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Namibia's Telecommunications: The Link to Africa

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Communications links are the lifelines of Africa. The Republic of Namibia has developed a strong commitment to optimized communications policies in the institutional and technical fields in order to secure sustainable developments in the economic sector.

Namibia still has a structurally heterogeneous, de-integrated economy. It is characterized by the extraction and export of the country's rich mineral, agricultural, and fishing resources, but there is an impoverished, subsistence economy in many areas that serves the interests of the "modern-sector" economy. Northern Namibia, in fact, is a "residual" labor reserve with little cash income or commercialized production, so that it has little effective demand for goods and services, including telecommunications facilities. This situation is characteristic of an important aspect of Namibian communications: its imbalance between the "modern" and the former "homeland" sector. One of the principal objectives of the Namibian Ministry of Works, Transport, and Communication is to overcome this situation and develop an optimal and well-balanced communications system. Such a system will help create a structurally sound and integrated economy and help balance the "first-world" and the "third-world" Namibias.

At the time of Namibia's independence on March 21, 1990, the country had approximately 4.00 telecommunications lines per 100 inhabitants, compared with 0.72 for Kenya, 0.55 for Ghana, 1.26 for Zambia, and 0.20 for Ethiopia. Namibia also had automatic links to more than 150 countries worldwide. This situation was improved even further after independence, making Namibia one of the leaders in telecommunications in Africa. The progress in the telecommunications field was reinforced by the bridging of the "two Namibias," the modern-sector Namibia and the neglected areas, as well as the creation of links between Namibia and her landlocked neighbors in the east. Namibia's telecommunications institutional and technical system can serve as an example to other African countries, thus proving that there is less justification for Afro-pessimism today than there was in the 1980s.

13.1 The Past

13.1.1 A Geographic Country Profile

Namibia is a semiarid to arid country with a size of 824,292 square kilometers. It is located in the southwestern corner of Africa and has a total population of a little more than 1,500,000 inhabitants (1994), one of the most thinly populated countries in the world. The country is confined between two deserts, the Kalahari desert in the east and the Namib desert in the west, with an African savannah plateau in the middle (1,000 to 2,579 meters high). The capital is Windhoek, with approximately 150,000 inhabitants and an average altitude of 1,600 meters.

13.1.2 A Brief Overview of Namibia's History

The early period of Namibia's history is characterized by the complete absence of recorded data. The exploration of the country by Europeans began along the Atlantic coast as early as 1485, although access to the interior was barred by the inhospitable Namib desert. The harsh interior of Namibia aroused very little interest until the 1700s. The advent of European adventurers, explorers, and traders from the mid-eighteenth century onward, who entered from South Africa, had a disruptive impact on the existing patterns of organized society in Namibia (Dierks 1992b, p. 113).

Both the British authorities in South Africa during the 1870s and the German colonial interests in Namibia during the 1880s were able to take advantage of these developments: in 1878 the British annexed Walvis Bay, and in 1884 the formal colonization of Namibia by the German Empire began.

The outcome of the German colonial era was a divided, pluralistic society with a strong emphasis on separate cultural identities and a relative integration of the inhabitants into a common economic system. This economic system, however, remained profoundly dualistic, with a property-owning settler minority and a largely propertyless majority. This situation was coupled with the political fragmentation of Namibia's indigenous communities and the political and economic domination of the colonizing minority. Another result was the development of a remarkable modern physical infrastructure system, especially in the telecommunications and railway sectors. However, these infrastructures were not geared to promote the well-being of the indigenous Namibians; they were developed solely to foster the interest of the colonial society. This policy of group cultural separateness and fragmentation was to be expanded by the South Africans after 1915. For the indigenous inhabitants the change proved to be only from one colonial master to another, and it did not result in any improvement to their quality of life (Dierks 1992b, p. 119).

In the Peace Treaty of Versailles, which formally ended the First World War, the Union of South Africa was entrusted with several duties and responsibilities in Namibia, including, for instance, to "promote to the utmost the material and moral well-being and the social progress of the inhabitants of the territory." This "sacred trust of civilisation" was not honored by South Africa, which pursued a deliberate

policy of racial domination (apartheid) and exploitation of the economic resources during its period of colonial control up to 1990.

Resistance intensified after the Second World War and under the leadership of SWAPO (South West Africa People's Organization). With the support of the United Nations and after a long liberation struggle against the South Africans, the illegal occupation ended on March 21, 1990, when Namibia gained her freedom and independence (Dierks 1992b, p. 120). Independence resulted in the advent of a stable, peaceful, multiparty democracy based on the rule of law and a deregulated, strong, free-market economy.

13.1.3 The History of Telecommunications in Namibia

Namibia is one of the last vast wilderness areas in Africa, with an extremely rich African fauna and flora. But it also possesses, compared to other African countries and seen in relation to the small population and the large size of the country, an exceptionally well-developed but unbalanced physical infrastructure.

The pace of progress was not achieved easily or cheaply. Namibia is a land of many faces: from inhospitable deserts and hard rocky outcrops to rugged mountains and undulating plains. Each of these presented different problems to the transport and communications engineers.

Namibia's excellent but unbalanced telecommunications infrastructure must be seen in the mirror of its colonial heritage. Before Namibia's date of independence in 1990, infrastructures like telecommunications were solely developed in the interest of the colonial powers. The result was a marked imbalance between the "modern, first-world" sector and the impoverished "third-world" sector of Namibia where the majority of Namibians live.

Namibia's telecommunications age commenced on January 16, 1899, when the German colonial administration contracted an agreement with the Eastern and South African Telegraph Company in London to participate in the sea cable from Mossamedes (Namibe in Angola) to Cape Town with a link to Swakopmund, the port town of "German South West Africa." Further telegraph stations followed in Karibib (1901), Okahandja (1902), and Windhoek (1902). Swakopmund was the first town to get a telephone network with twenty-eight lines in 1901. Windhoek, Okahandja, and Karibib followed in 1902 (I. G. Deutschsprachiger Südwest 1985, pp. 477, 478). The trunk connection between Swakopmund and Windhoek was constructed between 1901 and 1906.

Military needs during the Namibian resistance wars against the German forces necessitated the construction of a 495-kilometer telegraph line from Windhoek into the Namibian south via Rehoboth, Tsumis, Gibeon, and Keetmanshoop. This system was modernized in 1911–12, after a telecommunications station at Keetmanshoop was inaugurated in 1906. This system was completed by a 364-kilometer double railway telegraph line between Keetmanshoop and the southern port town of Lüderitz (completed 1907–8), with a branch line between Brakwater (south) and Chamis via Bethany (32 kilometers in 1908). The total Namibian trunk system of 1,300 kilometers was interlinked at the end of 1907, with direct telephone services between Swakopmund, Windhoek, Keetmanshoop, and

Lüderitz. Further additions were telegraph lines between Windhoek and Gobabis in the east (252 kilometers in 1905) and between Usakos and Otavi in the north (1906), as well as from Otavi to Grootfontein (91 kilometers in 1908). A trunk route from Keetmanshoop via Warmbad and Karasburg with a link into the South African system at Ramansdrift was inaugurated in 1910 (260 kilometers). This trunk line, which was extended to Cape Town in 1912, was the most expensive one so far. Between 1901 and 1907 a telegraph system of 3,616 kilometers with thirty-four stations and twelve local telephone networks was completed (I. G. Deutschsprachiger Südwest 1985, pp. 478, 479).

Between 1908 and 1914 this system grew steadily, with extensions to the diamond fields at Angras Juntas, Elizabeth Bay, Pomona, and Bogenfels.

The only missing links in the settlers' colony were telecommunications lines to the lonely and far-off farms. The first "farm party lines" came into operation in 1909 between Gibeon and Maltahöhe and in 1912 between Okahandja and Ombirisu, with a total of thirty-two farm telecommunications stations in 1913 and a cost participation by the individual farmers. Furthermore, the first wireless telegraph links over a distance of 8,000 kilometers between Germany (Nauen) and Namibia (Windhoek) via Kamina (Togo) came into being in 1913. The first official communication via this link was Germany's declaration of war, which set the stage for the First World War and led to the end of Germany's occupation of Namibia in 1915 (I. G. Deutschsprachiger Südwest 1985, pp. 479–81).

Initially the South African colonial era brought slow progress in the further development of Namibia's telecommunications system. Until 1926–27, no new projects were added. At that time it is reported that some new lines were laid and the trunk line between Windhoek and Keetmanshoop was renewed. In 1929 Windhoek received its first automatic telephone exchange (Siemens). During 1931–32, trunk lines between Otjiwarongo and Otavi as well as Grootfontein and Tsumeb were extended. Walvis Bay, Swakopmund, Usakos, Grootfontein, Keetmanshoop, Okahandja, and Mariental received new telephone exchanges. Farm party lines were erected between Otjiwarongo and Erundu as well as Okaputa and Warlencourt. The Second World War interrupted all further progress in telecommunications (I. G. Deutschsprachiger Südwest 1985, p. 482).

In 1949 the Windhoek automatic exchange was expanded to 2,000 lines. In 1950 the country possessed sixty-two exchanges with 1,033 private and 2,267 business lines, 134 public telephones, and 451 farm party lines. During the late 1950s the demand for telecommunications services still remained insatiable, and 1,066 new services and 820 supplementary services were provided in 1957, while 1,587 changes to existing services were effected. In this year the total number of hired services increased to 11,024, and 423 kilometers of trunk lines and 1,622 kilometers of farm lines were erected (South West Africa: A Report for the Calendar Year 1957 and the Activities of the Department of Posts and Telegraphs, Windhoek, pp. 2, 3).

In 1960 this system grew to 11,163 lines, with 2,413 farm lines. During the early 1960s the direct telephone links were increased from 597 to 985 with a total distance of 202,518 kilometers. Between 1965 and 1975 the investments for telecommunications increased from U.S.\$20 million to U.S.\$75 million. In 1972, Namibia's telecommunications system was interlinked with the automatic system

in South Africa and then later replenished by an analog microwave system between Windhoek and Upington (South Africa) via Keetmanshoop. The exchanges grew from 99 to 467 at a total cost of U.S.\$7 million. Direct telecommunications links with thirty-three countries were possible as of 1980. During the 1980s telecommunications links with the Owambo regions in the north, with Opuuo (Kunene region), and with Katima Mulilo (Caprivi region) were developed. In 1983 Namibia had 60,737 telephone lines (14,752 manual, 45,982 automatic, and 5,890 farm) for approximately 1.3 million inhabitants living on more than double the surface of the united Germany (I. G. Deutschsprachiger Südwester 1985, pp. 482, 483).

The year 1986 saw the introduction of the first fully digital electronic exchange in Namibia. This was the combined trunk and local exchange installed in Windhoek. The exchange increased the telephone service potential in Windhoek tenfold. Before independence on March 21, 1990, Namibia had an integrated network of analog and electrical transmission mediums of approximately 1,970,005 kilometers. However, the dominant technology for transmission links was based on analog microwave channels from the north to the south interconnected with copper-based open-wire carrier routes to the eastern and western parts of the country. These have to be extended and balanced to link the "two Namibias."

13.2 The Present

13.2.1 Assessment of the New Policies for Telecom Namibia

It is helpful to examine the commercialization of telecom services in Namibia, not only to assess the experiences, but also to understand the actors and variables that played such an important role in this process. The major players in this crucial policy decision were not different interest groups in Namibia such as business pressure groups, the trade unions, or any international institutions and investors. Instead, the policy came about due to a principal decision made by the first independent government of Namibia. This government was determined to optimize the country's scarce resources in order to initiate national development, eradicate poverty, and create a new "postapartheid Namibia" by bridging the "first-world" and the "third-world" Namibias.

13.2.1.1 Background

In line with the government's policy to embark on a new economic approach by deregulating certain functions of the state and opening up the markets to encourage international exposure and competition, the Communications Division under the Ministry of Works, Transport, and Communication was divided into four separate entities in 1992.

The four entities are as follows:

- The Ministry of Works, Transport, and Communication remained in the government fold and is, inter alia, accountable for the national policy of the postal and telecommunications sector, the appointment and removal of the board of

directors, the monitoring of the performance contract, and the annual report to the Namibian Parliament on the affairs of the corporations.

- The Namibia “Communications Commission” is an independent body responsible for frequency management, the issuing of licenses, and other regulatory functions.
- Telecom Namibia Limited, the officially designated telecommunications company, is responsible for providing and maintaining the telecommunications infrastructure and services.
- Namibia Post Limited is responsible for postal and savings bank services.

Telecom Namibia Limited and Namibia Post Limited, incorporated under the Posts and Telecommunications Act of 1992, are both subsidiaries of the parent company, the Namibia Post and Telecom Holdings Limited, and are operating under the laws and regulations pertaining to a company registered in terms of the Namibian Companies Act. The accountability for the corporations’ financial matters is resting with the management and its board of directors.

13.2.3 The Prospects for Telecom Namibia

13.2.3.1 Telephone Services

The Namibian telecommunications market is, compared to African standards, a well-developed market. The number of telephone lines are approximately 5 per 100 inhabitants, which is more than five times the average of the African continent. The demand for service is presently higher than the supply. The usage per line is also high on average, at U.S.\$60 per line and month for automatic service.

The average growth for automatic exchanges over the 1990s has been 6 percent per year in new services. Estimated near-term growth will be 10 percent per year, bringing the average number of telephone lines to 8 per 100 inhabitants, the same as in South Africa in 1997.

To meet this demand, investments have to be approximately U.S.\$20 million per year. To open up an independent international gateway, another U.S.\$13 million will have to be invested annually. The expected growth in revenue will be U.S.\$7 million per year, assuming 10 percent growth in new services and 5 percent growth in traffic.

Telecom Namibia covers approximately 98 percent of the market for telephone services. Competition for local traffic comes only from one other operator, the Consolidated Diamond Mines (CDM) in Oranjemund. For international traffic the only competition is presently “hubbing” via South Africa. However, in April 1995 competition arrived from a local operator of cellular telephony. More competition will come in the future, in line with government policy, which is based on competition and deregulation. For instance, banks will set up their own satellite communications links primarily for data communication, but experience from both Europe and the United States shows that these facilities also will be used for voice communication.

13.2.3.2 Data Communications

The market for data communications is looking for higher speed and more reliable services. The present service uses leased analog lines and an x-25 packet-switched network. Today the major banks are asking for digital 64-kilobit services.

The competition in data communications comes mainly from the potential customers themselves, who establish their own data communications networks (i.e., the Municipality of Windhoek, the breweries, etc.), first at their own premises but later extended and connected to other sites, both domestic and international. It is expected that Telecom Namibia's share of the market will not exceed 70 percent, including leased lines. The total turnover is approximately U.S.\$3 million per year, thus representing a relatively small market for Telecom Namibia. It is, however, essential to be present in the data market, in order to protect the more viable telephony market, especially for the business customers.

The supply of modems for DATA (dedicated data channels where customers establish their own computer system) and TELNET (packet switching) services on the customer premises is left completely to the private suppliers. Telecom Namibia's DATA customer growth is above 10 percent per annum, and that of TELNET is above 20 percent.

13.3 Conclusion

As far as the telecommunications sector is concerned, Namibia is technically one of the most developed countries in Africa. It is the first priority for the government to maintain and upgrade the telecommunications systems in an optimized way. For historical reasons, physical infrastructures were always unbalanced to the disadvantage of indigenous Namibians. This imbalance was consequently addressed after the Namibian independence on March 21, 1990, and visible change has taken place since then.

The technical progress has to be supplemented by institutional reform. A process of commercializing the former Department of Posts and Telecommunications within the framework of the Ministry of Works, Transport, and Communication was initiated after independence and completed in August 1992. Telecom Namibia is one of the success stories of the country and has made great strides toward an efficient and modern telecommunications network without any cross-subsidization and without failing to fulfil the social commitments that are a heritage of the colonial era.

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