

Inception Report

Evaluation of the Cold Chain in Sao Tome and Principe (STP)

A program managed by UNICEF

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LIST OF ABBREVIATIONS

CC	Cold Chain
DAC	Development Assistance Committee
GVAP	Global Vaccine Action Plan
HSS	Health System Strengthening
OECD	Organization for Economic Cooperation and Development
SDD	Solar Direct Drive
STP	Sao Tome and Principe
WHO	World Health Organization

1. Evaluation Background

“Ensure healthy lives and promote wellbeing for all at all ages” – That is the statement of Goal 3 of the Sustainable Development Goals adopted by 193 countries in 2015. Under Goal 3, sub-goal 3.8 mentions the need to ‘Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. Moreover, as an action point, Goal 3 predicts the support to the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines.

Immunization is key to promoting healthy lives, especially for children who are prone to a number of infectious diseases aggravated by poor conditions of water and sanitation in developing countries. Vaccines are the most effective way of preventing diseases such as Chickenpox (Varicella), Diphtheria, Hepatitis A, Hepatitis B, Hib, Measles, Mumps, Polio, Pneumococcal, Rotavirus, Rubella, Tetanus and Whooping Cough (Pertussis) which can be fatal or leave serious sequels in some cases. What may be very simple in a few countries – to vaccinate a child in a health centre, it is not in fragile economies which may not have the resources or the capacity to manage the whole vaccination process.

In this context, in May 2012, the Global Vaccine Action Plan (GVAP)¹ – 2011-2020 was endorsed by the World Health Assembly. It was a Plan led by a number of actors such as the Bill and Melinda Gates Foundation, GAVI Alliance, the World Health Organization, UNICEF and the United States National Institute of Allergies and Infectious Diseases. Gavi Alliance was founded by the Bill and Melinda Gates Foundation with the mission of ‘Saving children's lives and protecting people's health by increasing equitable use of vaccines in lower-income countries’. Since then, it has been working in close partnership with governments from the poorest countries² and UNICEF and WHO.

In Sao Tomé e Príncipe, GAVI Alliance has been supporting the government since its inception in 2011 with different types of assistance. More recently, between September 2017 and April 2018, GAVI Alliance provided funding through UNICEF to purchase and install 39 new Solar Direct Drive (SDD) refrigerators (7 TCW 2000 SDD and 32 TCW 42 SDD) in 7 different districts in the country. Before, the country relied only on 27 refrigerators RCW 42 EK and 5 VESTFROST. These devices are crucial for the management of vaccines in the country, which have to be stored in a

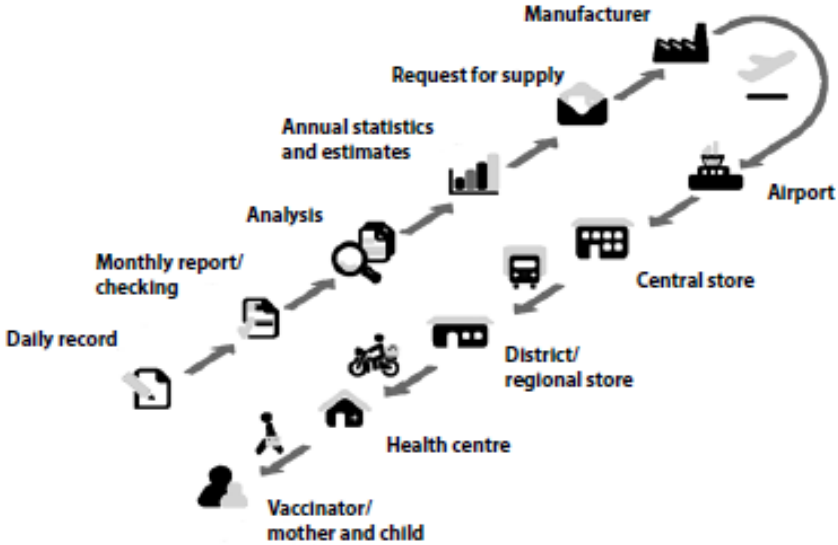
¹ The document has six global Strategic Objectives: 1) All countries commit to immunization as a priority; 2) Individuals and communities understand the value of vaccines and demand immunization as both their right and responsibility; 3) The benefits of immunization are equitably extended to all people; 4) Strong immunization systems are an integral part of a well-functioning health system; 5) Immunization programmes have sustainable access to predictable funding, quality supply and innovative technologies and 6) Country, regional and global research and development innovations maximize the benefits of immunization.

² The criteria used by GAVI Alliance is a Gross National Income (GNI) per capita which been less than or equal to US\$ 1,580 over the past three years according to the World Bank.

temperature between 2° and 8° C. The cycle of managing vaccines in the appropriate temperature is called Cold Chain (CC).

According to WHO, the cold chain involves a complex logistics of ensuring vaccines reach children at the right temperature and hence, with good quality for providing the immunisation desired. There are a lot checkpoints which need to be reinforced: from the manufacturer to the airport, to the central store, to the district, to the health centre and to the children. The figure below illustrates the procedures, transportation and actors involved.

Figure 1. The Cold Chain



Source: PATH/WHO.

The Gavi Alliance has a strong focus on social innovation and linkages with the market. Part of the support given to Sao Tomé includes the use of solar panels for powering the refrigerators. Gavi Alliance has also encouraged the use of companies for combining the installation of refrigerators and also their maintenance, in order to keep the equipment functioning well. The type of support which is being given in São Tomé will be further investigated in the field.

In Sao Tomé e Príncipe, the CC transportation is made by airplane to STP, where vaccines are transported by land to the cold chain central store and then distributed to districts every month.³ From the districts, vaccines are sent to health units on a weekly basis. The logistics involved need to ensure that the temperature is right, the quality of the vaccines is maintained and that they are delivered on time. In this process, a number of actors are involved: GAVI Alliance, UNICEF, government officials and partner companies which need to be considered during the evaluation process. The provision of vaccination in STP can provide lessons for other countries with small territories and difficulties of accessibility.

³ The new refrigerators were distributed to Água Grande, Me Zochi, Lobata, Lembá, Cantagalo, Caué and Príncipe Region.

São Tomé e Príncipe has higher vaccine coverage in relation to the other countries of the Region. Through the Expanded Programme of Immunization, vaccination is provided along with a number of other health services in 39 health facilities in different districts of the country. However, even if one considers vaccination is high in STP (97% for the first dose of DTP-Hip-HepB and 95% for the first dose of Measles/Rubella – MR vaccine in 2018), the coverage of second and third doses are much lower (95% for third dose of DTP-Hib-HepB and 74% for second dose of MR). The focus of this initiative is to help increase second and third doses of crucial vaccines to ensure higher levels of protection for children.

2. Evaluation Purpose

The objectives of the evaluation as stated in the Terms of Reference are:

- ⇒ Measure the effects of the national cold chain operating system on the country's immunization coverage;
- ⇒ Identify the 'vaccine chain' shortcomings, constraints and challenges which are holding back the current progress of the Vaccination Programme towards universal coverage;
- ⇒ Establish recommendations for immediate, medium and long-term actions to achieve universal coverage and Health Systems Strengthening (HSS) based on the final conclusions and drawing on the experiences of other countries in the sub-region.

The evaluation should also look at:

- ✓ The effectiveness of the vaccine procurement services, including the CC equipment selection process;
- ✓ The efficiency of the current transport system and exploring the feasibility of the set-up of a possible storage mechanism in the Africa sub-region;
- ✓ The frequency of the vaccination services;
- ✓ Estimating the degree of availability and conservation of vaccines;
- ✓ Assessing to which extent vaccine distribution are taking into account equity concerns;
- ✓ Determining not only the improvement of the immunization coverage, but also its relationship with HSS;
- ✓ Estimating the immunization service system, including vaccine procurement, transportation, storage and distribution mechanisms.
- ✓ Determining the total costs of the supply chain (including the costs of immunizing a child);

The evaluation shall cover the activities implemented between September 2017 and April 2018. However, it will also consider follow-up activities carried out after this period, up to September 2019.

This evaluation shall have a close dialogue with the regional office, not only the regional Monitoring and Evaluation Officer, but also the Regional Health Specialist, as there are many concerns (possible regional distribution centre, lessons learned for the region) that should be considered at a broader level.

3. Evaluation Questions

The evaluation will use international evaluation standards, such as those from the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD/DAC). These are the dimensions of Relevance, Efficiency, Effectiveness and Sustainability added to Gender, Equity and Human Rights concerns which are at the heart of the UNICEF's work. In addition, international quality instruments will be used: UNEG Checklist on Quality Evaluation Reports, the GEROS Quality Assessment Criteria and the UNEG Guide on the Integration of Gender Equality and Human Rights in Evaluation.

The key evaluation questions as suggested by the Terms of Reference are presented below. A few adjustments were made in the evaluation questions, which were in some cases placed in other category of questions, summarized or merged with other questions. In this case, the questions were narrowed and an evaluation matrix was designed in order to have a more objective evaluation with key questions and consider the complementary issues as indicators or criteria do be further explored under the 9 key questions (please, see Appendix B).

Relevance

- To what extent have the vaccine Procurement Services rendered by UNICEF (the only operator in this area nationwide), met the country's needs, especially during the transition period towards Vaccine Independence Initiative (VII), defined by UNICEF Supply Division jointly with GAVI Alliance?

Effectiveness

- To what extent have CCE investment contributed to improving immunization service delivery? (e.g. changes in frequency of immunization sessions, changes in frequency of vaccine collection/distribution, averted missed opportunities due to a better vaccine availability)?
- What are the factors (e.g. equipment type and/or model, health care workers conducting preventive maintenance tasks, installation method(s), verification systems, service delivery models etc.) that have facilitated and hindered healthcare delivery?
- What are the unexpected outcomes (positive and negative) produced with the scope of the procurement and distribution of vaccines?

Efficiency

- With respect to the transport mechanisms put in place, were there other alternative strategies that could have been put in place to achieve the same level of results but at a lesser cost, especially in light of the country's current transition towards Vaccine Independence?

- To what extent were financial resources, human resources and supplies:
Sufficient (quantity)?
Adequate (quality)?
Distributed/deployed in a timely manner?
- To what extent could an existing central warehouse at the regional level (WCAR) produce transportation benefits for the whole country?

Sustainability

- What are the actual prospects for the government to be able to manage the CC after UNICEF's support? How did UNICEF incorporate measures for the activities funded by UNICEF to be continued without UNICEF support in the future?

Gender, Equity and Human Rights

- To what extent were Gender, Human Rights and Equity Principles fully integrated in the design and delivery of the Cold Chain Interventions? To what extent did the EPI program tackle the barriers that prevent girls' and women's access to the services in the targeted communities?

As stated before, the evaluation will dialogue with the broader objective of Health Systems Strengthening (HSS) and make recommendations in this perspective of the system as a whole and also consider other experiences in the region.

For the determination of the total costs of the supply chain, complete and detailed budget information should be provided to the evaluation team.

4. Methodology

This evaluation will use a mixed methods design. Triangulation of data will be used to ensure that results are coherent and consistent. The following methods of data collection will be used:

1. Desk Review

The initial desk review will consider all the key documents involved in the design and management of the program (program document, progress reports, minutes of meetings, evaluations previously carried, United Nations Development Assistance Framework – UNDAF, UNICEF Country Program etc.);

2. Analysis of Secondary Data on Immunization in the country

The data available for Immunization and Mortality rates in the country are from the Instituto Nacional de Estatística (INE) which has conducted the Multiple Indicator Cluster Survey (MICS) in the country in 2000, 2006 and 2014 with the assistance of UNICEF. The fourth round is now being planned for 2019. The data set will be shared by the INE with the evaluation team for a detailed analysis by District to find patterns and differences among the districts. Based on this analysis, further investigation will take place using qualitative methods.

3. Focus Groups

Focus Groups will be carried out with local public servants and beneficiaries (parents of immunized children, with preference given to mothers). The focus groups will help to give the perspective of the local population and the challenges involved in each district. All the districts are two health centres will be selected in each one of them.

4. Individual semi-structured interviews

UNICEF's personnel, government officials from the various ministries and organizations involved, civil society organizations and other UN agencies will be interviewed individually to report on their perspectives of the program. Beneficiaries' answers will be key to building a narrative of the challenges and achievements of the Cold Chain initiative.

5. Proposed Timeline

Activity/Month/Week	Oct					Nov				Dec	
	1	2	3	4	5	1	2	3	4	1	2
Desk Review	■										
Inception Report	■	●									
Field Visit			■	■							
Power Point with key preliminary findings				●							
Data Analysis					■	■					
Draft Evaluation Report						●					
Validation Workshop						●					
Review by UNICEF							■	■			
Final Evaluation Report									●		
Approval by UNICEF										■	
Power point											●
Raw data											●
Infographic											●

● – Week of deliverables

Appendix A: List of people to be interviewed

1. Representative UNICEF São Tome e Principe
2. Luis Bomfim, Programme Officer UNICEF
3. Administrative Assistance, UNICEF Office Sao Tome and Principe
4. Procurement Officer, UNICEF Office Sao Tome and Principe
5. Regional Health Officer
6. Focal Point, GAVI Alliance
7. UNFPA Focal point
8. WHO Focal Point
9. Representant Ministry of Health
10. Technical Officer Ministry of Health
11. Coordinator Água Grande Distribution Centre
12. Coordinator of Me Zochi Distribution Centre
13. Coordinator of Lobata Distribution Centre
14. Coordinator of Cantagalo Distribution Centre
15. Coordinator of Caué Distribution Centre
16. Coordinator of Príncipe Distribution Centre
17. Focal Points of Health Posts
18. Representative Electrofrío
19. Mothers and Children in Health Posts

Appendix B: Evaluation Matrix

<p>Evaluation question 1: To what extent have the vaccine Procurement Services related to the Cold Chain rendered by UNICEF (the only operator in this area nationwide), met the country's needs, especially during the transition period towards Vaccine Independence Initiative (VII), defined by UNICEF Supply Division jointly with GAVI Alliance?</p>			
<p>DAC Evaluation Criterion covered by this Evaluation Question: Relevance</p>			
<p>Evaluation Question Background (short narrative): This question will look at to which extent UNICEF's provision of procurement services related to Cold Chain in São Tomé met the government's needs and expectations</p>			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
1.1. Participation of national government officials in the selection of SDD equipment.	- Government officials	-Semi-structured interviews	The National Health Strategy for Immunization considers the need of increasing the number of refrigerators to store the vaccines at a central level, but it does not mention the type of equipment to be acquired. The participation of the government in the choice of purchases will be further investigated in the field.
1.2. Alignment between government's expectation in the procurement process and actual practice.	- Government officials	-Semi-structured interviews	UNICEF is a long partner of the government in São Tomé. It is expected that there is already alignment in terms of working modality between both actors. To which extent this alignment is in place will be investigated during field work.

<p>Evaluation question 2: To what extent have CCE investment contributed to improving immunization service delivery? (e.g. changes in frequency of immunization sessions, changes in frequency of vaccine collection/distribution, averted missed opportunities due to a better vaccine availability)?</p>			
<p>DAC Evaluation Criterion covered by this Evaluation Question: Effectiveness</p>			
<p>Evaluation Question Background (short narrative): This question will explore data of vaccination collected before and during field visit to analyse changes in vaccine availability, increase in immunization sessions and frequency of vaccine distribution.</p>			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
2.1. Increase in vaccine availability	<ul style="list-style-type: none"> - Administrative Data from health posts - Families accessing health posts 	<ul style="list-style-type: none"> - Desk review during field work - Focus groups with families 	<p>There is no data available during this moment of inception. The data will be collected during field visit. The capacity of the storage of the country has supposedly doubled after the purchase of the new refrigerators, however, the field work will show to which extent the refrigerators were replaced or the capacity actually increased and led to increase in availability of vaccines.</p>
2.2. Increase of immunization sessions after use of refrigerators purchased by the programme.	<ul style="list-style-type: none"> - Administrative Data from health posts 	<ul style="list-style-type: none"> - Desk review during field work - Focus groups with families 	<p>There is no data available during this moment of inception. The data will be collected during field visit.</p>
2.3. Increase in frequency of vaccine distribution.	<ul style="list-style-type: none"> - Administrative data from main distribution centre and district centres 	<ul style="list-style-type: none"> - Desk review during field work 	<p>There is no data available during this moment of inception. The data will be collected during field visit.</p>

<p>Evaluation question 3: What are the factors (e.g. equipment type and/or model, health care workers conducting preventive maintenance tasks, installation method(s), verification systems, service delivery models etc.) that have facilitated healthcare delivery? What are the factors have hindered healthcare delivered?</p>			
<p>DAC Evaluation Criterion covered by this Evaluation Question: Effectiveness</p>			
<p>Evaluation Question Background (short narrative): The factors that have both facilitated and hindered healthcare delivery will be explored, including but not limited to: type of equipment, qualification of health care workers, installation method and verification system an overall methods of service delivery.</p>			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
3.1. Improvement of health care delivery due to type of equipment.	- Government officials at a central, district and local level	- Semi structured interviews - Focus groups	There is no data available during this moment of inception. The data will be collected during field visit.
3.2. Qualification of health care workers in conducting preventive maintenance tasks.	- Government officials at a central, district and local level	- Semi structured interviews - Focus groups	There is no data available during this moment of inception. The data will be collected during field visit.
3.3. Improvement of health care delivery due to installation method and verification system.	- Government officials at a central, district and local level	- Semi structured interviews - Focus groups	There is no data available during this moment of inception. The data will be collected during field visit.
3.4. Improvement of health care delivery due to better methods of service delivery.	- Government officials at a central, district and local level	- Semi structured interviews - Focus groups with families	There is no data available during this moment of inception. The data will be collected during field visit.

Evaluation question 4: What are the unexpected outcomes (positive and negative) produced with the scope of the procurement and distribution of vaccines?			
DAC Evaluation Criterion covered by this Evaluation Question: Effectiveness			
Evaluation Question Background (short narrative): This question will look unexpected outcomes with a focus on innovation on the supply chain.			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
4.1. Catalysation of innovations by CC investments and procedures in continuous improvement of supply chain.	<ul style="list-style-type: none"> - Government officials at a central, district and local level - Companies involved in the supply chain - Reports from UNICEF and Gavi Alliance 	<ul style="list-style-type: none"> - Semi structured interviews - Focus groups - Desk Review 	There is no data available during this moment of inception. The data will be collected during field visit.
4.2. Catalysation of innovations by CC investments and procedures in leadership of supply chain.	<ul style="list-style-type: none"> - Government officials at a central, district and local level - Companies involved in the supply chain - Reports from UNICEF and Gavi Alliance 	<ul style="list-style-type: none"> - Semi structured interviews - Focus groups - Desk Review 	There is no data available during this moment of inception. The data will be collected during field visit.
4.3. Catalysation of innovations by CC investments and procedures in data systems of supply chain.	<ul style="list-style-type: none"> - Government officials at a central, district and local level - Companies involved in the supply chain - Reports from UNICEF and Gavi Alliance 	<ul style="list-style-type: none"> - Semi structured interviews - Focus groups - Desk Review 	There is no data available during this moment of inception. The data will be collected during field visit.
4.4. Catalysation of innovations by CC investments and procedures in system design of supply chain.	<ul style="list-style-type: none"> - Government officials at a central, district and local level - Companies involved in the supply chain Reports from UNICEF and Gavi Alliance 	<ul style="list-style-type: none"> - Semi structured interviews - Focus groups - Desk Review 	There is no data available during this moment of inception. The data will be collected during field visit.

<p>Evaluation question 5: With respect to the transport mechanisms put in place, were there other alternative strategies that could have been put in place to achieve the same level of results but at a lesser cost, especially in light of the country’s current transition towards Vaccine Independence?</p>			
<p>DAC Evaluation Criterion covered by this Evaluation Question: Efficiency</p>			
<p>Evaluation Question Background (short narrative): Transportation is a key factor for the CC system. Possible alternatives for transportation will be explored in this item and will also help to give subsidies for a possible regional storage centre.</p>			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
5.1. Cost of transportation in CC cycle over total cost of programme.	<ul style="list-style-type: none"> - Detailed budget of programme - UNICEF Programme Officer - 	<ul style="list-style-type: none"> - Desk Review - Semi-structured interview 	There is no data available during this moment of inception. The data will be collected during field visit.
5.2. Percentage of transportation costs in similar GAVI Alliance programmes.	<ul style="list-style-type: none"> - GAVI Alliance Reports - GAVI Alliance Programme Officer 	<ul style="list-style-type: none"> - Desk Review - Semi-structured interview 	There is no data available during this moment of inception. The data will be collected during field visit.

Evaluation question 6: To what extent were financial resources, human resources and supplies, sufficient (quantity), adequate (quality) and distributed/deployed in a timely manner?			
DAC Evaluation Criterion covered by this Evaluation Question: Efficiency			
Evaluation Question Background (short narrative): This question covers the key items of efficiency: use of financial resources, human resources, delivery in a timely and cost-effective manner.			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
5.1. Adequacy of financial resources in relation to programme design	- Detailed budget of programme - UNICEF Reports - UNICEF Programme Officer	- Desk Review - Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
5.2. Implementation of programme activities in relation to budget predicted	- UNICEF Reports - UNICEF Programme Officer	- Desk Review - Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
5.3. Adequacy of human resources in relation to programme design and implementation	- UNICEF Reports - Government officials - UNICEF Programme Officer	- Desk Review - Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
5.4. Timeline of programme implementation against initial targets	- UNICEF Reports - Gavi Alliance Reports - UNICEF Programme Officer - Government Officials	- Desk Review - Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.

Evaluation question 7: To what extent could an existing central warehouse at the regional level (WCAR) produce transportation benefits for the whole country?			
DAC Evaluation Criterion covered by this Evaluation Question: Efficiency			
Evaluation Question Background (short narrative): This question will explore the pros and cons of a central warehouse at the regional level, using objective data and also the perspective of key actors involved.			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
7.1. Unmet regional demand for vaccines	- WHO Regional Health Reports - UNICEF Regional Health Reports	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
7.2. Capacity level of UNICEF Regional Office	- Regional Adviser - UNICEF Representative São Tomé	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
7.3. Cost of transportation between Senegal and Sao Tomé	- Regional Adviser - Regional transportation Companies - Government officials	- Semi-structured interviews - Desk review	There is no data available during this moment of inception. The data will be collected during field visit.

<p>Evaluation question 8: What are the actual prospects for the government to be able to manage the CC after UNICEF’s support? How did UNICEF incorporate measures for the activities funded by UNICEF to be continued without UNICEF support in the future?</p>			
<p>DAC Evaluation Criterion covered by this Evaluation Question: Sustainability</p>			
<p>Evaluation Question Background (short narrative): Sustainability is a crucial aspect of programme, as the government relies intensely on UNICEF’s and Gavi Alliance’s contribution. The question will explore not only the prospects of sustainability, but measures that may have been taken to ensure that.</p>			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
8.1. Measures taken by UNICEF to ensure sustainability of programme	- UNICEF Programme manager - Government officials at a national level Semi-structured interviews	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
8.2. Financial capacity of Sao Tome’s government to manage procurement of vaccines and cold chain equipment	- UNICEF Programme manager - Government officials at a national level	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
8.3. Staff knowledge of Sao Tome’s government on how manage procurement of vaccines and cold chain equipment	- UNICEF Programme manager - Government officials at a national level	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
8.4. Political will of Sao Tome’s government to assume procurement of vaccines and cold chain equipment	- UNICEF Programme manager - Government officials at a national level	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.

<p>Evaluation question 9: To what extent were Gender, Human Rights and Equity Principles dully integrated in the design and delivery of the Cold Chain Interventions? To what extent did the EPI program tackle the barriers that prevent girls’ and women’s access to the services in the targeted communities?</p>			
<p>DAC Evaluation Criterion covered by this Evaluation Question: Gender, Equity and Human Rights</p>			
<p>Evaluation Question Background (short narrative): This question will explore to which extent there were gender, human rights and equity principles embedded in the programme design and implementation. Data on background of children vaccinated will be taken into account whenever possible.</p>			
Indicators/Criteria	Source of Information	Data Collection Tool	Preliminary Findings
9.1. Integration of Gender, Human Rights and Equity principles in cold chain management through specific action	<ul style="list-style-type: none"> - UNICEF Programme Officer - Government Officials at central, district and local levels - Mothers and girls benefited by programme 	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
9.2. Integration of Gender, Human Rights and Equity principles in EPI through specific action	<ul style="list-style-type: none"> - UNICEF Programme Officer - Government Officials at central, district and local levels - Mothers and girls benefited by programme 	- Semi-structured interviews	There is no data available during this moment of inception. The data will be collected during field visit.
9.3. Access to vaccines by gender and economic status	<ul style="list-style-type: none"> - Administrative records of district centres 	- Desk review	There is no data available during this moment of inception. The data will be collected during field visit.

Appendix C. Draft data collection instruments (questionnaires)

The questionnaire below is a general draft adapted from the evaluation questions. It will be tailored for each specific group at the moment of field work.

Relevance

1. To what extent do you think the vaccine Procurement Services rendered by UNICEF met the country's needs? (considering the transition period towards Vaccine Independence Initiative (VII), defined by UNICEF Supply Division jointly with GAVI Alliance).
2. What was the participation of the government in defining the equipment to be purchased? Has this participation meet your expectations?

Effectiveness

3. To what extent have CC investment contributed to improving immunization service delivery in your opinion? (please, consider changes in frequency of immunization sessions, changes in frequency of vaccine collection/distribution, averted missed opportunities due to a better vaccine availability)?
4. What are the factors that have facilitated healthcare delivery in your opinion? For this question and the next one, please consider equipment type and/or model, health care workers conducting preventive maintenance tasks, installation method(s), verification systems, service delivery models etc.
5. What are the factors that have hindered healthcare delivery in your opinion?
6. What are the unexpected outcomes (positive and negative) you identify with the scope of the procurement and distribution of vaccines?

Efficiency

7. With respect to the transport mechanisms put in place, what would be other alternative strategies that could have been put in place to achieve the same level of results but at a lesser cost, especially in light of the country's current transition towards Vaccine Independence?
8. In your opinion, to what extent were financial resources, human resources and supplies:
Sufficient (quantity)?
Adequate (quality)?
Distributed/deployed in a timely manner?
9. Do you think a central warehouse at the regional level (WCAR) could produce transportation benefits for Sao Tome and Principe?

Sustainability

10. What are the actual prospects for the government to be able to manage the CC after UNICEF's support in your opinion?
11. How did UNICEF incorporate measures for the activities funded by UNICEF to be continued without their support in the future?

Gender, Equity and Human Rights

12. To what extent were Gender, Human Rights and Equity Principles fully integrated in the design and delivery of the Cold Chain Interventions?
13. To what extent did the EPI program tackle the barriers that prevent girls' and women's access to the services in the targeted communities? How could girls better access vaccines in the country?

Appendix D. Draft Agenda for Field Visit

Date	Morning	Afternoon
Oct. 16 th	UNICEF Sao Tome, Regional Office	Interviews with UNFPA, WHO, GAVI Alliance
Oct 17 th	Interviews with Ministry of Health	Visit to the Airport to the centre for reception of vaccines and interview with technical team
Oct 18 th	Visit to Regional Centre – Ilha do Principe (to be discussed)	
Oct 21 st	Visit to Regional Centres – Lemba and Lobata	Visit to Regional Centres – Central Zone: Mé-Zochi and Água Grande
Oct 22 nd	Visit to Regional Centres – South Zone: Cantagalo and Cauê	Work of evaluation team Debriefing with UNICEF

Appendix D. Documents Reviewed

1. Gavi Alliance, 2019. **Country Profile Sao Tome and Principe**. Gavi Alliance: Geneva.
2. Gavi Alliance, 2015. **Country Programmes Strategic Issues**. Gavi Alliance: Geneva.
3. Gavi Alliance, 2017. **Consent Agenda: Review of Cold Chain, Equipment Optimisation Platform**. Gavi Alliance: Geneva.
4. Ministere de la Sante, 2015. **Plan Pluriannuel Complet 2016 – 2020**. Ministere de la Sante: Sao Tome.
5. WHO & UNICEF, 2011. **Evaluation de la Gestion Efficace des Vaccins**. Republique Democratique de São Tome et Principe. Ministere de la Sante: São Tome.
6. WHO & UNICEF, 2011. **Plan d'Amélioration de Gev. Republique Democratique de Sao Tome et Principe**. Ministere de la Sante: São Tome.
7. Plan de Transition, CDF – STP, 2016.
8. Plano de instalação de painéis solares.
9. Relatório de montagem dos painéis solar nos Centros e Postos de Saúde.

*A package of new documents was received on October 10th, but due to time constraints it will only be considered in the Evaluation Report.