCUREMENT**

*PM advises Procurement Committee, with members from several scheme WSMC, to call bids and assess/award tenders from suppliers*

- VISIT 7&8
- WSMC arranges local material collection and preparation in community
  - PM and WSMC arrange actual material procurement/transportation

**Step 8: IMPLEMENTATION - SCHEME IN CONSTRUCTION**

- VISIT 9 Scheme construction - WSMC with PM and Project Supervisor (PS)  
 VISIT 10 Scheme construction monitoring - WSMC with PM  
 VISIT 11 Scheme testing, commissioning and opening - WSMC with PS & PM

**Step 9: SCHEME ENTERS OPERATION PHASE**

- VISIT 12 Community Workshop on O&M, 2 mths after commissioning  
 VISIT 13 Monitoring visit, 6 mths after commissioning

**Step 10: PARTICIPATORY MONITORING AND EVALUATION**

- VISIT 14 Evaluate scheme impact with community, 2 yrs after commissioning