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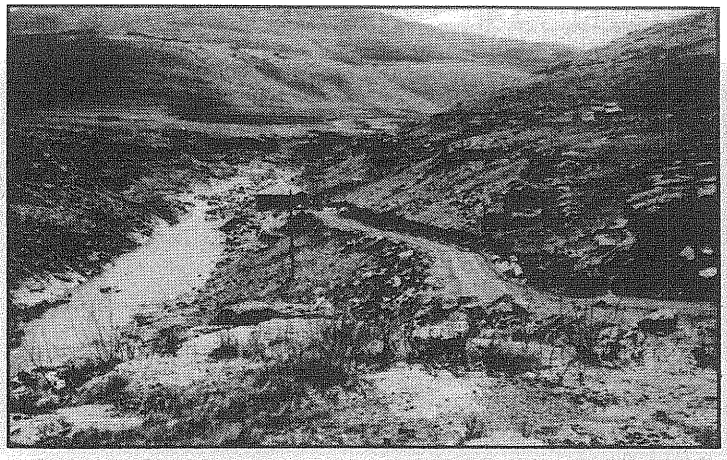
In December 1988 Lesotho put its first hydropower plant into operation. Commissioned at the year's end, the Semonkong Hydropower plant was inaugurated on 31 March 1989 by H.E. Moshoeshoe II, the King of Lesotho. The inhabitants of Semonkong Village, far up in the mountains of Thaba Putsoe Range, were the lucky ones to receive "white gold" as the waters of Maletsunyane River began turning the turbine and electricity started to flow. The event introduced new possibilities and plans for the future to the community.



Semonkong Hydro Power Plant on Maletsunyane River in Lesotho

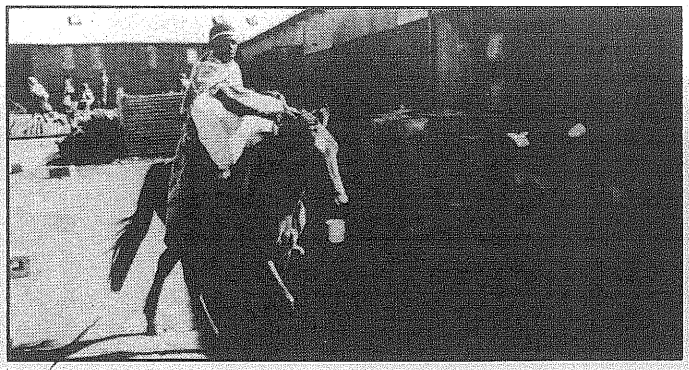
LESOTHO DEVELOPS ITS OWN HYDROPOWER

Semonkong District Center. Somonkong is an area with a widely scattered population located in the mountains about 120 kilometers eastward by road from the capital, Maseru. Semonkong Village has been identified as a growth center. The number of farmers there increased from about 400 in 1983 to 650 in 1986, and business activities escalated from 14 to 40 in the same period. The main export activity is the production of mohair, wool and skins from goats and sheep. Commodities like foodstuff, clothing, vegetables, maize and fuel are imported. Business activities encompass shops, cafes, butcheries, tailors, tinsmiths, knitting, etc. Public services include a hospital and nutrition center, post office, local court, police station, and airstrip.

Until the commissioning of the new power station, privately owned diesel-fueled generators provided electricity, but due to the high cost they were run only a few hours a day.

HYDRO POWER POTENTIAL IN LESOTHO

Lesotho has got ample hydropower potential estimated to be about 450 MW/2000 GWh, but the costs of exploiting it are extremely high because of the lack of natural heads and erratic seasonal flow patterns. A number of large hydro power schemes have been planned, and the ones most likely to be developed are Oxbow, as part of the Lesotho Highland Water Scheme, and Quthing. The former will have a final capacity of about 200 MW, while the latter is planned to 15 MW.



The horse is an important means of transport in Semonkong as in most parts of Lesotho

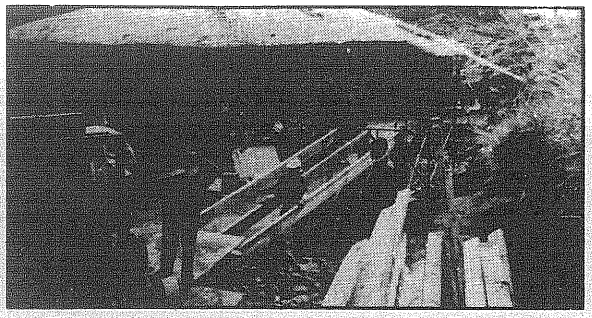
It is recognized that small hydropower plants will play an important role in reducing the dependence on diesel generators in remote areas far from the common grid of the Lesotho Electricity Corporation - LEC. This was the case with Semonkong Small Hydropower Project.

PROJECT DESCRIPTION

The project site is at Semonkong falls on the Maletsunyane River. It comprises a 2.5 meter high concrete overflow weir, 400 meter (approx.) penstock, a power house built for two units and an open tailrace.

The first phase includes a Francis turbine with nominal discharge of 1.2 cub.m/s, 190 KW, a standard generator with nominal rating 225 KVA/180 KW, and a 150 KVA backup diesel unit for low flood period.

Sediment transport in the river makes a scour arrang ment and manual clearing work necessary to keep the intake free of siltation. Heavy rains and floods in

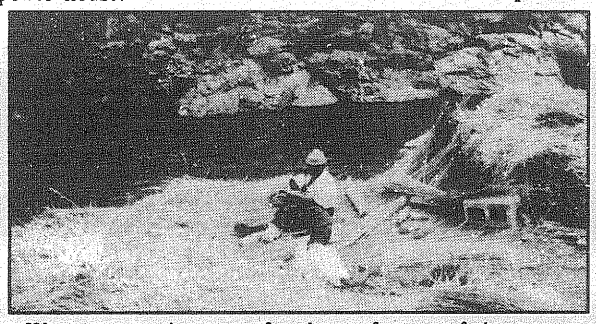


Final civil construction works on the power house.

1987 caused some severe damage on the construction of the weir, occasioning delays in the progress of the project.

Estimated cost for the first phase of the undertaking was USD 1.8 million in 1984, but due to delays and construction problems the final figure is expected to increase somewhat. Compared to other hydropower schemes, this one is rather expensive, but the construction of an overhead line to connect to the main grid in Lesotho would by far exceed these costs.

Already during the construction period the interest from subscribers has exceeded the capacity of the generator, and a proposal for phase II of the project was presented to SADCC Energy ministers and officials in Arusha in September 1988.



Women preparing straw for the roof cover of the power house.

That proposal was accepted and included in the Energy Sector portfolio available for funding. Estimated cost for the new phase of the project is USD 3.5 million (1989), of which most is to be used on expansion of the water storage capacity upstream the present dam.

RURAL DEVELOPMENT

Semonkong is a genuine example of what electricity represents in terms of rural development. The mere fact that a stable power supply was going to be available created optimism that in turn released a lot of initiative. In addition the standards of the roads were improved for the transport of heavy equipment, and this fact has also had a positive impact on the community.

Today Semonkong can be recognized as a district with a firm belief in the future, with possibilities for people willing to work hard. This is the kind of development that is sought for in the SADCC Region.

□

T.V.

The Fuelwood Trap

by Barry Munslow, Yemi Katerere, Adrian Ferf and Phil O'Keefe

A new book has just come out based on the findings of the SADCC Woodfuel Study. Here the authors, who worked on this project commissioned by TAU, funded by the EEC and the Netherlands Government, and carried out by the ETC Foundation, outline the main conclusions of the book.

Traditional woodfuel interventions have frequently been unsuccessful because they have not properly understood the problem. Generally assessments of biomass supply have been made and these have been compared with projected demand. If a shortfall existed between the calculated sustainable yield and growing demand, then the "gap" between the two was used as a measure of the problem. This is a faulty measure for two reasons. Much wood is derived from trees outside the forest and it is only trees inside the forest which are generally included in calculations of supply availability. Secondly, people have a hierarchy of woody biomass preferences for