swiss centre for development cooperation in technology and management
No. 44 / March 2001

SKAT-News

Transport Infrastructure

District Transport Planning in Nepal

The overwhelming majority of the rural population in Nepal has poor access to markets and services. This is one of the major constraints in the socio-economic development of the country.

In the past, the transport network consisted almost exclusively of trails. Since the late fifties, opening up of the various geographical and socio-economic areas of the country with roads has been a challenge for the government. The rugged topography, compounded by countless streams and the fragile structure of the hills, make this task extremely difficult and costly. Parallel to the expansion of the strategic road network consisting of highways and feeder roads over the last few years, the local road network has expanded rapidly, albeit haphazardly.

Local roads facilitate economic and social activities. They provide access to markets, health facilities, schools, public services, religious events, etc. In areas with agricultural potentials, local roads are economically important for the efficient marketing of surplus production. They reduce the cost of goods brought in from outside. Often, they are considered an important prerequisite for local development and, consequently, they induce private investment. Road construction at local level is, therefore, a major priority for rural areas.

New instruments for strategic planning and decision-making are needed to streamline the planning process and optimise the use of the available resources, in connection with the development of the network of district roads.

In this context, in 1999, His Majesty's Government of Nepal came up with "The Approach for the Development of Rural and Agricultural Roads", which provides the guidelines for the preparation of District Transport Master Plans (DTMP). The Swiss-sponsored District Roads Support Programme (DRSP) has adopted this approach in principle and is implementing it in the six participatory districts of DRSP, for the preparation of DTMP of the concerned districts.

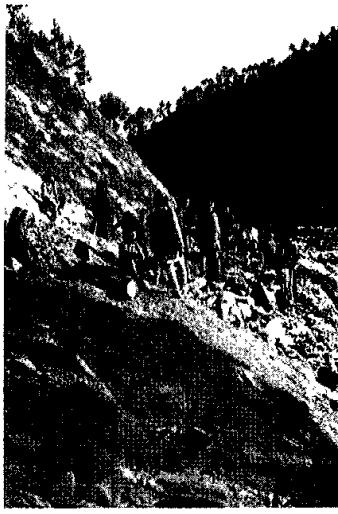
The district transport master plan preparation process introduced by DRSP is characterised by its participatory approach. All the important stakeholders are involved at the crucial stages of the planning process. This procedure has been tested and proved feasible within the current institutional environment. It includes organisational, financial and operational planning aspects, such as the preparation of thematic maps, but also emphasises strongly on the participation of the district public in general and district and village institutions in particular.

The DTMP itself is divided into the following three volumes:

Volume I: DTMP, Methodology

It describes the general methodology for preparation of DTMP, which is common for all districts and consists of the following major elements:

- The analysis of the present transport network of the district and collection of the present social and economical situation of the district for determining probable road links for further consideration;
- The selection of relevant indicators and a scoring system for the final evaluation of proposed road links;



Photos: DRSP, Josef Zimmermann

- The clear distinction between the existing situation and trends and potential considerations;
- The separation of demands and needs;
- Aspects to be covered by the indicators versus network considerations;
- Procedural and organisational aspects.

Volume II: DTMP, Main Report and Maps

It presents the applied data and maps for the DTMP of each individual district. The final results according to the scoring are summarised in a map of scale 1 : 125 000 attached to this volume.

Volume III: DTMP, DTPP, Annexes

It contains all primary and secondary data, tables and figures, which form the basis of the findings presented in Volume II

Based on the data collected during the last year, SKAT, in collaboration with a local consultant and the DRSP Team participated in January 2001 in the finalisation of the methodology and the preparation of the plans.

Trail Bridge Sub-Sector Review, Nepal

Bridge Building has a long tradition in the hills of Nepal. For centuries, narrow gorges have been crossed with either simple logs, bamboo arches or cantilever bridges. Since 1972, the Swiss Government through Helvetas has supported the *Suspension Bridge Division* (SBD) in the construction and maintenance of pedestrian trail bridges with technical as well as financial assistance. The bridges built by the SBD are of a comparatively high standard and technology and require professional planning, engineering and construction capacities. With the Swiss support, the necessary capacities have been developed with the responsible Government agency as well as with the private sector, i.e. consultants and contractors.

While this technology is appropriate for the so-called main trail bridges, it was realised that external agencies would never be

able to meet the whole demand for local river crossings (estimated to be around 3 000 to 4 000 bridges). At the same time, there were numerous examples of local groups and entire districts which, under good leadership and with little outside support, have built inexpensive but durable suspension bridges for centuries. On these grounds, in the mid-80s, a new project that would "*reactivate, promote and support people's problem solving and self-help abilities for local bridge building*", called Bridge Building at the Local Level (BBLL) was launched by Helvetas.

Whilst the Swiss involvement in the SBD over the last years has been gradually reduced and responsibilities have been handed over to the partner organisation, the engagement in local bridge building has constantly been increased, leading to remarkable outputs, not only in numbers of new bridges but also in terms of capacity building.

In order to provide to the collaborating partners the basis for future planning, negotiation and decision-making, an external review of the trail bridge sub-sector was conducted in November 2000 combined with a self-evaluation by the project teams. The review concentrated on technical, managerial and institutional aspects, each project having its particular focus. Based on the review, the mission has developed an outline for future Swiss support to trail bridge building.

The review mission concluded that the two projects have established valid approaches for main trail and local trail bridge building. The Swiss involvement in the sector is the biggest and most coherent one among donor agencies in Nepal. Institutionally, due to 1) the on-going decentralisation process, 2) the future demand for trail bridges being mainly at district and local level and 3) the efforts for systematic district transport planning, the focus clearly shifts to the districts. However, the technical and institutional capacities at this level still need to be strengthened.

The review mission further recommended that future Swiss support to trail bridge building should cover the whole sub-sector. This would allow:

- Capitalising on the experiences and know-how built up in main trail and local trail bridge building for the benefit of the whole sub-sector;
- Supporting the decentralisation process by strengthening technical and organisational capacity for planning, implementation and maintenance of trail bridges at district level;
- Establishing both local and main trail bridge standards such that technicians can make informed choices regarding technology that ultimately allows efficient use of resources.

The review was conducted in a joint exercise by KEK-CDC AG and SKAT.

Jürg Christen

Urban Development

Solid waste management

SDC decision on solid waste management

The Swiss Agency for Development and Co-operation has decided that it will no longer support solid waste management as a discipline. This does not mean that SDC activities in urban development and environment protection will no longer include waste management components, but it does mean that there will be no more SDC support for SKAT's activities in dissemination of SWM information and answering SWM questions. However, since SKAT believes that solid waste management is an issue of growing importance, and that information dissemination and provision of advice are valuable services, we shall endeavour to continue our activities in this field as much as possible.

Infopage

The *Infopage* on disposal is now available. It can be found on the SKAT website and is also available in printed form.

The first page is an editorial which emphasises that disposal is not just a technical issue. The Manila Workshop stressed the importance of integrating the various aspects of solid waste management, but it still seems that many of us prefer to concern ourselves only with one discipline as it relates to particular aspects of solid waste management. In response to this attitude, the editorial emphasises the wide range of issues that must be considered if disposal is to become less of a mess.

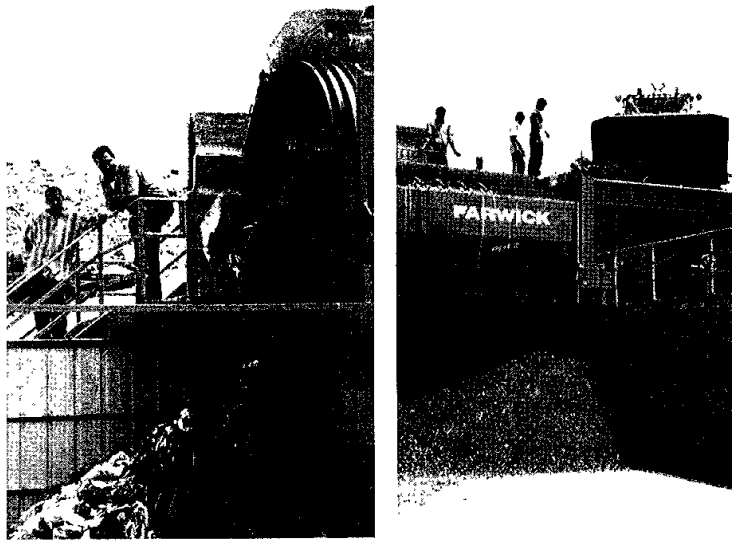
The main article in the *Infopage* has been written by Manfred Scheu of GTZ to describe a sanitary landfill that has been set up in central Gaza. This landfill has an asphalt liner and leachate collection system – perhaps the first in the region – and the data that have been collected will surprise many experienced consultants. The operating methods that have been developed take into account both environmental objectives and the importance of minimising costs. Highly recommended.

The *Infopage* concludes with an invitation to share your news and views, and a few acronyms.

As mentioned above, the Infopage can be found on the SKAT website – www.skat.ch – under http://www.skat.ch/urban development/solid waste management/publications. If you wish to receive a printed copy, please ask for one.

Landfills under fire

In February, I took part in a Project Progress Review mission for GTZ to learn about the solid waste management project that featured in the recent Manila Workshop. (The waste disposal component of this project is the main topic in the current *Infopage*.) The project is in the central area of the Gaza Strip, and the visit took place during the Intifada or uprising that started in September 2000. It was very impressive to see how the waste collection crews have maintained waste collection services in spite of road blocks, closures, and at least several cases when waste



The screening plant that is used to prepare the substrate for the final cover

collection vehicles and landfill facilities have been shot at by the Israeli army.

In its three main aspects this project is innovative.

1. *Communities working together.*
   Eleven communities – including two large towns and several small villages - have joined together to establish a public awareness programme, a joint secondary collection service and to operate a shared sanitary landfill. The resulting organisation is effective and economical.
2. *Sensible collection equipment.*
   A complete and integrated collection system has been designed – from the street litter bins to the trucks - and everything except the tractors, truck chassis and hydraulic cranes was fabricated locally. The system is being adopted elsewhere in the Gaza Strip and also in Egypt.
3. *A simple sanitary landfill.*
   (Read the Infopage and decide for yourself.)

It was very refreshing to see such a successful project, and I hope that the experience and approaches of this undertaking can be applied and developed elsewhere. Solid waste management needs successes and good publicity!

Adrian Coad

Water & Sanitation

HTN Network for Cost-effective Technologies in Water Supply and Sanitation

HTN Africa Initiative

Sub-saharan Africa is one of the world's most deficient regions in terms of safe water and sanitation. It is in critical need of cost-effective and sustainable technologies to address its water and sanitation crisis. In recognition of this situation, the International HTN Workshop held in Hyderabad in March 2000 recommended that the HTN should shift its focus from Asia to Africa. The HTN Steering Committee endorsed the recommendations and suggested the urgent establishment of one HTN Regional Chapter in East Africa and one in West Africa.

Discussions were held between SDC, UNICEF and the HTN Secretariat/SKAT on the Africa agenda, during which SDC encouraged SKAT to seek funds from other donors to expand HTN activities in Africa. In close collaboration with the World Bank Water and Sanitation Program, a funding proposal was prepared to seek support from DANIDA, DGIS, SIDA, and DFID for expanding HTN activities in Africa. Hopefully this donor support for the Africa Initiative will come forward by the end of 2001.

To bridge the gap, Arun Mudgal, the HTN Sector Professional in Asia, will spend more time in Africa during 2001 to carry out preparatory work prior to the recruitment of additional HTN staff based in the region. The increased HTN presence in Africa will include the identification of partners' needs, building linkages, identifying appropriate partnership arrangements and providing technical support to partners, including Government, ESAs, NGOs and the private sector. The HTN Secretariat/SKAT facilitates the coordination and supervises support to HTN's Africa agenda. An agreement between UNICEF India and SKAT has been reached that funds can be transferred from the SDC-assisted India project to the HTN Africa Initiative.

Erich Baumann

WatsanWeb

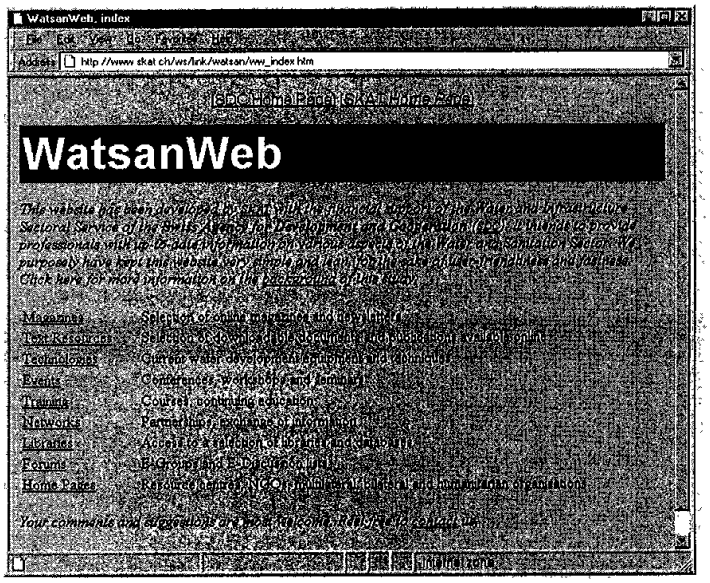
In recent years, the Internet underwent a phenomenal development as a resource for information on almost any common and scientific subject. The field of water and sanitation is no exception, with multiple sector institutions and scientific bodies publishing in this new medium. In view of these developments, the Social Development Sectoral Service of the Swiss Agency for Development and Cooperation (SDC) wanted to examine the relevance and value of this electronic medium for providing up-to-date key information on water and sanitation in a pilot phase.

The result of the on-line research was overwhelming. A multitude of individual information sources was detected, ranging from libraries to resource directories, discussion forums and even multilingual online magazines. Many of them focus exclusively on developing countries, but there are also other sources providing relevant insights into the state of the art of water and sanitation systems in industrialised countries.

One of the first tasks of the mandate was to identify and propose relevant websites for documentation and for useful information on news and events. While identifying and analysing the available information, SKAT was of the opinion that the utilisation of all interesting links would be a clear asset for the water and sanitation practitioners. For this reason, we have developed a portal gate to the internet, called WatsanWeb. It can be found at the following URL: http://www.skat.ch/ws/link/watsan/ww_index.htm

As information is rarely homogeneous and concise on the internet, we tried to focus on different sub-topics of the water and sanitation sector and split the results of this research under separate headings. WatsanWeb intends to provide water and sanitation practitioners with access to the source of up-to-date information on various aspects of water and sanitation (magazines, text resources, technologies, events, training, networks, libraries, forums, and homepages with links to resource centres, NGOs, and multilateral, bilateral and humanitarian organisations). Each link connects the user directly to the relevant pages of carefully preselected water and sanitation websites.

Patrick Kilchenmann



SDC Project on Knowledge sharing and dissemination of building materials

In February 2001, SDC contracted the consortium SKAT/ Swisscontact to conduct a Market study on "Knowledge sharing and cost-effective building materials". The overall goal of the activities covered by the project is described as follows: "Cost-effective building materials are prepared for large-scale dissemination, that means the markets are known and defined, the right replication tools and strategies are known, and interaction between clients from the main markets and old and new service providers has started."

In fact, over the last 15 years, SDC has invested considerable amounts and efforts into the development and dissemination of cost-effective building materials (micro-concrete roofing tiles, burnt clay bricks and earth blocks, etc.). Moreover, these efforts have been very well coordinated with other agencies and the *basin* network. Today, there may be well over 2 000 MCR tile workshops operating throughout the world. Depending on the point of view, this can be considered as a success or as a failure: a success, because the set goals of establishing 1 000 workshops has been over-achieved; a failure, because it could be many more.

While attention has been focussed very much on the technology (which is now proven), on economic aspects (but far less than needed), on the documentation and on networking, a systematic market study has never been done to know who the clients are, what their needs are and what service packages would be adequate to help them in their decisions. Little effort was made to place and position the technology in the "mainstream markets". Where is this mainstream market, and who takes decisions and when? Who decides, and when, on the technology choice? Are these people informed and do they really have a choice right now? Does the person in charge of a primary education programme have the time and means to identify and use cost-effective building materials while building schools? It is important to analyse these questions. There are several important target groups or decision-makers who are in need of cost-effective building materials, but their needs have not been converted into a demand for services, partly because the service packages tailored to their needs do not exist.

Potential mainstream markets may be:

- The huge housing gap in most developing countries. Shortages of housing and shelter or bad housing and shelter conditions are still an enormous issue related to poverty.
- Humanitarian aid and reconstruction or resettlement after disasters.
- Another potential market is the institutional market for school and hospital buildings, which is supported by large institutions such as the World Bank, other development banks and multilateral agencies, and also NGOs.

A market study and other well-targeted activities should anchor cost-effective building materials and SBT (Sustainable Building Technologies) in the mainstream market. This could allow the dissemination and adoption of the technology in a sustainable manner and on a larger scale.

It is expected that at the end of the current phase there will be a clear perspective of the future course and markets. The demand would then be clearly expressed. Only little funding from the supply side would then be needed and most activities could be financed from the demand of the clients.

Daniel Schwitter

SKAT/RAS Case Studies

The SKAT/RAS Case Studies Series, published by SKAT, is an ongoing collection of documentation on intelligent architecture and best practices in economical and energy-efficient building systems. It encompasses traditional and sociocultural aspects as well as requirements of modern living. The Case Studies Series comprises three dossiers: Social Housing, Health Facilities, and Educational Facilities.

Two new Case Studies are presently being added to this series:

Habitat social SH5, 2001
Programme T'wizé à Nouakchott, Mauritanie
Réalisation: GRET / CDHLCPI

Social Housing SH4, 2001
Rural Housing: Resettlement in Peru (Districts of Ayacucho, Huancavelica, Cuso, and Puno)
Implementation: CESEDEM / ACONTEC

RAS Technical Bulletin

The Technical Bulletin No. 11 on
Accessory Roof Tiles for Micro Concrete Roofing (MCR)
has recently been published, with the following introduction:

From the start of MCR tiles (Micro Concrete Roofing tiles made in small workshops by vibrating) special accessory roof tiles have been developed in different countries to meet the needs of builders. This bulletin gives some information on different tiles for finishing a roof. Such tiles are an alternative to plastering or rendering.

Both the case studies and the Bulletin can be downlowded from our homepage: http://www.skat.ch/ab/publ/publ.htm (under Downloadable Documents) or are available as paper copy free of charge from SKAT. E-mail: david.zaugg@skat.ch

New Team Member

Julian Jones joined SKAT as an Infrastructure Specialist in February 2001, working in the Water & Sanitation Divison. Over a 10 year period, Julian has gained more than 80 months of overseas field experience in the design, planning, implementation, monitoring and evaluation of a wide range of emergency relief and long-term development projects. He has worked extensively in water supply and sanitation support programmes in urban and rural development, and in emergency settlement contexts.

www.skat.ch

Please visit our homepage.
It includes the following features and services:

- text-only option for quicker access with slow modems
- direct links to the improved database of documents
- sectoral pages including e-mail links and brief CVs of SKAT staff
- downloadable literature and reports in the Adobe Acrobat format

SKAT News

SKAT News is a quarterly newsletter.
Copies can be obtained free from:

SKAT
Vadianstrasse 42
CH-9000 St.Gallen
Switzerland

Phone: +41 71 228 54 54
Fax: +41 71 228 54 55
e-mail: info@skat.ch
URL: http://www.skat.ch