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MALI, National Context

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BAMAKO, Urban Context

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MAGNAMBOUGOU UPGRADING PROJECT, BAMAKO, MALI

Project Summary Paper, by Therese Vien and Nacim Zeghlache

Prepared for

The Aga Khan Program for Islamic Architecture

MALI

Primary Information

Country: Republic of Mali

Capital: Bamako

Population: 6.9 million (1981)

 Growth Rate: 3.0%

 Density: 55.6 per square kilometer

 Urban: 19%

 Urban Growth Rate: 4.6%

Area: 1.24 million square kilometers

Geography: A land-locked country, its northern half lying in the southern Sahara, with the Adrar des Iforas rising 800 meters above the plains in the east. Further south, the desert gives way to the Sahel. The Niger river drains across the south-east savanna region, whose wide plains are dominated by sandstone plateaus.

Climate: Tropical, with no real winter. The dry season lasts from November to April. In the central Sahel region, annual rainfall is 100 to 200 mm., and in the extreme south it exceeds 500 mm.

Languages: French (official)
Bambarra, Malinke, Sarakolle, Mandingo

Religion: Muslim 90%

Currency: Mali Franc (MF). MF 440 = US\$ 1.00 (1979)

Per Capita Income: US\$ 190

Major Cities: Bamako, Mopti, Timbuktu

Production: Industry 11%
Services 47%
Agriculture 42%

MALI

National Context

The Republic of Mali is a land-locked country in West Africa, bounded to the north by Algeria, to the west by Mauritania, Senegal, and Guinea, to the south by the Ivory Coast and Upper Volta, and to the east by Niger. It occupies an area of 1,239,710 square kilometers, much of which is grassy plain. Its population of 7,100,000 (1982 estimate) is about 17 percent urban. The climate is tropical, with no real winter. The dry season, November to April, is marked by the hot wind known as the "harmattan."

The northern half of Mali lies in the southern Sahara, with the vast plains of the Tanezouft and Tasudenni in the extreme northwestern corner and those of Meriye and Azanousk further south. To the east lies the Adrar des Iforas--rounded granite and ruiniform heights rising to more than 885 meters above the neighboring plains. The relief of this region creates a moister climate, with pastures where cattle are raised.

In the southern portion of Mali the Sahara gives place to the Sahel, where annual rainfall is 100 to 200 mm., occurring normally over a two-month period. Here, the dunes are covered with cram-cram, mimosa, clusters of doum palms, and palmyra. Shepherds come to the area seeking pastures in the dry season. The annual rainfall in the most southern areas exceeds 500 mm., with a rainy season of more than three months, and here the savanna extends over wide plains of alluvium dominated by sandstone plateaus. The Niger River drains northeast across this savanna region, looping to the east to Timbuktu before swinging south toward Nigeria and the sea.

HISTORY

From the early Middle Ages, caravans traveled between the Niger River and Morocco and Algeria, carrying ivory, ostrich feathers, slaves, and gold. The Mandingo Empire of Mali was founded at a trading point on the Niger in the thirteenth century, and was preeminent until the fifteenth century. In the sixteenth century Timbuktu, became an independent city state, until it fell to Moroccan domination in 1591. It remained under Morocco for two centuries.

Mali



- Railroad
- Road
- Airport

The nineteenth century saw a resurgence of Islam. In 1898, French colonial rule was imposed on Mali. The territory was divided into districts, initially governed by military officers. The shift to civilian administration was gradual, following the construction of roads and communications networks. In 1925 the first automobile crossing of the Sahara was made.

ADMINISTRATION

In 1946, French Sudan became an Overseas Territory of the French Union with a territorial assembly. The country was proclaimed an Autonomous State of the French Community in 1958. In the following year it joined with Senegal to form the Mali Federation, which was dissolved in 1960. A month later Mali was proclaimed an independent republic.

Mali remained outside the French Community, but signed economic agreements with France and, subsequently, with Senegal. In 1961 Mali joined Ghana and Guinea in the Union of African States, and in 1963 signed a mutual assistance treaty with the Ivory Coast; soon after, Mali became a founder-member of the Organization of African Unity.

Legislative authority rests with a special committee. The president is head of state and is vested with executive power. He appoints the prime minister and members of the Council of Ministers.

The country is divided into six administrative and economic regions: Bamako, Gas, Kayes Ouest, Mooti, Segou Centre, and Sikasso.

DEMOGRAPHY:

A number of different ethnic groups live in Mali. The major tribes can be distinguished in terms of their occupations--which depend largely on what geographic area they inhabit, and in terms of their language and dialects. Ninety percent of the population is Muslim.

The desert areas are inhabited by two nomadic groups: the Tuareg and the Arab tribes of Kounta and Berabish. Both groups are Muslim, but the Tuareg speak a Berber dialect, while the others speak Arabic.

In the semi-arid steppes, the Fulani are a predominantly Muslim nomadic people raising cattle and camels. They speak a Senegalese dialect.

Along the Niger live the Songhai, a tribe of Muslim fishermen. Other tribes of farmers and craftsmen from Senegal and Upper Volta have also settled in the southern zone of Mali and along the banks of the river.

The most important ethnic group, numbering over one million, is the group of tribes speaking Mandingo, who are found throughout the country and are mostly Muslim. They engage in a variety of occupations, but each tribe has a particular specialty; for example, the Dioula are merchants, the Bozo are fishermen, and the Bambarra are farmers.

ECONOMY

The economy of Mali is heavily dominated by agriculture, which provides about 87 percent of employment. The industrial sector, transport, and building construction account for only two percent, handicrafts and trades for about 5.5 percent, and the tertiary sector, including government administration, for less than 5 percent. Mali's major industries are textiles and food processing. The next largest categories--mechanical, electrical, and energy-related industries--trail far behind.

The savanna zone generates the most activity, primarily from cultivation of food crops along the river (millet, rice, sorghum, and corn), and from herding. An attempt has been made to improve agricultural techniques, to dam the Macina River downstream of Segou for irrigation purposes, and to expand cultivation on its left bank. More than 30,000 peasants have been settled to grow rice and cotton on 50,000 hectares of irrigated land in these areas.

Mali exports cotton and foodstuffs (rice, meat, and fish) to neighboring countries. Livestock is a primary resource: 4,640,000 head of cattle and 60,000 sheep and goats are raised annually. Some animals are exported to Senegal, Ghana, and the Ivory Coast, while leather products are exported to France. There is also a trade in salt, which is mined around Taoudenni. Deposits of manganese and bauxite exist in great quantity, but they remain unexploited due to their remote location in the interior.

BAMAKO

Urban Context

Bamako, the capital of Mali, lies in a natural enclosure along the Niger River, hemmed in by sharply rising hills that flank the river on both sides. Seven thousand hectares of developable land stretch along the left bank, backed by the Mandingo Mountains. A railway line and a narrow road lead east from the district, toward Koulikoro; the road to Guinea leads away to the west. About half the available land along the left bank is built up. Setting aside the portion subject to flooding, there still remains 2,000 hectares suitable for immediate expansion. The right bank is bounded by the Niger River, the airport of Senou in the south, and the mountains of Tienkoulou to the west. This section of Bamako District occupies an area of 12,000 hectares, but is only about 20 percent developed, owing to difficult physical features.

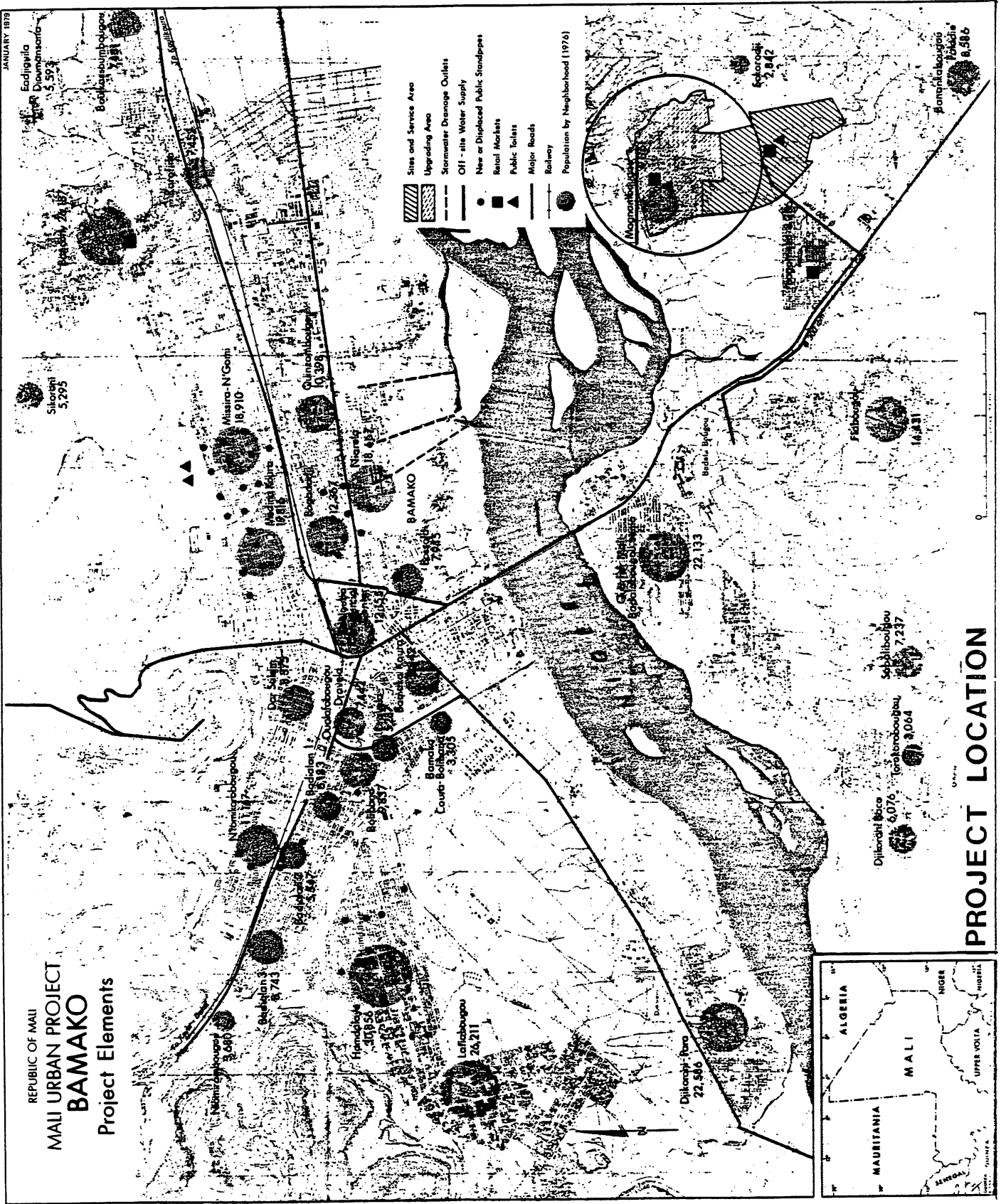
Until 1940, development remained fairly concentrated in one area on the left bank. Subsequent growth tended to sprawl, and on the right bank became quite widely dispersed among the scattered steep hills that dot the area. In 1976, the southern portion of the city encompassed one-quarter of the urban population; today this figure has risen to one-third. Urbanization on the left bank is well structured, but on the right bank, which has absorbed 40 percent of Bamako's recent growth, new development has sprawled over two-thirds of the land.

URBANIZATION

The past decade has seen considerable expansion of Bamako toward the south, and the proliferation of spontaneous settlements. In the center of the city, densities have risen, as peripheral developments absorb only about 8 percent of the population overflow. Overall, the district's urban pattern can be divided into three categories: the old urban quarter, the new urban areas, and the villages.

Bozola, on the left bank, constitutes the initial core of the city, with a population of 18,000 inhabitants (15 percent of Bamako's population) on about 15 hectares. High densities (660 persons per hectare), poor hous-

REPUBLIC OF MALI
MALI URBAN PROJECT
BAMAKO
Project Elements



ing conditions, and irregular lot configurations characterize this area. The quarter presents a mixture of uses and a range of incomes varying from US\$ 45 to US\$ 2,270 (1979) per month. Bamako District's main commercial area adjoins Bozola. It was known as the old European quarter, and contains a wide array of commercial activities in addition to government buildings, community facilities, and housing. Eight thousand inhabitants live in the quarter, typically in villas and walk-up apartments. The surrounding areas were developed during the colonial period, and are laid out in an orthogonal grid pattern, bisected by several major roads (10 to 15 meters in width). These areas are relatively old and densely populated (300 to 380 persons per hectare). Over the years they have experienced gradual densification and at present they house 31 percent of Bamako's population.

The new urban areas fall into three classes: subdivisions, villas, and spontaneous housing. Some recent growth in Bamako has followed the grid layout of the earlier colonial development. These subdivisions show housing types and income distributions similar to those in the old urban center, but are less dense (200 to 250 persons per hectare). They grew considerably over the 1976-1983 period, rising from 101,000 inhabitants to 160,000; they not only spread along the left bank but also spilled over onto the right bank. In addition, a number of scattered developments of more luxurious, high-income villas sprang up in various locations on both sides of the river. They accommodate about four percent of the population, or 34,500 inhabitants, and are characterized by large lots (600 to 1,000 square meters) and low densities (50 persons per hectare). The third type of new urban district, the spontaneous settlements, mostly occur in peripheral areas. They vary in layout from those with a systematic road grid--giving an impression of order and organization--to those with tortuous and narrow paths. They provide housing for 31 percent of the total population, or 206,000 inhabitants.

Despite the spread of growth in recent years, much land in the area remains undeveloped due to its topography. Within the administrative boundaries of Bamako District there are isolated villages, particularly along the main access routes. Together, these villages account for 4 percent (29,000) of the total population.

DEMOGRAPHY

The 1983 census reported a population of 675,000 inhabitants in the district of Bamako, including the outlying villages. Since the 1976 census, the annual population growth has averaged seven percent--3.3 percent attributable to natural increase and 3.7 percent to migration. Over the last ten years, spontaneous settlements have absorbed 45 percent of the population increment, while existing urban areas have been undergoing rapid densification. The population growth from 1976 to 1983 was 40 percent, while densities in existing areas increased by 60 percent. Population growth in the older sections was thus characterized by an increase in household size, rather than an increase in the number of households, leading to a rise in the citywide average household size from 6.0 in 1976 to 7.2 in 1983. The labor force experienced an annual growth rate of 7.1 percent over the same period, increasing from 96,600 in 1976 to 156,300 in 1983.

ECONOMY

Bamako's economic base is diversified, including industry, trade, and services. Agriculture still provides about 13 percent of employment; handicrafts and trade together account for over a quarter; public administration alone accounts for 21 percent; and construction and other industries, including transport, contribute 17 percent of employment. In the private sector, manufacturing and construction are the most active sectors; transportation and commercial enterprises--especially hotels--are also active, with services a slightly less important source of employment.

Bamako contributes 45 percent of Mali's GDP, and in two areas accounts for 100 percent of the country's annual production: chemical industries, and wood and paper products. Bamako also ranks high in mechanical and electrical industries (86 percent of the sector) and in energy-related industries (80 percent of the sector).

Bamako provides nearly half the labor force in the national market, attracting more migrants than any other center in Mali. Approximately 17,000 people migrate to Bamako every year, outstripping the capacity of the local economy to generate employment opportunities.

Project Reference Sheet

Project Name: Shelter Services for Magnambougou
Location: Bamako, Mali
Consultants: The World Bank
Client: Mali Ministry of the Interior, and the District of Bamako
Implementing Agency: District of Bamako
Date of Commission: 1979
Implementing Status: Nearing Completion
Estimated Cost: US\$ 2.6 million (1979) for upgrading
US\$ 3.6 million for sites and services

Summary Description: Magnambougou upgrading project is a multi-faceted project to provide affordable urban services, particularly shelter, water supply, garbage collection, drainage, schools and health care, to low-income residents of a rapidly expanding peripheral settlement beside the Niger River. The project consists of upgrading the squatter settlement of Magnambougou (population 22,000) and the layout of serviced lots on an adjacent site (for an additional 22,000 population). Lot layouts accommodated complicated tenure patterns and local social customs. To stimulate productive employment, the project introduced market facilities, land plots and loans for artisans, development of local building materials, and training of craftsmen. The project relied on low-cost solutions and cost-recovery. Minimal design standards for onsite infrastructure conformed to affordability constraints but designs allowed for later upgrading.

SHELTER SERVICES FOR MAGNAMBOUGOU

Bamako, Mali

Project Summary

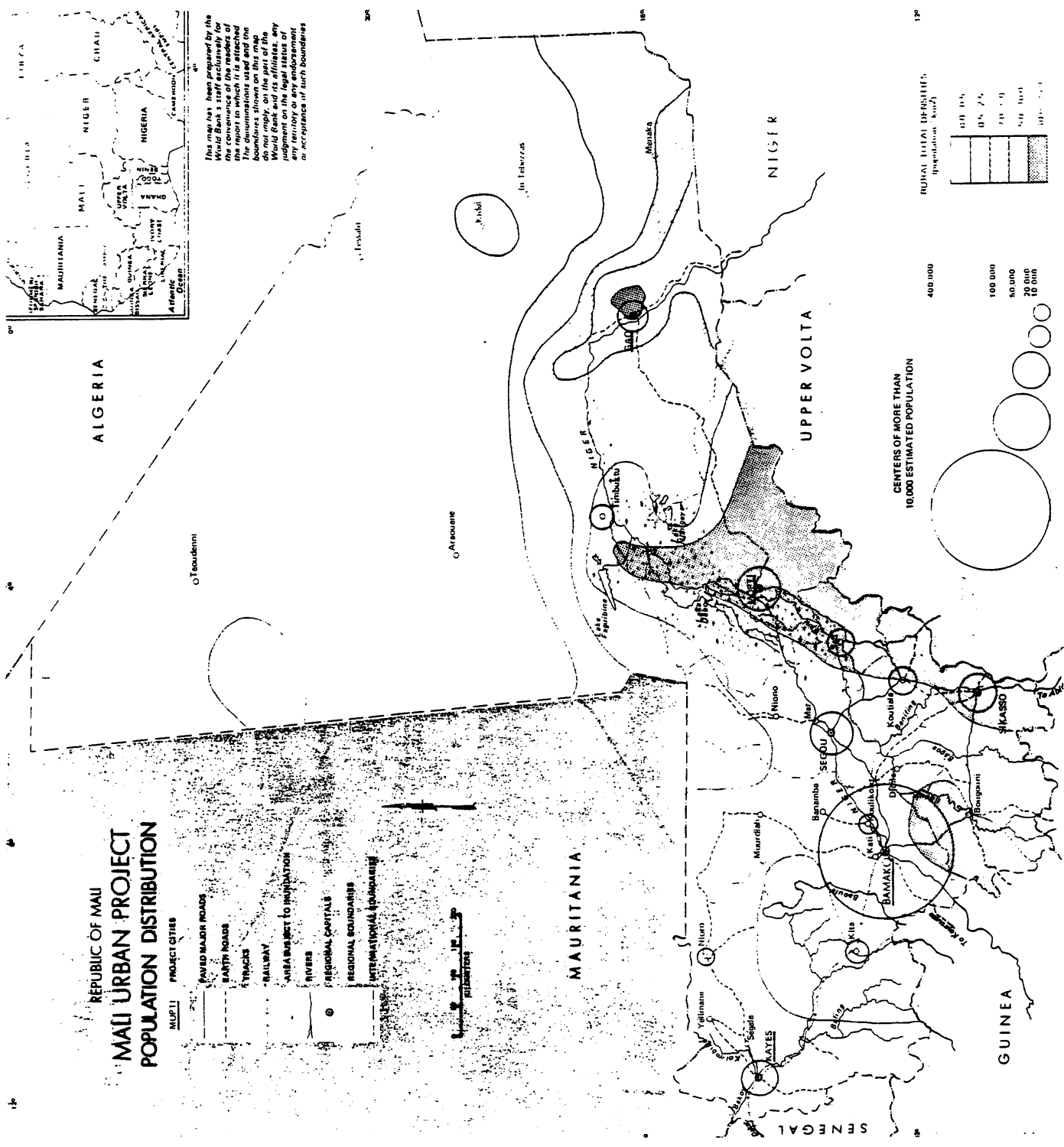
Magnambougou is one of Bamako's peripheral settlements on the south bank of the Niger River. It is experiencing a rapid expansion in population without adequate primary infrastructure or urban services. Twenty-two thousand inhabitants occupy an area of 100 hectares. It is also one of the poorest parts of Bamako; the average household income in the area is less than US\$ 80 per month--well below the poverty level.

The Magnambougou shelter services project consists of the layout of 3,000 serviced lots on an adjacent site and upgrading of the squatter settlement by providing urban services, water supply, garbage collection, and drainage, as well as educational and health care. The undertaking is based on a major upgrading plan ("Schéma directeur d'Aménagement") initially devised in 1963 and subsequently revised.

Until 1960, regulation of urban expansion in Bamako consisted only of governmental designation of new neighborhoods adjacent to the existing city center. Confronted with large and growing uncontrolled squatter settlements lacking appropriate infrastructure and sanitary services, the government undertook to address these settlements' most pressing urban problems and to alleviate the extreme poverty of certain neighborhoods. Recognizing that inefficient land use and land allocation policies, the lack of a public housing program, and an urgent need for implementation of urban services were all contributing factors, the government has not only formulated a rehabilitation plan for the district of Bamako but also intends to revise tenure legislation and strengthen the institutional framework for carrying out its urban management policy.

Three primary objectives were delineated:

- Provide shelter services, by upgrading housing and infrastructure in Magnambougou
- Search for low-cost solutions for improving urban services
- Maximize use of local building materials rather than more expensive imported materials



DESCRIPTION OF THE PROJECT

The project called for subdivision of the residential area in Magnambougou into lots of different types:

- Type A: 1,310 lots of 320 square meters
- Type A₁: 2,620 lots of 160 square meters
- Type B: 221 lots of 374 square meters
- Type C: 50 lots of 500 square meters (the traditional Bamako size of lot)

As the project was intended to mobilize private resources in the community, the level of services and sizes of lots were defined to correspond to the income levels of the target population; lot prices were based on an allocation of no more than 18 percent of income for housing, in order to reach the lower income groups. The eligibility criteria for lot types A, A₁, and B, and for home improvement loans (US\$ 125 per household at 12 percent interest over 20 years) require that applicants earn a maximum of US\$ 125 per household per month, in 1979 prices. The terms of the lease-purchase agreements between the beneficiaries and the Bamako District Housing Directorate require that beneficiaries reside on their lots, although they may rent rooms in their dwellings to supplement their income.

Community facilities to be provided included a 12-classroom school, a health center, and a retail market.

Onsite infrastructure was related to affordability constraints and was therefore limited to a strict minimum, with the possibility of future improvement in response to increases in income. Sixteen standpipes were to be provided--one tap for every 80 households. The layout plan was such that no lot was further than 200 meters from a public standpipe. Earth ditches and masonry drains were constructed, and sewage disposal relied on pit latrines. There were no plans for private electricity connections. Public buildings and community facilities were lit, and street lighting was provided on primary and secondary roads. Onsite road improvements consisted of opening up six kilometers of tertiary roads and putting in two kilometers of gravelled secondary roads and 850 meters of paved access roads leading to the community facilities.

Offsite infrastructure for the upgrading and sites-and-services areas included:

- 3,500 meters of water supply mains
- 1,500 meters of earth and masonry drainage ditches
- 2,000 meters of medium-voltage electric wires
- 1,550 meters of 7-meter-wide paved access roads

ADMINISTRATION AND PROJECT FINANCING

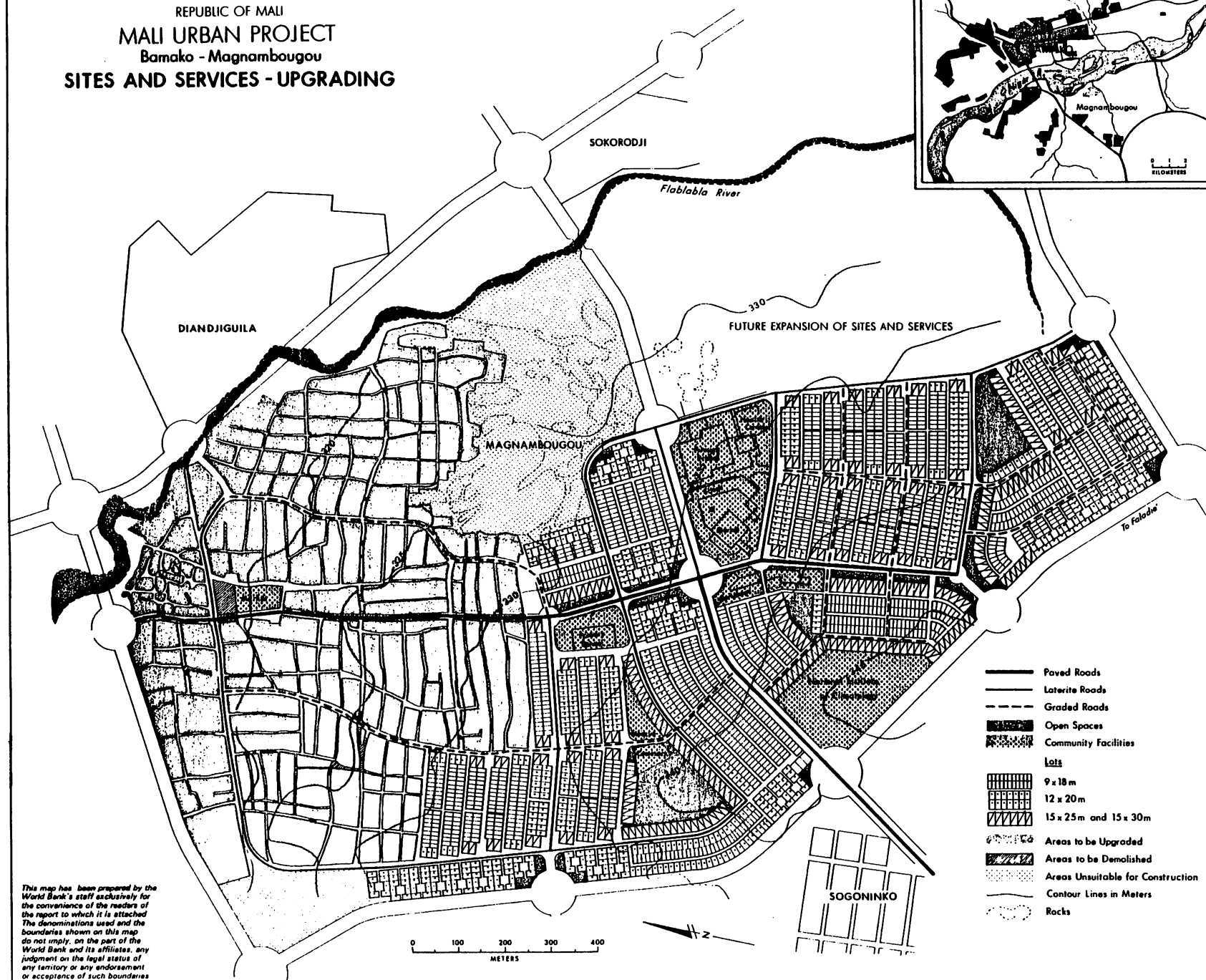
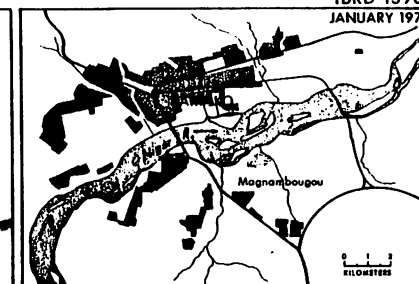
In 1978 Bamako was given the administrative status of Region. The Governor of the Region is designated by the Council of Ministers as the permanent representative of the Chief of State and of the government, and has authority over the regional services of central ministries. In addition, a project unit was established within the Ministry of the Interior to assist, coordinate, supervise, and monitor project implementation.

In Bamako, regional governmental services include: the regional offices of the national Directorate of Housing, which supervises onsite infrastructure works, schools, health facilities, and markets; the Directorate of Property and Taxes, which together with the Bamako Land Management Agency is responsible for the management of municipal taxes; and the Directorate of Water Resources and Energy, which supervises offsite water, electricity, and drainage systems. At the local level, the District Housing Directorate also plays an important role in the administration of the construction loan program in the Magnambougou project, while the District Technical Services Directorate will be responsible for garbage collection, clearing and repair of drainage ditches, repair of standpipes and public lavatories, and offsite roads.

Overall project implementation was projected to take about four years and to cost approximately US\$ 4.6 million (1979 prices). All estimated foreign exchange costs and 78 percent of local costs were to be recovered. The government planned to finance 20 percent of the total costs through budgetary allocations (grants), and through loans at 7.5 percent interest repayable over 23 years with a three-year grace period. A municipal tax system was established to recover part of the costs of improved municipal services: two percent of rental values of residential and commercial properties is to be collected as a maintenance tax; and three percent of the rental values of residential areas as a garbage collection tax.

REPUBLIC OF MALI
MALI URBAN PROJECT
 Bamako - Magnambougou
SITES AND SERVICES - UPGRADING

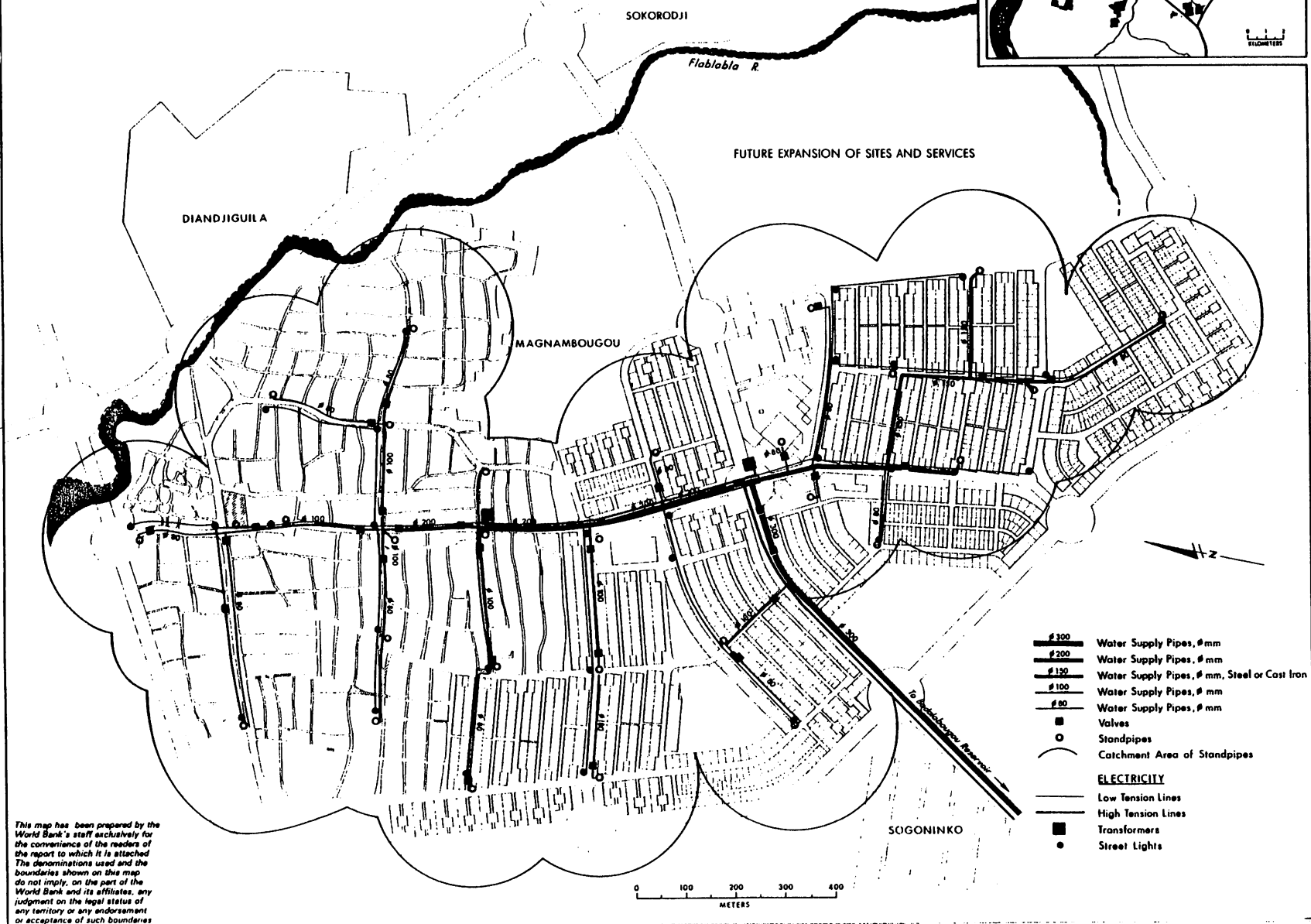
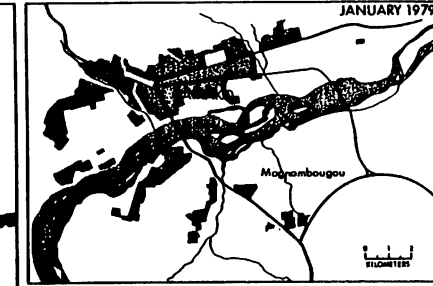
IBRD 13987
 JANUARY 1979



- Paved Roads
- Laterite Roads
- - - Graded Roads
- Open Spaces
- Community Facilities
- Lots**
- 9 x 18 m
- 12 x 20 m
- 15 x 25 m and 15 x 30 m
- Areas to be Upgraded
- Areas to be Demolished
- Areas Unsuitable for Construction
- Contour Lines in Meters
- Rocks

REPUBLIC OF MALI
MALI URBAN PROJECT
 Bamako - Magnambougou
 SITES AND SERVICES - UPGRADING
WATER SUPPLY AND ELECTRICITY

IBRD 14042
 JANUARY 1979



REPUBLIC OF MALI
MALI URBAN PROJECT
BAMAKO - MAGNAMBOUGOU
UPGRADING AND SITES AND SERVICES
STORMWATER DRAINAGE

- COLLECTORS
- 0.4 → WATER FLOW IN METERS³/SEC
- 0.015 → SLOPE IN METER/METER
- M1 M2 M3 M4 CROSS SECTION TYPE, MASONRY
- M1 M2 M3 M4 CROSS SECTION TYPE, EARTH
- CHANGE OF CROSS SECTION
- CONCRETE CULVERT
- 345 CONTOURS, IN METERS
- ROCKS

0 100 200 300 400
METERS

DIANDJIGUILA

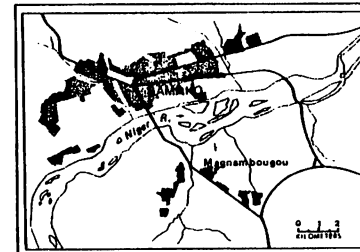
SOKORODJI

MAGNAMBOUGOU

FUTURE EXPANSION OF SITES AND SERVICES

to Fatick

SOGONINKO



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