



SÃO TOMÉ E PRÍNCIPE

ARGUMENTAIRE POUR LA THÉORIE DU CHANGEMENT

En vue d'une demande de soutien
de Gavi



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Ministry of Health

Expanded Program on Immunization of Sao Tome and Principe

Theory of Change Case for Gavi support

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Case for the Theory of Change

December 2022

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Part 1 - Situation Analysis: Key Findings

(Maximum 5 pages)

1.1. Analysis of the situation of the immunization system in Sao Tome and Principe

The Republic of Sao Tome and Principe (STP) is an archipelago formed by two islands and adjacent islets, located in the Gulf of Guinea, about 350 km from the West African coast. The archipelago extends on a surface of 1,001 km² : the island of S. Tomé with a surface of 859 km² and the island of Principe 142 km² .



Figure 1: SEQ Figure 1: Geographic Map of Sao Tome and Principe

STP health care system is based on the implementation of Primary Health Care (PHC) at the health district level. It has a double pyramidal organization, administrative and technical, at the above-mentioned levels. This health system includes: the central level and the peripheral level, commonly called district level.

Since 1997, the EPI has been an integral part of the Reproductive Health Program (RHP), under the Health Care Department.

The EPI provides immunization services in a country with a population of 219,159 in 2020 (sources¹). The population increase has been accompanied by a rural exodus; the population density is on average 178.6 inhabitants/km² but with strong variations from one district to another. The population is essentially urban, at about 58% (estimate based on the 2012 census), nevertheless half of the urban dwellers live in the agglomerations and suburban districts. Vaccination services are provided in an archipelago divided into six districts and the autonomous region of Principe (Região Autónoma do Príncipe).

1.1.1. POLITICAL AND SOCIO-ECONOMIC SITUATION²

STP is a small, lower-middle income island state with a fragile economy. Recent World Bank estimates show that about one-third of the population lives below the international poverty line of USD1.90/day, and over two-thirds of the population lives below the World Bank's highest poverty line of USD3.20/day. Urban areas and southern districts such as Caué and Lembá

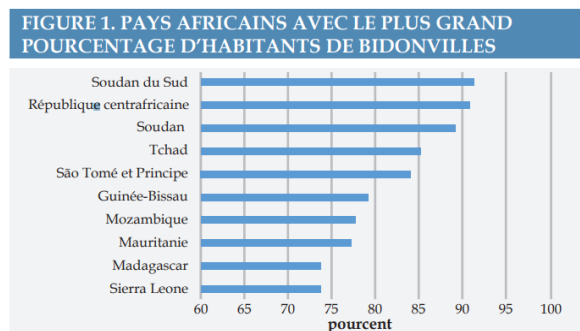
are the poorest.

Nevertheless, STP has made progress in improving some social indicators: its gross primary school enrollment rate is 110%, life expectancy is 66 years, the under-five mortality rate is 51 per 1,000 live births, access to an improved water source is available to 97% of the population, and access to electricity is available to 60% of the population.

STP faces challenges that affect its ability to cope with and maintain a balanced budget. The limited number of workers in the country often prevents the efficient production of goods and services in sufficient quantities to the demand of local and export markets. Its remoteness insularly increase export costs, preventing the country diversifying its economy and making it more vulnerable to economic shocks. The indivisibility in the production of goods and the difficulty in providing services to a dispersed population imply a high level of public spending to provide adequate public services.

1.1.2. FRAGILITY, CONFLICT AND VIOLENCE (FCV)

STP is no longer a fragile country and does not face challenges of conflict or violence. However, it should be noted that STP is the 5th African country with the largest percentage of inhabitants in slums³ . Indeed, UN-Habitat reveals that in 2018, 86% of the urban population lives in slums.



Source des données : UNDESA

Figures 2: African Countries with the Largest Percentage of Slum Dwellers

¹ WUENIC, Natural growth rate of 2.0

² World Bank. <https://www.worldbank.org/en/country/saotome/overview>

³ UNDESA



1.1.3. REFUGEES, INTERNALLY DISPLACED PERSONS AND MIGRANT POPULATIONS

UNHCR⁴ is not aware of any registered refugees or other persons living in security-compromised areas in STP: internally displaced persons, asylum seekers and refugees. UNHCR recognizes that climate change poses a unique set of challenges for STP, a small island state already experiencing the effects of climate change caused by rising sea levels and increasingly frequent and severe storms. In the worst-case scenario, sea level rise will expose people to progressive loss of territory and shortage of drinking water, and will severely impact traditional livelihood activities. The negative impact of climate change on people living in rural coastal areas is recognized by UNDP.

1.1.4. NATURAL DISASTERS

The Global Facility for Disaster Reduction and Recovery⁵ (GFDRR) indicates that STP is vulnerable to natural hazards, such as coastal and riverine flash floods, storms and droughts. Frequent flash floods and severe storms with hail, thunder, lightning, and high winds are particularly threatening. The confluence of these hazards from 2014 to 2016 resulted in widespread flooding in the communities of Praia Gamboa, Santa Catarina, Ribeira Afonso, Malanza and Io Grande, destroying homes and causing loss of life. The island country is already suffering the consequences of climate change. Sea level rise and river flooding are exacerbating erosion and coastal flooding. Impacts on sectors such as agriculture and fisheries are particularly critical, as nearly 20% of the country's workforce is employed in artisanal fishing and most villagers are small-scale farmers. Coffee production in the country has declined over the past decade and fishermen face increased danger from changing weather patterns. Climate change is also observed through increased temperature and a prolonged dry season. For example, in 2010, the dry season lasted seven months instead of the usual three months.

1.1.5. COVID-19 AND EPIDEMICS OF VACCINE PREVENTABLE DISEASES IN SAO TOME AND PRINCIPE

Vaccination coverage of child populations in São Tomé and Príncipe has been high for the main vaccines up to one year of age since 2006, reaching 99.8% coverage for BCG in 2011. In the following years, this coverage has decreased, but has remained above 90%, which is an excellent indicator in terms of child health. In 2020, with the arrival of the COVID-19 pandemic, vaccine coverage dropped to nearly 80%. Containment measures account for some of this decline, but the investment in vaccinating people against COVID-19 also accounts for the decline in coverage for other antigens.

STP counted a total of 6,136 cases of COVID and 76 deaths from the disease. Vaccination coverage of 102.01% was achieved for COVID-19, with 46.39% of the population having a full vaccination schedule and 13.36% with the booster dose (WHO, 2022).

The epidemiological profile of São Tomé and Príncipe is marked by the predominance of non-transmissible diseases with an increasing trend. Transmissible diseases continue to be a public health problem, with problems of acute external diseases, diarrheic diseases and other transmissible diseases or problems related to the environment. These are the main causes of morbidity and mortality. The country is vulnerable to epidemics, with a rubella epidemic in 2015, a rotavirus diarrhea epidemic in 2016 and a necrotizing cellulitis epidemic in 2016/2017, and the COVID-19 epidemic.

Given the date of occurrence of the last case of polio in the country (1992) and the high polio vaccination coverage (>90%) at the national level since 2000, São Tomé and Príncipe was declared a "polio-free country" by the Certification for the Eradication of Polio in Africa (ARCC), at its annual meeting in 2015. However, the country needs to increase the level of surveillance of the disease as part of the global effort to eliminate it.

The last recorded case of measles in the country was in 1994. Since then, the country has not recorded any measles cases. This is due to the good performance of the routine Accelerated Immunization Program (AIP) activities and the quality of the supplementary immunization activities (SIAs) giving the opportunity to all susceptible people to be caught up on these occasions. The last mass measles vaccination campaign was held in 2012, with 105% coverage.

Neonatal tetanus is considered eliminated in São Tomé and Príncipe since 1995. Given the high rate of tetanus vaccination coverage among pregnant women, the high rates of skilled birth attendance, and the rate of completion of four prenatal consultations above 83%, the country is well positioned to maintain the elimination status of NT. Other potentially epidemic communicable diseases, namely cholera, yellow fever, bacterial dysentery, meningitis, severe acute respiratory syndrome, pandemic influenza, and neglected tropical diseases (intestinal helminthiasis, schistosomiasis, and lymphatic filariasis), exist in the country and are the subject of planned prevention interventions and specific responses to reduce the risk of possible epidemics. (MS, Yearbook, 2021).

1.1.6. EXPANDED PROGRAM OF IMMUNIZATION OF SAO TOME AND PRINCIPE

Integrated within the Reproductive Health Program (RHP), under the supervision of the Health Care Directorate, the EPI is composed by a central nucleus coordinated by a person in charge and sub-nuclei at the level of the 6 districts and the Autonomous Region of Príncipe, under the responsibility of the chief doctors of each district. During the last decade the Program

⁴ Submission by the United Nations High Commissioner for Refugees For the Office of the High Commissioner for Human Rights' Compilation Report Universal Periodic Review: 2nd Cycle, 23rd Session

⁵ GFDRR is administered by the World Bank

has significantly improved its performance, demonstrated by the very high vaccination coverage rates (>90%) before the COVID-19 pandemic. Immunization services are available in all district health posts and centers.

STP vaccination strategies include:

- Vaccinations in fixed strategies in health posts and centers;
- Vaccinations in mobile strategies by mobile teams, targeting peripheral and hard-to-reach villages; this has led to an improvement in the provision of services.

1.1.6.1 Summary of system strengths and gaps

The EPI program is decentralized, which allows for the availability of immunization services in 36 of the 40 health facilities in the country. The program has sufficient working tools: transportation, equipment and computer tools, communication technology (telephone, fax, Internet). However, the following needs have been identified:

- An evidence-based national immunization policy/strategy,
- A decrease in the external financial dependence of the EPI,
- Strengthening in terms of cost recovery due to weak accounting systems. The overcrowding of health systems, which has a direct impact on the quality of immunization services, involves a number of problems at the sectoral and institutional levels; service delivery; social mobilization; epidemiological surveillance and monitoring and evaluation,
- Sufficient, trained, and motivated EPI human resources: health sector HR (HHR) is a real challenge in terms of numbers (the number of doctors and nurses dropped between 2004 and 2014), distribution, and skills (the last EPI training took place in October 2012). Health personnel follow up with IPMs only during immunization campaigns,
- and a significant strengthening of the health information system data collection. Coverage data are not collected systematically.

A summary of the strengths and weaknesses of the immunization system is presented in Table 1 in Appendix 1.

1.1.6.2 Changes in the immunization system since the last HSS (2015)

- Since 2015, the government has fulfilled its co-financing and reimbursement responsibilities for funds made available by UNICEF Supply Division for vaccine procurement.
- 2017: Vaccination coverage assessment completed.
- 2017: Modernization of cold chain equipment through the installation of solar panels in all health facilities in the country to improve vaccine storage and increase immunization coverage (Gavi, UNICEF, WHO).
- 2018: Integrated post introduction assessment of HPV, Rotavirus, IPV and Measles-Rubella vaccines.
- 2018: Advocacy efforts to ensure sustainability of the immunization program through the VII Plan (UNICEF)
- 2019: MICS survey conducted.
- 2019: Cold chain assessment with results to further strengthen the transition plan (WCARO)
- 2020: Strengthening health systems to improve the cold chain (COVAX) by acquiring special and critical transport, vaccine storage equipment (increase in storage capacity from 4,856 to 9,786 litres) and improving the capacity of health personnel in cold chain management and maintenance (Gavi, UNICEF, WHO)
- 2021: The HPV vaccine was officially introduced into routine immunization.

Interventions have achieved the 96% DTP-Hib-Heb3 coverage goal, and STP is moving toward financial sustainability of vaccines.

1.2. Root cause analysis to reach zero-dose, under-vaccinated and missed communities

1.2.1. SIZE OF THE TARGET CHILD POPULATION

1.2.1.1 Accuracy of estimates

STP's population numbers are based on the 2012 census, and are estimated. After the COVID-19 pandemic, the perception is that the population data is changing rapidly and daily. Therefore, it would be worthwhile for the country to conduct a new census, in order to obtain a more reliable population denominator, and to avoid, as is the case today, having vaccine coverage have a denominator based on estimates. Survey coverage percentages are numerous and better reflect reality. Individually for each antigen, coverage is high, but surveys conducted show a decrease in coverage of fully immunized children. It is therefore necessary to assess where these doses are being lost.

In order to estimate the number of ZD children, it appears that the 2019 estimates are closest to the current reality. The table presented in the 2021 Yearbook or the JRF and MOS/UNICEF data could be used.

Table 1: Overview of the population in Sao Tome and Principe

Target area	Population (2020) INE spreadsheet	Surviving Children (2020) Planilha INE	Population (2019) JRF	Surviving Children (2019) JRF	Surviving Children (IHME- 2020)*

Água Grande	80,908	2,185	79,222	2,139	1,214
Me Zochi	52,967	1,430	51,889	1,401	2,318
Lobata	22,916	619	22,444	606	666
Cantagalo	20,207	546	19,815	535	1,256
Lembá	16,940	457	16,593	448	529
Caué	7,523	203	7,407	200	329
Autonomous Region of Príncipe (ARP)	8,779	237	8,740	236	257
Nacional	210,240	5,676	205,966	5,561	6,569

1.2.1.2. Populations not covered by the estimates

STP has no special populations, no conflict zones, and no nomadic or displaced populations, however, a large number of urban populations live in the slums.

1.2.2. NUMBER OF ZERO-DOSE AND UNDER-VACCINATED CHILDREN

1.2.2.1. Quantification and location of ZD children

Routine immunization activities target the estimated 5,676 under one year old cohort, which represents 2.7% of the total population in the country. Yet, according to the eJRF 2019 report, this population is estimated to be 5,561 children. Basing estimates on a 2012 census and applying the 2.7% to extract the sample population of surviving births and children uniformly to all districts leads to an overestimation or underestimation of the total population. Official national estimates should be compared to actual populations. Quantification should take into account the following considerations regarding data sources:

- No data from recent WHO-UNICEF (WUENIC) estimates for a more realistic assessment of immunization coverage are available.
- Data from the 2019 MICS 6 survey are not disaggregated.
- The Institute for Health Metrics and Evaluation (IHME) data perform average among JRF administrative data and have the advantage of being disaggregated by health district.
- These discrepancies between administrative and other data immediately predict the data quality problem in the country.

The reports are based on the number of surviving children, but in the WHO/UNICEF JRF spreadsheet, the number of children under 1 year old is the same as the number of surviving infants. Thus, based on the PAV (Programme d'accélération de la vaccination 2020) spreadsheet, the following data are presented in the tables below, by district and at the national level:

Table 2: Number of children at zero dose by data sources

Targeted areas	Surviving Children 2019	JRF		MICS 6		Surviving children IHME 2020 estimates	IHME	
		%	ZD	%	ZD		%	ZD
Água Grande	2,139	4%	85.56	2.5 %	53	1,214	4%	51
Me Zochi	1,401	3%	42.03	1.4%	20	2,318	4%	87
Lobata	606	2%	12.12	5,4%	33	666	4%	28

Cantagalo	535	2%	10.7	3,2%	17	1,256	4%	53
Lembá	448	2%	8.96	5,4%	24	529	5%	29
Caué	200	4%	8	3,2%	6,4	329	6%	19
RAP	236	2%	4.64	0 %	0	257	11%	29
Total	5,561		172		153	6,569		296

* See explanation of differences in section 5.1.1

Table 3: Immune status of children in STP following IHME 2020

District	Surviving Infant population	DTP1 2020	ZD children in 2020	ZD prevalence in 2020	Ranking by number of ZD	DTP3 2020	UI children 2020	UI prevalence 2020	number UI
MEZOCHI	2,318	96%	87	4%	1	93%	168	7%	1
CANTAGALO	1,256	96%	53	4%	2	92%	101	8%	2
AGUA GRANDE	1,214	96%	51	4%	3	92%	96	8%	3
LEMBA	529	95%	29	5%	4	90%	51	10%	5
PRINCIPE	257	89%	29	11%	5	83%	44	17%	6
LOBATA	666	96%	28	4%	6	92%	55	8%	4
CAUE	329	94%	19	6%	7	89%	35	11%	7
Total	6,569		296		28		550		28

*IHME, 2020.

Given the differences in data sources, the ZD STP group decided to use the ***IHME estimates to avoid*** underestimating the priority populations.

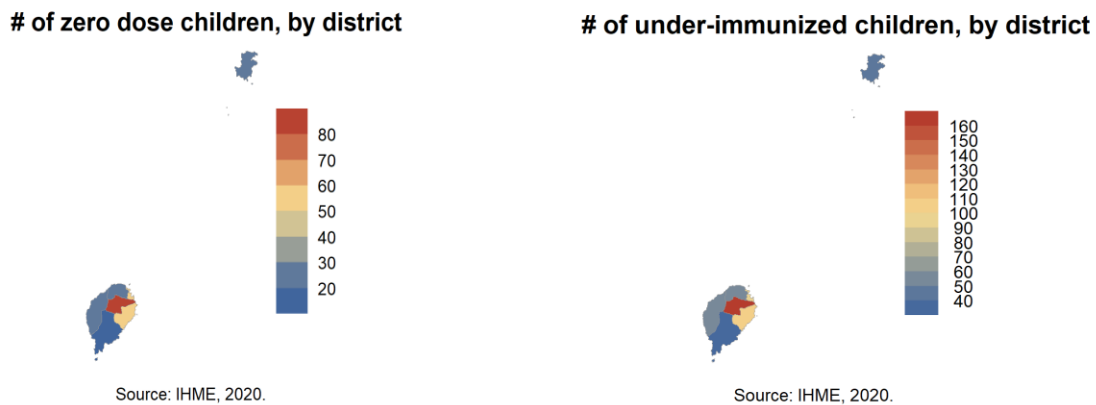
STP aims to reach all ZD children through interventions covering ***all districts***, due to the small number of ZD children to be reached (296) and the small number of districts to be covered (6 + Principe).

According to IHME estimates, **296 zero-dose children** are distributed throughout the health districts with higher numbers in ***Mé Zochi (87 children), Cantagalo (23 children), and Agua Grande (51)***, which is slightly higher than the national estimate made by JRF WHO/UNICEF 2019 (172).

1.2.2.2. Level of geographical concentration of ZD children

IHME uses a geospatial model to project coverage levels at the subnational level, largely based on projections from household survey data.

Given the large geographic concentration of children (Mezochi, Cantagalo, and Água Grande) and its high immunization coverage, STP could develop a ZD strategy that would focus its efforts on health districts with a large number of ZDs. Nevertheless, the ZD STP Group decided to reach all ZD children.



Figures 3: Number of ZD and under-vaccinated children by district

1.2.3. PROFILE OF ZERO-DOSE, UNDER-VACCINATED CHILDREN AND THEIR COMMUNITIES

1.2.3.1 Proportion of zero-dose and under-vaccinated children living in different areas

ZD children are categorized by area according to the Equity Reference Group for Immunization⁶ (ERG) definition. The ERG total combines urban, peri-urban, remote rural, and conflict (broadly defined) areas. The estimates are shown in the table below. We note that the majority of ZD children live in non-remote rural areas: 55% of surviving children (3,556 children out of 6,479). These 129 ZD children represent 60% of all ZD children in the country. The IHME estimates that 15% of ZD children live in remote rural areas and 13% in urban areas.

Table 4: Distribution of surviving and zero-dose children by area (2019)

Zone	# by zone		of national total by area		Prevalence Zero dose
	Surviving children	Zero Dose	Surviving children	Zero Dose	
Remote rural	495	45	8%	21%	9%
Rural non-remote	3,556	129	55%	60%	4%
Suburban	298	0	5%	0%	0%
Urban	2,130	38	33%	18%	2%
Total National	6,479	212	100%	100%	3%
Conflict (broad sense)	0	0	0%	0%	NaN%
Total ERG	2,923	83	45%	39%	3%

Note that this analysis is based on 2019 data. The metrics are not mutually exclusive and cannot be added together to obtain totals. The ERG total is the combination of urban, peri-urban, remote rural, and conflict (broad). Data on ZD children in slums are not available due to the high uncertainty of the estimates.

⁶ The ERG is comprised of senior global health experts working with WHO, Gavi, the World Bank, the BMGF and UNICEF; academics on critical topics such as measurement, gender, and health systems development; and senior health ministry leaders in Indonesia, Ethiopia, and Tanzania. Together, they are working to ensure that diverse perspectives are shared to identify the best way forward. <https://sites.google.com/view/erg4immunisation/home>



Figures 4: Classification of the context of the parameters

1.2.3.2. Remaining proportion of zero-dose and under-immunized children outside urban areas, remote rural areas and areas of fragility or conflict

In 2019, the remaining proportion of zero-dose children outside urban and remote rural areas represents 61% of all ZD children (source IHME).

1.2.4. REASONS FOR NON-VACCINATION OR INCOMPLETE VACCINATION

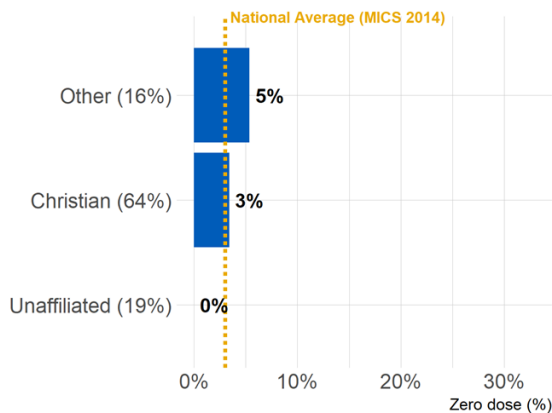
Reasons for non-vaccination or incomplete vaccination are documented primarily by the 2017 Vaccination Coverage Survey. There has not yet been a recently conducted qualitative survey on reasons for non-vaccination or incomplete vaccination. STP plans to analyze these factors in its 2023-2025 work plan supported by the EAF.

1.2.4.1. Cultural, social and political barriers.

3% of ZD children are in Christian communities (64% of the population), and 5% in other religious groups. 6% of ZD children are in the majority ethnic group representing 82% of the population.

% of children who are zero dose, by religious group

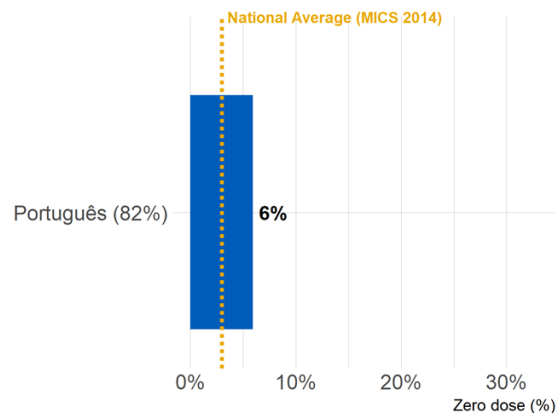
% of population in each religious group in parentheses.



Source: MICS 2014. Analysis by University of Pelotas.

% of children who are zero dose, by ethnic groups

% of population in each ethnic group in parentheses.



Source: MICS 2014. Analysis by University of Pelotas.

Figures 5: ZD Children by Religion and Ethnicity

1.2.4.2. Inclusion and disability considerations

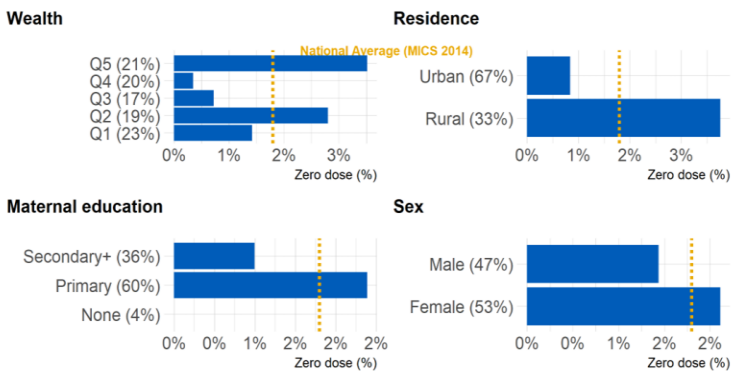
No specific information on disability as a factor in non-vaccination or incomplete vaccination was collected.

Nevertheless, the assessment of prenatal and postnatal care showed that 28% of women do not have full coverage against tetanus during pregnancy. and that of the 8% of pregnant women giving birth outside the maternity ward, 27.3% were between 15 and 19 years old in 2014. It is therefore important to consider the inclusion of these 28% in primary health care systems, as their exclusion represents a risk of unvaccinated children after delivery.

1.2.4.3. Reasons for non-vaccination by context, geography or community

% of children who are zero dose, by standard equity indicators

% of population in each group in parentheses.



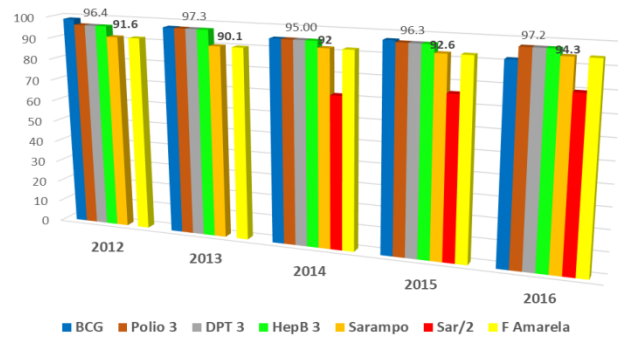
Figures 6: Percentage of ZD Children by Equity Standard

Vaccination coverage is globally satisfactory but below national targets. It varies according to the regions and health districts. It should be noted that EPI performance is weaker in CANTAGALO and LOBATA. Vaccination coverage has declined slightly compared to 2014 overall and more significantly in urban areas. Some populations are at higher risk of harboring ZD children. An IHME analysis on the standard equity indicator inequality survey measure, identified the necessary factors for inclusion of populations not included in the immunization system. This measure confirmed that ZD children are more likely to be girls (53%), live in rural areas, have mothers with primary education, and are predominantly in the wealth index quintile⁷ Q5 (4% ZD) and Q2 (3% ZD).

1.2.4.4 Barriers related to the provision of services

1-

Tendencia da cobertura vacinal 2012 - 2016, SIS.PSR



66%

The are

the

Accessibility and user-friendliness of the immunization system:

In general, there is good coverage (> 95%) of the main vaccines, which has improved compared to 2009 (Figure 9 opposite). However, the proportion of fully vaccinated children has decreased from 77% in 2009 to in 2014. The 2015-2020 cMYP indicates that there are fewer immunization services available in district health posts and centers. In the most remote communities, activities are carried out with the support of mobile vaccination teams. fixed strategy vaccinations in the health posts and centers complemented by mobile strategy vaccinations that target outlying and hard-to-reach villages; the latter have improved supply of services. However, the implementation of mobile teams has become irregular in some districts due to fuel shortages and lack of incentives for health personnel. In addition, the EPI and its partners have identified that, for a portion of the population, the health facilities are geographically inaccessible due to 1. poor quality of roads, 2. located in mountainous regions and/or isolated by natural barriers (rivers, forests, islands, etc.), 3. insufficient implementation of strategies to increase geographic access to health facilities: mobile clinics remain insufficient because they are too expensive, and 4. the dispersion of farming villages far from health facilities and main villages.

The 2017 immunization coverage survey reveals that obstacles related to access (38%) is the 2nd cause of non vaccination, and this, especially in urban areas (43%) by mothers without schooling or primary level (41%): mothers are too busy (7%), waiting too long (7%), poor reception (5%) and distance from the vaccination site (5%). According to the MICS 2019, lack of access to the vaccination service is higher in Caué (27%) (IC95%: 20%-35%), Lemba (25%) (IC95%:16%-36%) at the health district level. Lack of access is higher in urban areas (14%) (IC95%: 9%-21%) than in rural areas (6%: 3%-10%), a difference of 8 points that is not statistically significant. According to the mother's level of education, the proportion of mothers with no dose of VAT/DT is higher among mothers with no schooling or primary education (22%) (IC95%:14%-32%) than among those with secondary or higher education (6%) (IC95%:3%-11%), i.e., a statistically significant difference of 16 points. This shows that there is a core group of uneducated urban mothers who do not have access to the vaccination service during pregnancy.

2- Insufficient cold chain equipment and waste management: The level of knowledge of the players about vaccines shows a good capacity to offer services. The 2015-2020 cMYP admits to shortcomings in waste management such as: absence of functional incinerators to ensure the safe destruction of immunization waste, non-compliance with the guidelines for the management of waste produced by immunization and absence of a standardized operating plan at the central level. The acquisition and installation of incinerators was called for in the 2016-2020 HSS plan. STP has planned the gradual replacement of non-PQS refrigerators.

3- Human Resources for Health: A significant number of health facilities do not have sufficient health personnel for immunization. Several causes were identified by the AD Group: 1. Very high mobility of health personnel, 2. Uneven distribution of available health personnel (flight of health workers from rural to urban areas, from dangerous to safe areas), 3. Low proportion of health professionals in relation to the population, 4. Insufficient recruitment of health personnel, 5. Inadequate partnership with

⁷ Q1= poorest and Q5= richest

universities and training institutions for the initial and continuing training of health personnel competent in immunization. Immunization is taught in university curricula, but vaccinators are not sufficiently trained in depth.

4- Community participation is organized in community health centers. Community health workers are available in most of the country's localities and are multi-skilled in all health programs (integration of health care). But CHWs are only mobilized during campaigns and are neither paid nor trained in immunization. Community involvement by the EPI remains insufficient in terms of the involvement of community representatives in the planning and organization of immunization activities. The main causes analyzed are: 1. insufficient awareness of the socio-economic benefits of immunization among community representatives in the organization of immunization activities, because they are not disinterested, 2. poor functionality of the structures/ bodies created to involve community representatives in the organization of immunization activities, 3. Lack of funding for the implementation of microplans developed with community representatives, 4. Insufficient skills of the immunization team to establish community partnerships, 5. Insufficient guides and tools to convince community representatives to participate in the organization of immunization activities, 6. Lack of structure to share immunization results with the community.

5- Non-operational health information system in the health facilities: the EPI has problems with the completeness and accuracy of the EPI data reports and the immunization monitoring system (Report of the 2013 external EPI review). During the ideation sessions, the STP ZD group analyzed the root causes of insufficient materials (periodic updating of immunization books, notebooks, monthly reporting form, but the versions used are not the updated ones). Frequent breakage of certain materials, lack of periodic indicator review meetings, delay/non-transmission of collected data, lack of data on hard-to-reach areas, lack of Internet connection at all levels.

These challenges make it difficult to monitor the number of ZD and under-vaccinated children: 1. insufficient data analysis to identify children with ZD by health areas and health districts, 2. difficulty in systematic reporting by health areas, especially for facilities that have internet connection problems, 3. estimation of the immunization target by central level based on the projection of demographic data (CENSO 2012), 4. lack of data from difficult zones (difficult to access), 5. inadequate implementation of community birth registers.

6- Financing: The State has a low capacity to finance EPI needs and the allocated budget is low. There are no innovative mechanisms for mobilizing resources for immunization. STP is highly dependent on external resources, including for the EPI.

1.2.4.5 Barriers related to the demand for immunization

The 2017 immunization coverage survey conducted in 5 districts, indicates that 6% of parents have high knowledge, 61% have satisfactory knowledge, 29% have insufficient knowledge and 3% have no knowledge, a score of 57%; which shows that parents' knowledge of routine EPI for children was still limited in 2017. The districts with scores over 60% are Principe (93%) and Lobata (72%). The lowest scores are observed in Cantagalo (47%), Lemba (49%) and Mezochi (49%). It should be noted that Mezochi and Cantagalo are the districts with the most ZD children.

Educated mothers (secondary/superior) score higher (59%) than non-educated/primary mothers (53%), a 6-point difference. In the 2017 Immunization Coverage Assessment Report, **barriers to accessing immunization services** (38%) and **motivation** (22%) are revealed as among the top three barriers cited by mothers. Awareness-raising activities to change the behavior of the segment of the population that is still resistant to vaccination are insufficient, including those conducted by service providers and the media. Within the EPI, there is no focal point for communication activities.

Barriers related to lack of information (40%) are more cited by mothers in rural areas (43%), with ignorance of the need to bring children for vaccination (11%) as the most important reason, followed by ignorance of the need to vaccinate (7%) and lack of knowledge of the vaccination schedule or the vaccination period (6%). (Table 17 of the 2017 Immunization Coverage Assessment Report).

Mothers' **lack of motivation** accounted for 22% of the reasons for not vaccinating: rescheduled session (7%) and lack of confidence in vaccination (7%).

NGOs, health workers, community health workers, religious leaders, teachers and journalists were trained to strengthen **social mobilization activities and immunization awareness**. A major obstacle for awareness raising is that the dissemination of messages through the media is not free and often there is a lack of financial resources. There have been no specific **qualitative studies** to determine the behavioral determinants for immunization.

1.2.4.6 Gender-related barriers

Women's low levels of education and literacy, as well as lack of access to health information, may reduce women's motivation to have their children vaccinated. In STP, there are small gaps in the education levels of women and men, but the gap is larger in the poorest populations until adolescence, when female dropout is exacerbated by the fact that secondary schools are in urban areas. Girls in rural areas end up marrying early because of the lack of options in their school life. The graph below represents survival to the last grade of both school levels.

Figure 3.3.1 : Disparités en termes de taux de survie jusqu'à la dernière année du primaire et au niveau du passage au secondaire

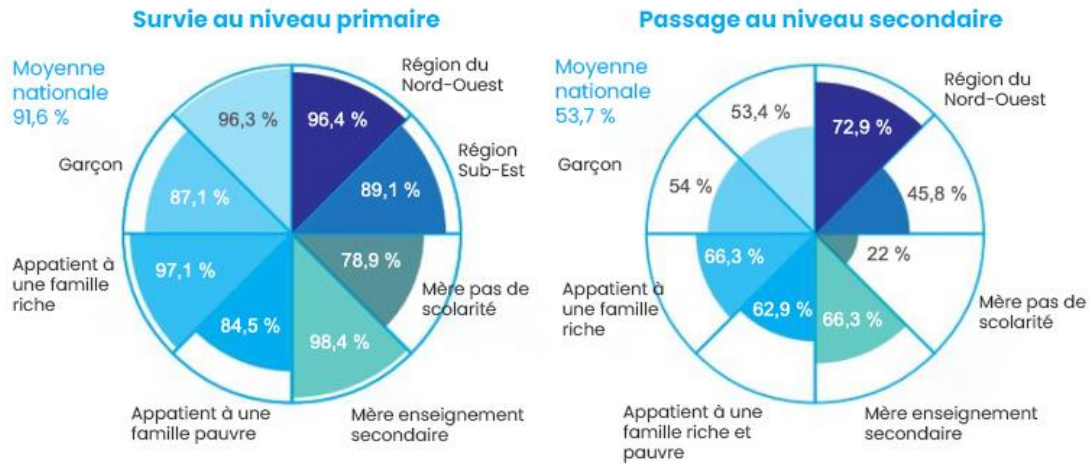


Figure 8: Disparities in Survival Rates to the Last Grade of Primary School and Transition to Secondary School

The graph shows a drop in attendance from primary to secondary school from 96.3% of girls to 53.4%, due to the difficulty of accessing schools close to home, with the drop being greater in the southeastern region, which is further from the urban area. Adolescent girls in these areas ended up staying in their villages to marry and have children.

Questions related to knowledge, skills, and practices (KSP) were raised in the last immunization coverage survey informed in the 2015 multi-year plan. According to that survey, 98% of respondents were fathers or mothers of children. The unavailability of the mother is the most important reason for non-vaccination of children, followed by the lack of information on the vaccination schedule and vaccines.

In the 2017 Vaccine Coverage Survey, maternal education is a key determinant in vaccination, as well as the environment of residence. There is a group of less educated mothers who live in urban areas with low utilization of vaccination services. Mothers the most important and important and known as safety documents as one of the most important and reliable documents.

The 2017 Gender Inequality Index of 0.538 ranks STP 131st out of 160 countries, with 18.2 percent of parliamentary seats held by women and 31.1 percent of adult women with at least a secondary education compared to 45.2 percent of men.

In the table below, prepared at MICS 6 2019, it is possible to assess inequality in terms of access to information and technology.

Accès au savoir, à l'information et à la technologie

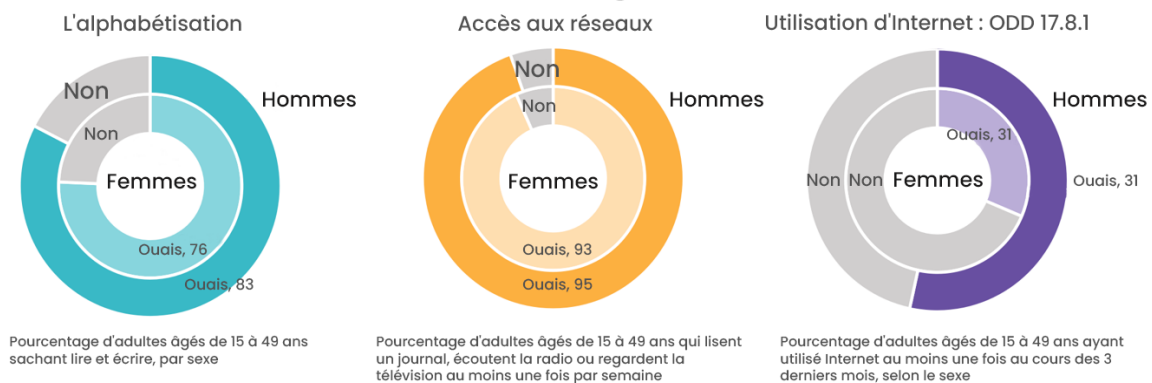


Figure 9: Access to information and technology among men and women STP, 2019.

Part 2 - National Vision and Request for Gavi Support

● 1.1.1. 3-YEAR COUNTRY VISION FOR CONDUCTING THE IMMUNIZATION PROGRAM WITH GAVI SUPPORT (AWF)

The Government of STP, aware of its responsibilities towards women and children, and following the agreements signed with the international community as part of its commitments to achieve the Millennium Development Goals (MDGs), in order to reduce poverty and promote economic growth and social development, has established the National Health Development Plan (NHDP 2017-2021). It is within this framework that the comprehensive Multi-Year Plan (cMYP) 2016-2020 for immunization has been implemented, in order to mobilize resources for the implementation of immunization activities and other service packages essential to child survival and development. **The country's vision is to improve the state of health in São Tomé and Príncipe, with equitable national coverage, becoming a reference par excellence in the Gulf of Guinea 2030 sub-region.**

The cMYP has been completed for 2 years and the process of developing the national immunization strategy (2023-2027) is currently under discussion.

Thus, the theory of change developed for this period of the Gavi Equity Accelerator Grant will focus around **Gavi's 5 investment areas**, namely:

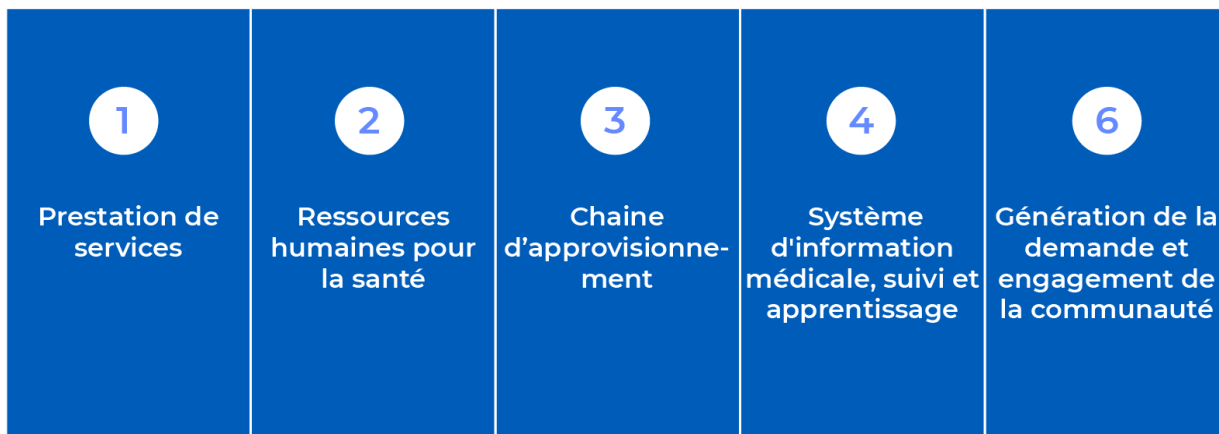


Figure 10: EAF Investment Areas

Investments in these five areas are helping to strengthen the identification and systematic attainment of zero-dose and under-immunized children at STP. By 2025, STP aims for the following strategic outcomes:

- Immunization services are community- and gender-centered for the systematic inclusion of all target populations.
- The performance of the EPI health information, monitoring and learning system is strengthened with a focus on innovation.
- The sustained commitment of national and sub-national actors in terms of planning, policy and financial resources is intensified for the sustainability of the EPI.

Despite the fact that STP has few actors at the national and sub-national levels, some strategic activities have been designed to ensure that planning is best executed within a 3-year timeframe:

- Strengthening the management of water supply interventions through the PMU (HSS) with the support of WHO and UNICEF.
- Establish an intra-sectoral partnership within the Ministry of Health with essential health programs and PHCs: integrated planning and management of health and immunization activities.
- Establish a partnership with the education sector and the national institute of statistics (civil status).
- Intensify new partnerships with the private sector (private clinics, faith-based clinics) and NGOs to increase delivery of immunization services.
- Empower community representatives and community health workers to support systematic identification and outreach of ZDs.
- Maximize the use of CSOs to conduct immunization activities in the community (difficult access).

2.1.2. IMPROVING COVERAGE OF ZERO-DOSE CHILDREN AND MISSED COMMUNITIES

To improve immunization coverage and equity in the **7 health districts** with high numbers of zero-dose, under-immunized children and missed communities, interventions will be conducted and categorized according to Gavi funding areas and objectives as presented below:

2.1.2.1 Gavi Investment Area 1 - Service Delivery for Immunization Service Extension and Reaching ZD Children (Strategic Outcome 2)

These activities, based on community engagement, will help overcome barriers to access and use of immunization services, as well as gender-related barriers.

Expected changes / Gavi objectives	Activities identified by the country team - STP
1.1 Expand immunization services to reach zero-dose and under-vaccinated children and forgotten communities.	1.1.1 Expanding the range of service delivery venues in the BoboForro market. 1.1.2 Organize immunization in areas with displaced and mobile populations (young mothers, family homes, etc.) through mobile clinics and mobile brigades. 1.1.3 Organize mobile vaccination teams in communities in strategic areas of high population density and door-to-door.
1.2 Integrate service delivery to improve the effectiveness, consistency, and/or reliability of planned immunization activities, with a focus on zero-dose and under-vaccinated children and forgotten communities.	1.2.1 Develop and implement integrated micro-plans in the districts with the largest number of ZD children (MEZOCHI, CANTAGALO, AGUA GRANDE). 1.2.1 Organize integrated community health fairs (routine immunization, COVID-19 immunization, deworming, nutritional supplementation with vitamin A, malaria screening, distribution of mosquito nets, birth registration, family planning) in all districts with an emphasis on zero-dose children.
1.4 Establish and/or continue partnerships with civil society organizations to provide immunization services.	1.4.1 Work in partnership with NGOs to identify children lost to follow-up, including understanding and overcoming underlying barriers. (Red Cross, Marapa, ASPF, ADRA, HELPO, Youth Institute).
1.5. Establish and/or pursue partnerships with private sector (for-profit) actors, including professional associations, to reach zero-dose and under-vaccinated children and forgotten communities.	1.5.1 Strengthen existing and create new partnerships to promote the benefits of immunization and change community behavior: (1) media (especially television and radio), (2) community and religious representatives, (3) school personnel.
1.6. Integrate gender considerations into the planning and implementation of immunization services.	1.6.1 Adapt communications to gender dynamics, languages and local cultures with the support of the community and in particular women's associations (risk communication team).
1.7 Design and implement lifelong immunization approaches relevant to Gavi-supported immunization programs (HPV, MCV2).	1.7.1 Design and validate a school entry immunization monitoring system as a corrective measure to reduce ZD, under-vaccinated children, and missed immunization opportunities (INNOVATION)

2.1.2.2 Gavi Investment Area 2 - Human Resources for Health for Immunization Outreach and Reaching ZD Children (Strategic Outcome 2)

These activities, based on improved training/learning and performance management, will contribute to overcoming accessibility and demand-side barriers, including increased community confidence in the reliability and quality of immunization services delivered by sufficient numbers of trained staff.

Expected changes / Gavi objectives	Activities identified by the country team - STP
2.1 Improve the technical and managerial capacity of health workers to plan, implement and monitor immunization services.	2.1.1 Strengthen formative supervision by integrating support to improve the identification and attainment of ZD children at the central and health district levels: training of supervisors, development of indicators to be monitored and adaptation of supervision tools.
2.4. Improve distribution and retention of health workers to increase equitable access to immunization services.	2.4.1 Support with financial and non-financial rewards teams that excel in the active pursuit of ZD children, particularly in the three districts with the largest number of ZD children.

2.1.2.3 Gavi Investment Area 3 - Supply Chain (Strategic Outcome 2)

This investment will strengthen the strong, efficient, resilient, and responsive supply chains that are essential to ensure reliable availability of vaccines where and when needed to reach zero-dose and under-vaccinated children and forgotten communities. This will help Sao Tome and Principe protect the significant investments in vaccines made by countries and by Gavi.

Expected changes / Gavi objectives	Activities identified by the country team - STP
3.5 Improve planning, coordination and monitoring of supply chain management at all levels.	3.5.1 Strengthen the logistical coordination of vaccinations to ensure the availability of vaccines and consumables, particularly in the geographical areas with the largest number of zero-dose children.

2.1.2.4 Gavi Investment area 4 - Health information system, monitoring and learning for immunization service expansion and reaching ZD children (Strategic Outcome 3)

These activities, based on strengthening the health information system for decision making and building capacity to learn good practices and new approaches, will help overcome barriers to supply and accessibility of immunization services, but also document innovations to facilitate the scaling up of new high-impact approaches to reach ZD children.

Expected changes / Gavi objectives	Activities identified by the country team - STP
4.1. Ensure that timely and responsive information is available at all levels of the system and is used regularly and systematically to improve program reach and performance.	4.1.1 Conduct a biannual review to identify challenges, good practices, and areas for improvement and document good practices and innovations for reaching ZD children. 4.1.2 Strengthen immunization data management to identify zero-dose children and make decisions quickly to reach them.
4.2. Improve capacity, tools, evidence generation, and/or monitoring and learning systems related to data use, particularly at the subnational level.	4.2.1 Develop community-centered interventions (focus groups, interviews, and mini-surveys) by CHWs to identify ZD children and barriers and what interventions to reach them. 4.2.2 Implement the monitoring, evaluation, and learning system and SOP on pro-equity interventions targeted at ZD children over the Gavi 5.0 period.

2.1.2.5 Gavi Investment Area 6 - Demand generation and community engagement for immunization service expansion and reaching ZD children (Strategic Outcome 2)

These activities are based on communication and social mobilization mainly through community and civil society organizations.

Expected changes / Gavi objectives	Activities identified by the country team - STP
6.2. Design and implement social and behavioral change interventions.	6.2.1 Update targeted CHW communication kits to reach ZD children. 6.2.2 Print, distribute, and use targeted communication kits to reach ZD children. 6.2.3 Produce and broadcast targeted awareness-raising video and radio spots (national radio and community radio) to reach ZD children.
6.3 Build capacity to design, implement, monitor and/or evaluate demand generation activities at all levels.	6.3.1 Train and sensitize CHWs and outreach workers to facilitate door-to-door activities and provide communication kits to bring ZD and under-vaccinated children to immunization services
6.4. Strengthen advocacy for social and political commitment and increase accountability for equitable immunization at all levels.	6.4.1 Organize advocacy meetings to reach ZD children with decision-makers (traditional, administrative, private) and key influential organizations at the national and subnational levels.

2.1.3 STP'S LEVEL OF AMBITION TO REACH ZD CHILDREN

With the Gavi EAF grant, STP is committed to reaching 100% of children with zero-dose children by 2025 by targeting 100% of health districts (7 out of 7).

2.1. Targeting Gavi support to specific geographic areas and sub-populations

In STP, the health district is the operational entity for implementing primary health care and the EPI. Thus, the identification of ZD and under-vaccinated children is done by health district.

The analysis revealed that ZD children are identified in all health districts with a concentration in three priority districts: Mezochi, Cantalago, and Agua Grande. The table below ranks the health districts by number of ZD children (source IHME 2020). It appears that the three districts with the highest number of ZD children are also the three districts with the most under-vaccinated children.

In 2020, 65% of ZD children and 66% of under-vaccinated children lived in these three health districts.

Admin1 Name	Admin2 Name	Surviving Infant population	DTP1 coverage in 2020	Number of zero-dose children in 2020	Zero-dose prevalence in 2020	Ranking by number of zero-dose	DTP3 coverage in 2020	Number of under-immunised in 2020	Under-immunisation prevalence in 2020	Ranking by number of under-immunised
SAO TOME	MEZOCHI	2318	96%	87	4%	1	93%	168	7%	1
SAO TOME	CANTAGALO	1256	96%	53	4%	2	92%	101	8%	2
SAO TOME	AGUA GRANDE	1214	96%	51	4%	3	92%	96	8%	3
SAO TOME	LEMBA	529	95%	29	5%	4	90%	51	10%	5
PRINCIPE	PRINCIPE	257	89%	29	11%	5	83%	44	17%	6
SAO TOME	LOBATA	666	96%	28	4%	6	92%	55	8%	4
SAO TOME	CAUE	329	94%	19	6%	7	89%	35	11%	7

Gavi's EAF support should target these 3 districts as a priority in the first 3 years. Some activities are cross-cutting and may serve the other health districts.

There are no special STP populations, but the health districts are classified by context, allowing for adaptations of strategies:

Table 5: STP parameters by district

District	Special Populations	Zone
MEZOCHI	no	RURAL
CANTAGALO	no	RURAL
AGUA GRANDE	no	URBAN
LEMBA	no	RURAL
PRINCIPE	no	RURAL
LOBATA	no	RURAL
CAUE	no	RURAL

The interventions and stakeholders in each district are coordinated by the Ministry of Health. EPI expenditures are covered mainly by financial, material and logistical resources allocated by health sector partners (UNICEF, Gavi, WHO, UNFPA and Instituto Valle Flor). The coordination of the targeting of investments with the partners towards the health districts is done at the level of the Inter-agency Coordinating Committee (ICC) of the Expanded Program on Immunization which is chaired by the Minister of Health and composed of most of the partners.

2.2. Adaptation of Gavi's support request

2.3.1 TAILORING STRATEGIES BY GEOGRAPHIC AREA AND STP POPULATIONS

The programmatic strategy is based on the distribution and concentration of ZD children in STP characterized by a high concentration of zero-dose children and high routine coverage. **Pro-equity interventions to identify and reach ZD children called cross-cutting** (valid for all districts) and other **pro-equity interventions targeted to districts with high concentration of ZD children** are defined. In line with the Gavi 5.0 strategy, STP has systematically considered interventions to (1) overcome gender-related barriers (and their causes) and (2) maximize partnerships with CSOs and other sectors.

2.3.1.1 Cross-cutting interventions

Interventions to overcome economic barriers:

- Emphasize in information campaigns the free availability of vaccines. (A1)
- Introduce extended vaccination hours for working parents (A1)
- Offer group appointments for several children from the same family at the health center. (A1)

Interventions to overcome barriers Socio-cultural with community engagement

- Recruit male and female health workers to improve acceptance and use of services (A1)
- Strengthen community leadership to ask for reasons for activities not completed, although planned. (A2)
- Adapt communications to local gender, language, and cultural dynamics: ensure that ethnic minorities can receive information about immunization in a language (other than Portuguese) that they understand and communicate in a way that respects their beliefs (A2)
- Recruit influential people (politicians, educators, religious leaders, media personalities, family doctors, or community health workers) to advocate for childhood immunization (A1).
- Targeting mothers and fathers in communication campaigns, e.g., using the image of a father with a baby (A1)
- Training of communities to raise awareness and provision of communication kits (immunization picture boxes, nutrition, prenatal activities): women leaders, community relays, nutrition activities support group. (A2).

Interventions to improve health service provider approaches

- Train health care personnel to be: (a) respectful and responsive to the diverse cultural and linguistic health beliefs, practices, and needs of women and men; and (b) effective communicators, particularly in dealing with reluctance to vaccinate and in responding to reports of serious adverse events after vaccination, in order to maintain trust and dispel fears. (A1-2-3)
- Take action to address staffing shortages and overcrowding in centers, which result in long wait times for caregivers. (A1)
- Use of non-financial incentives (formal recognition ceremonies to increase HHR motivation and behavior).(A1-2-3)
- Introduce methods and tools to improve performance and accountability, including monitoring and formative supervision tools, effective reporting systems, guidance, a performance review process, adaptable checklists, and content based on previous responses. (A2-3)

2.3.1.2 Interventions for districts with high numbers of ZD children

Interventions to increase demand:

- Qualitative study to understand prevailing gender norms, influencing factors.(A1)
- Intensify immunization awareness activities. (A1-2-3)
- Community mobilizers in areas with lower immunization rates. (A1-2-3)
- Establish, implement, and/or evaluate a school-based vaccine monitoring and/or guidance system. (A2-3)

Interventions to increase accessibility to health service facilities

- Adopt targeted policies for hard-to-reach geographic areas to bring immunization services closer to children and their caregivers: in collaboration with community clinics, community health workers, and CSOs (A2-3)
- In areas with low immunization rates, increase the number of service delivery points for lost communities (A2-3):
 - Investments in the infrastructure of fixed sites,
 - Expand the range of service delivery venues in the BoboForro market,
 - Acquisition of a mobile clinic to accompany the mobile team during their action in the different places, as well as the accompaniment during the health fairs in the different districts,
 - Organize vaccination in areas with displaced and mobile populations (young mothers, family homes, etc.)
- Establish policy coherence between health and infrastructure development agencies to ensure safe transportation to health facilities and address safety concerns, particularly for young mothers. (A3)
- Ensure that immunization centers have adequate human resources to plan and deliver predictable services of acceptable quality (A2-3).
- Conduct microplanning workshops with the community (A1).

Innovations are also planned (see section 2.3.5).

2.3.2 INTEGRATION OPPORTUNITIES

STP's EPI is integrated into the Health Care Directorate through the reproductive health program. As such, the EPI has many experiences of integration with other health programs but also with other sectors:

- Reproductive Health Program.
- Malaria program, distribution of impregnated mosquito nets.
- Nutrition program: distribution of vitamin A.
- Education sector for HPV.
- Finance Sector for advocacy on immunization financing.
- NGO/CSO sector: partnership for immunization activities.

The theory of change involves **the development and implementation of integrated** district-level **microplans** for immunizing ZD children.

2.3.3 STRATEGIES FOR INVOLVING CAREGIVERS IN MISSING COMMUNITIES

The coordination of interventions at the national level is ensured by the Inter-agency Coordination Committee (ICC), which is chaired by the Minister of Health and composed of most of the partners who support the EPI. This Committee is supported by a Technical Committee made up of technical executives from the EPI, UNICEF and WHO, which prepares the technical files on the various aspects (technical, communication, finance and logistics). The ICC meets 3 times a year to validate, monitor and evaluate the annual program action plan. It is planned to increase the involvement of civil society.

2.3.4 IDENTIFICATION OF PARTNERS

The main partners in the development of the health sector are: WHO, UNICEF, UNFPA, Gavi, World Bank, Portuguese Cooperation, Taiwanese Cooperation, the ADB and the Community Associations, Associação São-Tomense para a Promoção Familiar, Red Cross STP, Marapa ONG.

2.3.5 OPPORTUNITIES FOR ENHANCING ACCESS TO LONG-TERM DLA CHILDREN AND INNOVATIONS

The EAF will target improved or new interventions in the districts with the largest number of ZD children. For sustainability purposes, these interventions will be tested and documented to ensure that successful interventions are sustained in the future, with the prospect of scaling up to benefit all health districts. Some interventions targeted for support through the EAF are cross-cutting and may benefit other health districts.

Several innovations for reaching ZD children in a sustainable way were identified:

1. Improve the dropout/absentee tracking strategy, monitoring and evaluation (A2-3).
2. Design a community-centered monitoring and learning system to document good practices and innovations for reaching ZD children (A3).
3. Integration of micro plans: design with the community, monitoring and evaluation of interventions and results (A2-3)

New interventions to improve the delivery of immunization services:

1. Support for financial and non-financial awards teams that excel in the active pursuit of ZD.
2. Establish, implement and/or evaluate a school-based vaccine monitoring and/or referral system.

New approaches to increase demand for immunization:

1. Involvement and effective participation of social mobilizers in the identification and local advocacy with parents and guardians of children. Schools and parish associations.
2. Community awareness through: messages broadcast on national radio and television, SMS sent by UNITEL, involvement of various community leaders in awareness raising.

New approaches to overcoming gender barriers:

1. Strengthen monitoring and learning of interventions to overcome gender-specific barriers that may prevent caregivers from bringing children to immunization: lack of decision-making power of mothers, lack of time and money to access services, lack of information or misinformation, low ownership by health workers, etc.
2. Adapt communications to gender dynamics, languages and local cultures.

2.3. Ensuring political will

In 2019, the Government of STP and the African Union Commission, in collaboration with the World Health Organization Africa Regional Office (WHO AFRO) and the Vaccine Alliance (Gavi), jointly organized the African Immunization Week and launched the Campaign for Accelerated Reduction of Maternal Mortality in Africa (CARMMA). The President of the Democratic Republic of Sao Tome and Principe, H.E. Evaristo Carvalho chaired the 2019 African Immunization Week, making STP the 51st member state of the African Union to launch CARMMA. This involvement at a high political level demonstrates the importance placed on EPI.

In addition, with support from the EAF, the STP Ministry of Health plans to convene two roundtable discussions with national, sub-national, and community leaders including civil society and development partners (beyond immunization) to engage all stakeholders in prioritizing ZD communities. An advocacy strategy will harmonize the vision and contributions of stakeholders to vaccine equity at STP: policy, planning, budget, and coordination. Key advocacy partners identified are UNICEF, Gavi, traditional representatives (religious and community), health workers, CSOs, and NGOs. A mapping of influential people will be organized in preparation for the roundtables.

Part 3 - Prioritization of Theory of Change interventions to be supported by Gavi

The prioritization of interventions was done through a process that included identification of ZD children (situation analysis/IRMMA analysis map), prioritization of interventions based on the analysis of challenges and their root causes (ideation sessions), and identification of complementary supports.

3.1. Process for conducting the situation analysis

The process includes several steps, the first of which is the creation of the Zero Dose STP Group. The group is composed of representatives from the Ministry of Health, WHO, and UNICEF. The entire process was led by the ZD STP Group, with technical support from GaneshAID.

The second step was to establish the [IRMMA analysis map](#) through the literature review including secondary data analysis and collation of all data sources/references. All documents are organized and easily accessible to all Zero Dose Group members. The questions "how much", "who", "where" and "why" were answered. The analysis work was shared with disconnected remote sessions and virtual work sessions.

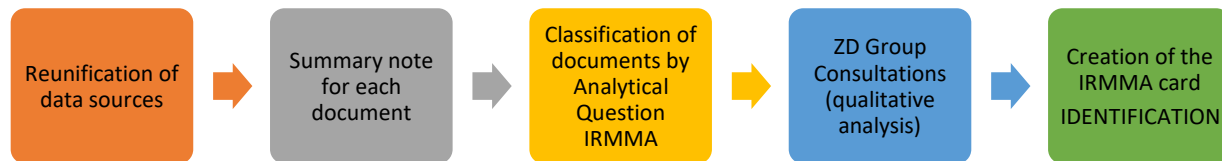


Figure 12: Methodology for the literature review and qualitative analysis

Table 6: List of shared documents

Title	Author	Date/year of publication	Type of document
Health Statistics Yearbook	Ministry of Health	2021	Report
Integrated strategy for reproductive, maternal, newborn, child and adolescent health and nutrition 2019-2023	Ministry of Health	Sep/2018	Work plan
Population 2020	National Institute of Statistics	2020	Spreadsheet
NATIONAL HEALTH DEVELOPMENT PLAN	Ministry of Health	2017-2021	Work plan



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TECHNICAL REPORT OF THE PREVENTIVE VACCINATION CAMPAIGN AGAINST MEASLES-RUBELLA IN SAO TOME AND PRINCIPE IN 2016	Ministry of Health	2016	Report
(EN version)INTEGRATED POST INTRODUCTION EVALUATION REPORT OF HPV, ROTAVIRUS, IPV AND MEASLES VACCINES	Ministry of Health	2018	Report
(PT version)RELATÓRIO DA AVALIAÇÃO PÓS INTRODUÇÃO DAS VACINAS VPI2c ROTA	Ministry of Health	2018	Report
STP_EVP External Review Report 2013_Final.pdf	Ministry of Health	2013	Report
WHO UNICEF JRF FR 2020 AFRO	Ministry of Health	2019	Spreadsheet
Multi-year health plan	Ministry of Health	2015	Work plan
Multiple Indicator Cluster Survey (MICS6-STP) (snapshot)	National Institute of Statistics	2019	Request
The Multiple Indicator Cluster Survey - MICS VI 2019	National Institute of Statistics	2019	Request
WHO UNICEF JRF FR 2020 AFRO	WHO/ STP	2019	Spreadsheet
National Immunization Coverage Survey - Part 1	SEKA MONNEY FIRMIN/ WHO	2017	Report
National Immunization Coverage Survey - Tools and detailed statistics	SEKA MONNEY FIRMIN/ WHO	2017	Report

3.2 Prioritization of interventions

The third step was a series of ideation sessions to analyze key challenges to vaccine equity and their root causes. These ideation sessions helped formulate pro-equity interventions to identify and reach ZD children. The results of this step were used to develop the Theory of Change.

The main criteria for prioritization were:

1. The level of concentration of ZDs in STP.
2. The impact of the intervention on ZDs reduction.
3. The feasibility of the intervention within 3 years.
4. The means and resources available, opportunities with partners supporting this type of intervention.

The country's desired strategy is to reach 100% of zero-dose children by targeting interventions in the 7 districts with ZD children prioritized as follows:

Table 7: Prioritization Plan

PRIORITIZATION	% DISTRICTS	% ZERO DOSE	UNDER-VACCINATED
Year 1 (2022-2023)	43% MEZOCHI, CANTAGALO AGUA GRANDE	65% (191)	66% (365)
Year 2 (2023-2024)	29% LEMBA, PRINCIPLE	20% (58)	17% (95)
Year 3 (2024-2025)	29%	16% (47)	16% (90)

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3.3. Additional support

3.2.1. FINANCIAL AND OPERATIONAL SUPPORT FROM PARTNERS, CSOs AND OTHER DONORS

Three types of funding exist: state funding, supplemented by community funding and partner funding. STP has endorsed the Millennium Development Goals of reducing maternal mortality by ¼, reducing under-five mortality by 2/3, and halting and measuring trends in the spread of HIV/AIDS by 2015.

The country's constitution provides for medical assistance and free medicine donations. On the other hand, the government has authorized the participation of the population in health care expenses through the cost recovery system. Although this mechanism may allow health facilities to participate in financing their operating expenses, it remains arbitrary and disorganized. Indeed, the amount of partial cost recovery in district health facilities is unknown due to lack of implementation.

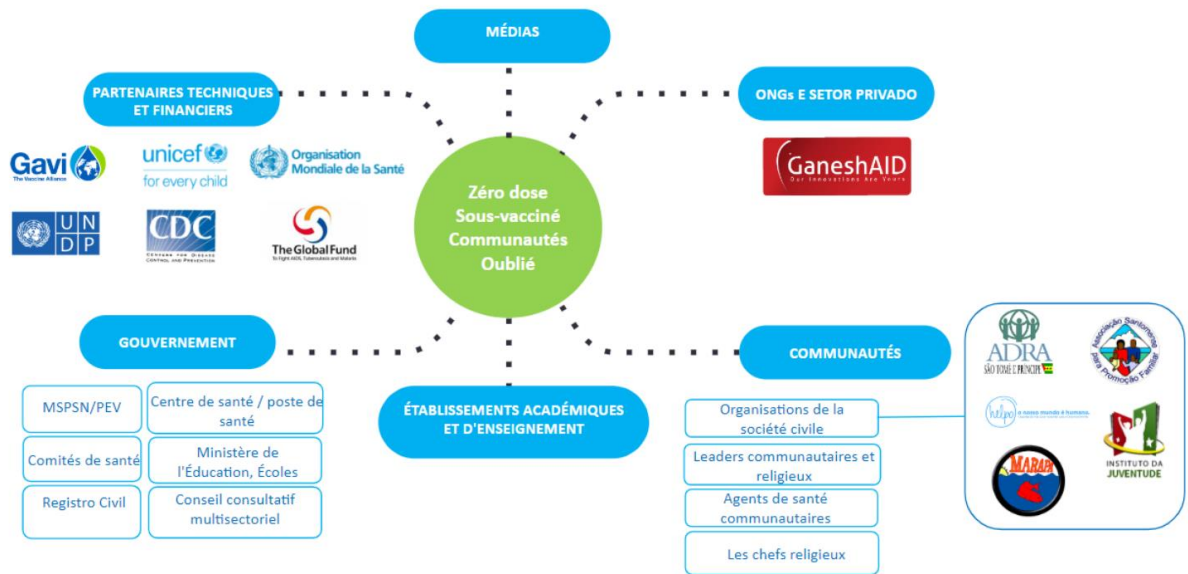
The health system is highly dependent on external support, whether financial, technical or material. Approximately 40% of the financing of health programs and activities is provided by partner contributions. Up to 2006, the contribution of partners to the financing of the EPI was over 85%. The main development partners in the health sector are: WHO, UNICEF, UNFPA, Gavi, the World Bank, the Portuguese Cooperation, the Taiwanese Cooperation, the ADB and the Community Associations. The coordination of donors and development partners will be ensured by the ICC EPI.

3.2.2. SYNERGIES AND COORDINATION WITH OTHER INITIATIVES AND DONOR SUPPORT

The coordination of interventions at the national level is ensured by the Inter-agency Coordination Committee (ICC), which is chaired by the Minister of Health and composed of most of the partners who support the EPI. This Committee is supported by a Technical Committee made up of technical executives from the EPI, UNICEF and WHO, which prepares the technical files on the various aspects (technical, communication, finance and logistics).

According to the texts regulating its operation, the ICC should meet at least three times a year to validate, monitor and evaluate the program's annual action plan in order to take the necessary corrective measures.

The diagram below maps the set of change actors to reach ZD children and should be coordinated by the ICC and the reproductive health (RH) program that houses the EPI. The RH program informs the ICC about the progress of activities and the results achieved to enable decision-making.



Coordination must be extended to other sectors such as education.

It is planned to intensify the involvement of civil society organizations and NGOs in EPI activities: Red Cross, Marapa, ASPF, ADRA, HELPO, Youth Institute



3.2.3. ACHIEVEMENT OF THE OBJECTIVES, ACTIVITIES AND LEARNING SET OUT IN THE THEORY OF CHANGE

Contributions from national and subnational stakeholders, partners, CSOs, and donors are identified and documented in the theory of change and work plan for each of the key interventions.

It should be noted that national and sub-national stakeholders and WHO and UNICEF partners have contributed to the development of the theory of change and the work plan. As such, the objectives, activities and learnings will be monitored, measured and shared during the Gavi 5.0 strategic period so that decisions are made more effectively, on time and based on evidence.



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APPENDIX 1 - Table 8: Summary of strengths and weaknesses of the EPI STP (source cMYP 2016-2020)

EPI areas	Forces	Weaknesses
Vaccination services	<ul style="list-style-type: none"> ● Vaccination coverage >90% in all districts and for all antigens ● DTP1/DTP3 and BCG/MCV drop-out rate < 10%. ● 100% completeness and timeliness of reports at the national level ● Integrated health services (impregnated mosquito nets, vitamin A and deworming) at all levels ● Ability to vaccinate children during mothers' visits to health centers, including hospitalized children ● Use of the advanced strategy and the door-to-door or directed strategy in routine immunization 	<ul style="list-style-type: none"> ● Non-control of the target populations by the health workers of the Health Centres and Health Posts ● Lack of immunization schedule on the front page of the immunization record
Vaccine supply and quality	<ul style="list-style-type: none"> ● Supply of vaccines by UNICEF. ● Availability of good quality vaccines with no long term breaks noted since 2014 ● Good conservation of vaccines ● The wastage rate for vaccines in general is less than 20% except for BCG at the Health Center where it often reaches 45%. ● Existence of a supply and distribution plan for vaccines and other inputs jointly developed with partners at the central level 	<ul style="list-style-type: none"> ● Lack of decision making in the face of a temperature anomaly ● Lack of a functioning incinerator to ensure safe destruction of immunization waste ● Insufficient mastery of the Vaccine Control Stick and the phases of use of this decision tool ● Alert thresholds not taken into account when ordering vaccines ● Weak application of Bundling
Logistics, Cold chain, Injection safety, Means of transport	<ul style="list-style-type: none"> ● Good storage capacity for vaccines at the central warehouse ● Good conservation of vaccines at the central level and in all health facilities ● In all the health facilities visited, refrigerators and other cold chain equipment are available, functional and have sufficient capacity and are well maintained ● Existence and use of safety boxes in all health facilities. 	<ul style="list-style-type: none"> ● Lack of formal training on vaccine logistics for the national supply manager ● Operational level staff are not proficient in handling the refrigerator thermostat ● Absence of inventory sheets for vaccines and other inputs Poor storage of vaccines during vaccination sessions
Epidemiological surveillance	<ul style="list-style-type: none"> ● Existence of an integrated monitoring service at the central level with a trained manager ● Existence of a rapid response system in case of a request for investigation of a suspected case of a disease (mandatory notification) ● Availability of AEFI case notification forms at the health centers and health posts ● Functional epidemiological surveillance network ● Good completeness and timeliness of monitoring reports 	<ul style="list-style-type: none"> ● Insufficient human resources (number and quality) ● Central level staff not trained in polio virus circulation risk analysis ● Staff not yet trained in integrated monitoring including data analysis and interpretation ● Low notification of suspected cases of EPI target diseases under surveillance ● Case definitions of EPI target diseases not posted on the walls of the departments visited, including the Central Hospital ● Lack of a national laboratory for simple tests such as measles diagnosis ● Health post staff insufficiently involved in the investigation of cases of EPI target diseases

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EPI areas	Forces	Weaknesses
Social mobilization	<ul style="list-style-type: none"> ● Existence of focal points of the National Center for Health Education (NCHE) in all districts ● Decentralized social mobilization structure at the district and community levels ● 	<ul style="list-style-type: none"> ● Insufficient human resources at the central level ● High cost of production and disclosure of communication materials ● Low IEC activity ● Lack of a social mobilization component in the EPI
Supervision	<ul style="list-style-type: none"> ● Supervision of the active monitoring of the functional PFA 	<ul style="list-style-type: none"> ● Lack of formative supervision and supervision plan ● Insufficient operational level supervision
Financing	<ul style="list-style-type: none"> ● Existence of a government budget line for the EPI 	<ul style="list-style-type: none"> ● Lack of innovative resource mobilization mechanisms for immunization ● Small amount allocated ● Low capacity of the State to finance EPI needs ● High financial dependence on external resources
Coordination/Management	<ul style="list-style-type: none"> ● Strong political will ● Budgeted planning exercise of activities in a joint manner with all EPI actors (WHO, UNICEF, UNFPA, Gavi) ● Availability of basic documents on EPI norms, procedures and standards ● Integration of a minimum package of services including immunization in all health facilities 	<ul style="list-style-type: none"> ● Absence of a National Regulatory Authority for Immunization ● No civil society engagement ● Insufficient personnel at the EPI coordination level ● Weak coordination of the various partners' interventions
Capacity building	<ul style="list-style-type: none"> ● Despite the reduced number and quality, the staff provides immunization services on a daily basis, even using innovative strategies to find those lost to follow-up. ● A national team trained in MLM outside the country 	<ul style="list-style-type: none"> ● Lack of a staff training plan at central and operational levels ● Staff de-motivation ● Overload of work for some agents