

Namibia: Basic Rural Telecommunications Kaokoland

Ex-post evaluation

OECD sector	22020 / Telecommunications	
BMZ project number	1995 65 466	
Project-executing agency	TELECOM Namibia	
Consultant	DETECON, Bonn	
Year of ex-post evaluation	2003	
	Project appraisal (scheduled)	Ex-post evaluation (actual)
Start of implementation	3 rd quarter 1995	3 rd quarter 1996
Period of implementation	18 months	40 months
Investment costs	EUR 6.4 million	EUR 5.9 million
Counterpart contribution	EUR 2.1 million	EUR 2.4 million
Financing, of which Financial Cooperation (FC) funds	EUR 4.3 million	EUR 3.5 million
Other institutions/donors involved	none	none
Performance rating	1 (high degree of developmental effectiveness)	
• Significance/relevance	1	
• Effectiveness	1	
• Efficiency	3	

Brief Description, Overall Objective and Project Purposes with Indicators

The objective of the project was to reliably meet the need for basic long-distance communications in Kaokoland and in the three towns of Outapi, Oshifo and Ruacana in the Owambo region. The project measures comprised one exchange for 524 subscribers in Opuwo including microwave link equipment (RURTEL – or Rural Telecommunication – systems) for 312 main lines in 18 settlements in the remote, underdeveloped Kaokoland region in northwestern Namibia, one approx. 186-km-long optical fibre including the required repeater station between Oshakati and Ruacana as well as one microwave link between Ruacana and Opuwo and also exchange equipment with a total port capacity of 1,188 line units to supply the three towns located along the Outapi, Oshifo and Ruacana route. After the project, the project-executing agency TELECOM Namibia (TN) financed additional exchange equipment in the project area for 510 subscribers out of its own funds and installed them, increasing the total created capacity to 2,222 line units.

The overall objective of the project was to contribute to improving the social and economic infrastructure in Kaokoland and in the three towns of Outapi, Oshifo and

Ruacana and also to encourage the integration of these regions into the supraregional structures. At least 50% of the subscribers are from the social, administrative or commercial sector: as this was defined as an indicator of project success, the indicator is satisfied.

The project purpose was reliable coverage of needs for long-distance communications in Kaokoland and in the three towns of Outapi, Oshifo and Ruacana. The following was noted with regard to the defined indicators:

- Indicator 1 for the use of the facilities: one year after start of operation a minimum of 850 connected main lines will be hooked up, at least 390 of which in Opuwo city and in the RURTEL areas. Mid-2000, when the final acceptance of the facilities took place, was the targeted start of operations. The number of subscribers in the following calendar year 2001 totalled 881, 525 of them in Opuwo city and in the RURTEL areas. Thus, the indicator is achieved.
- Indicator 2 for the use of the facilities: the average number of conversations per main line will be at least 9,000 per year as of the second year of operation; in Opuwo city and in the RURTEL areas the goal is at least 7,500 conversations. The actual figure for Opuwo city and the RURTEL areas is 14,546 conversations per year, and even 20,012 for the three towns in the *Omusati region*. Thus, the indicator is clearly fulfilled.
- Indicator 3 for the satisfactory availability of the systems: the fault rate per subscriber and year does not exceed 1.0 as of the second year of operation. The current figure – 0.528 – is far better, yet it is slightly higher than the average figure for the entire TN system (0.4). Thus, the indicator is clearly fulfilled.
- Indicator 4 for the satisfactory availability of the systems: as of the second year of operation breakdowns will be repaired within three days on average. The current figure is 4.0 days in urban areas and 4.2 days in rural areas. Thus, this indicator is not fulfilled. However, it should be taken into account that the TN technicians have to cover tremendous distances on mostly poor roads in the project area, so that the explanation offered by TN that they do not automatically send a technician every time a breakdown is reported but instead that they try to repair several breakdowns during one and the same trip seems plausible. The formal non-fulfillment of the indicator therefore seems acceptable overall.

Conclusion: with the exception of Indicator 4, where the results fell short of the target to a small but acceptable degree, the project purpose can be considered achieved.

Project Conception / Major Deviations from the original Project Planning and their main Causes

The detailed planning was drawn up with the assistance of a consultant (company DETECON). The supply contracts were awarded to various companies from Germany (ALCATEL: RURTEL systems and optical fibre), Italy (transmission technology), South Africa (SIEMENS South Africa: exchange equipment ; ALCATEL South Africa: microwave equipment; additional companies for poles and access roads) and also Namibia (civil engineering, optical fibre). TN took care of the expansion of the local networks itself. The final acceptance of the facilities took place in mid-2000. The subsequent investments in expansions (see above) were properly planned and carried out by TN on its own. The project conception proved to be appropriate.

Key Results of the Impact Analysis and Performance Rating

Since project appraisal in the year 1995 the telecommunications sector has experienced considerable, continuous growth. Total exchange capacity rose by 80% from around 97,000 line units (1995) to some 175,000 (2002). As a result, the nationwide main line density increased from 4.2 to 6.4 main lines /100 inhabitants. In the meantime, 99.9% of the subscribers have gotten hooked up to digital transmission systems. The subscriber load has not kept up with the expansion of capacity, however: in 2002 it was 69%. However, the rise in the number of subscribers by about 50,000 (= +70%) during this period suggests that demand for the available capacity will remain strong in the future. The waiting list is very short – only 2,578 applications (2002) - but the demand satisfaction ratio of 98% is very high.

In the project appraisal report the assumption was made that the subscriber loading in the project area would be starting in early 1997 and that in the year 2000 1,110 subscribers would be connected. The basis for the assumption was an installed capacity of 1,344 line units. As stated in the final follow-up, the total created exchange capacity was only 1,712 line units until 1999. In the year 2000 this figure increased to 2,222 line units owing to a capacity enlargement by TN at its own expense. In actuality, in the year 2000 the number of subscribers connected was 815, or 295 fewer than anticipated. The reason for this was the delay in the start of operation of the project: instead of early 1997 the first subscribers could not be hooked up until 1999. In 2003 the number of main lines (1,052) was again lower than the projection (1,249). At the end of the period under review in the appraisal report, namely 2009, the since revised anticipated figure (1,427) corresponds to a high degree with the estimate at the time of the project appraisal (1,492). Therefore, the development of actual demand was more or less as expected, albeit considerably delayed (with corresponding negative impacts on profitability, see below). In the appraisal, the lack of or insufficient telecommunications services in Kaokoland was identified as the problem to be solved by the project. Institutions in social and administrative areas, small enterprises and the primarily rural population in Kaokoland and in the towns of Outapi, Oshifo and Ruacana were to be supplied with such services, also through the provision of public telephones. This was achieved (see also the following paragraph on the user structure). With this project German Financial Cooperation (FC) made it possible for modern telecommunications services to reach this region in northern Namibia. Looking back, in terms of sectoral relevance the project was worthwhile.

Those benefiting directly from the project are, as planned, institutions in the social and administrative fields (schools, health stations, police), small enterprises, trade and other services as well as the primarily rural population in the project area.

The project operates without any failures worth mentioning. The concept of the project-executing agency for the operation and maintenance of the facilities is appropriate. The personnel bottlenecks identified at the start of operation in the year 2000 were reduced but could not be eliminated completely. Thanks to training and operational experience the available personnel has since met the technical requirements, but there are still some open positions. The fluctuation rate is low.

The operating results reflect this situation: high availability of the facilities of nearly 100% for the RURTEL system and satisfactory fault rates are set against unacceptable downtimes (see above, indicators of achievement of the project purpose). However, it is interesting to note that many of the public telephones are defective. During the local ex-post evaluation many of those interviewed in the RURTEL areas complained about long downtimes for the public telephones. As a result, above all poor people who

cannot afford a telephone of their own have insufficient access to telecommunications services. The fact that poor people can still make telephone calls by using the *flexicard* relativizes this observation only partially. Apparently, TN was not really aware of this problem. The reason for this is poor organization, i.e. thus far there were no clear-cut responsibilities for operation and maintenance of the public telephones. TN is now creating a separate department for this area in an effort to improve the availability of the public telephones.

The budget for operation and maintenance is adequate, and the funds are available when needed. From today's perspective, the operational risk is minimal.

The project-executing agency TN has developed quite well since the project appraisal in 1995. Indications of this are the expansion of the sector and the fulfilment of the project purpose indicators (see above) as well as the positive assessment of TN as an institution from today's perspective. Yet, TN still holds the monopoly in the fixed telephone network. By 2004 the Namibian government plans to allow competitors to enter the fixed network market (TN is already competing against a mobile network operator). TN is required to pursue the goal of profitability, but it also has a social responsibility, especially when it comes to supplying remote regions with telecoms services. The organization of TN serves the purpose, and its financial situation is good. TN generates profits, most of which are used to finance expansive investments. The tariffs have increased in real terms (adjusted for inflation) since the project appraisal. subscribers unwilling to pay are consequently disconnected (high collection rate). Overall, today TN can be deemed a well-organized, efficient and financially healthy company.

Against this backdrop the project produced positive impacts. Our individual evaluations are as follows:

- In light of the fact that most of the objectives were met and that the risks to the sustainability of the project's effects are minimal, we rate the project as having a high degree of developmental effectiveness (partial evaluation: rating 1).
- The overall objective was achieved. Nonetheless, the availability of the public telephones thus far is not satisfactory. At the same time, however, there are indications that TN is currently making extensive improvements in this area. Its broad-scale effectiveness is a clear strength of the project. It brought about a distinct improvement in supplies of telecoms services in a region that is quite large. From today's point of view as well the project conception was adequate to solve the problem. The criterion of significance / relevance is therefore comfortably met (partial evaluation: rating 1).
- As anticipated, the project's internal rate of return was not adequate. In the appraisal report an internal rate of return in the range of -0.6% to +0.4% was expected. Currently the internal rate of return is +1.3%. The main reason behind this - compared with the project appraisal - better result is that the specific investment costs were lower and the intensity of use (number of conversations) was higher. However, this is set against the connection of the facilities, which took place later than expected. Despite insufficient profitability, it can still be noted that coverage of the operating costs through revenues is high. Therefore, the project's efficiency is sufficient (partial evaluation: rating 3).

A profitability estimate in overall economic terms is not possible for projects of this kind. Whereas the economic costs can be calculated, the project's use cannot be quantified. In spite of this the project definitely has significant positive impacts. It must principally be mentioned beforehand that this project not "only" brought about an increase in

capacity and/or performance quality, as was often the case, but rather that it offered an entire region modern telecommunications services for the first time ever (these services are of much better quality than the system of radios formerly used in the region). The following main impacts should be mentioned:

- a) Education: the management of the connected schools can exchange important information with the school authority in Opuwo. For example, trips to Opuwo to fetch testing materials are not undertaken until such materials have been prepared and the schools have been notified by telephone. Parents stay in contact with their children who are attending far-away secondary schools and cannot return home every day.
- b) Health care: medications can be ordered and delivered sooner. Rural health care stations can now call an ambulance if needed.
- c) Safety and public order: the police and local authorities are now able to communicate quickly with the outside world.
- d) Labor market / regional economic impulses: rural exodus is a growing problem, also in Namibia. The urban population is currently growing at a rate of 6% p.a., nearly four times as fast as the national average. Since telecommunications have been provided, people are more willing to work in the project region. In addition, countless NGOs in donor countries have sent staff to the region. For the work that they do, contact to the outside world is an important location factor. The field of tourism is essential. The project region is very interesting from a geographical and also ethnical/cultural point of view. The region's lodges profit to a high degree from being able to handle reservations and meet their logistical needs by telephone, fax and e-mail. The same applies to the sole industrial enterprise in the region: a quarry and stonemason in the north. Without wanting to make these aspects seem less important, it has to be admitted, however, that the project has neither created nor saved a great deal of jobs in the region. Surely much more is needed to significantly improve the conditions for investment in the region.
- e) A key ethnical aspect should not be overlooked: in Kaokoland the two Herero-based languages Otjiherero and Otjihimba are spoken. Otjiherero is normally only spoken in the center or eastern part of the country. In consequence, many teachers from this main linguistic area are sent to the linguistic enclave Kaokoland. It is important for them to stay in contact with their families, who live far away.
- f) The access of poor people in the project region to telecommunications services is worse than it could be owing to the poor availability of public telephones to date. The alternative to public telephones – namely the use of facilities in shops etc. in exchange for a fee – is given in only a few cases. At least the *flexicard* still gives poor people the possibility to use telephones owned by others.

After weighing the above mentioned key criteria for the evaluation of the project's developmental success, we classify the project as having a high degree of developmental effectiveness (rating 1).

General Conclusions applicable to all Projects

One conclusion we can draw that is applicable to all projects is that this promotional approach has proven to be correct without any limitations, despite the fact that the field of telecommunications is no longer a priority of German Development Cooperation with Namibia. This project confirms that it would be too flat to argue that telecoms projects

are per se potentially economically viable, and that providing telecoms services is the responsibility of the private sector – much more than in the past (and therefore no longer a priority of FC). Providing rural regions with telecoms services and facilities makes developmental sense, not only here but also in numerous other countries. With a strong project-executing agency – this is the decisive precondition – these types of projects will be successful. In appropriate cases the choice of rural telecommunications as a priority area of Development Cooperation should therefore be taken into account more seriously than it has been in the last few years.

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory degree of developmental effectiveness
Rating 3	Overall sufficient degree of developmental effectiveness
Developmental failures: Ratings 4 to 6	
Rating 4	Overall slightly insufficient degree of developmental effectiveness
Rating 5	Clearly insufficient degree of developmental effectiveness
Rating 6	The project is a total failure

Criteria for the Evaluation of Project Success

The evaluation of a project's "developmental effectiveness" and its classification during the final evaluation into one of the various levels of success described below in more detail concentrate on the following fundamental questions:

- Are the project objectives reached to a sufficient degree (aspect of project effectiveness)?
- Does the project generate sufficient significant developmental effects (project relevance and significance measured by the achievement of the overall development-policy objective defined beforehand and its effects in political, institutional, socio-economic and socio-cultural as well as ecological terms)?
- Are the funds/expenses that were and are being employed/incurred to reach the objectives appropriate and how can the project's microeconomic and macroeconomic impact be measured (aspect of efficiency of the project conception)?
- To the extent that undesired (side) effects occur, are these tolerable?

We do not treat **sustainability**, a key aspect to consider for project evaluation, as a separate category of evaluation but instead as a cross-cutting element of all four fundamental questions on project success. A project is sustainable if the project-executing agency and/or the target group are able to continue to use the project facilities that have been built for a period of time that is, overall, adequate in economic terms or to carry on with the project activities on their own and generate positive results after the financial, organizational and/or technical support has come to an end.